

AUROBINDO PHARMA LIMITED

IMPACT ASSESSMENT REPORTS - CSR PROJECTS

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Impact Assessment of Aurobindo Geriatric Eye Care Centre LV Prasad Eye Institute

Visakhapatnam



Poverty Learning Foundation

(www.plf.org.in)

Hyderabad

June 2021

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Hyderabad, 2021

Between April and June 2021, PLF has executed impact assessment of Aurobindo Pharma Foundation supported Aurobindo Geriatric Eye Care Centre in LVPEI, Visakhapatnam. The assessment is designed on OECD impact evaluation principals and collected data from the medical staff and hospital administrator to assess the relevance, effectiveness, efficiency, impact and sustainability of the interventions in geriatric eye care. Finally, it aims to inform the APF on the effects – intended and unintended, generated by the investments and to what extent benefitting the needy population.

Conceptualization, Data Analysis and Report Writing team from PLF:

Prof. S. Vijay Kumar, CEO

Dr. K. Sundar, Ph.D, Thematic Consultant

Dr. Raja Gopal, MD, Thematic Consultant (Medical)

Mr. SVNJ Butchaiah, Research Consultant

Advisory support from APF:

CSR Team, Aurobindo Pharma Foundation

Overall guidance:

Sri. SP Tucker, Former Chief Secretary, Govt of Andhra Pradesh, & Chairman PLF

Disclaimer:

The designations employed and the presentation of the materials in this report do not imply the expression of any opinion whatever on the part of the PLF and APF. The findings are based on the data and information shared by the APF and AGECC - LVPEI.

Citation:

APF & PLF (2021) "Impact Assessment of Aurobindo Geriatric Eye Care Centre, LVPEI, Visakhapatnam", Aurobindo Pharma Foundation, and Poverty Learning Foundation, Hyderabad.

Photographs:

Mahalakshmi Naidu, Lalam, Editor & Cameraman, Audio Visual Department (CAVU), LVPEI, Visakhapatnam

Aurobindo Pharma Foundation 24th Floor, Galaxy, Plot No.1, Sy.No: 83/1, Raidurg Panmaktha, Hyderabad 500032. Tel: +91 40 6672 5000 / 6672 1200 Email: <u>info@aurobindo.com</u> www.aurobindo.com

Acknowledgement

Impact Assessment of Aurobindo Geriatric Eye Care Centre, in LVPEI, Visakhapatnam, was executed by a professional team of Poverty Learning Foundation (PLF) under the guidance of the Sri. SP Tucker, former Chief Secretary of Andhra Pradesh and Chairman of PLF,

The evaluators are grateful for financial support from the Aurobindo Pharma Foundation and comments and advice received from – CSR Team, Aurobindo Pharma Foundation.

The team gratefully acknowledges the support from Dr. Avinash Pathengay, Director - SCB Academy for Eye Care Education, and Ms. Rekha, Guntur, Administrator-Operations.

The team sincerely thanked Dr. Merle Fernandes, Director - GMR Campus, Dr. Virender Sachdeva, Dr. Bhavik Panchal, and Dr. TVH Kiranmaye, Consultant Ophthalmologist providing critical information during the assessment.

Support from 37 older adults and their caregivers is highly appreciated, and the assessment team is grateful to them.

Any remaining errors and omissions are entirely the responsibility of the authors.

Poverty Learning Foundation

June 2021

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Executive Summary

This impact assessment examined the APF CSR support to LVPEI in establishing Aurobindo Geriatric Eye Care Centre (AGECC) during 2016. The AGECC aims to provide appropriate treatment to the vision problems of older adults and thus contribute to social equity and improve the quality of life of older adults.

The assessment applied the OECD criteria in a "thoughtful" and flexible manner, interpreting them in a specific way reflecting the nature of the investments by APF and interventions by AGECC-LVPEI and considering priorities of LVPEI and CSR of APF and the context. The evaluation uses the criteria: Relevance, Effectiveness, Efficiency, Impact, and Sustainability - by looking into the LVPEI professional competence, financial competence, and networking competence.

The objectives are:

- 1. Examining the inputs, outputs, outcomes, and impact of AGECC-LVPEI
- 2. Quantify the visibility created, and local acceptancy
- 3. Quantifying the perceptions of different category of stakeholders
- 4. Examine the sustainability of the project
- 5. Lessons learned for future planning

In line with the OECD criteria, assessment adopted a mixed-method dominated by the qualitative analysis, complemented with quantitative analysis wherever essential. The tools for data collection are a Semistructured questionnaire, partially self-administered and partially filled by the assessment team during telephonic discussions, MIS template, and Checklist for case study documentation.

Five doctors and one administrator-operations were contacted for information. Besides, 37 older adults patients were also interviewed to know their satisfaction levels over the quality of service.

Inputs:

Given the professional expertise, vision and infrastructure of LVPEI, APF extended its CSR investments and established Aurobindo Geriatric Eye Care Centre to serve the older adults with Cataract, Glaucoma, Presbyopia, Age related macular degeneration, and diabetic retinopathy. The APF investments facilitated LVPEI to procure advanced equipment - Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine, and improve the infrastructure (Including operation theatres). APF also supported LVPEI to procure Van to mobilize the elderly patients to the hospital.

Relevance - Is the intervention meeting intended purpose?

- 1. <u>Aurobindo Pharma Foundation investing in Geriatric Eye Care and supporting LVPEI to provide</u> <u>necessary services is the right choice</u> as LVPEI is one of the World Health Organization collaborating centers to prevent blindness, comprehensive care, sight enhancement, and rehabilitation services.
- 2. <u>The need of the geriatric eye care centre is justified by several documents</u>, including "Andhra Pradesh Eye Disease Study: policy implications for eye-care services (APEDS-2001), which

concluded four critical requirements: (i) disease control, (ii) human resource development, (iii) technology, and (iv) infrastructure development to ensure quality eye care.

- 3. <u>LVPEI outreach policy helps the rural older adults to access the initial care at vision centres.</u> Since 2016, AGECC-LVPEI mapped 32000 older adults (65+) in outreach camps and identified 6746 older adults patients for further treatment.
- 4. <u>Since 2016, the AGECC-LVPEI has extended adequate eye care, provided medical consultancy</u> services to 1,22,304 outpatients, and performed 17,736 surgeries.
- 5. <u>The majority of the older adults availed the geriatric eye services are from impoverished rural families</u>, and the rest are from urban areas, slums included.

Effectiveness - Is the intervention effective to reach defined objectives?

- 6. <u>The quality of the geriatric eye care facilities in AGECC-LVPEI mobilized the patients from</u> <u>Andhra Pradesh north-costal districts</u>, including Odisha and few other states. It is evident from the MIS data showing increasing trends in patients flow.
- 7. <u>Quality of diagnosis and surgeries are possible from the modern equipment</u> Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine procured with the funds from APF.
- 8. <u>Peer-to-peer learning on operating procedures has gained momentum giving visibility to the AGECC.</u> LVEIP has organized technical workshops and meetings with 1833 medical professionals and peers on standard protocols of advanced equipment and their advantages.
- 9. <u>LVPEI promotes the visibility of the APF through the time-tested method of *word-of-mouth publicity* and social media, and the support is duly acknowledged during the inhouse workshops and peer-to-peer learnings.</u>

Efficiency - How well are resources being used?

- 10. <u>Funds received from APF utilized in more efficient way.</u> Of the total grants received, a majority (73%) was spent on procuring advanced equipment which has strengthened the quality services. Next highest amount (18%) invested on building, followed by Other equipment (7%), Furniture (1%) and Computers (slightly less than 1%).
- 11. <u>LVPEI is having a limited medical and supporting team to meet the patient load.</u> In the future, the increasing patient flow will increase the stress among the medical team, which has significant and material impacts on patient care quality.
- 12. <u>The presence of advanced equipment has enhanced the efficiency of doctors</u> in terms of quality of diagnosis, surgeries, and time-saving.
- 13. Efficient way of spreading eye care services, with limited resources, to rural areas is well established. Older adultss with vision impairments were identified through vision centres in north-costal districts of Andhra Pradesh, deserved cases, and referred to AGECC-LVPEI in Visakhapatnam for further treatment.

Impact - What difference does the investments make?

- 14. APF support has improved overall operational efficiency, including clinical capabilities.
- 15. <u>The positive impact on zero-down the errors in diagnosis is the critical outcome of advanced</u> equipment Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine.
- 16. <u>The negative impact is increased workload on limited medical staff resulting in stress, affecting their efficiency.</u>
- 17. <u>Improved operational efficiency promotes a more significant number of older patients from different states and gives scope to promote "medical tourism" from other countries.</u>
- 18. <u>Older adults patients' are satisfied with physical infrastructure, booking the appointment, waiting time at OPD, and more importantly, satisfied with the quality of the service.</u>
- 19. <u>Patients are satisfied with the quality of services directly linked with the quality of service</u>, <u>professionalism of doctors</u>, and surgical equipment used for surgeries. It is the "value addition" in the entire process of geriatric eye care supported by APF.
- 20. <u>The overall impact from the support of APF is timely diagnosis and effective treatment</u>. Accurate data-driven methods increased treatment efficiency, reduced challenges in treating glaucoma, retina, and cataract, improved confidence among the medical team, increased patients' medical adherence, and reduced the burden of out-of-pocket expenditures for caregivers.
- 21. The majority of the patients are referred by either friend or relative who already visited AGECC-LVPEI. It implies that the impact of care has gained the confidence of patients who already availed the eye care services.

Sustainability - Will the benefits last?

- 22. <u>LVPEI has utilized the one-time grant from APF and improved its outcome efficiency</u> and attracting older adults patients from different corners.
- 23. <u>Time-to-time up-gradation of the equipment is one factor influencing the sustainability of geriatric eye care service.</u> Present equipment and infrastructure are sufficient to meet the existing patient flow; however, shortly, given the revolutions in medical equipment, the next generation equipment may dominate the eye care systems by adding value to the quality of care and influencing sustainability in the long run.
- 24. <u>The AGECC certainly sustain itself in the future as the growing older adults population</u> increases pressure on geriatric eye care services.
- 25. <u>However, meeting the projected demand with limited staff may affect the quality of services in the future.</u>
- 26. <u>Given the demographic projections, sustainability depends on the LVPEI financial and institutional capacities for further networking with more donors over the long run.</u>

Concluding recommendations

- 27. <u>LVPEI has to focus on new-generation equipment for diagnosis and surgeries.</u> Ophthalmology is one of the most technology-driven branches, which has to be modernized in line with changing technology.
- 28. In the future, given the demographic shift, more older patients may visit geriatric eye care. It leads to stress among the staff. To reduce the workload and stress, LVPEI may have to explore additional funds and increase the strength of the technical team. Management can introduce "stress-away wellness programs."
- 29. <u>It also has to establish "secondary vision centres" in significant towns of north-coastal districts, including adjoining districts of Odisha</u>, to minimize the demand for OPD in LVPEI in Visakhapatnam and give much priority to the surgeries.
- 30. <u>After OPD, when older patients move from one specialization to another for diagnostic tests</u>, long <u>wait times must be minimized by exploring relevant mechanisms</u>. Otherwise, it negatively affects the patients' confidence in their service providers.
- 31. <u>Providing short-stay facilities may be thought of as most patients from far-reaching places are visiting the AGECC.</u>

Section – 1

INTRODUCTION

1.1 CONTEXT

Aurobindo Pharma Foundation (APF) is the philanthropic wing of Aurobindo Pharma Limited and strives for the nation's social and economic growth through its Corporate Social Responsibility program.

As one of the firms committed to creating positive, enduring change in the community, Aurobindo Pharma Foundation, has taken a focused approach to social responsibility that includes empowering people to give back to their communities, operating in ways that are socially responsible and environmentally sustainable, and working with its stakeholders to address societal challenges.

Aurobindo Pharma Foundation continues to integrate the SDGs into its strategy to have a lasting positive impact on society. Its primary focus is on education and skill development, health care and nutrition, sanitation, social equity, environmental sustainability, disaster management and rural development.

Adhering to new CSR protocols, Aurobindo Pharma Foundation has to get its interventions assessed to understand whether the interventions have impacted society and, if so, to what extent?

Aurobindo Pharma Foundation has assigned the impact evaluation of Aurobindo Geriatric Eye Care Centre in Visakhapatnam to the Poverty Learning Foundation (CSR00002642), a think tank with a decade of professional experience assessing CSR interventions' impact.

PLF adopted OECD evaluation framework to judge the impacts. The OECD DAC Network on Development Evaluation (EvalNet) has defined six evaluation criteria – relevance, effectiveness, efficiency, impact and sustainability – and two principles for their use. These criteria provide a normative framework used to determine the merit or worth of an intervention. They serve as the basis upon which evaluative judgements are made.

Aurobindo Geriatric Eye Care in LV Prasad Eye Institute

(LVPEI), located at GMR Varalakshmi Campus, Visakhapatnam. It is one of its kind in the country, serving older adults ophthalmological needs, particularly those with a fragile socio-economic background.

1.2 OBJECTIVES OF IMPACT ASSESSMENT

- 1. Examining the inputs, outputs, outcomes and impact of AGECC,
- 2. Quantify the visibility created, and local acceptancy,
- 3. Quantifying the perceptions of different category of stakeholders,
- 4. Examine the sustainability of the project, and
- 5. Lessons learned for future planning.

These objectives are answered by determining its:

- a. **Relevance** the extent to which the objectives of the AGECC is consistent with the beneficiary requirements;
- b. Efficiency the measure of how economically resources/inputs are converted into results;
- c. Effectiveness the extent to which the objectives of investments were being achieved;
- d. **Impact** positive and negative, primary and secondary long-term effects of an investments, directly or indirectly, intended or unintended; and

e. **Sustainability** – the probability of continued benefits after the project period.

Finally, it provides the information that is credible and useful, enable the lessons learnt to feed into decisionmaking process of APF.

1.3 ASSESSMENT QUESTION MATRIX

The impact assessment matrix has been derived from the key objective of impact assessment focusing on (1) inputs, outcomes, and impact; (2) visibility created; (3) satisfaction of end-users, and (4) sustainability. To collect the data and information, PLF adopted mixed methods (qualitative and quantitative). The key informants in this assessment are (1) Medical staff, (2) administrators, and (3) patients.

With the help of literature synthesis, the following data collection instruments were developed, validated, and standardized -

- i. Semi-structured questionnaire (Annexure 1),
- ii. Semi-structured schedule (Annexure 2),
- iii. MIS template, and
- iv. Checklist.

Through semi-structured questionnaires, PLF team interacted with the designated doctors, and administrator. The assessment was around – Relevance of the support and coverage, effectiveness and efficiency in the treatment, overall change/impact of the investments and sustainability of the service.

Similarly through semi-structured scheduled, team has approached the older adults (65+) patients who have availed different levels and forms of services. Similarly, patient satisfaction survey focused on – demography of the respondent, satisfaction levels, and happiness about the service availed, direct and indirect benefits from the service, challenges in availing the service and the negative outcomes if any. These basic questions help in assessing the impact of the interventions.

In addition, specific case studies were documented to highlight stories on how the interventions benefitted those in need.

Finally impact assessment addressed the following questions:

- > What change can be observed in relation to the objectives of the APF funding and the objectives of interventions made by implementing partners?
- > To what extent can observed changes be attributed to the intervention?
- > Are there any unintended impacts?
- > What mechanisms delivered the impact? What are key contextual features for these mechanisms?

1.4 RESEARCH FRAMEWORK

This impact assessment addresses three types of questions:

- 1. The descriptive question that explains what has taken place
- 2. The normative question makes a comparison between before and after investments from APF
- 3. The cause-and-effect question that examines the differences in the outcomes after intervention

Impact assessment synthesized the critical questions from the literature and framed the right selfexplanatory questions to know the impact (causal effect) of the inputs. The support given by the APF-CSR is to procure advanced equipment, improve infrastructure, and purchase a van to mobilize the older patients to the hospital premises. Accordingly, the assessment focused on oneto-one interviews and MIS data.

PLF will follow a results chain framework, which refers to the order in which results arise, beginning with activities, inputs, outputs, and outcomes. These interact with contextual features to produce impact. While documenting the result chain framework, PLF will implement a mixed-method research model.

1.5 APPROACH

The impact assessment team from PLF team, has selected medical staff, administrator and older patients for the purpose of assessment. Here the aim is to assess the impact of APF-CSR support and it improved the quality of services and to what extent older patients are satisfied. In this approach the specific activities including –

- i. Mixed-method with quantitative analysis complemented by qualitative outputs.
- ii. Interviews with medical staff and administrator to get information on the inputs and outcomes;
- iii. Interviews with older patients who have availed the services
- iv. Analysis of
- v. Impact assessment by incorporating key informant interviews, and;
- vi. Conducting mixed-methods operational research into different programme interventions and making strategic recommendations

1.6 DATA SOURCE

Four broad sources are used to get relevant information: (1) documents, (2) MIS data (3) medical staff and administrator, and (4) perceptions of patients. Documents on design of each one of the intervention, baseline and midterm documentation (if available); relevant information/data from implementation agencies; and any others sources. The evaluation matrix relies on many of these documents provided by APF and implementing agencies. The limitation is some of the assessment questions will be difficult to answer fully.

Impact assessment team has had one-to-one interviews with doctors - Dr. Avinash Pathengay, Dr. Merle Fernandes, Dr. Virender Sachdeva, Dr. Bhavik Panchal, and Dr. TVH Kiranmaye. Team also had lengthy in discussions with Rekha Guntur, Administrator – Operations.

To understand the satisfaction levels, 37 patients who availed geriatric eye services were contacted virtually and obtained their perceptions/experiences on quality of eye care. Few case studies were also collected through telephonic interviews with the patients to assess the effectiveness and impact of the eye care services in AGECC-LVPEI.

Using ATLAS-ti and SPSS, (Statistical Package for Social Sciences) collected information has been translated into descriptions in line with evaluation framework adopted in this assessment.

1.7 LIMITATIONS

Adhering to the pandemic protocols and the suggestions from the LVPEI administration, the assessment team has avoided physical visits to the hospital. Assessment changed its approach and organized a schedule with the medical staff, administrator, and older patients executed telephone interviews. It has taken a long time to complete one-to-one interviews, as the medical and administrative staff are busy during working hours. The assessment team repeated the calls to ensure complete information. Maximum care has been taken while constructing the self-administered and self-explanatory questionnaires and also checklists for telephonic interviews. The assessment team has followed the "no information left behind" model while drafting the questionnaires and executing the interviews. Maximum care has been taken in analyzing the data and information drawn through interviews and MIS datasheets.

Section 2

OUTCOMES OF THE IMPACT ASSESSMENT

Eye health and vision have widespread and profound implications for many aspects of life, health, sustainable development, and the economy. Nevertheless, many people, families, and populations continue to suffer the consequences of poor access to high-quality, affordable eye care, leading to vision impairment and blindness¹.

The burden of eye conditions and vision impairment is not borne equally: it is often far more significant in rural areas, with low incomes, women, older people, people with disabilities, ethnic minorities, and indigenous populations. Access to service is one of the critical issues, and World Report on Vision points out the more robust integration of eye care is needed within national health services, including at the primary health care level, to ensure that the eye care needs of more people are addressed, including through prevention, early detection, treatment and rehabilitation, the report found².

In 2004, India adopted 'Vision 2020: The Right to Sight' program following a global movement, reiterating the commitment towards elimination of blindness by the year 2020. In line with Vision 2020, and recognizing the fact that cataract, retinal disorders such as age-related macular degeneration and diabetic retinopathy, glaucoma, dry eyes and corneal diseases are the most

common vision impairments among older adults which can be prevented or treated, Aurobindo Pharma, one of the Pharma giant in India started focusing on older adults³ eye care in India.

With an aging global population, the demands for eye health services are increasing. Eye health is essential for achieving Sustainable Development Goals (SDG). Global vision and eye health unlock older adults' potential to maintain wellbeing. SDG 3, in particular, reminds us that eye health is critical to ensure good health, mental health, and wellbeing.

2.1 PARTNERSHIP BETWEEN LVPEI AND APF:

¹ The Lancet, https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30488-5/fulltext

² WHO (2019), World Report on Vision, <u>https://www.who.int/news/item/08-10-2019-who-launches-first-world-report-on-vision</u>

³ Older Adults: Medicare-eligible persons aged 65+years, however depending on medical emergency 60+ also considered as older adults.

As one of the leading pharmaceutical companies in line with the Global Action Plan⁴, Aurobindo Pharma, under its Corporate Social Responsibility (CSR), entered into a partnership with LV Prasad Eye Institute (LVPEI), Visakhapatnam started a separate geriatric eye care center in 2017. The fundamental strength of LVPEI - a World Health Organization collaborating center for the prevention of blindness, offers comprehensive patient care, sight enhancement, rehabilitation services, and high-impact rural eye health programs. It also pursues cutting-edge research and provides training in human resources for all levels of ophthalmic personnel. Besides, LVPEI is not-for-profit eye care institution having concept of geriatric care and education, home care approach and generating eye care knowledge through evidenced-based research.

Sometime in 2001, LVPEI, Hyderabad has conducted a study called "Andhra Pradesh Eye Disease Study: policy implications for eye-care services (APEDS)⁵. It concluded four critical areas: (i) disease control, (ii) human resource development, (iii) technology, and (iv) infrastructure development to ensure quality eye care. The APEDS is another instrumental in collaborating between Aurobindo Pharma Foundation (APF) and LVPEI and establishing "Aurobindo Geriatric Eye Care Center" in LVPEI, GMR *Varalaxami* Campus, Visakhapatnam by investing INR 5.25 crores from its CSR funds. This centre started functioning from March 2016. The main objective in this joint partnership is "providing geriatric eye care services to the socially and economically vulnerable older adults from northern districts of Andhra Pradesh and neighbouring districts of Odisha.

In addition to the investments in establishing AGECC, APF has supported LVPEI during 2015 and 2016 to procure modern surgical equipment⁶ – a state of art technology; improving waiting lounge in the hospital; and new Operation Theatres (OTs); and a 12-sectar van to transport the patients for AGECC.

2.2 RELEVANCE

Is the intervention meeting intended purpose?

Impact assessment has examined the reasons behind the partnership between APF and LVPEI and established geriatric eye care center; investing in advanced equipment, improvements in infrastructure, geographical coverage, and the patient-related policies and protocols of LVPEI.

2.2.1 Evidence base:

The association between APF and LVPEI is based on the evidences, which can be drawn from – APEDS report, Census 2011, on need of eye care services, specifically for older adults.

The need for eye care services brought out in the report "Andhra Pradesh Eye Disease Study (APEDS), which talks about the prevalence and causes of blindness and visual impairment, the prevalence of and risk factors for major eye diseases, barriers to eye-care services, and quality of life among the visually impaired in Andhra Pradesh.

⁴ WHO (2013) "Universal eye health: a global action plan 2014-2019", World Health Organization. The Universal Eye Health -A Global Action Plan 2014-2019 aims to improving access to comprehensive eye care services that are integrated into health systems. It appeals to the Governments and their partners to reduce avoidable visual impairment through cost-effective interventions and support those with irreversible visual impairment to overcome the barriers they face in accessing health care, rehabilitation, support and assistance, their environments, education, and employment. There are competing priorities for investing in health care; nevertheless, the commonly used interventions to operate on cataracts and correct refractive errors – the two major causes of avoidable visual impairment – are highly cost-effective.

⁵ Dandona R, Dandona L (2001) Review of findings of the Andhra Pradesh Eye Disease Study: policy implications for eye-care services. Indian Journal of Ophthalmology, volume 49, Issue 4.

⁶ Operating microscope, retinal cameras, anesthetic equipment, etc.



The summary of this report indicates the prevalence of cataract and refractive error responsible for 60.3% of blindness and moderate impairment 85.7% visual of blindness. It further points out that increasing decreasing age, socioeconomic status, gender, and residing in rural areas were associated with a higher risk of blindness.

Of the total 84,580,777 (in 2011)7

population, the rural scenario says 8.9% are in the age group of 60 to 79 years and 0.7% above 80 years of age. Similarly, in urban, 6.7% are in 60 to 79 years and 0.4% in 80 and above age.

Particularly in rural areas, the barriers⁸ in accessing eye care services are poor economic conditions, traditional practices, beliefs, fatalistic attitudes towards blindness, fear of treatment, lack of faith in the intervention, and fear about the surgical procedure. Such barriers restrict the older adults from accessing the eye care services.

Besides, financial dependency of older adults⁹ is another challenge, which prevents them from the eye care services. Studies¹⁰ are showing old-age dependency ratio (65+ per 15-64) of India increased from 6 ratio in 1971 to 9.8 ratio in 2020 growing at an average annual rate of 1.00%. it is more or less similar in Andhra Pradesh.

2.2.2 Common vision:

The vision of LVPEI – "To create excellent and equitable Eye care systems that reach all those in need" – perfectly matches with the one of the concepts APF - CSR "providing amenities to many health organizations which will help the poor and needy obtain better health care with access to sophisticated medical equipment".

In this way, CSR support from APF increased the capacity of LVPEI in bringing eye care, particularly for older adults, is more appropriate and relevant to the context specified in the APEDS report. Irrespective of social class and gender, LVPEI considers the age of the patients, registers them in AGECC, and provides all essential eye care services without any discrimination.

⁸ Vision 2020 e-resources, <u>http://www.v2020eresource.org/home/newsletter/news42008</u>

⁷ India Census.net <u>https://www.indiacensus.net/states/andhra-pradesh</u>

⁹ Central Statistics Office, (2016), "Elderly in India", Ministry of Statistics and Program Implementation, GoI,

http://mospi.nic.in/sites/default/files/publication_reports/Elderly in India_2016.pdf

¹⁰ World data atlas (2020), <u>https://knoema.com/atlas/India/topics/Demographics/Dependency-Ratios/Old-age-dependency-ratio-65-per-15-64</u>

To bring visibility and expand outreach operations, LVPEI conducts regular screenings camps. In the rural and urban areas of North-coastal districts: Visakhapatnam, Vizianagaram, and Srikakulam districts AP. Between 2016 and 2020, LVPEI has organized 270 community screening camps in different locations, including ten old-age homes. The outreach workers of LVPEI sensitize all stakeholders, including front-line health workers and gram panchayat on the rural camps, to mobilize the older people for screening.

LVPEI conducts a few screening camps in urban slums too so that the poor and needy from different habitations of north coastal Andhra Pradesh get benefited by the socio-medical initiative undertaken by the institution. The institution screened 32000 persons in these camps and identified 6746 patients requiring cataract surgeries.

Due to a shortage of time and professional staff, outreach services did not extend beyond Andhra Pradesh's North-coastal districts and bordering districts in Odisha.

During the interactions, Dr. Avinash, senior doctor, and Ms. Rekha G, administrator, said, "With the existing staff strength, LVPEI could effectively cover three districts. The management will decide on further expansion of outreach activities shorthy. At present, Geriatric eye care services are extended to the poor and needy in these three districts and are up to our satisfaction and expectations".

2.2.4 Policy on categorizing the patients

As a policy, LVPEI has categorized the patients into two categories based on their economic status: Paying and Non-Paying. The Paying category patients are further divided into three sections: General, Supporters, and Sight Savers. The rest of the patients fall under Non-Paying Category. During the registration, LVPEI collecting the economic status of the family of the older patients through structured format. Those patients who score more than 10 points on the scale will be placed under the "non-paying" category who are eligible for free treatment. Those patients who are already holding BPL Cards (White Ration Cards) are placed under non-paying category.

Services rendered to economically underprivileged people in non-paying category are free of cost (OPD, Surgical, Follow-up procedures, in-patient bed and diet, medicines, spectacles, etc.).

Having paying (Eg: supporters who can pay double the standard fee which is allotted to treat nonpaying poor older patients) category helps in offering eye care services to impoverished older adults' patients.

In addition to paying patients, LVPEI has categorized non-paying patients into three categories: (i) all prospective patients identified during rural screening camps; (ii) patients identified in the old age homes; and (iii) patients who directly walk into the LVPEI facility, either at the primary vision unit or the apex center at Visakhapatnam. It helps in providing effective eye care services to the non-paying patients by minimizing the patient load in LVPEI main centre.

2.2.5 Patient follow-up system

Irrespective of the nature of the case under consideration (surgical or non-surgical), the follow-up system is in place to alert the older patients about the next visit to meet the doctor. Before the

appointed date, the hospital staff sends a reminder to all the patients through SMS. Tracking every follow-up appointment and monitoring every single patient (including the OPD) are systematized.

It helps in providing regular treatment to the patients and also reduces the attrition rate. Mainly it is helping the rural patients who, in general, neglect the follow-up visits and treatment and often fall into complications.

2.2.6 Coverage:

LVPEI has taken older adults who are 60 years of age and above into consideration under geriatric care and are treated in LVPEI. Strategically, LVPEI has given more weightage to older adults in the 65 and above age groups in Aurobindo Geriatric Eye Care Centre. Prominently two reasons are behind this decision:

- Age-related macular degeneration and cataracts start from 50 years of age, and along with aging, it aggravates the older adults from their everyday life. In such a scenario, older adults 65 and older are more vulnerable and need comprehensive eye care.
- Minimize the volume of older adult patients in a waiting hall in AGECC, which accommodates a limited number of 30 in one batch.

This assessment analyzed the MIS data from LVPEI and found that many 201050 older patients (60+) attended OPDs, and 122304 undergone surgeries, between January 2006 and May 2021. Of this majority (61%) are in the age group of 65 and beyond attended OPDs in AGECC (Table 1).

Table 1: Older adults (60+ and 65+) treated as Out Patients between January 2016 and May 2021							
Year wise OPDs covered 60+ age group				Year wise OPDs covered 65+ age group			
Years	Paying	Non -Paying	Total	Years	Paying	Non-Paying	Total
2016	22632	14345	36977	2016	8772	7634	16406
2017	25518	13514	39032	2017	15204	8246	23450
2018	30285	12067	42352	2018	19127	8460	27587
2019	32427	11170	43597	2019	22156	7767	29923
2020	20665	5355	26020	2020	13293	3412	16705
2021	10853	2219	13072	2021	6841	1392	8233
Grand Total	142380	58670	201050		85393	36911	122304

Similarly, MIS information says that LVPEI has performed surgeries on 26717 older adults under the 60+ age group. Of this, the majority (66%) are older adults 65 and above age who have undergone surgeries in AGECC (Table 2).

Table 2: Older adults (60+ and 65+) underwent surgeries between January 2016 and May 2021								
Year wise surgeries covered 60+ age group					Year wise surgeries covered 65+ age group			
Year Wise	Paying	Non -Paying	Total	Years	Paying	Non Paying	Total	
2016	2112	2189	4301	2016	1364	1497	2861	
2017	2732	2242	4974	2017	1772	1471	3243	
2018	3400	2109	5509	2018	2205	1338	3543	
2019	3836	1927	5763	2019	2637	1392	4029	
2020	2933	1032	3965	2020	1945	706	2651	
2021	1753	452	2205	2021	1083	326	1409	
Grand total	16766	9951	26717		11006	6730	17736	

The summary concludes that after establishment of Aurobindo Geriatric Centre, the LVPEI institution had covered 122,304 out patients and performed 17,736 surgeries for the patients aged 65 years and above. MIS data says that 60% of the patients are drawn from rural families and the rest are from urban areas, slums included.



MIS data from LVPEI indicates that the outbreak of the Covid-19 pandemic restricted most of the paying and non-paying category of patients to visit the hospital in 2020 (Fig 1).

Only those patients from urban areas, and most fall in paying category availed the geriatric eye care.

Besides the pandemic restrictions, the number of non-paying categories of older adults attended OPD are comparatively less in number since 2016. Most of the rural improvised older adults in non-paying category are finding it difficult to reach LVPEI

from faraway places. Few older adults are approaching vision centres near to their habitations and for initial treatment, approaching local ophthalmologists – are few reasons given by Dr. Avinash and Ms. Rekha.

Similar trends are observed in number of older patients from non-paying category undergone surgeries in AGECC-LVPEI.

Dr. Avinash said that LVPEI has plans to revive its rural eye camps once the pandemic situation significantly subsides.



Similar trends were observed in those who have undergone surgery (Fig 2).

Data further highlights the changes in patient volume, in both OPD and surgeries, between 2016 and 2019. Comparatively, patients from paying group are more than those in the non-paying group. The reasons are:

First, patients from long distance, for instance from *Ichchapuram (is around 250 kilometers)* find it difficult to visit the hospital for regular OPD services. Instead, they prefer local

hospitals for routine eye check-up services. One important thing to note is that older adults' patients feel very difficult to commute long distances, for instance making journey from Ichchapuram, and adjoining districts of Odisha. Another factor would be the cost of travel if they chose the general screening in LVPEI.

Secondly, between their living places, for instance, Ichchapuram and Vizag, there are a few essential market-towns such as Srikakulam, Bobbili, Rajam, Cheepurupalli, Palakonda, and Vizianagaram, were a couple of medical colleges with free OPD services on free of cost to the poor.

Special mention needs to be made here to the *Arogya Sree* health insurance scheme of the Government of Andhra Pradesh, allowing all cardholders to receive free services in these medical college hospitals. Most of them, including older adults' patients, are satisfied in using these services under all ordinary circumstances. They think of LVPEI only when the particular patient requires treatment for critical problems.

Recently LVPEI has decided to club all the *Aarogya Sree* cardholders into paying category. Most of the older patients are having such facilities. It is also one reason to show declining trends in the volume of the non-paying category and increasing trend in paying category.

When the pandemic outbreak in 2020, due to travel restrictions and fear complex among the older adult's patients and their caregivers, OPD and surgeries have gradually dropped.

2.3 EFFECTIVENESS

Is the intervention achieving its objectives?

Impact assessment has analyzed how the visibility increased, what motivated the LVPEI team in expanding the outreach, increased geographical coverage, and patients' perceptions on quality of care.

LVPEI has a policy of measuring the visibility factor by assessing its quality of care in terms of technology, the capability of the internal team, and impact on the institution's functions.

When state-of-art technical devices arrived at the institution with the support of APF, automatically the quality of service has improved. It encouraged the doctors and technical team to

improve the quality of care and speedy services to the patients.

Besides, with APF support, infrastructure has been improved. It was also one of the encouraging factors for the entire LVPEI team, which resulted in more commitment to delivering the quality services. Advanced surgical and non-surgical equipment, improved infrastructure enhanced its visibility in Visakhapatnam, including in other adjoining districts in Andhra Pradesh and Odisha.

2.3.1 Patients flow

Narrating the critical factors behind visibility, Dr. Avinash said, "our quality geriatric services started attracting the older adults patients not only from north-costal districts of Andhra Pradesh but also attracted patients from Odisha. It is made possible because AGECC is one of its kind serving older adults, and its collaboration with LVPEI and perhaps it supplements other Eye care services in Visakhapatnam.

MIS data (Table: 3) is evident to say that now patients for geriatric eye care are traveling long distance (more than 100 km), to avail the geriatric eye care services. Because of pandemic, patients flow slightly dropped during 2020.

Table: 3 District wise volume of geriatric patients (65+) availed services								
S.No	Patients from neighbouring districts	Years/volume of patients						
	0 0	2016	2017	2018	2019	2020	2021	
1	Visakhapatnam	10220	14684	16177	18291	10326	5238	
2	Vijayanagaram	2217	3438	3982	3728	2234	1094	
3	Srikakulam	1465	3178	3686	3961	1992	935	
4	East Godavari	1227	1340	1670	1935	1130	500	
5	West Godavari	400	613	697	711	359	185	
10	Rayagada	263	208	172	210	100	33	
8	Korraput	108	174	168	159	57	51	
12	Bastar	39	96	125	143	72	30	
6	Krishna	49	73	107	93	50	42	
7	Malkangiri	44	23	28	27	10	4	
9	Nabarangapur	24	39	58	55	15	10	
11	Ganjam	45	33	52	33	12	23	
13	Jajapur	35	10	14	3	1	1	
14	Guntur	33	16	28	35	41	13	
15	Prakasam	11	5	18	10	24	23	
16	Others	226	627	605	529	282	51	
	TOTAL	16289	23450	21402	29923	16705	141	

Dr. Avinash has explained the high volume of patients physically consulting AGECC-LVPEI for cataracts (average 27% between 2016 and 2021), followed by Presbyopia (average 7%) and Glaucoma (average 1%). The volume of patients undergone surgeries highlighting the gradual increase between 2016 and 2019 (Table: 4). Of the total, a majority have undergone

In this context, Dr. Avinash highlighted the modern equipment, for instance: Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine procured with the funds from APF has immense help for the doctors to ensure quality diagnosis and surgery.

cataract surgery (60% average between 2016 and 2021) followed by retinal and vitreoretinal surgeries (23%).

	Table: 4Surgeries specialty wise geriatric patients (65+)						
S.No	Speciality wise surgeries	2016	2017	2018	2019	2020	2021
1	Cataract	1970	2055	2363	2394	1364	888
2	Retinal and VitreoRetinal	422	870	917	1009	754	291
3	Minor Procedures/Injections	198	98	32	19	23	10
4	Cornea	146	167	125	133	112	61
5	Anterior Segment	120	175	150	176	101	30
6	Oculoplastic	79	105	155	211	131	59
7	Glaucoma	59	63	76	70	64	35
8	Ocular Surface	37	60	59	61	32	10
9	Trauma	10	16	14	16	19	5
10	Strabismus	2		3	2	1	1

LVPEI has established an impressive track record with the support of APF. Ms. Rekha, the

administrator, said, "we are satisfied with the Geriatric Eye Care Facility and APF support. It has enhanced our quality care and leveraged the satisfaction among geriatric patients and their caregivers. Patients can relax in the weighting hall till they get the doctors to call, and LVPEI has brought patient/user-friendly appointment booking mechanism to minimize the patients waiting time".

During 2016, APF invested in advanced equipment and supported infrastructure development. Since then, MIS data shows that the number of patients has gradually increased. In this way, one of the objectives behind APF CSR support – expanding operational area and serve more older adults is fulfilled.

2.3.2 Peer-to-peer learning

A new generation of equipment will give scope to ensure quality care and peer-to-peer learning in the medical field. It is a tool to learn and improve the standards. LVPEI conducts multiple CMEs, CPD, and skill transfer workshops to train the general ophthalmologists and postgraduate trainees across the LVPEI network on the standard protocols using Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine. MIS data indicates that, during the Carona-19 pandemic protocols, between March 2020 and April 2021, LVPEI has conducted 174 webinar lecturers in which 12232 medical, para-medical people were attended. After installing the advanced equipment in 2016, LVPEI has organized technical workshops and meetings with 1833 medical professionals and peers on standard protocols of advanced equipment and their advantages.

As per the information from Ms. Rekha, LVPEI has organized CME; Skill Transfer Workshops; TPS: Think-Pair-Share sessions; PBL: Problem Based Learning; and Eye HEP, which are essential for medical professionals to upgrade their professional capacities.

LVPEI promotes the visibility of the APF through the time-tested method of *word-of-mouth publicity* and social media. Donor support is duly acknowledged during the in-house workshops and peer-to-peer learnings. Besides, the visibility of AGECC has spread across the villages in a couple of districts, specifically through vision centers in north-costal districts. Increasing older adults patients flow, with geographical spread, over the past six years is strong evidence.

2.4 EFFECIENCY

How well are resources being used?

Evaluating efficiency involves looking at the critical areas of economic efficiency, operational efficiency, and timeliness. This assessment looks into financial resources, human resources, and operational efficiency discussed in impact.

2.4.1 Financial resources:

Grants received by LVPEI from APF and other donors, such as GMR Varalakshmi Foundation and Dr Reddy Labs, are spent on specific purposes, as per the Memorandum of Understanding. Under any circumstances, the administration is not deviating the funds to other programs. Besides, LVPEI invests lots of its funding to meet the operational cost of equipment and hospital maintenance.

As per the information, LVPEI has received a total grant of INR 5.25 crores in two phases. Of this, the highest amount, of 73% (INR 3,80,60,473) has been spent on procuring advanced medical equipment's. It implies that, LVPEI has prioritized the investments from APF and spent maximum on equipment, 18% (INR.

94,83,046) on building, 7% (INR. 37,73,672) on other equipment, slightly less than 1% (4,85,875) on computers and 1% (7,03,082) on furniture (Fig 3).

"Different donors are funding other interventions in LVPEI, and we have an ethical policy not to diversify the funds. The annual operational cost of the advanced equipment procured



with the support of APF is around 2.3 lakhs. LVPEI is managing this expenditure with its funds" – says Ms. Rekha, administrator.

To mobilize the patients, and while organizing the rural eye camps, AGECC-LVPEI is using the medical van supported by APF.

2.4.2 Human resources:

In terms of human resources, LVPEI has two doctors and three Consultant Ophthalmologists specializing in Virto Retinal services, Cornea and Anterior Segment, Cataract, Refractive surgery, pediatric, Squint and Neuro-ophthalmology, and Glaucoma. Besides, administrator-operations, administrator-general and education, community eye care personal, patient care counsellor and dietician support staff.

MIS data says that between 2016 and 2021 (April), about 26717 older adult patients have availed of OPD services, and 17736 have undergone surgeries. With limited staff, LVPEI manages the services efficiently, however as mentioned by Dr. Avinash, the workload on doctors and other staff has increased. Research evidence talks about doctors and supporting staff workload, stress and satisfaction have significant and material impacts on patient care quality.

However, LVPEI anticipating the post-Covid tour-over of patients for geriatric eye care and managing them, are looking for additional clinical staff and technical support. While talking on the

available human resource and patient flow, Ms. Rekha said, "after lockdown during 2020, the number of geriatric patients visiting AGECC has increased, and information from our 26 vision centers alarming further rise in several patients to geriatric eye care from north-coastal districts. Our usual business from other districts in Andhra Pradesh and Odisha will add more numbers. Visualizing this situation, we need to add a few more doctors and managing staff".

Both funds and human resources (expertise) are efficiently converted into outputs, outcomes, and impacts in the most costeffective way possible - adding advanced equipment and improving infrastructure. It is evident that operational efficiency has been improved after introducing advanced equipment along with geriatric-friendly infrastructure.

2.4.3 Backward-linkages:

Further to this context, this evaluation analyzed the backward-linkages identifying the older adults patients in rural areas having vision-related challenges and providing basic minimum suggestions, tracking and mobilizing them to AGECC-LVPEI in Visakhapatnam. LVPEI works in three layers in north-costal districts. *The vision centers* is the first layer established in the 26 selected villages (cluster model) where trained volunteers (n.33) are mapping the geriatric eye needs of the people by doing a door-to-door survey. Those who need ophthalmologists' consultation referred to the LVPEI in Visakhapatnam, where the patients get proper treatment. This process can be considered an efficient way of spreading eye care services, with limited resources, to rural areas.

The new equipment's presence has enhanced the efficiency (in terms of diagnosis and time-saving) of the medical doctors while treating the patients. For instance, VITEK equipment, procured with support from APF, has sufficiently enhanced the quality of treating corneal infections (*detection of organism susceptibility vis-à-vis the earlier method of organism detection only*).

Succinctly put, the VITEK machine had a quality bearing on the treatment process, facilitated easy *diagnosis*. The Specular Microscope equipment, which was procured with support from APF, has

enabled the doctors to diagnose the cornea's endothelial layer's exact condition properly. These new developments provided the much-needed scope for easing tension and stress for the doctors and older adults patients as part of geriatric eye care. It can be considered one of the impacts of APF CSR support and linked to the system's efficiency.

While discussing with the doctors, this assessment understands that staff is delighted with advanced equipment that has given scope to improve their efficiency in diagnosis. It allows the staff to effectively utilization of their skills and knowledge.

As mentioned earlier, the introduction of advanced equipment increased the workload; however, it minimizes the time taken for proper diagnosis which is the critical point in quality care.

2.5 **IMPACT**

What difference does the investments make?

A synergy of advanced surgical equipment improves patient survival and recovery. It is the critical impact evident from the services of the multidisciplinary team in LVPEI.

The streamlining of the patient- treatment- outcome continuum has established better using various standard operating procedures of Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine, and checklists with a multidisciplinary team where all levels of the clinical team actively engaged. The basis of decisions made by the doctors is evidence-based. It improves the quality of care and ensures the best results.

2.5.1 Operational Efficiency

During the group discussion, Dr. Avinash and the team summed up the impact of new equipment. With the new equipment, doctors could provide efficient and accurate test results with perfect

detection and diagnosis. It is also cost-effective. Analyses of answers in difference in difference/before and after (introduction of advanced equipment), noticed improved quality of services, especially cataract surgeries.

Doctors strongly feel the change in operational efficiency (including clinical capabilities). After installing the advanced equipment and

Though the introduction of advanced equipment has primarily reduced the burden of errors in diagnosis, it has increased the workload of the doctors as the number of patients gradually increased.

improved infrastructure, the technical competencies have increased, along with staff motivation resulted in patients satisfaction—however, no change in effective utilization of staff.

In this context, the present evaluation referring to the increasing flow of patients for geriatric eye care not even from different districts of Andhra Pradesh but also Odisha and quite often from Maharashtra. LVPEI is encouraging "medical tourism" from other countries. Increasing the number of patients from different geographical regions is one indicator depending on operational efficiency.

2.5.2 Patients' perceptions

Patient satisfaction or perception is another important indicator in judging the success of doctors and health services. The patient satisfaction survey (n.37) results summarize the patients' satisfaction levels in this impact assessment. All these 37 patients have availed of the eye care services between October 2020 and March 2021 and are purposefully selected for telephonic interviews. It helps the assessment capture factual information, which older patients can recall their experiences during the treatment.

Older adults are usually cautious and conservative; they tend to distrust unfamiliar things. They are aware of their vulnerability and expect proper and convincing suggestions from the doctors and other clinical staff. In this context, health caregivers are more cautious in establishing their credibility in terms of service quality.



Mainly, older adults, particularly those visiting vision centers for further treatment, are mobilized to the LVPEI hospital in a 12-seater van. After treatment, they are dropped at the respective vision centers. Most older adults are happy with such services as they can save money on transport and feel it is much safer to travel in the hospital van.

While considering the psychology of the older adults, the present assessment has focused on critical points - location, waiting areas, amenities (wash-rooms), fixing appointment, waiting time, cost, doctors and other clinical and non-clinical staff behavior, how doctors are explaining the eye conditions and purpose of further treatment, perception on medication and treatment. These are more concerned with older patients.

These points are directly linked to the quality of services offered in AGECC. Quality service is linked to the investment in advanced types of equipment and infrastructure development in the hospital.

2.5.3 Accessibility and amenities:

All 37 patients interviewed expressed their satisfaction with the location of LVPEI which is easily accessible. The majority (91%) expressed their satisfaction over the ambience, amenities, physical



facilities in waiting rooms. Hundred percent of the patients appreciated the cleanliness and seating arrangements in the hospital. They are happy with the space provided in the walking areas between waiting hall and doctors rooms (Fig 4).

Quite a few patients (16%) suggested to have subsidized accommodation and subsistence to patients coming from faraway places

for surgeries.

2.5.4 Procedures:

As 79% of the older people, particularly their caregivers, seem to be more comfortable with hassle free booking the appointment. Waiting time is more critical for older adults as they were reluctant to wait for a longer time. Though 79% of patients satisfied with the waiting time to meet the concerned doctors, 21% suggested improving the quick internal referral system



(between one department to another or one lab to another) to minimize the waiting time.

Here it is important to note that according to Dr. Avinash, installing advanced equipment has given much scope to reduce the waiting time for patients.

2.5.5 Services of doctors, clinical staff and quality of service



The majority (96%) of patients expressed their satisfaction over doctors' receptibility, attitudes towards patients, health advice, and comfortable treatment procedures. Few of these category patients said that "doctors summarize the treatment procedure and the importance of particular treatment to improve vision. It is more important to reduce the fear complex among the older people". It implies that communication between patient and

doctor is in user-friendly manner, which is one of the criteria to judge the quality of services.

Almost 99% of the patients satisfied with the quality of the service. Particularly those who have undergone cataract surgery are satisfied with the quality of service and medication. It implies that successful health services are directly linked to the professionalism of doctors and surgical equipment used for surgery. It indicates the advantage of APF investment in advanced equipment with which doctors can maximize the effectiveness in treatment and surgeries and reduce the usual challenges in cataract surgeries. It is the "value addition" in the entire process of geriatric eye care provided by AGECC-LVPEI.

In this context, interviews with doctors say that due to advanced equipment - Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anesthetic Machine - they minimize (almost zero down) the diagnostic errors and able to tailor the care according to the patients' conditions.



The present assessment also noted that before 2016, there were some bottlenecks in the operation theatre and the diagnostic procedures.

The majority (92%) are happy with responsiveness of hospital staff administrator, counsellor, nursing and pharmacists. LVPEI staff. extended its counselling services on dietary; Yoga is appreciated by all patients interviewed. The majority (81%) are happy with counselling on dietary, and the rest (19%) wish to follow their own dietary followed for the years (can be considered as a traditional outlook of older adults patients).

Older adults patient Smt. J. Rukmini Devi (70) says - "I underwent surgery for my right eye, which was successful. now I am more comfortable with a clear vision and able to attend my duties. Doctors and their team have extended their full cooperation".

One patient Mr. Mr. Thomas Minsili Eba (66) availed geriatric care says "I am from Cameroon, Central Africa visited AGECC-LVPEI and undergone cornea transplantation to the right eye and cataract surgery to the left eye. Now my vision has improved, and I am feeling comfortable. I am satisfied with the quality of service, including the care and reception extended by the doctors, administrator, nursing, and other staff. Particularly, I am glad to note the patience of doctors in answering my questions".

Impact assessment noticed few older patients visited AGECC-LVPEI on medical tourism and availed eye care services.

Present impact assessment collected few case studies (see appendix), to understand the perceptions of older adult's patients, which concludes - more relief to poor people, comfortable reception and quality of service extended by the AGECC-LVPEI.



2.6 SUSTAINABILITY

Will the benefits last?

One of the recent reports¹¹ says that by 2050, 20% of the Indian population will be in 60+ age groups. The increase in life expectancy over the years has increased the population of the older adults. Similar trends will be applicable to the older adults population in south Indian states, including Andhra Pradesh.

Out of this, the oldest-old segment¹², which is the most vulnerable on account of suffering from vision impairments (in addition to the disabilities, vision problems, diseases, terminal illness, and dementia), is also the largest growing segment of the older adults population, which increases the pressure on geriatric eye care services.

¹¹ The Economic Times (17 April 2019), <u>https://economictimes.indiatimes.com/news/politics-and-nation/share-of-population-over-age-of-60-in-india-projected-to-increase-to-20-in-2050-un/articleshow/68919318.cms?from=mdr</u>
¹² Mint (21 February 2015) <u>https://www.livemint.com/Politics/z6BacVOwf5SvmpD9P1BcaK/20-of-population-to-be-older adults-by-2050-HelpAge-India-repor.html</u>

Besides the growing population in 60+ years, sustainability depends on the LVPEI systems' financial and institutional capacities over the long run, meeting the demand, and managing the hospital.

The nature of the support given by the APF is a one-time grant (delivered in two instalments) to procure the equipment, improve the infrastructure, and van mobilize the patients. Apart from this, there is no financial support from the APF to managing the hospital. Hence, the present assessment has not focused on financial management by LVPEI.

Present equipment and infrastructure are sufficient to the existing patient flow; however, shortly, given the revolutions in medical equipment, the next generation of Cataract Surgery Microscope, Vitreoretinal Instruments, Retinal Camera, and Anaesthetic Machine procured may dominate in the eye care systems by adding value to the quality of care. Existing infrastructure in AGECC-LVPEI may not accommodate the increasing flow of older patients. It a critical issue that influences the sustainability factor, and LVPEI must have its revenue model and future long-term plans.

While discussing sustainability, Dr. Avinash and Ms. Rekha explained the plans to increase *vision centers* to bring more extensive coverage in the rural sector. Similarly, establishing secondary centers with limited medical staff to conduct OPDs for older adults with eye problems, thereby minimizing the OPDs at LVPEI, increasing the surgeries for needly elders, inducting new staff, and updating the equipment and protocols. It indicates that LVPEI is having a clear plan for future expansion and strengthening the quality of services.

2.7 CONCLUDING REMARKS AND RECOMMENDATIONS

The impact assessment assessed the inputs and outputs and concludes that the investments made by Aurobindo Pharma Foundation have been justified in line with the APF – CSR vision and LVEPI mission in bringing maximum coverage and quality of eye care mainly to the older adults who are, the more vulnerable stage of life. Since establishing the Aurobindo Geriatric Eye Care Centre in LVPEI, the volume of older patients from different parts of Andhra Pradesh, Odisha, and other states is evident for credibility and operational efficiency established by AGECC-LVPEI.

APF investments to improve the quality of care through advanced equipment and infrastructure have positively impacted the program. It has improved the confidence levels among the medical and other staff in the centre, resulting in error-free, quality diagnosis and surgeries.

Specifically, older patients are satisfied with the quality of care and facilities in the centre. It is one of the positive indicators bringing more visibility to the AGECC, which is one of its kind.

One of the observations is that though the advanced equipment has efficiently leveraged the time for diagnosis and surgeries, it has increased the workload for medical and non-medical staff. It may affect the quality of care.

It is to be noted that the increased patient load given an opportunity to optimize the medical staff requirement to continue their efficiency in treating patients

The advanced equipment has given scope for peer learning, which is a critical part of training in the medical field.

Given the fast changes in medical equipment and demand for artificial intelligence, AGECC-LVEPI jointly has to upgrade the latest generation equipment to zero down the diagnostic and surgery-related errors. It has given more visibility to the centre.

The future demographic transition demands more quality and meets the eye care for more older adults. It is time to think about future expansion plans and have its revenue model to add value to the services.

4. APPENDEX:

Case Studies

(supplements the inputs and outcomes of AGECC-LVPEI quality eye care services)

A Cursory Glance: Curse vs. Gift

Case Study -1

Name:Jonnada Rukmini Devi (77)Resident:VisakhapatnamVisual impairment:Retina and CataractDoctor consulted:Dr. Veerandra

The case of Jonnada Rukmini Devi is a case feared by other practicing ophthalmologist doctors of Visakhapatnam, but successfully treated by LV Prasad Eye Institute. Rukmini Devi is a 77-year-old woman residing in MVP Colony, Visakhapatnam with her husband J S R Anjaneyulu. He is a retired government servant (*retired as Executive Engineer, Irrigation*). Rukmini Devi developed issues with her eye sight that finally dragged her to various doctors in Vizag in the initial stages. According to her husband, she was taken to three hospitals in the city for necessary treatment. Every time she stepped into the hospital; routine tests were conducted which always ended on a discouraging note.

All the three hospitals had a conclusive statement issued on her case: *the non-availability of treatment for her delicate problem*. Her ailment was dual in nature, retina issue and emerging cataract problem. She had faced rejection thrice at three hospitals and every time her hope for appropriate treatment ended in despair and personal agony. She was finally asked to consult L V Prasad Eye Institute. It was here she found solace for her agony and line of correct treatment. In her own words, L V Prasad Eye Hospital is a safe haven for all problematic human eyes. She was doubly satisfied with patient-friendly arrangements in the hospital such as availability of wheel chairs for aged and older adults patients.

In addition, the services provided by nursing and administrative staff are second to none. The only minor irritant according to the couple has been comparatively expensive treatment for non-insured patients. They forward a request to the hospital: to offer maximum possible concessions in case of critical eye ailments so that many more would be enjoying the benefit of top-notch treatment at an affordable cost. Her problem was treated by Dr. Veerendra. Equating him with the sight-saving remedy, Rukmini Devi and her husband had one unanimous declaration: the Doctor did not treat. Rather he gifted us an eye. She feels that the treatment received at L V Prasad Eye Institute is a panacea for her at this age and juncture of life. For, loss of eye sight during old age is a mundane curse.

Her husband puts it in the simple matrix, with a humane and pastoral touch: *we have approached the hospital being cursed by the distressing disease. Dr. Veerendra helped us leave the premises with an enduring gift.* Of course, the precious and invaluable gift was about restoration of proper eye sight for Rukmini Devi. The experience at this hospital made the older adults couple undeclared agents for the institute. They have fluted the message among many and sent six patients to the hospital after Rukmini Devi recovered. In a poetic similarity, Dr. Veerendra expanded her vision; she in turn expanded the visibility of the institution in sending new patients. Her case which earlier was rejected by many met its final redemption at L V Prasad Eye Institute. The geriatric elation in the present episode is nonetheless a direct outcome of the support extended by Aurobindo Pharma Foundation to the L V Prasad Eye Institute at Visakhapatnam.

By Kirandul Express: Eying the Sight

Case Study - 2

Name:	Shyam Kali Bharatwaj (68)		
Resident:	Jagdalpur, Chhattisgarh		
Vision impairment:	Cataract		
Doctor consulted:	Not able to recollect		

Worry about falling vision and hope for regeneration of sight influenced many long-distance patients tread their way to Vizag in quest of appropriate medical treatment for ailments of eyes. Thus came Shyam Kali Bharatwaj, a 68-year-old poor woman from Jagdalpur in Chhattisgarh to Vizag boarding the Kirandul express train that directly connects both the stations. Her son narrates the story of his mother's long episode of seeking medical treatment that finally landed her in the safe lap of L V Prasad Eye Institute. Aurobindo Pharma Foundation stands tall in the episode as its magnanimous CSR grant to AGECC-AGECC-LVPEI made the dedicated geriatric eye care possible for older adults patients from across various places.

Shyam Kali is from Jagdalpur, 300 kilometers away from Vizag. The capital of Chhattisgarh, Raipur also is located at the same distance. But all roads from Jagdalpur lead to Vizag for medical treatment. The *medical rush* has been unequivocally corroborated and attested by the four language sign boards (*Telugu, English, Odiya and Hindi*) hanging on various hospitals in the city. While the sign board protocols hint at the medical professionals' avarice to lure patients (*especially paying patients*), these boards simultaneously indicate the preferential choice of patients for Vizag. In addition, the local doctors (*Dr. Sarita Thomas in the present case*) too often refer difficult cases to hospitals in Vizag. The cumulative effect is all about patients gatecrashing into Vizag city in pinning hopes on the availability of latest medical care that would drive them to safe shores of life. Shyam Kali Bharatwaj developed an eye problem which according to the local doctor is critical in nature (*complicated cataract*).

The doctor did not dare to take up the case and asked her to go to Vizag. The unassuming and ignorant woman followed the advice. The case was taken up by L V Prasad hospital. She was admitted as an inpatient and her cataract problem was soon corrected through appropriate surgical procedures. Within a few days she heaved a sigh of great relief. Sadly, she or her son cannot recollect the name of treating doctor. But they are satisfied with the treatment extended at the institution. Shyam Kali had to enroll herself as a paying patient. She feels highly indebted to L V Prasad hospital for its proverbial help in correcting her problem.

She and her son have only one suggestive submission. They request the institution to provide economical on-campus accommodation and canteen for long distance patients so that overhead expenditures (*stay in hotels; local commutation charges; food etc.*) can be comfortably slashed. If in place, the suggested facility will provide a great relief to middle class and ordinary patients.

Shyam Kali Bharatwaj has all approbation for the institute. She may be a non-literate in technical terms. But her social awareness and related literacy are amazing. Back at home, she has explained her experience to neighbours at Jagdalpur almost like a *talking picture* which influenced three more patients in boarding *The Train to Vizag.* The obvious and deductive logic is simple: their eyes are firmly fixed on AGECC-AGECC-LVPEI for eyes' care.

Sight and Service: Strikingly Visible...

Case Study - 3

Name:G. Narayanaswami Naidu (68)Resident:Parvatipuram, Srikakulam DistrictVisual impairment:CataractDoctor attended:KV Raghava

Guntreddi Narayanaswamy Naidu (68 Years, Male) from Parvatipuram under Vizianagaram district limits has been thoroughly impressed by the medical services rendered by L V Prasad Eye Institute. He expresses his emotional satisfaction in a rhythmic manner anointing it with doses of poetic imagination: ...*presently (my eye) sight and (hospital) services are strikingly visible.* He is also aware of the exclusive and dedicated focus of the institution on geriatric eye care. In saying so, his satisfaction and appreciation shed light on the crucial support of Aurobindo Pharma Foundation in supporting AGECC-AGECC-LVPEI's initiatives for the care of geriatric health. Both these institutions (*one being a pharma giant and the other being a reputed hospital*) deserve the kudos for having played their social roles well.

Narayanaswamy Naidu is a retired government employee living in Parvatipuram town after his retirement. Along with retirement came the eye problem. He developed cataract and chose to come to AGECC-LVPEI without any second thought. Since he is a local resident (north coastal Andhra Pradesh), his awareness about reputed medical institutions in the region is quite satisfactory. One such institution is AGECC-LVPEI at Vizag. It was his natural choice for his eye problem. At the centre, he was tested thrice for cataract and sent back home with an advice that he should be back after six months. The reason is not far to seek.

The cataract in his eye was not ripen enough for surgical intervention. Finally, he was operated and the problem was resolved once for all. Dr. K V Raghava was his friend, philosopher and guide in the entire process. Narayanaswamy Naidu beggars for words to describe the attitude of this doctor. For him, Dr. K V Raghava is an amazing personification of patience and sweet temperament. Referring to the doctor and subjective guidance provided by him, Narayanaswamy Naidu requests the AGECC-LVPEI to place one such senior doctor at the apex of every department so that the visiting patients always feel at home. Personalized care ideally combines with dedicated guidance here, adds Narayanaswamy Naidu. He has two suggestions to make.

Narayanaswamy Naidu is an insured patient and hence the burden of treatment is not significant for him. He feels that qualitative treatment needs to be provided to other non-insured patients at an affordable cost

and concessional considerations. He has a valid suggestion on a programmatic detail. He calls for running a mobile eye unit by AGECC-LVPEI with a mandated geographical coverage in the north coastal Andhra. For, patients like him need not come repeatedly to Vizag for consultation sans surgery. If consultations and basic testing procedures can be carried out at local level (*mobile units emphasised*), patients can finally step into Vizag medical facility for the recommended surgical intervention. While he is completely satisfied with the services, he bats for decentralized services of the institution in the form of mobile units enabling the older adults patients to be less mobile and more beneficial.

Vision Retained and Confidence Sustained

Case Study - 4

Name:	Subbrayadu Kanta (65)
Resident:	Kadapa
Visual impairment:	RDS Gene Problem
Doctor attended:	Dr. Avinash Pathengay

Subbarayudu Kanta is a resident of Kadapa town in Rayalaseema region of Andhra Pradesh. He is a 65year-old retired public servant leading his life without any worrisome health issue till recently. Sometime ago he was diagnosed with the RDS (Retinal Degeneration Slow) gene problem which has an inbuilt potential leading to macular dystrophy, if ignored for long. Macular retinal dystrophy is a rare genetic eye disorder that causes vision loss. While glaucoma usually affects the side vision, macular degeneration tends to affect the central vision. Subbarayudu without delay consulted ophthalmologists at Kadapa.

Owing to the sensitivity of the ailment and delicacy involved in treatment, the local doctors refused to take up the case and advised him to approach a super speciality eye hospital as early as possible. Complications in the eye and vision bundled out new worries for Subbarayudu. His son, working in a private firm at Vizag took his father there. The son is familiar with L V Prasad Eye Institute and its reputation in the field.

Subbarayudu had his consultation conducted with Dr. Avinash Pathengay. Subbarayudu was surprised by the doctor's ability in treating the case as if it was of trivial importance. The words of appreciation and satisfaction mouthed by Subbarayudu sum up the efficacy: ... It seemed to me during the treatment that the entire process was a child's play for Dr. Avinash. I am indebted to him for his flawless treatment method, pickled in time and time-tested experience. What he gave me was not the vision retention alone, but heavy doses of hope and confidence that sustained my will power in the management of the problem till date. Subbarayudu visits the L V Prasad hospital with the definite periodicity as advised by the doctor. He pays a visit every six months. Due to Covid-19 he has not come to the centre in the recent past.

At present, he does not suffer from any distortion in vision or loss of sight. Added, Subbarayudu is a zealous patient and disciplined human which traits keep him going straight without any problem as far as his ailment is concerned. His selection of AGECC-LVPEI for final treatment is informed by two factors: first, his son's intimate knowledge of the centre and secondly, timely treatment provided at the institute dealing with geriatric eye problems. Perhaps, Aurobindo Pharma Foundation's CSR (Corporate Social Responsibility) grant to L V Prasad Eye Institute, Vizag is more than justified in terms of selection, efficacy and legacy.

Subbarayudu Kanta enjoys health insurance (Employee Health Insurance). He suggests that the hospital may provide health care (to the older adults patients drawn from middle and lower middle-class who are without any insurance support) at concessional rates. He banks his suggestion on the oft-quoted and inherited adage that *service to humanity is service to God*. Let the AGECC-LVPEI be willing... Let the APF be supportive...

Glaucoma: Doctor's Care for the Clan

Case Study - 5

Name:	Nagaraja Babu Koppisetti (67)
Resident:	Visakhapatnam
Visual impairment:	Glaucoma
Doctor attended:	Dr. TVH Kiranmayi

Nagaraja Babu Koppisetti is 67 years old, retired and lives in Visakhapatnam with his family. His was a precariously delicate eye problem, noticed rather late. As usual with many patients, Nagaraja Babu too was not alarmed in the initial stages. Neither had he even an iota of doubt. He was delighting in a blissful ignorance for long under a self-inflicted callous notion that the eye problem was age-related and might not call for immediate treatment. But when the progressive deterioration of eye-sight and gradual blurring of vision were experienced, he was sufficiently rattled and began bathing in turmoil. He rushed to local doctors who identified the problem as the case of confirmed glaucoma (high pressure in eyes). By this time, Nagaraja Babu lost vision in one eye. The mission for him now was to protect the second eye failing which the vision would be totally lost.

Nagaraja Babu consulted Dr. TVH Kiranmayi at AGECC-LVPEI for advice and treatment. After consultation he realized that glaucoma is often hereditary in nature. Dr. Kiranmayi advised Nagaraja Babu to bring his family members for test. Once bitten, twice shy. He took extra care this time and drove all the family members, numbered at 11 to AGECC-LVPEI for test. He forced all his family members living at distant places (own brothers and their children etc.) to take the road to Vizag immediately as the emerging situation was delicate and seemingly serious. Thus was the testing done for all the 11 members of his family (total 12 including Nagaraja Babu) by Dr. Kiranmayi. Two more family members too were diagnosed with glaucoma. All of them were advised regular treatment and continuous follow-up.

The family members of Nagaraja Babu have been religious in attending yearly/half-yearly glaucoma checkup routines till date. The family was saved from the brink of a disaster by the timely advice from Dr. Kiranmayi. After this incident, tribal instincts are invoked and evoked in Nagaraja Babu. The reason is simple. He was thoroughly disturbed by the prospect of vison loss for his entire clan (family tree of 12 members). But his newly-founded fears were sufficiently allayed by Dr. Kiranmayi. He today considers her a divine incarnation with an ordained mission to save his family from loss of vision.

He fondly calls her by a nickname and a meaningful sobriquet: *Caring Clan-Goddess of Koppisettis' 'Khandan'*. In using this jargonized expression, his eyes were full of tears, his hopes were revived and his trust in the doctor was highly reassuring in nature. He requests AGECC-LVPEI to serve the poor glaucoma patients at a throw-away cost so that they will replenish their productive lives and better contribute to the society in an indirect manner. Aurobindo Pharma Foundation needs all appreciation for supporting the AGECC-LVPEI in dealing with these critical cases in the form of dedicated geriatric eye care.

Abbreviations

AGECC	Aurobindo Geriatric Eye Care Centre
APEDS	Andhra Pradesh Eye Disease Study
APF	Aurobindo Pharma Foundation
CME	Continuing Medical Education
CPD	Continuing Professional Development
CSR	Corporate Social Responsibility
DAC	Development Assistance Committee
LVPEI	LV Prasad Eye Institute
MIS	Management Information System
OECD	Organization for Economic-cooperation and Development
OPD	Outpatient Department
PLF	Poverty Learning Foundation
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization



AGECC-LVPEI team with older adults

Impact Assessment Study on Government Degree College In Patancheru Village & Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>
Impact Assessment Study on Government Degree College In Patancheru Village & Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)

Full Report





Mahila Abhivruddhi Society, Andhra Pradesh

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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,
	Sangareddy District in 2016-2017
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,
	Sangareddy District in 2018-2019
Project 3	Construction of Government ZP High School, Tellapur Village,
	Ramachandrapuram Mandal, Sangareddy District in 2018
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,
	Sangareddy District in 2019-2020
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairatabad,
	Hyderabad in 2019-2020
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based
	painting in 16 Government High Schools in Rajanna Sircilla District through
	Give Foundation in 2018-2019
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,
	Duggirala Mandal, Guntur District in 2019-2020
Project 8	Construction of Skill Development Centre to create employment opportunities
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,
	Srikakulam District in 2019-2020

Objectives of the Assessment Study

- 1. Evaluate the projects for their output, outcome and impact
- 2. Assess the visibility created for the project, local acceptance and ownership
- 3. Assess the perceptions of different stakeholders
- 4. Sustainability for the project

Executive Summary

Title of the project: Construction of Government Degree College, Patancheru Village & Mandal, Sangareddy District

Objectives of the Assessment: The assessment aims to study the impact of the construction of Government Degree College in Patancheru village. This project is one among the various interventions in the domain of education by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- 1) Determine whether the project of interest achieved its objectives
- 2) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project

3) Provide recommendations to ensure sustainability

Assessment Methods: The purpose of the assessment is to determine whether the project of interest achieved its objectives, and to assess the relevance, efficiency, effectiveness, impact and sustainability of the project. The assessment matrix and corresponding data collection instruments were developed accordingly. The data was collected from both primary and secondary sources through individual interviews with various stakeholders and field visit to the college. The assessment has adopted the following methods.

- **Physical Visit:** Visited the Government Degree College in Patancheru Village to verify the available infrastructure facilities
- Interviews: Held direct and virtual interaction with the Principal, teachers and students
- **Review** of college records and reports

Sample Covered: The assessment used both primary and secondary data. Primary data was collected through semi-structured interviews of various selected stakeholders. The interviews were conducted in both physical and virtual mode. Secondary data for the study was drawn from the reports and records maintained by the college. Overall 15 members were interacted through direct interaction with the Principal, five teachers and five students and telephonic interviews with five parents.

Key findings & Impact: The scope of the project was to build a college building with necessary facilities, enhance the educational environment by improving the infrastructure, and to ensure quality higher education to students from under-privileged communities. The budget for the project was Rs. 4.7 crores. The construction activities were solely funded by APF. The direct value addition by the project a college building with 31 rooms, which includes 12 classrooms, 2 digital classrooms, 6 laboratories, a library room, a computer lab, a staff room and an office room for Principal. APF also sponsored furniture worth of Rs. 30 lakhs within above budget.

The scope of the project was mainly determined based on the assessment of the needs of the college. The assessment findings show that the APF intervention was highly relevant and effective. Due to the new college building, there are significant improvement in the college infrastructure, optimum utilization of infrastructure, adoption of digital classrooms, well equipped laboratories, computer lab and library. The students and the community have access to a secure and improved learning environment. After the project intervention, a Parents-Teachers Committee was formed in 2016-17. The quality standards of the college were assessed, and NAAC (National Assessment and Accreditation Council, GoI) accreditation was given in 2021. The committee is being actively engaged. The college made it into the list of top 25 Government Colleges in Telangana in 2020. APF support to build the virtual classrooms helped to a great extent during Covid pandemic to conduct online classes effectively. All the consulted stakeholders expressed their satisfaction with the improved conditions in the college. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

Opportunities for further Improvement & Sustainability: Based on the findings and observations, the following opportunities for improvement are identified. The suggestions can be used to explore potential interventions for the further improvement of the school.

- 1. Source additional funds to construct additional classrooms; the college building can be extended to one or two more floors.
- 2. Provide counselling to students and parents on the importance of education and reduce dropout rate
- 3. Community sensitisation to reduce dropout rate
- 4. Financial aid or scholarships, sourced from donors and facilitated through college, can be given to deserving students to prevent dropout.
- 5. Facilitate Campus Placement drive since majority of the students are socially and economically backward sections of the society
- 6. Connect with local industries for placement drives and skill trainings
- 7. Invite speakers from industries for interactive sessions with the students
- 8. Organise skill development programs for the students to make them 'market ready' for the jobs.
- 9. Source additional funds for the required laboratory equipment
- 10. Source additional funds for more computers and provide computer skill training for all students

The assessment shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure. This intervention has resulted in increased accessibility to quality higher education to students from under-privileged communities. The intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

Detailed Report

1. Introduction

1.1. Assessment Objectives

The assessment aims to study the impact of the construction of Government Degree College in Patancheru Village, undertaken by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the study:

- Determine whether the project of interest achieved its objectives
- Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- Provide recommendations to ensure sustainability

1.2. Research Methodology

The assessment has adopted the following methods to assess the above objectives.

- **Physical Visit:** Visited the Government Degree College in Patancheru Village to verify the available infrastructure facilities
- **Interviews:** Held direct interaction with the Principal, five teachers and five students, and a semi-structured questionnaire was used to capture the responses
- **Telephonic interviews:** Held virtual interaction with five parents, and a checklist of indicators was used to capture the responses
- **Review** of college records and reports

1.3. Data collection

The assessment used both primary and secondary data. Primary data was collected through semi-structured interviews of various selected stakeholders. The interviews were conducted in both physical and virtual mode. Secondary data for the study was drawn from the reports and records maintained by the college.

1.4. Fieldwork

The field visit was made on 28 April and interactions held with the Principal, five teachers and five students. Since students came to college to attend practical classes in small batches, the study team got the chance to interact with them in-person. The virtual interactions of the remaining identified stakeholders were held on 30 April 2021.

1.5. Data Analysis and Reporting

The data collected from both secondary and primary sources were analyzed. The findings are presented as per the objectives of the assessment.

2. About the Project

2.1. Project Objectives

The main objectives of the project were:

- 1) Construct a college building with all the necessary facilities
- 2) Enhance the educational environment by improving the infrastructure
- 3) Ensure quality higher education to students from under-privileged communities

2.2. Project Outcomes

The outcomes of the project are:

- 1) A college building with 31 rooms, which includes 12 classrooms, 2 digital classrooms, 6 laboratories, a library room, a computer lab, a staff room and an office room for Principal
- 2) Quality furniture worth of rupees 30 lakhs



Img 1: College New Building

2.3. Request for funding

Before the project intervention, the college used to operate in the Government Zilla Parishad School building in Patancheru (the renewed school building is right opposite to the college). The majority of the students in the college are from socially and economically disadvantaged communities. A major proportion of the students belong to SC, ST, BC and minority categories. The college management approached APF for the support since there are no other colleges in the vicinity and the most of the students cannot afford private colleges and to ensure the students access affordable and quality higher education. APF took up the construction of the college building under its CSR activities in 2015 and completed in 2017 after proper need assessment and taking necessary approvals from CSR Committee.

2.4. Stakeholders

Teachers and the students, especially from the socially and economically disadvantaged communities from SC, ST, BC and Minority categories are the primary stakeholders of the project. The parents, communities, industries in the vicinity and the alumni are the secondary stakeholders of the project.

2.5. Project Cost and Visibility

The budget for the project was Rs. 4.7 crores. The construction activities were solely funded by APF. The contribution of APF is visibly recognised by the college with a painting of the name and logo of Aurobindo on the building. There is also a plated slab placed on the ground floor. Aurobindo's name with its logo is labelled on the furniture sponsored by them as well.





Img 2: Visibility to Aurobindo Pharma Foundation

2.6. Other funding Agencies

The college has received support from various donors across the years.

#	Name of the Donor	Support received	Amount
1	Sri G. Mahinal Reddy, M.I. A	Construction of shopping	6 5 lokbo
1		complex	0.5 14115
2	Sri T. Prathap Krishna Goud	Entrance grill at staircase	1.0 lakh
3	Sri G. Mahipal Reddy, M.L.A	R.O. Water Plant	5.0 lakhs
4	Sri K. Satyanarayana Reddy, R.S.	Renovation of six	10.0 lokbo
4	Drugs and Arene Life Sciences LTD	laboratories	40.0 IAKIIS
5	Sri K. Satyanarayana Reddy, R.S.	Partition of TSKC, Library &	1.0 lokba
5	Drugs and Arene Life Sciences LTD	Computer lab	4.0 IAKIIS
		Total	56.5 lakhs

3. Physical Infrastructure Facilities

3.1. Location and Accessibility

Government Degree College is located in Patancheru village, Patancheru Mandal, Sangareddy district. Patancheru is an industrial zone located about 32 km from the city centre on the Hyderabad-Solapur highway, and around 18 km from HITEC City. The college is located right opposite to the Government Zilla Parishad High School, Patancheru. Both the school and the college share the campus premises. The students mostly avail the public transport facilities to reach the college.

3.2. Classrooms

Earlier, the college used to function in four classrooms in the Government Zilla Parishad School in Patancheru. In the new college building, there are 12 classrooms.

3.3. Furniture, Lights and Fans

All the classrooms have proper ventilation and are equipped with adequate furniture, lights and fans. APF also sponsored furniture for the college, worth of Rs. 30 lakhs. The items sponsored by APF are the following:

- 1) 300 dual desks
- 2) 16 long tables (for laboratories)
- 3) 100 lab stools
- 4) 12 steel almirahs
- 5) 10 steel almirahs with glass door (for laboratories)
- 6) 25 classroom tables
- 7) 4 teak-wood racks
- 8) 20 writing boards
- 9) 25 staff tables
- 10) 25 staff chairs
- 11) 3 bookcases

3.4. Laboratory Facilities

The college building has six laboratories with all the required equipment. The laboratories are comfortably designed to conduct practical classes in small batches. There has been a recent revision in the syllabus for practical. This would require the college to procure advanced equipment to facilitate the newly added experiments. The equipment requirements for the respective departments are enclosed as annexure 1. There is also a computer lab with 66 desktops. The college runs a program called 'Employability Skill Training' which aims to train the students in computer skills to make them job ready. The college is in need of advanced equipment and more computers to cater to the needs of the students.





Imgs 3 & 4: Physics Lab

Computer Lab

3.5. Library

There is a library which has over 3000 books and with reading tables.



Img 5: Library

3.6. Virtual Classroom

There are two digital classrooms in the college. One of the digital classrooms is enabled with two-way interaction facility. This enables the teacher to see and interact with the students attending the virtual class.



Img 6: Virtual Classroom with two-way interaction facility

Since the college is not fully functional due to Covid restrictions, all the teachers are currently taking virtual classes.



Img 7: Faculty member taking virtual class

3.7 Staff Room

The college currently has a staff room for teachers with tables, chairs and cupboards. There is also a separate office room for the Principal.

3.8. Toilets

The college has separate toilets for girls and boys with proper water supply in place. There are separate toilets for the staff also.

3.9. Dining facilities

The proper dining area or space for the students is not available.

3.10. Playground

There is a large ground adjacent to the college compound.

3.11. Water Facility

There is no water tank for the college, however, there is a RO water plant facility to provide drinking water.

3.12. Gardening and Rainwater Harvesting

The college has few plants maintained neatly in a row in front of the building. This gives a warm and pleasant atmosphere. Rain harvesting structures are also there in the main building.

3.13. Compound Wall

The college has a compound wall with a gate and name board.

3.14. Summary: Project Outputs

Particular		Before	After	APF value addition
Direct value addition				
1.	Classrooms	4	31	31 spacious classrooms (approx. 650 square
				feet)
2.	Furniture	-	-	1) 300 dual desks
				2) 16 long tables (for laboratories)
				3) 100 lab stools
				4) 12 steel almarahs
				5) 10 steel almarahs with glass door
				(for laboratories)
				6) 25 classroom tables
				7) 4 teak-wood racks
				8) 20 writing boards
				9) 25 staff tables and 25 chairs
				10)3 bookcases
Inc	lirect value addition			
3.	Virtual classroom	No	Yes	Two virtual classrooms
4.	Staff room	Yes	Yes	A more spacious staff room
5.	Laboratory room	No	Yes	6 Full-fledged laboratories were set up.
				Exclusively used for conducting practicals for
	Office means for	Na	Vee	the students.
6.	Office room for	INO	Yes	There is now a more spacious office room for
	Philopai			furniture to host staff meetings
7.	Library	No	Yes	Earlier, there was no library in the college
8.	Computer lab	No	Yes	A separate room was allotted as a computer
	- 1			lab with 66 computers. The lab is also used to
				run the 'Employability Skill Training' program.
9.	Scope to leverage	Yes	Yes	After the new college building, there is an
	support for			increased scope to leverage additional fund
	additional			support or sponsorships.
	investments			

4. Committees

There is a formal grievance cell constituted with 4 staff members. There is an Internal Complaints Committee to address sexual harassment (ICC), with representatives from both staff and students. The other committees are; 1. Career guidance cell, 2. Anti-ragging cell; 3. Women empowerment cell, and 4. Eco club. After the project intervention, a Parents-Teachers Committee was formed in 2016-17. The committee is being actively engaged.

5. Staff

The college currently employs 19 teachers; 3 female and 16 male. There are also 4 guest faculties. There is 9 non-teaching staff as well; two female and 7 male. There are 11 sanctioned positions for non-teaching and two positions are currently vacant.

Particular		Before	After	APF value addition
1.	Separate room for	No	No	The number of classrooms has increased after
	each class			APF intervention. The college needs few more
				classrooms since the enrollment has been
				increasing.
2.	Furniture	No	Yes	Additional support was received for tables, desks, and cupboards for classroom after the new building was constructed.
3.	Urination in the open fields	No	No	There are adequate separate toilets for boys and girls with water connection. There are no open urination and defecation practices. The grey water is connected to septic tank.
4.	Compound wall	Yes	Yes	As there is a security guard, no question of trespassers allowed into the campus
5.	Sanitation /hygiene	Yes	Yes	The campus is very clean and green. Owing to furniture in the classrooms and good seating space, the personal hygiene of the students is good.
6.	Accreditation by National Assessment and Accreditation Council (NAAC)	No	Yes	The quality standards of the college were assessed and NAAC accreditation was given in 2021. This was possible due to the APF contribution in terms of college building and required furniture and equipment.
7.	Introduced new courses	-	-	The college currently runs 15 groups of undergraduate courses and 2 post graduate courses.
8.	Top 25 Colleges in Telangana	-	-	The college made it into the list of top 25 Government colleges in Telangana in 2020.
9.	Virtual Classrooms	No	Yes	APF support to build these virtual classrooms helped to a great extent during Covid pandemic to conduct online classes effectively

6. Infrastructure and Facilities

7. Student Enrolment and Performance

In 2016, there were only 243 students. Presently, there are 908 students enrolled in the college; 454 girls and 454 boys. The college saw a tremendous increase in enrolment. 600 students will be joining for their first year across courses in the next academic year 2021-22. The college has five Departments: 1) Dept. of Languages, 2) Dept. of Physical Sciences, 3) Dept. of Life Sciences, 4) Dept. of Social Sciences, and 5) Dept. of Commerce. The course details across the departments are below:

B.Sc.	English Medium	Maths	Physics	Chemistry	Computer	
(Phy. Sci.)					Science	
B. Sc.	Telugu and	Botany	Zoology	Chemistry	Computer	
(Life Sci.)	English medium				Science	
B.A.	Telugu and	History	Economics	Political	Pub. Admn./	
	English medium			Science	Comp. Appl./	
					MOOCs	
					Courses	
B. Com.	Telugu and	-	-	-	-	
(Comp. App)	English medium					
M.Com	English Medium	-	-	-	-	
M.A. Eco.	English Medium	-	-	-	-	

The college currently runs 15 groups of undergraduate and two post graduate courses as well Mass Open Online Courses (MOOCs) in Psychology, Sociology, Geography, Anthropology and Journalism. Two PG courses M.Com and M.A. in Economics started in the current academic year. Dropout rate is a concern for the college since students tend to drop out from courses due to various reasons. For girls, usually marriage is the reason and in case of boys, they are forced to take up jobs due to the financial condition of their families.

8. Awards and Rewards

The college received accreditation by NAAC in 2021. NAAC accreditation will make the college eligible to receive further funds and support from the government. The students have won various awards in both arts and sports in state level competitions. The college had the highest enrolment rate in the district in the year 2018-19. The college also made into the top 25 Government Colleges in Telangana in 2020. The contribution from APF has directly resulted in the colleges achieving these successful milestones.

9. Voices of Stakeholders

<u> </u>					
Pa	rticulars	Opinion of students, parents, trustees and VEO			
1.	Awareness on	Students and their parents are well aware of the contribution by APF			
	APF activities	to the college. They notice the prominent painting of Aurobindo's			
		name and logo in their college building and the slab.			
2.	Building design	The project intervention has resulted in a significant improvement in			
	and	the infrastructure of the college. The stakeholders reported that the			
	appearance	local residents' pride in the college was improved after the project			
		intervention.			
3.	Secure	Well-constructed college building has improved the learning			
	Learning	environment for the students. The classrooms are large in size with			
	environment	good ventilation; and adequate furniture. The campus premises are			
		well maintained and clean. All the stakeholders interviewed			
		expressed their satisfaction with the facilities.			
4.	Improvement	Since 90% of the students come from socially and economically			
	on access to	disadvantaged families, the project intervention has improved			
	education	access to affordable quality higher education.			



Img 8: Study Team Interaction with the Principal

10. Conclusion - Output, Outcome and Impact

The scope of the project was mainly determined based on the assessment of the needs of the college. The study findings show that the APF intervention was highly relevant and effective. Due to the new college building, there are significant improvement in the college infrastructure, optimum utilization of infrastructure, adoption of digital classrooms, well equipped laboratories, computer lab and library. The students and the community have access to a secure and improved learning environment. APF support to build the virtual classrooms helped to a great extent during Covid pandemic to conduct online classes effectively. The college made it into the list of top 25 Government Colleges in Telangana in 2020. The quality standards of the college were assessed, and NAAC (National Assessment and Accreditation Council, Gol) accreditation was given in 2021. All the consulted stakeholders expressed their satisfaction with the improved conditions in the college. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

11. Opportunities for further Improvement & Sustainability

- Source additional funds to construct additional classrooms; the college building can be extended to one or two more floors.
- Source additional funds for the required laboratory equipment, computers and providing computer skill training for all students

- Provide counselling to students and parents on the importance of education and reduce dropout rate
- Community sensitisation to reduce dropout rate and bring a level of accountability for Parents teachers committee to handle this issue
- Financial aid or scholarships, sourced from donors and facilitated through college, can be given to deserving students to prevent dropout.
- Facilitate Campus Placement drive since majority of the students are from socially and economically disadvantaged sections of the society
- Connect with local industries for placement drives and skill trainings
- Invite speakers from local industries and industry placement cells for interactive sessions with the students
- Organise skill development programs as per skill gap analysis for the students to make them 'market ready' for the jobs.

Annexures

Annexure 1

The following are the requirements by the respective departments.

#	Department of Physics	Quantity
1	Melde's Experiment Kit	2
2	Cathode Ray Oscilloscope	2
3	Measurement of Stefan's Experiment Kit	1
4	Spectometer	1
5	Study of optical Rotation Polari meter	1
6	RC Coupled Amplifier	1
7	RC Phase shift Oscillator	1
8	Signal Generator	2
#	Department of Chemistry	Quantity
1	Analytical Balance	2
2	Analytical Balance weigh box (0.1mg - 100 mg)	2
3	Atomic model set inorganic molecules - Euro Model	1
4	Atomic model set organic molecules - Euro Model	1
5	Balance Digital - 0.1mg -300 g, Front Loading, LCD Display,	2
	Stainless steel pan	
6	Beaker - Capacity 100 mL	100
7	Beaker - Capacity 250 mL	100
8	Beaker - Capacity 500 mL	100
9	Beaker - Capacity 1000 mL	10
10	BOD Bottles 300 mL	50
12	BOD incubator (Orbital Shaling cum BOD incubator) 16 Flask / BTI-	1
	25 18 x 18 x18, 400 watts	
13	Boiling Tubes 20 ml 25x150mm	100
14	Bottle opener	5
15	Bucket Plastic	5

15	Buckner Flask	10
16	Buckner funnel Porcelain 75 mm, 3" thick steam	10
17	Bunsen burners - Heavy base with stop cock	25
18	Burette Clamp - Fischer Type- Heavy- Powder Coated	30
19	Burette Stand Heavy Size 8" X 5" Zinc Plated- rod Size 24" Long	30
20	Burettes 50 mL	50
21	Capillary tubes set of 100	2 boxes
22	Centrifuge Machine electrical Capacity 4x15 ml	2
23	Centrifuge Machine Hand Driven Capacity 4x15 ml	2
24	Centrifuge Tubes Capacity-10ml /15ml	50/50
25	China dish Porcelain 100mL/250 mL	15/15
26	Chromatography column with ground joint medium	5
27	COD Reflux Assembly (RBF with Reflux Condenser) set	5
28	Colorimeter Digital - micro controller 8 Filter, wavelength	5
20	Condensor Set $(aize 24/20)$	5
29	Conductivity motor digital	5
30		5
31	Conical Flask : Capacity 100 mL	50
32	Conical Flask : Capacity 250 mL	50
33	Copper turnings - 100G	1kg
34	Crucibles 50mL / 150mL	25/25
35	Density Bottle 10MI	25
36	Distilled water plant 6I CAPACITY, 4.5 kW, stainless steel chamber	1
37	Droppers With Conical Teat. Size 6"	50
38	Droppers With Conical Teat. Size 8"	50
39	Filter paper 500 sheets	2groce
40	First aid box (SURGICAL) Big Size	2
41	Forceps Stainless Steel	25
42	Funnel- Size 2"	30
43	Funnel- Size 3"	30
44	Fusion tubes	100
45	Glass rods	100
46	Glass rods Pointed	100
47	Glazed tiles 6'*6'	50
48	Hot air oven (Size 18" x 18" x 18" - 95 L Capacity)	2
49	Iodination Flask Capacity 250 mL	30
50	Kipps apparatus 300 MI	2
51	LPG gas with Tata pipeline connection material and installation	1
	for 20 Burners Brass	
52	Measuring Cylinders 5 ml	15
53	Measuring Cylinders 10 MI	15
54	Measuring Cylinders 50 mL	15
55	Measuring Cylinders 100 mL	15
56	Measuring Cylinders 1000 mL	2

57	Melting point apparatus 2mLH	1
58	Microwave oven 220 L	1
59	Mortar& Pestle - 4" Porcelain	30
60	Pipette Volumetric 10 ml	50
61	Pipette Volumetric 20 ml	50
62	Pipette graduated 5ml	10
63	Pipette pump	25
64	pH meter - pH range 1-14; resolution 0.01;	5
	temperature range 0 - 100 °C	
65	Polythene cans 5 L, 10 L, 20 L	10/5/5
66	Potentio meter digital	5
67	Reagent bottle 100 mL	100
68	Reagent bottle 250 mL	200
69	Reagent bottle with wide mouth	50
70	Refrigerator domestic type 200L	1
71	Rough balance 5kg	2
72	Round Bottomed Flask 250 mL	25
73	Rubber cork ONE HOLED assorted sizes	25
74	Separating Funnel 250 mL	10
75	Solution container 2L, 2.5L, 5L	10/10/5
76	Spatula Size 6" Stainless Steel - Superior Quality	50
77	Stalagmometer	10
78	Standard flask 100mL	30
79	Standard flask 250 mL	30
80	Standard flask 500 mL	10
81	Stop clock	10
82	Suction Flask 500 mL	5
83	Suction Pump Low pressure	1
84	Test tube brushes	50
85	Test Tube Holder- Chromium Plated With Wooden Handle -Iron	50
86	Test Tube stand 10 RACKS	50
87	Test Tube(boiling) 18X150	200
88	Test Tube(normal) 15X/125	400
89	TLC sheets (silica gel coated aluminium sheets) set of 25	2 boxes
90	TLC Chamber	10
91	TLC iodination chamber	2
92	TLC UV Chamber	1
93	Tripod Stand	30
94	Vacuum decicator - 100mm Ground Flange	2
95	Vacuum Pump Low pressure	1
96	Viscometer	10
97	Wash Bottle 250 mL	40
98	Watch Glass SMALL/MEDIUM	60
99	Water Bath Heavy Duty Made Of Copper Size- 6" -Superior	2
100	Water circulation pump 0.025HP capacity & rubber tubes set	1

101	Whatman Filter Paper grade 1 circular	500
102	Wire Gauge - 6"X6" – with Frame Double Asbestos	50
103	Racks for Reagents wood /steel	10
104	Iron Almirah with glass	4
107	Iron Stools	25
#	Department of Botany	Quantity
1	Digital binocular Olympus microscope 21xi model	1
2	Laminar air flow chamber (with/without HEPA filter)	1
3	Stereo binocular micro scopes	2
4	Digital High speed (15000rpm)15 ml x12 centrifuge	1
5	Digital High speed micro centrifuge (15000 rpm)	1
6	Digital water bath	1
7	Gel electrophoresis unit	1
8	SDS-PAGE apparatus	1
9	Herbarium cabinet	1
10	Rotary microtome	1
#	Department of Zoology	Quantity
# 1	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10	Quantity 20
# 1	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses)	Quantity 20
# 1 2	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000	Quantity 20 50
# 1 2	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards)	Quantity 20 50
# 1 2 3	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits	Quantity 20 50 100
# 1 2 3 4	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits RPR testing kits	Quantity 20 50 100 100
# 1 2 3 4 5 0	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits RPR testing kits WIDAL testing kits Digital Placed Process and products	Quantity 20 50 100 100 100 20
# 1 2 3 4 5 6 7	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits RPR testing kits WIDAL testing kits Digital Blood Pressure checking apparatus	Quantity 20 50 100 100 20
# 1 2 3 4 5 6 7 2	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits RPR testing kits WIDAL testing kits Digital Blood Pressure checking apparatus Slide projector with screen	Quantity 20 50 100 100 20 100 100 100 100 100 20 1
# 1 2 3 4 5 6 7 8 2	Department of Zoology Compound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses) Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards) VDRL testing kits RPR testing kits WIDAL testing kits Digital Blood Pressure checking apparatus Slide projector with screen Desk Top Computer system	Quantity 20 50 100 100 20 1 1
# 1 2 3 4 5 6 7 8 9 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubator	Quantity 20 50 100 100 20 1 1 1 1 1 1 1
# 1 2 3 4 5 6 7 8 9 10 10 11	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubatorHot air oven	Quantity 20 50 100 100 20 1 1 1 2
# 1 2 3 4 5 6 7 8 9 10 11 1 1 2	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubatorHot air ovenDigital colorimeters	Quantity 20 50 100 100 20 1 1 1 2 1
# 1 2 3 4 5 6 7 8 9 10 11 12	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubatorHot air ovenDigital colorimetersOverhead Projector	Quantity 20 50 100 100 20 1 1 2 1 2 1 2 1
# 1 2 3 4 5 6 7 8 9 10 11 12 13	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10 x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000 Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubatorHot air ovenDigital colorimetersOverhead ProjectorTesting kits for checking Gonadotropin in urine (Pregnancy check	Quantity 20 50 100 100 20 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1000
# 1 2 3 4 5 6 7 8 9 10 11 12 13	Department of ZoologyCompound Microscopes (Olympus make- with 10 x Eye pieces, 10x, 45x and 100x Objective lenses)Digital Glucometers (for checking blood glucose levels with 1000Gluco cards)VDRL testing kitsRPR testing kitsWIDAL testing kitsDigital Blood Pressure checking apparatusSlide projector with screenDesk Top Computer systemBacteriological incubatorHot air ovenDigital colorimetersOverhead ProjectorTesting kits for checking Gonadotropin in urine (Pregnancy check kits)Pia eized Aquarium	Quantity 20 50 100 100 20 1 1 2 1



Impact Assessment of Health, Hunger and Nutrition Focussed Intervention – Narsingi, Hyderabad

Poverty Learning Foundation

June, 2021

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This report is based on the real-time data collected in May 2021 from beneficiaries of 3 programs run by Hare Krishna Movement Charitable Foundation, namely Annapurna, Bhojanamrita and Saddimoota Programs. Data was collected from Annapurna Canteens, hospitals and market yards within GHMC limits. The facts and figures presented in this report facilitate Aurobindo Pharma Foundation to evaluate the impact of their contribution of capital towards setting up of the kitchen and equipment in Narsingi, Hyderabad.

Conceptualization, data analysis and report writing

Ms. Harshita Sakhamuri	Senior Research Associate, PLF
Ms. Varshitha Sanagani	Senior Research Associate, PLF
Mr. Raja Priyatham	Research Associate, PLF
Ms. Ravali Yendala	Research Intern, PLF

Overall guidance

Prof. S. Vijay Kumar CEO, PLF

Suggested Citation:

PLF (2021) "Impact Assessment of Health and Nutrition Focused Intervention – Narsingi, Hyderabad", Poverty Learning Foundation, Hyderabad. <u>www.plf.org.in</u>

Disclaimer:

The findings, interpretations and conclusions expressed herein are entirely based on the facts and figures collected during the study. Data used in the analysis is real time data collected during May 2021. Reproduction of material from this publication in part or whole is authorised for non-commercial purposes only and on condition that the source is properly quoted.

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Aurobindo Pharma Foundation 24th Floor, Galaxy, Plot No.1, Sy.No: 83/1, Raidurg Panmaktha, Hyderabad 500032. Tel: +91 40 6672 5000 / 6672 1200 Email: <u>info@aurobindo.com</u> www.aurobindo.com

Acknowledgement

Special thanks to Sri. SP Tucker, former Chief Secretary of Andhra Pradesh and Chairman of PLF, under whose guidance and mentorship the following study was carried out.

Special thanks to Hare Krishna Movement Charitable Foundation Management

Mr. Kaunteya Dasa – CEO, Andhra Pradesh and Telangana Mr. Dhananjay Dasa – CFO, Andhra Pradesh and Telangana Sharangi Krishna Dasa – General Manager, Telangana Mr. Sanandan Das – Office of CEO

Study Funded by Corporate Social Responsibility Department of Aurobindo Pharma Foundation.

Executive Summary

The report is an impact assessment of a CSR intervention of Aurobindo Pharma Foundation (APF) carried out by a third-party organisation – Poverty Learning Foundation (PLF). APF - CSR has supported Hare Krishna Movement Charitable Foundation (HKMCF), a trust that works towards providing vulnerable communities in India with food security to break the cycle of poverty. To construct the modern, high-capacity centralized kitchen, APF has invested three cores in constructing a community kitchen in Narsingi, Hyderabad, in providing up to 50,000 meals per day.

The intervention was based on the Theory of Change framework, as is this assessment.

The impact assessment has followed OECD criteria looking into the relevance, impact, effect, efficiency and sustainability of the interventions by HKMCF. It has adopted mixed-methods research framework, difference-in-difference method to judge the impact by interviewing the non-control and control group. The summary of the results are as follows –

Relevance – Is the intervention meeting intended purpose?

The establishment of the automated community kitchen in Hyderabad was a unique and relevant intervention, especially since there was no such kitchen in and around this region and it is the only one till date. Since the kitchen was inaugurated in January 2016, it has served a cumulative of 6,71,85,649 meals until the end of FY 20-21. HKMCF has primarily implemented 3 programs as a part of providing meals through this community kitchen – Annapurna (in association with GHMC), Saddimoota (in association with Government of Telangana), and Bhojanamrita (in association with hospitals).

The programs are aimed at providing the vulnerable population of Hyderabad, farmers and laborers in market yards, and caregivers in hospitals with at least one hot and nutritious meal per day to enhance their functioning and productivity. In the period since the opening of the kitchen, 6,04,52,810 meals have been provided through Annapurna canteens, 10,58,460 meals in market yards, and 29,80,360 in hospitals.

Impact – What difference does the investments make?

The results of the impact assessment determined that all three programs were successfully catering to the most vulnerable and poor inhabitants and migrant labour in Hyderabad. The meals are being accessed by the population aged between 25-60 years, a key demographic of the working population. Also comprising the beneficiaries are a large number of OBCs.

A vast majority of the respondents reported that the meals provided by HKMCF were their only source of meals and most of them felt the meals to be extremely affordable. With respect to the quality of the meal, the feedback was overwhelmingly positive and the hygiene practices followed in food packing and provision also have an impact on the satisfaction level of beneficiaries.

A significant number of the beneficiaries reported that they find the quantity of meal provided to be insufficient and having to purchase a second meal to satisfy their hunger. This seemed to be the only opportunity for improvement with respect to the meal, saving which the program was a resounding success among all categories of those consuming the meal.

An in-depth analysis of the data showed that beneficiaries who were regularly accessing the meals tended to show lower levels of dissatisfaction with the meals. This is an indication that the kitchen management is doing an efficient job with rotating the menu and providing excellent quality of food even over long durations of time.

Effectiveness and Efficiency – *Is the intervention effective to reach defined objectives and how well are resources being used?*

Despite the quantity of meals and number of locations being increased, coverage of the programs and their scope being expanded, the kitchen in Narsingi has been able to meet all of these demands with apparent ease, including those faced during the pandemic. In the scenario when the cost of the meal at source has risen, the management compensates by adopting immediate and effective measures like changing transportation routes or modifying the functioning of kitchen equipment as needed, to be more cost-efficient. They bring down fuel and manpower requirements and use centralised management staff at the state level to run the program throughout the state, thereby making it more efficient. Technological improvements made in the new kitchen also helped regulate the cost of the meal.

The quality of ingredients used and food cooked is closely monitored throughout the supply chain on a daily basis and this plays a key role in ensuring that the beneficiaries receive high quality, tasty and nutritious food.

Procured raw materials are stored in a clean and dry environment, washed multiple times before cooking, and cooked using methods that preserve the nutritious value of the food. The kitchen staff are thoroughly sanitized before entering the kitchen and are required to wear caps, gloves, masks, and boots to ensure they do not come in direct contact with the food.

The use of the automated kitchen has minimised human interaction with the food to a large extent. The vessels in the kitchen and kitchen itself are meticulously cleaned, both before and after usage.

Sustainability - Will the benefits last?

Evaluation of the financial standing of the program strongly indicates that the sustaining of the program faces no problems and that it has over 300 donors who are committed to contributing to its running expenses, year-on-year. It also has no significant problems with respect to reaching the target beneficiaries and requiring to increase visibility, as it manages to do both with apparent ease.

With respect to the Sustainable Development Goals, it plays a vital role in addressing goals such as No Poverty, Zero Hunger, Good Health and Well-being, Decent Work and Economic Growth, Reduced Inequality, Sustainable Cities and Communities, and Responsible Consumption and Production. The program has no negative impact on the environment as it consumes relatively clean energy for cooking and minimises waste production by recycling garbage to nearby piggeries and hatcheries.

Recommendations - What more can be done?

Recommendations to ensure sustainability and better reach of beneficiaries would be to start mobile canteens, so that hot meals can be provided at their doorsteps and enable them to avail the facility with ease.

Also, to plan for breakfast provision for the children in government schools of Hyderabad, as most children come to school on an empty stomach. It is also recommended that HKMCF operations are expanded by building community kitchens in more locations around the state. For the more sustainable functioning of the operations of the HKMCF kitchen in Hyderabad would be to engage the local farmers and source fresh produce. This would ensure quality produce and help keep the price down.

Usage of renewable sources of energy for the meal production would also make the operation more sustainable and align with SDGs further. Having a dedicated team for the role of monitoring and evaluation to some particular staff members would play a crucial role in identifying the exact needs of the beneficiaries, specific requirements, enabling better allotment of resources and avoiding unintended negative outcomes through the program. Accompanying this with a health survey would ensure that the health impact of the program is captured along with disease burden, nutritional indicators and reduction of health expenditure among the beneficiaries of HKMCF.

Conclusion

Overall, the program is very viable, sustainable, and scalable. In fact, for a developing country like India, disaggregated community kitchens located in every district of the country would play a key role in furthering the economic growth, enabling female participation in the workforce (as they are not overburdened with meal preparation), making communities more egalitarian, reducing rates of crime, and increasing the nutritional indicators of the population as a whole. It would be an effective means of taking care of the most vulnerable population of the country and addressing one of their most pressing needs - hunger.

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ABBREVIATIONS

- APF Aurobindo Pharma Foundation
- CEO Chief Executive Officer
- CoA Certificate of Analysis
- CSR Corporate Social Responsibility
- GHMC Greater Hyderabad Municipal Corporation
- HKMCF Hare Krishna Movement Charitable Foundation
- M&E Monitoring and Evaluation
- NFHS National Family Health Survey
- NIN National Institute of Nutrition
- OBC Other Backward Caste
- PDS Public Distribution System
- PLF Poverty Learning Foundation
- RFID Radio Frequency Identification
- SDG Sustainable Development Goal
- SOP Standard Operating Procedure

<u>1. INTRODUCTION</u> 1.1 Context

India has been a development paradox with economic development on the one side while there are relatively lower levels of progress and development on social indicators. While India is a leading food producer on one side, malnutrition also co-exists presenting a development paradox. Inequalities in growth and varied access to growth and development opportunities provide a significant explanation for this paradox. Malnutrition is a manifestation of poverty which leads to deprivation of the minimum nourishment for sustenance. Poverty and malnutrition are intergenerational cycles that are heightened by social and gender inequalities, often leading to irreversible effects on cognitive and physical development. India ranks 94 out of 107 countries in the 2020 Global Hunger Index¹³, with 14% of the population being undernourished. According to the Comprehensive National Nutrition Survey 2016-18¹⁴, in Telangana, 28.6% of the adolescents aged 10-14 years are moderately or severely thin. 28.1% of the children aged 5-9 years are moderately and severely thin, especially 31.1% in rural areas. Prevalence of anaemia is 37.8% among children aged 1-4 years, 27.2% among children aged 5-9 years, and 32.1% among adolescents aged 10-19 years.

Not only children, but a large section of the vulnerable adult population is also undernourished on the account of various socio-economic factors. According to NFHS-4 22.8% of the women between the age of 20-34 are underweight and 16.6% of men in the age group of 20-34 are underweight¹⁵. The cycle of malnutrition is also intergenerational as adolescents who get married at a young age often give birth to underweight infants who face health and developmental challenges throughout their life. Although the food security interventions like Public Distribution System and Mid-Day Meals have been crucial in reducing poverty and improving access to food, there exists a need for greater investment in nutrition to achieve the Sustainable Development Goals by 2030.

The COVID-19 pandemic and the lockdown imposed in India have particularly highlighted the gravity of the food access crisis that the country is facing. With declining incomes, access to food loomed as a major crisis with the below poverty and low- income level section of the population in the country. Unaffordable retail prices and constraints in travel to access the PDS provision of the government have proved to be major challenges for the majority of the people. The crisis has been particularly grave for the migrants, who despite assurances of PDS provision, have been unable to access the same, due to lack of criteria for identification. Therefore, investment in nutrition is critical to achieving the sustainable development goals to ensure healthy lives and wellbeing.

In this context, Aurobindo Pharma Foundation (APF), the philanthropic wing of Aurobindo Pharma Limited partnered with Hare Krishna Movement Charitable Foundation (HKMCF) to establish a centralized community kitchen in 2016 in Narsingi village of Greater Hyderabad

¹³ von Grebmer, K., J. Bernstein, R. Alders, O. Dar, R. Kock, F. Rampa, M. Wiemers, K. Acheampong, A. Hanano, B. Higgins, R. Ní Chéilleachair, C. Foley, S. Gitter, K. Ekstrom, and H. Fritschel. 2020

¹⁴ Ministry of Health and Family Welfare (MoHFW), Government of India, UNICEF and Population Council. 2019. Comprehensive National Nutrition Survey (CNNS) National Report. New Delhi.

¹⁵ International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS.

Municipal Corporation. The objective of the kitchen is to serve nutritious food to vulnerable communities, including those affected by the pandemic, working in market yards, and caregivers in hospitals.

1.2 Aurobindo Pharma Foundation (APF)

Aurobindo Pharma Foundation (APF) is the philanthropic wing of Aurobindo Pharma Limited and strives for the nation's social and economic growth through its Corporate Social Responsibility program.

As one of the firms committed to creating positive, enduring change in the community, Aurobindo Pharma Foundation, has taken a focused approach to social responsibility that includes empowering people to give back to their communities, operating in ways that are socially responsible and environmentally sustainable, and working with its stakeholders to address societal challenges.

Aurobindo Pharma Foundation continues to integrate the SDGs into its strategy to have a lasting positive impact on society. Its primary focus is on education and skill development, health care and nutrition, sanitation, social equity, environmental sustainability, disaster management and rural development.

1.3 Hare Krishna Movement Charitable Foundation

HKMCF is a registered trust with operations spread across Telangana and Andhra Pradesh and other states. The trust was conceptualized with the objective of feeding the underprivileged and the needy apart from the mid-day meals being provided by its sister organization Akshaya Patra Foundation. Free/subsidized food is provided at hospitals, market yards and among the general public. The trust has served a cumulative of 11 crore meals through its state of art centralized community kitchens till date. It has implemented programs like Bhojanamrita, Annapurna and Saddimoota which feed about 65,000 meals every day. The trust runs on the philosophy of the founder, The Acharya, that nobody should go hungry within a 10 km radius.

1.4 Partnership between APF and HKMCF

Recognizing the need for the provision of nutritious and affordable meals to the vulnerable sections of society, APF and HKMCF partnered in 2014, to provide meals in Gandhi hospital. Keeping in mind the long-term vision of increasing the feeding capacity, in 2016, APF extended financial support of INR 3 crore for construction of a centralized community kitchen in Narsingi village of Greater Hyderabad Municipal Corporation (GHMC). The land for this kitchen was taken on lease by HKMCF for a period of 29 years. With a capacity of cooking for 50,000 people in just 5 hours, it is one of the most technologically advanced kitchens in Telangana, which was envisioned to serve the needy through provision of nutritious meals at an affordable price or for free of cost. Through this kitchen nutritious food is served to vulnerable communities, including those affected by the pandemic, farmers in market yards, and caregivers in different hospitals. HKMCF has named these schemes Bhojanamrita, Annapurna, and Saddimoota.

Table 1.1: APF work and Sustainable Development Goals (SDGs)

SDG	Interventions			
SDG 1: No Poverty	Providing nutritious meals as a means of eradicating extreme forms of poverty for all.			
	Ensuring significant mobilization of resources from a variety of sources through enhanced development co-operation to provide affordable and nutritious meals to the poor and vulnerable.			
SDG 2: Zero Hunger	End hunger and ensure access to food for all people, especially the poor and vulnerable people.			
	Providing the vulnerable with access to food especially during times of disasters.			
SDG 3: Good health and Well Being	Ensuring good health by facilitating food distribution which is hygienic and nutritious.			
	Ending preventable deaths by ensuring reduced malnutrition through a well-designed and planned menu.			
SDG 8: Decent Work and Economic Growth	Providing opportunities to find decent work and attain economic growth by taking care of one of the primary human needs - hunger, as opposed to working out of sheer need.			
SDG 10: Reduced Inequality	Reducing inequalities by providing the most vulnerable and needy population with access to hot, nutritious and healthy food.			
SDG 11: Sustainable Cities and Communities	Making urban spaces more accessible to migrants by providing them with nutritious meals.			
	Embracing community needs - hunger, and successfully fulfilling them.			
SDG 12: Responsible Consumption and Production	Adopting community kitchens as a method of making consumption of food more sustainable.			

Using locally sourced and produced ingredients to minimise carbon footprint and environment conscious waste disposal practises.

1.5 Impact Assessment

Impact Evaluation determines the changes in outcomes that can be attributed to a specific intervention, based on cause-and-effect analysis. The impact evaluation of the nutritious meal program answers the critical questions of the efficiency of the operations of the project, advises on mid-term corrections and scaling up of the initiative. It examines the effectiveness of the interventions, in providing needed services to vulnerable communities. It is a systematic and objective assessment of the ongoing CSR intervention focussing on health and nutrition. The assessment takes place upon the intervention's implementation structure, resources, and processes through which delivery is achieved, mechanisms of impact and context to determine its relevance, efficiency, effectiveness, impact and sustainability. The impact assessment is done addressing the aspects of relevance, efficiency, effectiveness, impact, and sustainability of the intervention. It also provides information that is credible and useful and enables the lessons learned to feed into the decision-making process of the Aurobindo Pharma Foundation.

To execute the impact assessment of their CSR intervention on "Health, Nutrition and Hunger", APF has selected Poverty Learning Foundation (PLF), a think tank with a decade of professional experience in impact assessment.

Table 1.2: Theory of Change Framework

VISION	Break the cycle of poverty, reduce hunger and malnutrition				
IMPACT	Access to healthy meals to the remotest locations of the country and sensitization on the importance of nutritious food				
RESULTS	Health, Well-Being and immunity are improved	Affordable meals are accessible to the needy public and the vulnerable segments	Increased social consciousness among employees and others to become partner of such programs	Food security among all sections of people.	
OUTCOMES	Additional nutrition content in food and better hygienic practices while preparing food leads to healthy growth of people	Nutritious food is available at a highly subsidized cost to the poor, underprivileged and the migrant and unemployed and distressed sections of society.	More individuals come together to contribute towards expansion of the program.	All sections of people are able to access food thereby reducing poverty disparity levels and crime rates	
STRATEGIE S (Drivers of Change)	Introduction of variety in meals and practice of strong hygienic practices while preparing the meals.	Access to affordable meals through Annapurna, Bhojanamrita and Saddimoota schemes in hospitals, market yards and lower income pockets of the society	Showcase the impact of the program and encourage social consciousness among the staff	Establishment of food distribution centres at the poorest areas and feeding the needy	
DRIVERS OF PROBLEM	Hunger and malnutrition among adults	Unavailability of affordable meals at most places for economically weaker sections	Necessity for larger availability of funds for scaling the program and widening the impacts of the program	High levels of crime rates due to poverty and hunger issues.	
PROBLEM	Intergenerational Poverty, reduced access to affordable food and malnutrition				

The operation was born out of the need to address a pressing problem in society – one of intergenerational poverty and malnutrition which were both deeply interlinked. The drivers of this problem were seen to be unavailability of hot, cooked and nutritious meals to the more vulnerable population. This was overcome by the establishment of an automated community kitchen in

Narsingi and creation of food distribution schemes. The intended outcomes of the adopted strategies were that all strata of people are able to access the food provided by the kitchen and thereby break the cycle of poverty and malnutrition.

2. RESEARCH FRAMEWORK 2.1 Objectives

The broader objectives of this impact assessment are to serve the purposes of lesson-learning and accountability of the current interventions. The aim is to understand the working and implementation process of the HKMCF run community kitchen in Hyderabad, in order to suggest mid-term course correction measures and inform the decisions about scaling up the efforts. In pursuit of these, the study strives to examine the implementation structures, resources, processes, effectiveness and the level of sustainability in achieving the desired outputs in their respective contexts. The five main objectives of this assessment, therefore, are as follows:

- 1. Understand the relevance of the interventions
- 2. Gauge the overall impact of the interventions
- 3. Assess the effectiveness of the delivery processes
- 4. Evaluate the efficiency with which the desired outcomes are being achieved
- 5. To anticipate the sustainability of interventions in providing continued benefits to the vulnerable communities they wish to serve

2.2 Methodology

The impact assessment of the program was conducted with a systematic review of evidence to identify the factors that influence the success of the intervention, through key informant interviews and in-depth interviews with other stakeholders, and by conducting mixed methods operational research into different program interventions and making strategic recommendations. Three broad sources were relied upon to collect the required information about the intervention: data, documents, and views of different stakeholders.

A mixed method research design (quantitative and qualitative) was adopted to assess the impact of both the interventions. A semi-structured questionnaire consisting of open and close-ended questions was used as an information tool to collect data from respondents. Secondary data sources were collected from the Management Information System of the APF and through their website. Considering the involvement of multiple stakeholders, different interview tools addressing them were prepared. The questions for the beneficiaries mainly focussed on grasping the aspects of demography of the respondent, the satisfaction levels in terms of quality and quantity of the food served, direct and indirect benefits gained, challenges faced and the suggestion or improvements needed, if any. Stakeholder interviews included a few managerial and staff members of HKMCF and kitchen workers.

2.3 Sampling method

Simple random sampling is employed to determine the sample of the beneficiaries and the kitchen staff, whereas, purposive and sampling is used in case of the management staff, given the limited population of the target group. The total sample of 146 respondents comprising 30 beneficiaries from Bowenpally Market Yard; 12 beneficiaries from Basavatarakam Indo American Cancer Hospital; 90 beneficiaries from various Annapurna canteens; 12 members of the HKMCF kitchen

staff from the centralised kitchen. The study locations include the centralised kitchen at Narsingi, Hyderabad, food distribution sites at Bowenpally Market Yard, Annapurna canteens, Basavatarakam Indo American Cancer Hospital in Hyderabad.



Graph 2.1: Location Wise number of beneficiaries

2.4 Limitations

The COVID-19 pandemic acted as the greatest barrier resulting in a drawback in the data collection. The rise of the second wave has put a constraint on visiting more food distribution sites. At the time of the study, the canteen inside the Basavatarakam Cancer Hospital was in a building used to house and treat COVID-19 affected persons. Due to this, and given the risk of contracting the virus from visiting the hospital canteens, a limited number of responses were collected from the caregivers in hospitals. Another limitation was that, the respondents at the Annapurna canteens were interviewed while they were having food at the site. As a result, a few of them were in a hurry to leave after finishing their lunch, which limited the time and number of follow-up questions that could be asked.

2.5 Validity of the Research

Data triangulation was employed, in which data was collected from multiple sources to check for validity such as primary data, secondary sources, managerial and staff interviews, SOPs. The sources of triangulation include the management and executive staff of HKMCF, the kitchen staff from the kitchens and finally the beneficiaries of the three programmes i.e., Annapurna, Bhojanamrita and Saddimoota. This enabled not only the cross verification of the data but also the capturing of multiple dimensions of the situation, thereby enhancing the credibility of the study.

2.6 Process of Evaluation

Drawing from reports, documents, and information provided by APF and to determine the design, implementation and outcomes the below questions are designed.

- 1. What is the impact of the APF interventions in terms of achieving the desired objectives of HKMCF kitchen?
- 2. To what extent can the changes observed be co-related to the APF interventions?
- 3. To what mechanisms and contextual features, can these impacts be attributed to?

In order to answer the above critical questions with respect to the impact created by the two interventions, six main evaluation criteria were arrived at. Firstly, an attempt was made to evaluate the potential coverage that has been envisioned and achieved so far. Secondly, the study desired to assess the relevance of the interventions in terms of their consistency over the period, contribution towards achieving the common socio-economic and health targets. Thirdly, it aimed to evaluate the impact created by the interventions in terms of the benefits and satisfaction accrued to the target communities. The fourth criteria was to understand the effectiveness of strategies in terms of meeting the stated objectives through the existing implementation processes. The fifth criteria was to assess the efficiency of the interventions in terms of use of both human and financial resources to deliver timely outputs. Lastly, given that any intervention without the aspects of sustainability suffers with inherent flaws, importance was also given to evaluate the projects, in terms of steps taken to ensure their sustenance as well as the probability of their replicability for likely future efforts.



Picture 1: Data collection by PLF Team at Annapurna Canteen, Basavatarakam Cancer Hospital Location.

3. RELEVANCE

"Hunger is not an issue of charity, but an issue of justice"- Jacques Diouf

The direct and most visible cause of hunger is poverty as the poor do not have the purchasing power to get enough food for themselves and their families. This makes them weaker and less able to earn the money that would help them escape poverty and hunger. Healthy, nutritious food is not only a prerequisite for life but also mitigates diseases and promotes betterment of life by giving physical strength necessary for exercising agency to the poor. By addressing the issue of hunger, human resources can be efficiently utilized to the maximum potential which further leads to personal growth and development of the country.

With the aim to resolve this issue, Hare Krishna Movement Charitable Foundation (HKMCF) through programs like 'Bhojanamrita', 'Annapurna' and 'Saddimoota' aims to provide highly subsidized or free food to the weaker and vulnerable sections who cannot afford to eat two square meals per day. Learning about the HKMCF's vision to increase feeding capacity, understanding the logistical advantage and convenience to cater to people, Aurobindo Pharma Foundation's financial support contributes towards achieving the Sustainable Development Goals (SDGs) of "End Poverty in all its forms everywhere", "Zero Hunger," "Good Health and Wellbeing" and addressing the health and nutritional needs of vulnerable communities

3.1 Coverage

HKMCF covers multiple geographical locations to provide food for a varied range of beneficiaries. In Hyderabad, this community kitchen is the only one which is currently functioning and able to produce meals at such a massive scale. The ability to scale up meal production at short notice and provide nutrition to the vulnerable population of Hyderabad is unique to the HKMCF kitchen in Narsingi. Before the establishment of this kitchen, there was a massive gap in food provision to the vulnerable, desolate and homeless population of the city, who are now able to access healthy and hygienic food. In the first year after commencement, the new kitchen has observed a rise in coverage of beneficiaries by 25,61,539 in comparison to the previous year.

The 'Annapurna' program aims to provide subsidised food to daily wage labourers and underprivileged through food distribution centers spread across Greater Hyderabad Municipal Corporation at 150 locations. The food is served at an affordable price of Rs. 5 per plate which was accessed by 6,05,42,810 beneficiaries. Looking at the plight of patients and caregivers at hospitals who spend a lot of money to eat food, HKMCF kitchen through the program 'Bhojanamrita' distributes free food to caregivers at 17 hospitals in the city. A total of 29,80,360 beneficiaries have availed this service since the beginning of the program. The program 'Saddimoota' aims to feed hunger of farmers and workers at market yards. By charging a minimal amount of Rs. 5 per plate, the program serves at 4 market yards and covers 7,39,770 beneficiaries. Additionally, a total of 30,12,709 beneficiaries accessed meals through relief programs.

The total beneficiaries from different locations accessing meals have increased exponentially from 58,99,900 beneficiaries in FY 2016-17 to 1,13,34,920 beneficiaries in FY 2018-2019. The total beneficiaries consuming meals spiked to 28,091,370 by FY 2020-2021.
Table 3.1: Number of beneficiaries accessed meals before and after construction of Narsingi kitchen

	After starting the community kitchen in Narsingi				Before starti	ng the co Narsi	mmunity l ingi	kitchen in		
Category	Total No. of beneficiari es covered	FY 20-21	FY 19-20	FY 18-19	FY 17-18	FY 16-17	Total No. of beneficiarie s covered	FY 15- 16	FY 14-15	FY 13-14
Annapurna Canteens (GHMC Locations)	5,93,94,350	25,349,740	87,18,670	10067440	10359420	4899080	4382051	2935546	1383505	63000
Bhojanamrita (Hospitals)	29,80,360	327,160	6,55,720	661530	636760	699190	854734	269235	182811	402688
Annapurna Canteens (Municipalitie s)	10,58,460	671,550	3,31,750	55160	-	-	0	-	-	_
Sddimoota (Market Yard)	7,39,770	52,84 0	1,62,010	163600	174760	186560	94380	94380	-	-
Others	30,12,709	1,690,080	6,25,249	387190	195120	115070	39200	39200	-	-
Total	6,71,85,649	2,80,91,37 0	1,04,93,39 9	1,13,34,92 0	1,13,66,060	58,99,90 0	53,70,365	33,38,36 1	15,66,316	4,65,688

3.2 Implementation Process: From procurement to delivery

The plan for procuring raw materials starts a month prior. Based on the number of holidays, existing trend of meals consumed, and raw materials already present in kitchen stores, the store incharge gives a list of the quantity of ingredients required to the purchase department via the General Manager of Operations. The Purchase committee then holds a meeting in the last week of the month where a presentation is made and the decision for procurement is taken. The indent for raw materials is then sent to a few vendors for quotations. After receiving the quotes, based on the best price and the best quality offered, the vendor would be selected.

Before the cooking process begins, any minor changes in quantity requirement will be made by the supervisor of the centre daily, and based on daily production indents a packaging sheet is prepared which consists of the details regarding delivery locations, vehicles, and number of cans of each item required for the respective day. Relying on the information, the production team takes raw material from the store and starts cooking.

The washing of vegetables takes place in 3 stages, overlooking cleaning of vessels with steam and sterilisation of machines, and monitoring dilution of soap solution. To ensure hygiene and safety standards are practiced in the kitchen the team regularly checks whether the employees are following the SOPs, which includes checking if the workers are wearing hairnets, gloves, safety shoes, aprons etc. Cooking temperature is maintained at 85-90°C to ensure that by the time the food reaches the distribution centres it maintains about 60-75°C and remains hot.

After the food is prepared, the loading team starts loading the cans/vessels into vehicles, based on the packaging sheet. The delivery of food, to 150 plus centres, is done through vendors under contract. Most of the drivers are also the owners of the vehicles and are mandatorily accompanied by a helper from HKMCF. In case of any vehicle breakdown, the driver, being the owner of the vehicle, takes up responsibility to arrange for alternative means of transportation.

The supervisor of each centre notes down the time and quantity of food delivered. The driver collects the sheets from the supervisor and waits at the last centre until the distribution finishes and starts collecting the empty cans from the last centre to the first centre in order and reaches the kitchen. An Assistant Medical Officer of Health from GHMC visits the centres for spontaneous cross verification of the quantity of food provided. An acknowledgment form is issued periodically once in 15 days after the assessment. This form is submitted to the GHMC which reaches the Commissioner.

3.3 Value Addition through the construction of centralized community kitchen

Through the construction of a centralized community kitchen in Narsingi, there has been a significant increase in the quantity of food produced per day from an average of 5000 meals at Patancheru kitchen to 50,000 meals from the kitchen at Narsingi. The little capacity of food produced at the old kitchen was shared between HKMCF and its sister organization Akshaya Patra Foundation. Not only was the old kitchen overburdened with demand, but the preparation procedures followed were reported to be not so efficient and thus resulting in a mediocre taste. Discussing the difficulty faced during the preparation process at Patancheru kitchen, Srikanth Ramagundam, Deputy Manager of Operations, HKMCF expressed:

"Earlier vegetables had to be boiled and the masala had to be prepared separately which were later mixed. This was not only inefficient but also didn't give a good taste."

The old kitchen located at Patancheru, at the maximum potential, can produce up to 12,000 meals per day, which is very less than the new kitchen's maximum capacity of 1,50,000. During the time of lockdown, to cater to more needy, Narsingi's production capacity was put to test, which through

the adoption of automated technological equipment, was able to significantly produce 80,000 to 1,20,000 meals per day. The automated technology adopted in the new kitchen helped in significantly cutting down the time for production and helped in expanding distribution centres.

The Patancheru kitchen was overburdened with demand compromised the quality of food produced; through the adoption of upgraded kitchen equipment at Narsingi kitchen, the quality has increased and has ever since been meeting internal standards. For instance, the rice cooked using cauldrons is replaced by steamers which are time-saving and also preserve nutrients. The curry machines used in the new kitchen for the preparation of curries reportedly increased the taste and efficiency. The previous practice of making curry was to boil vegetables, make masala separately and then mix them together. The usage of technology in the new kitchen extends beyond cooking. Manual entry is replaced by software like Tally ERP and Focus, for accounting purposes like bill generation and quantity requests.

While being operational for 24-26 days every month Patancheru generally had the capacity to provide meals to an extent of 2000 to 12000 beneficiaries per day at 10-15 distribution sites. Whereas Narsingi kitchen has the capacity to serve a range of 45,000 to 50,000 meals per day at 130-165 distribution centres by being operational for 25-30 days every month. In the post lockdown scenario, by being operational for 30 days a month, Narsingi kitchen caters to a range of 30,000 to 53,000 meals per day at 165 to 262 distribution centres, which also includes few temporary centres. Being situated close to the distribution sites, unlike the old kitchen, Narsingi conveniently catered even during the recent COVID crisis. The contribution made by APF has repeatedly been recognised and appreciated over the years by the HKMCF management. The government of Telangana also awarded the prestigious 'Best CSR Institution Award' to APF in 2020 for their work in health and nutrition, through the building of the Narsingi kitchen.



Picture 2: Feeding at Annapurna Canteen



Picture 3: Feeding of Bhojamritha

4. IMPACT

The impact of the construction of a new kitchen at Narsingi, Hyderabad through the funding provided by the Aurobindo Pharma Foundation is assessed to measure the satisfaction of the beneficiaries who are accessing meals provided by the HKMCF kitchen. The satisfaction survey schedule is designed in such a way that it encompasses the aspects related to the social, economic, and satisfaction outcomes.

4.1 Social Outcomes4.1.1 Age-wise classification of beneficiaries

The age group of the surveyed beneficiaries ranges from below 18 to above 60 years. Most of the meals are being accessed by those between the ages of 25 and 40, followed by those between 41 and 60 indicating that they are part of the working strata. Moreover, there is a small portion of the surveyed sample who are below the age of 18 revealing that the meals are accessed not only by the working population but also few minors.



Graph 4.1: Age-wise classification of beneficiaries



Among the surveyed respondents, it was observed that the female beneficiaries accessing the meals are extremely low in number than their male counterparts. This could be an implication that women do not access the HKMCF meals.



Graph 4.2: Gender-wise classification of beneficiaries

4.1.3 Social Category of beneficiaries

The HKMCF kitchen serves meals to a wide range of population, irrespective of the social category. The majority of the beneficiaries consuming the meals provided by HKMCF belong to the OBC category, followed by the SC category which shows that the meals are reaching to the most marginalized sections of society. They serve affordable and hot-cooked nutritious meals across various locations in Hyderabad to all, irrespective of the social strata.

Graph 4.3: Social category of beneficiaries



4.1.4 Category of beneficiaries

The range of the beneficiaries surveyed are divided into the following categories - Caregivers of patients in hospitals, people working in market yards (farmers who come to sell their produce, rickshaw/auto/lorry drivers within the market yard, cleaning staff, security guard, and buyers), members of vulnerable communities (migrant population, daily wage workers, street vendors, rickshaw/auto drivers, beggars), others (private workers, GHMC workers, traveling to Hyderabad for a day).

Graph 4.4: Category of beneficiary



4.2 Economic Outcomes

4.2.1 Price of meal

The HKMCF kitchen subsidizes the meals for those who are accessing them under the Annapurna and Saddimoota programs, making them available for Rs. 5 and Rs. 10 respectively. All the beneficiaries under the Bhojanamrita program are being provided meals at free of cost.

Graph 4.5: Price of the meal



This shows that the beneficiaries under the Saddimoota program who are largely those working in market yards are paying the highest amount for the meal. Whereas, beneficiaries at Annapurna canteens, who largely belong to the vulnerable communities, are accessing meals at half the price.

4.2.2 Only source of meal

A significant number of beneficiaries depend on HKMCF for their daily meals. For more than half of the respondents accessing meals under the Annapurna and Bhojanamrita program, this remains

as the only source of food. Moreover, more than half of the surveyed respondents in all the identified social strata, mentioned that the HKMCF meal is their only source of meal. This indicates that the HKMCF meal provision programs are successful in working towards the eradication of hunger, which is one of their major objectives. This also reflects the impalpable value that HKMCF meal possesses in the sustenance of its beneficiaries.



Graph 4.6: Only source of meal

4.2.3 Affordability of meal

The meals provided by HKMCF kitchen are affordable for a significant number of beneficiaries. Out of the three programs, beneficiaries under the Annapurna program stated that the meals are provided at an affordable price, followed by those under the Saddimoota program. A comparatively lesser number of respondents under the Saddimoota program stated that the price of meals is a little expensive. This reflects the variation in meal price across different programs and the associated level of affordability.





The data demonstrates that a large section of the beneficiaries are accessing meals at an affordable price. Those falling below the poverty line view being able to eat one square meal every day at a nominal price as a blessing. The HKMCF kitchen, with the support of the government and multiple benefactors, is able to curb the hunger of many people and acts as a reliable source of food day in, day out.

4.3 Satisfaction Outcomes

4.3.1 Quality of meals

Levels of satisfaction, in terms of meal quality, varied across different programs, with beneficiaries of Bhojanamrita being totally satisfied with the meals provided. Whereas those accessing meals under Annapurna and Saddimoota programs also generally expressed high levels of satisfaction with respect to the quality of the meal being provided to them, with the exception of a handful.

81.06

13.64

53

Total



0

0

Hospital

Graph 4.8: Quality of meal

15.56

5.56

Annapurna canteen

4.3.2 Reasons for the satisfaction

Most of the beneficiaries are satisfied with the meals provided by HKMCF due to affordability and the low pricing of the meal. This can be inferred as a motivational factor for accessing HKMCF meals. The saving money on food is followed by the provision of a nutritious, hot-cooked meal at a time when they require it. The hygiene practices followed in food packing and provision also seem to have an impact on the satisfaction level of beneficiaries.

13.33 6.67

Market Yard

Table 4.1: Reasons for the level of satisfaction/dissatisfaction

Reasons for level of satisfaction/dissatisfaction	Percent
Affordable	22.69
Saving money on food (avoiding outside purchase)	18.91
Hot cooked food	13.75
Timely serving	11.35
Hygienic packing	7.57
Nutritious	4.47
Insufficient quantity	3.44
Convenient	3.1
Water packets	2.75
Unhygienic packing	2.41
The weekly menu is good	1.72
Quality is bad	1.72
Not so hot when served	1.38
Too expensive	1.38
Taste is not good	1.38
Feel strong because of nutritious meal	0.69
The timings of serving are not comfortable	0.69
Long queues and waiting time	0.69

4.3.3 Quantity of meals

Although the surveyed respondents reported significant satisfaction levels with respect to the quality of the meals, a notable/considerable number of respondents stated their disappointment regarding the meal quantity provided by HKMCF. The insufficiency in meal quantity is majorly reported by the beneficiaries of the Saddimoota program who pay Rs. 10 for the meal. The satisfaction levels in terms of meal quantity decreased with an increase in the meal price.



Graph 4.9: Satisfaction with respect to quantity of meal

4.3.4 Beneficiary since and level of satisfaction

Among the surveyed respondents, the majority expressed their satisfaction with the quality of the meal. There is no striking variation in satisfaction of meal quality over time indicating the consistency of quality maintained by HKMCF kitchen.

Graph 4.10: Quality satisfaction over a time period



Although the satisfaction of meal quality was largely positive, there seemed to be mixed satisfaction levels of meal quantity. Beneficiaries who have been accessing HKMCF meals for more than 5

years reported lower dissatisfaction than others. The pattern of decreasing satisfaction with time implies that there might be higher expectations regarding the meal quantity among those who started accessing meals recently, whereas the older beneficiaries might have accepted that it is a better option and feel that the food provided is satisfactory.





4.3.5 Menu and food satisfaction

As mentioned by the respondents having meals under the Annapurna and Saddimoota program, the usual menu consists of rice, dal, curry with chutney, sambar, and curd at times. Sweet is also served once a week. The change in menu is essentially the change in vegetables used in curries. They also mentioned that some vegetables like potato and bottle gourd are mostly served in the curries as they are less expensive. Special food items like jeera rice and vegetable rice are also served once in a while. Whereas the respondents under the Bhojanamrita program stated that only sambar rice and buttermilk are provided for lunch. However, there are a few beneficiaries who expressed their dissatisfaction towards items and not providing enough water. They mentioned that the taste of the food could be improved further. A 55-year-old who has been having meals every day for the last two years at the Annapurna canteen expressed his satisfaction with the meals *"Meherbaani khana, panch rupai mein aur kya milega?"*

4.3.6 Only source of meal and satisfaction

A significant number of respondents stated that the meal served by HKMCF kitchen is their only source of food despite their dissatisfaction. This shows that HKMCF is bridging a crucial gap in society that is not filled by any other means. Being the only community kitchen that caters to a vast population in and around Hyderabad, HKMCF is fulfilling the hunger of many people and contributing its part in combating food insecurity.

 Quality - Only source

 • No • Yes

 61.11

 71.43
 70.09
 68.94

 38.89
 28.57
 29.91
 31.06

Graph 4.12: Satisfaction with respect to quality it is the only source

5. EFFECTIVENESS & EFFICIENCY

Dissatisfied

One of the main objectives of the study was to assess the effectiveness and efficiency of the delivery processes in terms of utilization of the resources and delivering the intended outcomes.

Satisfied

Total

5.1 Cost Effectiveness

Neutral

The program itself has shown a steady increase in the number of meals it provides every year, and especially so since the construction of the new community kitchen in Narsingi. The capacity of meal production shot up dramatically after the opening of the kitchen in 2016, and has only continued to increase in terms of numbers every year. The production went up from approximately 2000 meals a day to 40,000 meals a day.

During the COVID-19 Pandemic and the lockdown imposed by the government, the HKMCF kitchen played an extremely crucial role in feeding the migrant population of Hyderabad. The capacity of the kitchen was pushed to its maximum, cooking over 1 lakh meals a day. The efficiency of the new kitchen was also at its peak during this period.

It was found from the responses of the management that the earlier kitchen in Patancheru suffered from various limitations due to its geographical location, size and the supply chain management. Due to these, the actual demand for a low-cost meal could not be met; the improvements in terms of supply chain management, hygiene, quality, the timely serving of meals etc. were also not possible. The centralized kitchen in Narsingi provided an opportunity to address these disadvantages and thereby make a timely nutritious meal accessible to vast populations. The kitchen in Narsingi has been operational for over four years now, which provided the window to study the changes observed in the new kitchen and to assess their efficacy.

5.2 Financial Tracking and Performance Against Budget

In an organisation that can produce over 1 lakh meals a day, financial planning and understanding performance against the budget is as important as the maintenance of the kitchen. Although the meal is provided to the beneficiaries at a bare minimum of Rs. 5 and Rs. 10, in actuality it costs Rs. 24.50 to produce the same in the kitchen. The cost of the meal has not changed over the past 4 years, despite inflation rates going up. The management attributes a large part of this to the new kitchen and being able to make meal production more efficient. Despite the quantity of meals and number of locations being increased, coverage of the programs and their scope being expanded, the kitchen in Narsingi has been able to meet all of these demands with apparent ease, including those faced during the pandemic. In the scenario when the cost of the meal at source has risen, the management compensates by adopting immediate and effective measures like changing transportation routes or modifying the functioning of kitchen equipment as needed, to be more cost-efficient. They bring down fuel and manpower requirements and use centralised management staff at the state level to run the program throughout the state, thereby making it more efficient. Technological improvements made in the new kitchen also helped regulate the cost of the meal.

The Chief Financial Officer of HKMCF stated that the annual budget of HKMCF in the state would be about Rs. 50 crores, with about 300+ patrons who regularly support the program. The total number of patrons who contribute to the program even goes up to 600 during some years. The takeaway from this is that HKMCF has a large number of benefactors who continue to contribute to the running expenses of the organisation year-on-year and support the smooth functioning of their programs.

With an annual budget ranging between Rs. 50-70 crores, and serving around 1.1 crore meals per annum, we can estimate each meal to cost about Rs.47-Rs.50 all inclusive. However, the actual costing of each meal is only Rs.24.5 which indicates that nearly 50% of the expenses of the annual budget are being used towards administrative expenses, transportation and logistical expenditure.

5.3 Quality Control Mechanism and Monitoring & Evaluation (M&E)

HKMCF has a team that undertakes quality control on a regular basis. Quality control is given prime importance and is managed by 2 members – Regional Quality Manager and Quality Executive. When it comes to raw materials, they are categorised and purchased as CoA (Certificate of Analysis) products and non-CoA products. The CoA products are pre-certified with respect to quality by the vendors before selling, whereas the non-CoA products are checked manually. The quality control team checks for adulteration, presence of foreign matter, moisture, etc. and assigns a score, which, if less than 85 on 100 will be sent back to the vendor. Further, the stored raw materials are monitored on a daily basis.

The Quality Control Team monitors hygiene and safety standards in the kitchen and also regularly checks whether the employees are following the SOPs, which includes checking if the kitchen staff are wearing hairnets, gloves, safety shoes, aprons, etc. The equipment used for cooking is checked monthly.

The whole cooking process is monitored carefully by the kitchen supervisors. Once the food is prepared food samples are collected and the taste is evaluated based on which certain scores are assigned. Every time a new item is added to the menu or the ingredients are changed, the quality

control team prepares the nutrition content report, adhering to the guidelines provided by the National Institute of Nutrition (NIN). Additionally, the food samples are tested by an external lab every 6 months.

While the processes within the kitchen are closely looked into, the management does not explicitly specify any mechanism to collect feedback from the beneficiaries themselves. There is a need for a system to undertake monitoring and evaluation on a regular basis, although some of the roles and responsibilities like keeping the menu interesting, cooking required quantities of food, etc are divided among the management. Having a dedicated team or assigning the role of M&E to some particular staff members would play a crucial role in identifying the exact needs of the beneficiaries, specific requirements, enabling better allotment of resources and avoiding unintended negative outcomes through the program.



Graph 5.1: Action taken on feedback

5.4 Sustainability

An overall analysis of the running of the HKMCF kitchen in Hyderabad shows that it is extremely sustainable. Taking a deeper look at sustainability indicators such as social equity, environmental protection, economic growth, and institutional capacity exhibits the viability and scalability of the program.

Being the primary source of meals, the kitchen plays a crucial role in providing the most vulnerable population of Hyderabad with access to hot, nutritious meals, thereby meeting one of the fundamental needs and also addressing the issues of hunger and food security. Guaranteeing food security among the vulnerable population, especially in India, is of high importance as it drives the economic, social, and individual well-being of all humans.

As stated by Mr. Kaunteya Dasa, the CEO of HKMCF, Andhra Pradesh and Telangana, "I want to share something said by Mahender Reddy, the then Commissioner of Police, Hyderabad. He said that we are playing a key role in bringing down the crime rates in the city. This is because there are a lot of criminals who are forced to commit crimes out of need, in order to feed themselves and their families. We are bridging this crucial gap and eliminating their desperation, thereby combatting more problems than one. We are providing them with a wholesome and satisfying meal." This indicates that the kitchen is essential in enabling social equity within the communities of Hyderabad.

By using ingredients that are locally sourced, cooking the meals in a centralized community kitchen, and feeding the hungry in the surrounding areas of the kitchen, the program is ensuring minimal impact on the environment. The leftover food and waste produced by the kitchen and distribution centers are collected and recycled by feeding pigs in nearby piggeries and other hatcheries or farms. The kitchen infrastructure is built in such a manner that it retains the nutrients in the food prepared as much as possible and consumes the energy supplied to the maximum extent.

Another key factor contributing to the sustainability of the program is the all-round stakeholder commitment. The benefactors who contribute to the running expenses of the program have shown that they do so year on year which is a clear indication of their dedication to keep the program running. The government is also committed towards keeping the feeding centers open and in fact, the government also relies on HKMCF to increase feeding during unprecedented times and disasters. Despite the change in governments, there has been a continuation and expansion of the work HKMCF does alongside the government which is a clear indication that the program's outcomes are overarchingly good for the people. As for the management and kitchen staff – in the words of the CEO, Mr. Kaunteya Dasa, *"The organisation was faced with a serious attrition problem a few years ago due to low salaries, but in the recent years, this has been overcome and I expect the team to remain stable over the next few years."* Interviews with senior management also indicate the same, with many of the staff staying on for more than 3 years.

Talking about the visibility of the program and measures taken to increase it, the General Manager, Operations stated "In the initial years of the program, the GHMC took steps like creating an app for students, sharing Google Maps links through it, having a separate call centre to address the questions of the Annapurna Canteen's beneficiaries etc. But, since the centres are so popular they don't need further measures to increase their visibility." The data from the satisfaction survey in Hyderabad has also supported this and shown that the beneficiaries tend to come back to the same centres to eat, on a regular basis for fairly long periods of time. Their awareness regarding the distribution seldom comes through institutional sources such as HKMCF or Hospital staff, but most often through peers and direct canteen visibility - an attestation that the program's visibility is sustainable without intervention.



Graph 5.2: Awareness regarding distribution

5.5 Challenges in Running the Kitchen and Overcoming them

The management staff and kitchen staff put forth some unique challenges while running the community kitchen in Narsingi, along with some ways to mitigate the same which are being adopted or suggested on their behalf.

The current method to check the moisture levels of the food items as a part of quality control takes 2 hours. The time taken can be cut down by using a moisture meter which checks the moisture content of the food item in 2 minutes. The vessels used for delivering food sometimes go missing after service and cannot be tracked down. Management level talks and steps towards adopting RFID (Radio Frequency Identification) technology to tackle the issue are currently underway. The kitchen gets filled with fumes when the cooking starts and creates an extremely hot environment. It is opined that for proper ventilation, some artificial chimneys could be installed at strategic locations.

Problems are faced during the rainy season such as breakdown of vehicles and at times it becomes difficult to predict the count of people wanting to have food. Food goes to waste when fewer people come to have meals. Apart from this, there are slight delays due to regular traffic, road constructions, and lack of vehicle availability when the driver is on leave. These problems can be resolved by figuring out alternative routes and vehicles, as well as having spare drivers on standby.

Most of the beneficiaries eat on a regular basis, it is challenging to maintain their interest due to the repetition of the menu. Complaints are occasionally received regarding the bland taste of the food in Telangana. Attempts are made to address this challenge and retain the interest by regularly changing the menu and by providing sweets once in a while.

Most of the problems faced could be overcome by incorporating small technological changes, logistical management, and advanced planning of the operations. This could lead to a smoother and efficient functioning of the program.

5.6 Scaling Up Operations

Considering the large section of the elderly, differently-abled and women, particularly those living in the slums who cannot access the meals, plans are underway to start mobile canteens, so that hot meals can be provided at their doorsteps and enable them to avail the facility with ease. There are also plans in the pipelines to start breakfast provision for the children in government schools of Hyderabad, as most children come to school on an empty stomach. While these programs were briefly piloted before the COVID-19 pandemic hit and the lockdown in 2020, they had to be halted. However, the management aims to continue them once the pandemic ends and there are no mobility constraints and schools are opened.

There are also plans of expanding HKMCF to build community kitchens in Warangal, Suryapet, Khammam, Karimnagar and Nirmal. These are the 5 kitchens that the organisation plans to establish, but they are facing difficulty in finding donors for capital expenditure. In Warangal, they could identify a local who was willing to come forward and sponsor the kitchen. However, since

the kitchen size is relatively small and the amount of capital is about Rs. 2 crores per kitchen, they are hopeful of finding donors once the pandemic draws to a close.

In the case of approaching donors, they are approached with the proposal and project report, depending on whether it's a greenfield project or a brownfield project (greenfield – from scratch, brownfield – there is some infrastructure and are looking to scale up). A lot of times they get donations through politicians looking to do some good work for their constituency. This way the donor also has a vested interest in the project, making it more viable.

A recommendation for the more sustainable functioning of the operations of the HKMCF kitchen in Hyderabad would be to engage the local farmers and source fresh produce. This would ensure quality produce and help keep the price down. Usage of renewable sources of energy for the meal production would also make the operation more sustainable and align with SDGs further.

6. CONCLUSION

With an aim of addressing the malnutrition and hunger issues, APF partnered with HKMCF in establishing a large-scale meal provision kitchen in and around the city of Hyderabad. The relevance of APF's intervention can be demonstrated. The exponential surge in the volume of beneficiaries, 58,99,900 beneficiaries in FY 2016-17 to 1,13,34,920 beneficiaries in FY 2018-2019, and the value addition in terms of the increased quantity of meals produced per day and the improved quality of the food cooked clearly demonstrates the relevance of APF's intervention.

The overall impact of the intervention assessed in this study found that all three programs were successfully catering to the most marginalized sections of society, largely comprising the vulnerable and poor inhabitants and migrant labour across various locations in Hyderabad to all, irrespective of the social strata such as age, social category, etc. In terms of economic benefits, the kitchen is bridging the hunger gap of the most vulnerable in a way that no other organisation could. By the provision of free and affordable meals from HKMCF kitchen, those falling below the poverty line are being able to eat one square meal every day at a nominal price. It is noteworthy that the HKMCF takes into consideration to fulfil the beneficiaries' satisfaction, but not a mere impact on the social and economic fronts. There has been a remarkably positive response regarding the satisfaction of the meal among all the categories of those accessing. The satisfaction levels seemed to increase with that of the regularity of having meals, indicating the efficiency of the HKMCF management in maintaining the quality of food consistently over the years.

There is a visible upswing in the effectiveness and efficiency of the new kitchen by producing a greater number of meals to a vast population on the account of upgraded kitchen equipment. The impeccable quality control mechanism can be attributed as one of the crucial factors in achieving the overwhelming satisfaction of beneficiaries. Timely response to feedback, good hygienic practises and constant monitoring by supervisors are the other factors contributing to the efficient meal provision. The overall analysis of the HKMCF kitchen functioning indicates the viability and scalability of the program. Working around the APF's key focus areas of being socially responsible and economically sustainable, the program can be deemed sustainable on its own as it reflects on certain sustainability indicators like social equity, environmental protection, economic growth, and institutional capacity.

Despite the self-sustenance of the program in the near future, it is crucial to address the suggestions and remarks of the stakeholders. Especially those of the beneficiaries, as improvement in their satisfaction levels contributes to the long-term sustainability of the kitchen and therefore meeting the primary objective of the HKMCF kitchen. Making the meals more accessible to women, disabled and elderly is a crucial reflection of this study. Having a dedicated monitoring and evaluation team would also play a role in making the program more inclusive and help bring about small changes to increase efficiency. Accompanying this with a health survey would ensure that the health impact of the program is captured along with disease burden, nutritional indicators and reduction of health expenditure among the beneficiaries of HKMCF.

There is a need for a system to undertake monitoring and evaluation on a regular basis, although some of the roles and responsibilities like keeping the menu interesting, cooking required quantities of food, etc are divided among the management. Having a dedicated team or assigning the role of M&E to some particular staff members would play a crucial role in identifying the exact needs of the beneficiaries, specific requirements, enabling better allotment of resources and avoiding unintended negative outcomes through the program.

All in all, the program has made itself very viable, sustainable, and scalable in a very short span of time in which the role of APF is prominent. With the common agenda of serving the poor and the needy, APF and HKMCF together paved the way for a highly effective yet reliable system to be in place. Not only does it contribute in addressing the most pressing issue of hunger in a country like India, the program, in a long run, would also play an indispensable role in boosting the economic growth, improving the rate of female workforce participation rate, making communities more egalitarian, reducing crime rates, and enhancing the nutritional outcomes of the population as a whole.

ANNEXXURE

AUROBINDO PHARMA FOUNDATION – HKM CHARITABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR CEO/CFO/GMO/OPERATIONS

Date of interview: [/ /]

- 1. Name:
- 2. Designation:
- 3. Geographical location:
- 4. Duration of association with HKMCF:
- 5. What is the objective of the program?
- 6. How did the partnership with Aurobindo Pharma Foundation evolve?
- 7. How did the partnership evolve with the following?
 - a) GHMC
 - b) Hospitals
 - c) Market yards
 - d) Schools
 - e) Others (specify)
- 8. What are your roles and responsibilities?
- 9. Can you explain the supply chain?
- 10. What is the extent of coverage?

	In Patancheru	In Kokapet	Before Lockdown	After Lockdown
Number of meals served in a day				
Number of locations for food				

distribution in a		
day		
Number of days		
operational in a		
month		
(approximately)		

- 11. In what ways do you think the new kitchen has benefitted the existing program?
- 12. Who are the beneficiaries and how are they identified (category of the beneficiary/selection of the beneficiary process)?
- 13. What is the annual budget? How are the running expenses met?
- 14. How many donors do you have at present?
- 15. Do you have any SOPs to manage the HKMCF kitchen? If yes, please share.
- 16. What measures have you taken to expand the visibility of the program?
- 17. Do you have any plans to expand the coverage under this program?
- 18. If yes, what is your financial planning/have you identified donors?
- 19. How do you rate the functioning of this program?
 - a) Excellent
 - b) Average
 - c) Needs Improvement

Answer: []

- 20. What changes do you wish to make in the future? (in terms of expansion, changes in menu etc.)
- 21. What are the critical challenges in managing the HKMCF meal program? Probes are below but keep it open ended
 - a) Procurement of raw materials
 - b) Variation in the cost of raw materials (an increasing trend in the market)
 - c) Storage of raw materials
 - d) Cooking

- e) Distribution
- f) Staff attrition
- g) Others (specify)
- 22. What are the future challenges you are anticipating?
- 23. Do you have any strategies to address such challenges?
- 24. What are the long-term impacts of this program?
- 25. How do you think that the program is contributing to food security within the vulnerable community?
- 26. Any other information you wish to provide for the purpose of impact assessment.

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR TRANSPORTATION/DISTRIBUTION STAFF

Date of interview: [/ /]

- 1. Name:
- 2. Designation:
- 3. Geographical location:
- 4. Duration of employment with HKMCF:
- 5. The extent of coverage
 - a) Meals served in a day –
 - b) Number of locations for food distribution in a day –
 - c) Number of days operational in the last month –
 - d) Number of vehicles used for food distribution –
- 6. What are your roles and responsibilities?
- 7. How many staff do you have in the transportation/distribution section?
- 8. Can you explain the supply chain?
- 9. How do you rate this program (overall)?
 - a) Excellent
 - b) Average
 - c) Needs Improvement

Answer: []

- 10. What are the changes/improvements/upgrades you observed while transporting/distributing food?
- 11. Do you face any challenges while transporting and distributing the food?
- 12. How do you think these challenges can be overcome?
- 13. What new technology/processes would you like to implement to make your job easier/more efficient?

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR QUALITY CONTROL TEAM

Date of interview: [/ /]

- 1. Name:
- 2. Designation:
- 3. Geographical location:
- 4. Duration of employment with HKMCF:
- 5. What are your roles and responsibilities?
- 6. How many staff do you have on the team?
- 7. Quality controlling mechanism:

Activity	Frequency Monitored	Quality observed
Monitoring procurement of quality raw materials		
Hygiene and safety standards in the kitchen		
Storage of raw materials in kitchen		
Visits to kitchen by qualified nutritionist		
Packing and distribution		

Food wastage/garbage	
disposal	
Equipment maintenance	
Others (Specify)	

- 8. How do you rate this program (overall)?
 - d) Excellent
 - e) Average
 - f) Needs Improvement

Answer: []

9. What are the problems that you observed?

- 10. What are the changes you wish to make with respect to these problems?
- 11. Do you face any challenges while executing your duties? If yes, explain.

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR KITCHEN STAFF

Date of interview: [/ /]

- 1. Name:
- 2. Designation:
- 3. Geographical location:
- 4. Duration of employment with HKMCF:
- 5. Average working hours per day:
- 6. The extent of coverage
 - e) What is the quantity of food that you cook for lunch?
 - f) What is the quantity of food that you cook for dinner?
 - g) How many people do you think this food serves in a day?
- 7. What are your roles and responsibilities?
- 8. Can you explain the supply chain? (Procurement of ingredients and equipment maintenance)
- 9. How many staff members do you have in the kitchen?
- 10. How is the daily menu prepared?
- 11. Quality controlling mechanism:

Activity	Frequency Monitored	Quality observed
Monitoring procurement of quality raw materials		
Hygiene and safety standards in the kitchen		
Storage of raw materials in kitchen		

Visits to kitchen by	
qualified nutritionist	

12. How do you rate this program (overall)?

- g) Excellent
- h) Average
- i) Needs Improvement

Answer: []

- 13. How do you think the new kitchen has contributed to the quality/quantity of the meals provided?
- 14. What changes do you wish to make in the future? (in terms of expansion, changes in menu etc.)
 - a) Quality and quantity-wise
 - b) Menu and nutritious ingredients
 - c) Hygiene wise
 - d) Others (specify)
- 15. Do you face any challenges while working in the kitchen? If yes, explain.

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE

FOUNDATION

SATISFACTION SURVEY FOR BENEFICIARIES, HYDERABAD

Date of the interview [/ /]

- 1. Name of the beneficiary
- 2. Location of the interview
- 3. Age
- 4. Gender
- 5. Social Category
 - a) ST
 - b) SC
 - c) OBC
 - d) OC
 - e) Cannot say
- 6. Category of the respondent
 - a) School teacher
 - b) Care-giver of the patient
 - c) Working in market yards
 - d) Vulnerable community (migrant workers, rickshaw/auto-rickshaw drivers)
 - e) Others
- 7. Cost of the meal
 - a) Free
 - b) Subsidized
- 8. If subsidized, what is the price of the meal?
- 9. For how long have you been having the meals?
- 10. What time do you receive lunch/dinner?
- 11. How do you rate the quantity of the meal?
 - a) Sufficient
 - b) Insufficient
 - c) Excess
 - d) Neutral
 - e) No answer

- 12. If excess, what do you do with the excess food?
- 13. How many of your family members are having the meals?
- 14. What does the daily menu consist of and does it change? (Menu for lunch, dinner, menu changes)
- 15. Are you satisfied with the meal?
 - a) Extremely satisfied
 - b) Satisfied
 - c) Dissatisfied
 - d) Extremely dissatisfied
 - e) Neutral
 - f) No answer
- 16. Reasons for level of satisfaction
 - a) Convenient
 - b) Nutritious
 - c) Hot cooked food
 - d) Timely serving
 - e) Hygienic packing
 - f) Affordable (price wise)
 - g) Feel strong because of nutritious meal
 - h) The weekly menu is good
 - i) Not so hot when served
 - j) The timings of serving are not comfortable
 - k) Unhygienic packing
 - l) Too expensive
 - m) Long queues and waiting time
 - n) Others
 - o) Cannot say
- 17. If others, specify
- 18. How do you rate the behavior of the staff distributing the meal?
 - a) Amicable & Friendly
 - b) Adamant & Rude
 - c) Neutral
 - d) Cannot say

- 19. How did you get to know about the meal distribution?
 - a) Through peers
 - b) Through family members
 - c) Through HKMCF members
 - d) Through the hospital
 - e) Others
- 20. How affordable are the meals? (If the beneficiary is purchasing it)
 - a) At affordable price
 - b) Little high cost
 - c) Cannot say
 - d) Not purchasing
- 21. Have you had any issue with meal provided to you? If yes, explain.
- 22. Do you provide feedback to the HKMCF meals providers?
- 23. Any action taken on your feedback?
 - a) Yes
 - b) No
 - c) Cannot say/ Don't know
- 24. Is this the only source of meal for you?
 - a) Yes
 - b) No
- 25. If no, specify the source
- 26. Would you like to share further on HKMCF meal?



Impact Assessment of Health, Hunger and Nutrition Focussed Intervention – Singupuram, Srikakulam

Poverty Learning Foundation

June, 2021

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This report is based on the real-time data collected in May 2021 from parents and headmasters of the beneficiaries of a program run by Akshaya Patra Foundation, namely Mid-day Meal Program. Data was collected from Amadalavalasa, Gara and Srikakulam mandals of Srikakulam district. The facts and figures presented in this report facilitate Aurobindo Pharma Foundation to evaluate the impact of their contribution of capital towards setting up of the kitchen and equipment in Singupuram, Srikakulam.

Conceptualization, data analysis and report writing

Ms. Harshita Sakhamuri	Senior Research Associate, PLF
Ms. Varshitha Sanagani	Senior Research Associate, PLF
Mr. Raja Priyatham	Research Associate, PLF
Ms. Ravali Yendala	Research Intern, PLF

Overall guidance:

Prof. S. Vijay Kumar

CEO, PLF

Suggested Citation: PLF (2021) "Impact Assessment of Health and Nutrition Focused Intervention – Singupuram, Srikakulam", Poverty Learning Foundation, Hyderabad. www.plf.org.in

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Acknowledgement

Special thanks to Sri. SP Tucker, former Chief Secretary of Andhra Pradesh and Chairman of PLF, under whose guidance and mentorship the following study was carried out.

Special thanks to Hare Krishna Movement Charitable Foundation Management

Mr. Kaunteya Dasa – CEO, Andhra Pradesh and Telangana Mr. Dhananjay Dasa – CFO, Andhra Pradesh and Telangana Mr. Sanandan Das – Office of CEO

Special thanks to Akshaya Patra Foundation Management

Krishna Prasada – General Manager, Andhra Pradesh Venkat Raju Penumaka – Operations Manager, Srikakulam

Study Funded by Corporate Social Responsibility Department of Aurobindo Pharma Foundation.

Executive Summary

The following report is an impact assessment of a CSR intervention of Aurobindo Pharma Foundation (APF) carried out by an objective third party organisation – Poverty Learning Foundation. The CSR contribution was made by APF to Hare Krishna Movement Charitable Foundation (HKMCF), a trust which works towards providing vulnerable communities in India with food security as a means to break the cycle of poverty. The contribution was made towards the construction of a community kitchen in, Singupuram, Srikakulam with a capacity to provide up to 50,000 meals a day which was later leased to Akshaya Patra Foundation – a sister trust catering to mid-day meals of children in schools and hot cooked meals of pregnant and lactating mothers in Anganwadis. The intervention was based on Theory of Change Framework, as is this assessment.

Relevance - Is the intervention meeting intended purpose?

The establishment of the automated community kitchen in Singupuram was a unique and relevant intervention, especially since there was no such kitchen in and around this region and it is the only one till date. Since the kitchen was inaugurated in September 2019, it has served a cumulative of 60,45,045 meals until the end of FY 20-21. Akshaya Patra Foundation has successfully catered to 307 schools across 3 mandals in the surrounding region of the kitchen. Mid-day meals for up to 23,000 children are cooked in this kitchen on a daily basis. The kitchen has been crucial in cutting costs of the mid-day meal, providing the children with a healthy, hygienic and hot meal as well as ensuring there is no compromise in the quality of ingredients used. The centralisation of the cooking has played a big role in this.

Impact – What difference does the investments make?

The results of research determined that the program is successfully catering to the school going children in Srikakulam. With respect to the quality and quantity of the meal, the feedback from both teachers and parents was overwhelmingly positive. An extremely small number of headmasters reported that the quantity of food being delivered was excess to what they required. The parents and headmasters also reported that feedback was collected from them as well as the children on a regular basis and course correction was done with immediate effect.

In depth analysis of the data showed that children who were regularly accessing the meals tended to show higher attendance rates and the meal was actually a driving factor for children attending school. This is an indication that the kitchen management is doing an efficient job with rotating the menu and providing excellent quality of food even over a long duration of time, despite the menu being decided by the government.

Effectiveness and Efficiency – *Is the intervention effective to reach defined objectives and how well are resources being used?*

Despite the quantity of meals and number of locations being, coverage of the program and its scope being expanded, the kitchen in Srikakulam has been able to meet all of these demands with apparent ease. In the case of an increase in cost of the meal, the management has been able to

adopt measures like changing transportation routes or changing the kitchen equipment to be more cost-efficient. It has to be noted that there was no centralized kitchen earlier, and it was the first time that a centralized community kitchen was set up in Srikakulam, which is being used by the Akshaya Patra Foundation to provide meals under the MDM program. From the study, it is clear that given careful organization of the supply chain in which the processes of procurement, processing, production, and distribution are standardized, it saves human labour, time and most other resources.

The quality of ingredients used and food cooked is closely monitored throughout the supply chain on a daily basis and this plays a key role in ensuring that the beneficiaries receive high quality, tasty and nutritious food. Procured raw materials are stored in a clean and dry environment, washed multiple times before cooking and cooked using methods which preserve the nutritious value of the food. The kitchen staff are thoroughly sanitised before entering the kitchen and are required to wear cap, gloves, mask and boots to ensure they do not come in direct contact with the food. The use of the automated kitchen has minimised human interaction with the food to a large extent. The vessels in the kitchen and kitchen itself are meticulously cleaned, both before and after usage.

Sustainability - Will the benefits last?

Evaluation of the financial standing of the program strongly indicates that the sustaining of the program faces no problems and that it has over 300 donors who are committed to contribute to its running expenses, year-on-year. It also has no problems with respect to reaching the target beneficiaries and requiring to increase visibility – as it manages to do both with apparent ease. With respect to the Sustainable Development Goals, it plays a vital role in addressing goals such as No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Reduced Inequality, Sustainable Cities and Communities, and Responsible Consumption and Production. The program has no negative impact on the environment as it consumes relatively clean energy for cooking and minimises waste production by recycling garbage to nearby piggeries and hatcheries.

Recommendations - What more can be done?

Obtaining permissions to change the menu to fit local tastes and requirements of the children would be crucial for the further success of the program in the region. Apart from this, some simple technological integration such as RFID, grinders, etc would make a large qualitative difference in terms of the effort required on behalf of the kitchen staff. The introduction of a breakfast scheme is also seen as crucial by the stakeholders to help the children focus better during the morning session of school. Adopting a formal method of feedback collection from students, parents and teachers and incorporating the same into the running of the Akshaya Patra kitchen could be crucial in improving quality of food and satisfaction level among the beneficiaries even further. Accompanying this with a health survey would ensure that the health impact of the program is captured along with disease burden, nutritional indicators and reduction of health expenditure among the children. Annual impact evaluation undertaken for each kitchen which surveys number of enrolled children, change in attendance rates and learning outcomes directly linked to the provision of the MDM would be beneficial in scaling up operations and expanding the scope of the program.
Conclusion

Overall, the program is very viable, sustainable, and scalable. In fact, for a developing country like India, disaggregated community kitchens located in every district of the country which cater to the mid-day meal program would be immensely effective in magnifying the success of the program at the national level. While the introduction of the mid-day meal program resulted in enormous benefits in terms of improving attendance rates, increasing the attention span of children and providing them with a nutritious meal, it has been riddled with problems of pilferage, corruption, irregularity and dilution of quality. Akshaya Patra Foundation's community kitchens provide a solution to all of the above problems and at the same cost to the government.

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ABBREVIATIONS

- APF Aurobindo Pharma Foundation
- CEO Chief Executive Officer
- CoA Certificate of Analysis
- CSR Corporate Social Responsibility
- DEO District Educational Officer
- HKMCF Hare Krishna Movement Charitable Foundation
- M&E Monitoring & Evaluation
- MDM Mid-Day-Meal
- MPPS Mandal Parishad Primary School
- NIN National Institute of Nutrition
- OBC Other Backward Caste
- RFID Radio Frequency Identification
- SDG Sustainable Development Goal
- SOP Standard Operating Procedure
- ZPHS Zilla Parishad High School

1. INTRODUCTION 1.1 Context

Good health is a balanced condition of the human body and mind. Nutritional deficiency is the root cause of diseases in human beings. Nutritional anaemia is a major health crisis among the public, especially adolescents. As the future of the world depends on the adolescents of today, it is essential to fill the nutritional gap arising among children during this stage. Though India is a leading food producer in the world, not many people are privileged to have access to timely and nutritious meals primarily due to issues with food access. One among the major problems hunger leads to is malnutrition which particularly in children affects their physical growth thereby affecting their chance for a better life. According to National Family Health Survey 2015-16, 28% of children under the age of 5 years are stunted, 28.7% of children under the age of 5 years are underweight. 70.6% of children aged 5-69 are anaemic¹⁶. The mid-day meals scheme in India is a central scheme to provide cooked and nutritious food to children primarily aged between 6-14 years with a mandate to avoid classroom hunger, increase school enrolment, attendance and address malnutrition.

In this context, Aurobindo Pharma Foundation, the philanthropic wing of Aurobindo Pharma Limited partnered with Hare Krishna Movement Charitable Foundation (HKMCF) to establish a centralized community kitchen in 2019 in Singupuram village of Srikakulam district. The kitchen serves nutritious food to vulnerable communities, including those affected by the pandemic, and the frequent cyclones affecting the district, farmers in market yards, nutritious food to the school children in different anganwadi centres and government schools. The kitchen has presently been rented to the Akshaya Patra Foundation, sister concern of Hare Krishna Movement Charitable Foundation

1.2 Aurobindo Pharma Foundation

Aurobindo Pharma Foundation (APF) is the philanthropic wing of Aurobindo Pharma Limited and strives for the nation's social and economic growth through its Corporate Social Responsibility program.

As one of the firms committed to creating positive, enduring change in the community, Aurobindo Pharma Foundation, has taken a focused approach to social responsibility that includes empowering people to give back to their communities, operating in ways that are socially responsible and environmentally sustainable, and working with its stakeholders to address societal challenges.

Aurobindo Pharma Foundation continues to integrate the SDGs into its strategy to have a lasting positive impact on society. Its primary focus is on education and skill development, health care and nutrition, sanitation, social equity, environmental sustainability, disaster management and rural development.

1.3 Akshaya Patra Foundation

Akshaya Patra Foundation is headquartered in Bangalore, established in the year 2000 and since then has been channelling its efforts to provide at least one nutritious meal to children during school days. It is the world's largest mid-day meal program serving wholesome food to over 1.8 million children every day from 19,039 schools across 12 states and 2 union territories with 52 kitchens. The organization has partnered with the Government of India and various state

¹⁶ International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India

governments to provide nutritious meals to children. They provide nutritious meals that are suited to the local palate and run their operations through centralized and decentralized kitchens which are all operated according to state-of-the-art standards.

1.4 Partnership between APF and Akshaya Patra Foundation

Recognizing the need for the provision of nutritious and affordable meals to the vulnerable sections of society, APF and HKMCF partnered in 2019 to construct a centralized kitchen in Singupuram village of Srikakulam district, Andhra Pradesh. APF has contributed Rs. 12.6 crores to construct a fully centralized and automated kitchen in 2 acres of land. The kitchen has a capacity of cooking for 35,000 people and is the most technologically advanced kitchen in Srikakulam. The kitchen has currently been leased out to Akshaya Patra Foundation by HKMCF. From September 2019 till date, over 60 lakhs meals were provided to government school students.

SDG	Interventions
SDG 1: No Poverty	Ensure the right of every child to a standard of living adequate for the child's development through provision of nutritious food.
	Ensuring significant mobilization of resources from a variety of sources through enhanced development co-operation to provide affordable and nutritious meals to children.
SDG 2: Zero Hunger	Feeding children in schools to ensure that they do not go hungry.
SDG 3: Good health and Well Being	End all forms of malnutrition, including stunting and wasting in children, nutritional needs of pregnant and lactating women.
	Ending preventable child deaths by ensuring reduced malnutrition through a well-designed and planned menu.
SDG 4: Quality Education	Using the provision of a hot and nutritious meal as a means of encouraging children to attend school.
	Improving learning outcomes by making sure that children do not remain hungry while attending classes.
SDG 10: Reduced Inequality	Ensuring provision of hygienic and nutritious meals to all children irrespective of their economic and social background, thereby reducing inequalities among them.

Table 1.1: APF and Sustainable Development Goals (SDG)

SDG 11: Sustainable Cities and Communities	Embracing community level needs - hunger, and successfully fulfilling them.
SDG 12: Responsible Consumption and Production	Adopting community kitchens as a method of making consumption of food more sustainable.
	Using locally sourced and produced ingredients to minimise carbon footprint and environment conscious waste disposal practises.

1.5 Impact Assessment

Impact assessment determines the changes in outcomes which can be attributed to specific interventions, based on cause-and-effect analysis. The impact evaluation of the nutritious meal program answers the critical questions of the efficiency of the operations of the project, advises on mid-term course correction and scaling up of the initiative. It examines the effectiveness of the interventions, in providing needed services to vulnerable communities. It is a systematic and objective assessment of the on-going CSR intervention focussing on health and nutrition interventions, its implementation - structures, resources and processes through which delivery is achieved, mechanisms of impact and context to determine its relevance, efficiency, effectiveness, impact and sustainability. It also provides information that is credible and useful and enables the lessons learnt to feed into the decision-making process of APF.

Table 1.2: Theory of change Framework

VISION	Break the cycle of malnutrition and access to nutritious food			
IMPACT	Access to healthy meals to the remotest locations of the country and sensitization on the importance of nutritious food			
RESULTS	Children in rural schools are enjoying their mid-day meals	Children health status and immunity are improved	Increased attendance and enrollment of children at schools	Increased social consciousness among employees and others to become partner of such programs

OUTCOMES	Children are accessing nutritious, timely and hygienic meals.	Additional nutrition content in food and better hygienic practices while preparing food leads to healthy growth of children.	Availability of hot and nutritious meals leads to reduction of drop- out rates and increased enrollment of children in schools.	More individuals come together to contribute towards expansion of the program.
STRATEGIE S (Drivers of Change)	Provision of nutritious meals through mid- day meal schemes in government schools	Introduction of variety in meals and practice of strong hygienic practices while preparing the meals.	Provision of timely and nutritious mid- day meals and breakfast to incentivize children to attend school everyday	Showcase the impact of the program and encourage social consciousness among the staff
DRIVERS OF PROBLEM	Many children are unable to access nutritious and timely meals	High rates of malnourishment among children	Low levels of attendance and high levels of drop-out rates in schools	Reduced availability of consistent funds to increase impact and scale up the program
PROBLEM	Malnutrition and reduced access to affordable food			

The operation was born out of the need to address a pressing problem in society – one of intergenerational poverty and malnutrition which were both deeply interlinked. The drivers of this problem were seen to be unavailability of hot, cooked and nutritious meals to the school children in government schools. This was overcome by the establishment of an automated community kitchen in Srikakulam under the MDM Program. The intended outcomes of the adopted strategy were that all school children are able to access the food provided by the kitchen and thereby break the cycle of poverty and malnutrition through education.

2.RESEARCH FRAMEWORK 2.1 Objectives

The broader objectives of this impact assessment are to serve the purposes of lesson-learning and accountability of the current interventions. The aim is to understand the working of these two projects, in order to suggest mid-term course correction measures and inform the decisions about scaling up the efforts. In pursuit of these, the study strives to examine the implementation structures, resources, processes, effectiveness and the level of sustainability in achieving the desired outputs in their respective contexts. The five main objectives of this assessment, therefore, are as follows:

- 1. Understand the relevance of the interventions
- 2. Gauge the overall impact of the interventions
- 3. Assess the effectiveness of the delivery processes
- 4. Evaluate the efficiency with which the desired outcomes are being achieved
- 5. To anticipate the sustainability of interventions in providing continued benefits to the vulnerable communities they wish to serve

2.2 Methodology

The research site for the study includes the one centralised kitchen at Singupuram, Srikakulam; and food distribution sites at 307 Zilla Parishad High Schools (ZPHS) and Mandal Parishad Primary Schools (MPPS) within Srikakulam district, spread over 3 mandals.

A mixed method research design (quantitative and qualitative) was adopted to assess the impact of the intervention. Semi-structured questionnaires consisting of open and close-ended questions were used as information tools to collect data from respondents. Considering the type of stakeholders, different questionnaires addressing them were prepared. The questions for the beneficiaries mainly focussed on grasping aspects of the satisfaction levels in terms of quality and quantity of the food served, direct and indirect benefits gained, challenges faced and negative impact, if any. Data was collected from various categories of respondents from Akshaya Patra Foundation, which includes managerial staff and in order to gain insights into perspectives of beneficiaries, data was also collected from Parents, Headmasters of Zilla Parishad High Schools (ZPHS) & Mandal Parishad Primary Schools (MPPS).

2.3 Sampling method

Simple random sampling is employed to determine the sample of the beneficiaries and the kitchen staff, whereas, purposive and targeted sampling is used in case of the management staff, given the limited population of the target group. The total sample of 26 responses from parents of ZPHS and MPPS school children accessing mid-day meal program, 35 Headmasters of the ZPHS and MPPS with mid-day meal program, and 11 members from the Akshaya Patra Foundation management.

2.4 Limitations

The COVID-19 pandemic acted as the greatest barrier resulting in a drawback in the data collection. Due to the pandemic, schools were closed and the main beneficiaries of the mid-day meals programme i.e., the students could not be interviewed. Only the responses of the headmasters of the respective schools and that of the student's parents were gathered for the satisfaction levels on behalf of the students. Also, due to similar reasons, the kitchen in Srikakulam at the time of the study was not functioning, which limited the study team from gathering the responses at the research site. Instead, interviews of all the respondents in Srikakulam were collected via telephonic interviews.

2.5 Validity of the Research

The data triangulation was employed, in which the same set of data was collected from multiple sources to check for consistency. The sources of triangulation include the management and executive staff of Akshaya Patra Foundation, the kitchen workers or the non-managerial employees from the kitchen and finally the beneficiaries of the programme (parents and headmasters). This enabled not only the cross verification of the data but also the capturing of multiple dimensions of the situation, thereby enhancing the credibility of the study.

2.6 Process of Evaluation

Drawing from reports, documents, and information provided by APF and to determine the design, implementation and outcomes the below questions are designed.

- 1. What is the impact of the APF interventions in terms of achieving the desired objectives of Akshaya Patra Foundation kitchen?
- 2. To what extent can the changes observed be co-related to the APF interventions?
- 3. To what mechanisms and contextual features, can these impacts be attributed to?

In order to answer the above critical questions with respect to the impact created by the two interventions, six main evaluation criteria were arrived at. Firstly, an attempt was made to evaluate the potential coverage that has been envisioned and achieved so far. Secondly, the study desired to assess the relevance of the interventions in terms of their consistency over the period, contribution towards achieving the common socio-economic and health targets. Thirdly, it aimed to evaluate the impact created by the interventions in terms of the benefits and satisfaction accrued to the target communities. The fourth criteria was to understand the effectiveness of strategies in terms of meeting the stated objectives through the existing implementation processes. The fifth criteria was to assess the efficiency of the interventions in terms of use of both human and financial resources to deliver timely outputs. Lastly, given that any intervention without the aspects of sustainability suffers with inherent flaws, importance was also given to evaluate the projects, in terms of steps taken to ensure their sustenance as well as the probability of their replicability for likely future efforts.

<u>3. RELEVANCE OF APF SUPPORT</u>

Children are the future of the nation. Educated children will lead to the progress of our society and play a vital role in the development. The poorer sections of society spend their entire lives earning trying to feed their families two square meals a day. The parents of underprivileged children cannot afford to send their children to school and provide them with nutritious meals, instead choosing to take them along for daily wage work. Free and compulsory education up to the age of 14 years is a constitutional commitment in India. India has made significant progress in universalizing primary education. However, the goal of 100 percent universalization of elementary education appears to be far and elusive due to inherent socio-economic factors present in Indian society. Census 2011 revealed that 8.4 crore school-age children in India do not attend school at all¹⁷. On the other hand, World Health Organization data indicates that India has one of the world's highest demographics of children suffering from malnutrition (3 out of every 10 stunted children are Indian)¹⁸. Malnutrition affects the child's physical and cognitive growth while having an adverse impact on the economic growth of the country in the long run. The government has introduced several programs and policies to address the issue of nutrition deficiency among children, one being the Mid-Day Meal program to provide nutritious meals to all the school-going children.

¹⁷Varma, S (2016, September, 23). 8.4cr Indian children don't attend school: Census data. *Times of India*. Retrieved from https://timesofindia.indiatimes.com/india/8-4cr-indian-children-dont-attend-school-census-data/articleshow/54473779.cms#:~:text=Freshly%20released%20Census%202011%20data.go%20to%20school%20at%20all

¹⁰

¹⁸ United Nations Children's Fund, World Health Organization & World bank group. (2020). Levels and trends of child malnutrition (ISBN: 9789240003576). Retrieved from https://www.who.int/nutgrowthdb/jme-2019-key-findings.pdf)

Akshaya Patra Foundation through the Mid-Day-Meal (MDM) program provides timely nutritious food to school children to ensure no child shall be deprived of education because of hunger. Akshaya Patra Foundation has been providing nutritious meals to school children since their establishment in 2000. The proposal to feed school children has jointly emerged in association with the District Educational Officer (DEO) of Srikakulam.

3.1 Coverage

The kitchen constructed in Singupuram village of Srikakulam districts caters to 3 mandals i.e. Amadalavalasa, Gara and Srikakulam, providing mid-day meals to children in 307 schools. The kitchen catered meals to 44,56,811 students in FY 2019-2020 which gradually increased and has catered to the total of 60,45,045 school children till date.



Graph 3.1: Coverage by the kitchen

During the first COVID-19 lockdown in 2020, the Srikakulam kitchen also served meals to migrant labourers and vulnerable population who did not have the means to survive without a daily income. This was done at the behest of the Collector of Srikakulam and the meals were sponsored by APF. A total of 3,71,160 meals were served over the two months of April and May.

Month	Meals Served
April	194,760
May	182,400

3.2 Implementation Process: From Procurement to Delivery

The plan for procuring raw materials starts a month prior. Based on the number of holidays, existing trend of meals consumed, and raw materials already present in kitchen stores, the store incharge gives a list of the quantity of ingredients required to the purchase department via the General Manager of Operations. The Purchase committee then holds a meeting in the last week of the month where a presentation is made and the decision for procurement is taken. The indent for raw materials is then sent to a few vendors for quotations. After receiving the quotes, based

on the best price and the best quality offered, the vendor is selected.

Before the cooking process begins, any minor changes in quantity requirement will be made by the supervisor of the centre daily, and based on daily production indents a packaging sheet is prepared which consists of the details regarding delivery locations, vehicles, and number of cans of each item required for the respective day. Relying on the information, the production team takes raw material from the store and starts cooking.

The washing of vegetables takes place in 3 stages, overlooking cleaning of vessels with steam and sterilisation of machines, and monitoring dilution of soap solution. To ensure hygiene and safety standards are practiced in the kitchen the team regularly checks whether the employees are following the SOPs, which includes checking if the workers are wearing hairnets, gloves, safety shoes, aprons etc. Cooking temperature is maintained at 85-90°C to ensure that by the time the food reaches the distribution centres it maintains about 60-75°C and remains hot.

After the food is prepared, the loading team starts loading the cans/vessels into vehicles, based on the packaging sheet. The delivery of food, to 307 schools, is done through vendors under contract. Most of the drivers are also the owners of the vehicles and are mandatorily accompanied by a helper from Akshaya Patra Foundation. In case of any vehicle breakdown, the driver, being the owner of the vehicle, takes up responsibility to arrange for alternative means of transportation.

The MDM worker of each school notes down the time and quantity of food delivered. The driver collects the sheets from the worker and waits at the last centre until the distribution finishes and starts collecting the empty cans from the last centre to the first centre in order and reaches the kitchen. An Assistant Medical Officer of Health visits the schools for spontaneous cross verification of the quantity of food provided. An acknowledgment form is issued periodically once in 15 days after the assessment. This form is submitted to the DEO which reaches the Commissioner.

3.3 Value Addition Through Construction of Centralized Community Kitchen

The Singupuram kitchen, inaugurated on September 6th, 2019 has a capacity to provide mid-day meals to 25,000+ students per day. The centralized kitchen is automated, equipped with advanced technology containing double jacketed cauldrons, installed to cook rice and sambar, trolleys, cutting boards, knives and other similar equipment which ensures hygiene and facilitates the cooking process. Replacing the common practice of manual preparation of curries with curry machines has increased the taste and quality. The taste and quality of food produced resulted in the request from children to increase the quantity for a few food items. The automated technology adopted helped in cutting down the time for production and increased efficiency.

The food is served to the children as per the menu fixed by the government with priority given to nutrition. The children belonging to this region do not prefer eating a few dishes like khichdi and vegetable rice. Although the menu is not flexible, the Akshaya Patra Foundation team, depending on the feedback collected from the children, incorporates the changes. As a result, the kitchen started providing students with curd 2-3 times a week. The transportation system at place delivers

the food to schools located in remotest of the areas through private players which adds to the advantage, as most of the drivers are also the owners of the vehicles and mandatorily accompanied by a helper from Akshaya Patra Foundation. In case of any vehicle breakdown, the driver, being the owner of the vehicle, takes up responsibility to arrange for alternative means of transportation.

The credibility of the kitchen has won the trust and attracted the attention of the district collector who requested to serve meals during the time of lockdown. In response, through the financial help from APF, the kitchen extended relief support and provided food to an approximate 10,000 people per day which includes quarantine centres, migrant workers and underprivileged in 9 mandals of Srikakulam district. The kitchen has also previously been appreciated by the District Collector for the commendable work being done by them. The contribution made by APF has repeatedly been recognised and appreciated over the years by the HKMCF management.



Picture 1: Kitchen Infrastructure at Singupuram Automated Community Kitchen.

4.IMPACT

To assess the impact of the Akshaya Patra Foundation Kitchen in Srikakulam two satisfaction surveys were designed, one for the school Head Masters and one for the Parents of students. A total of 25 parents and 35 Headmasters are interviewed as a part of the Satisfaction Survey. It was mentioned that all the schools were receiving meals for the last 2 years from Akshaya Patra Foundation kitchen.

Graph 4.1: Age wise classification of children accessing Mid-day meals based on data from parents



4.1 Meal satisfaction

Both the parents and headmasters expressed their satisfaction with the quality of the meals provided. The primary reasons quoted for the satisfaction with the meal are that the food is served hot, and it is served on time every day for the students. Parents expressed that the food is good in terms of the nutritious contents, while the hygienic measures maintained while packing and distributing are also found to be impressive by the headmasters who overlook meals at schools. The improved quality of rice, the taste of sambar and dal were also found to be factors contributing to the increased satisfaction.



Graph 4.2: Satisfaction with respect to meal quality

¹²⁰

The quantity of the meals is always found to be sufficient and at times excess. Insufficiency in the quantity of meals is not reported by any of the surveyed respondents. In the situation when there was excess food, it was consumed by kitchen staff, school staff, MDM cooks or it was distributed among the needy and vulnerable people near the school.

"Quality of food is better when compared to the Mid-Day Meals provided by the government and the number of complaints from parents have also come down."

"Students love the sweets, especially Chikki, that are served on particular days"



Graph 4.3: Satisfaction with respect to meal quantity

4.2 Menu

The weekly menu for the food was fixed with very minor variations. It consisted of items like plain rice, sambar, potato curry, leafy dal, flavoured rice items like khichdi, pulihora, vegetable biryani, curd rice, other vegetable curries, etc. The variation in the menu every day is reducing the feeling of monotony among children and is significantly contributing to the satisfaction of meals. Both parents and school headmasters suggested that the menu be modified by adding flavour enhancers like onion, garlic and spices so that children enjoy the food.

4.3 Complaints from Children

While more than half of the surveyed parents did not receive any complaints from their children regarding the meals, there is a handful who complained about the Khichdi rice that is provided.

"Khichdi rice, unlike all other items on the menu, is not liked by children and they come home for lunch on those particular days. Children often suffer from stomach ache after eating khichdi."

Graph 4.4: Complaints received about meal



Upon receiving a complaint about the taste of the food, one parent visited the school and tasted it himself and on finding that it was true, he raised a complaint with the school administration. The complaint was addressed immediately and the taste was improved.

4.4 Feedback

When asked about the feedback, headmasters mentioned that feedback is taken once or twice a month, from the school staff, the headmaster, and the students by members of the Akshaya Patra Foundation team, and prompt action was taken upon providing feedback. This reflects the commitment and responsibility shown by Akshaya Patra Foundation in providing Mid-Day Meals to children, even though it is a government-run program.

"We stopped receiving curd for a few days, after giving the feedback to the Akshaya Patra Foundation team, it was provided adequately."





4.5 Differences in Food at Home and Schools

The items are provided every day according to the menu which is pre-fixed, without much variation. Thus, children cannot choose what to eat on a certain day. On the other hand, one can eat whatever he wants at home.

"The meal at school contains many nutritious items like beetroot, carrot, etc., which are essential for the healthy growth of children, so it is definitely better than the one prepared at home."

"Except the khichdi given weekly once, on all other days the food at school is relatively better compared to the homemade food."

4.6 Reasons for MDM as Driving Factor

It was observed that Mid-Day Meals availability in schools has been acting as a driving factor for children to attend the school. Some of the stated reasons by parents are that they could not afford nutritious meals every day and those belonging to the low-income category expressed that they find it difficult to provide sufficient meals to children every day, if not for the MDM at schools. The existing food insecurity and the nutritional gap within the households of vulnerable groups are being addressed by the Akshaya Patra Foundation.

MDM provision as driving factor 40% 60% • No • Yes

Graph 4.6: MDM as driving factor to attend school

"We cannot afford to provide such quality food and varieties at home every day with the minimal wage we earn, so the food at school is better as children find it appealing to eat."

After the opening of the new kitchen, both the enrolment rates in the schools and the number of children consuming the meals has gone up. At the time of opening of the kitchen the requirement of meals was 18,000 per day and that number has steadily increased to over 23,000 per day, despite the number of schools covered remaining the same. This is a clear indicator that the number of children consuming the meals has gone up. The headmasters have also reported that enrolment rates have steadily been rising since the kitchen establishment, indicating the cruciality of the intervention in providing quality education to children.

4.7 Staff Behaviour

From the interviewed parents, it was noted that no child had ever faced difficulty with school/distribution staff. In addition, headmasters also noted largely amicable and friendly behaviour of the meal distribution staff.



Graph 4.7: Behaviour of the vehicle drivers

One of the interviewed headmasters expressed that "The cordial behaviour of distribution staff saved them from daily arguments with the government-appointed MDM staff who work with the singular goal of saving money, and are not bothered about the health and nutrition of the children. Whereas, Akshaya Patra Foundation works with the motto of serving nutritious meals to children."



Picture 2: PLF Team Undertaking data collection at Singupuram Kitchen facility.

5.EFFECTIVENESS & EFFICIENCY

5.1 Cost Effectiveness

The program provides meals to nearly 23,000 school children every day, in the neighbouring mandals. A total of 60,45,045 meals have been produced in this kitchen since its inauguration in September 2019. Earlier, the production was decentralised and carried out by the government, but after the opening of the kitchen it has played a key role in providing the children with hot, healthy, nutritious and tasty meals within the budget of the Government of Andhra Pradesh.

During the COVID-19 Pandemic and the lockdown imposed by the government, the HKMCF kitchen rented by Akshaya Patra Foundation was required to be shut down as it catered solely to school going children and all the government schools in the district were shut.

5.2 Financial Tracking and Performance Against Budget

The cost of the meal – which is Rs.17.50 has not changed over the past 2 years, despite inflation rates going up. The management attributes a large part of this to the new kitchen and being able to make meal production more efficient and centralised for the MDM Program. Despite the quantity of meals and number of locations being, coverage of the program and its scope being expanded, the kitchen in Srikakulam has been able to meet all of these demands with apparent ease. In the case of an increase in cost of the meal, the management has been able to adopt measures like changing transportation routes or changing the kitchen equipment to be more cost-efficient.

5.3 Changes with the New Kitchen

It has to be noted that there was no centralized kitchen earlier, and it was the first time that a centralized community kitchen was set up in Srikakulam, which was being used by the Akshaya Patra Foundation to provide meals under the MDM program. From the study, it is clear that given careful organization of the supply chain in which the processes of procurement, processing, production, and distribution are standardized, it saves human labour, time and most other resources.

Moreover, the kitchen has also provided opportunity for use of improved technologies in these processes which increases its efficiency and hygiene, like the use of steamers for cooking rice and the curry making machines etc. The kitchen also assures the quality food served, since quality control mechanisms have been incorporated into the entire supply chain. Daily monitoring of the quality of raw materials, packing, distribution, food wastage, equipment maintenance, hygiene and safety standards in the kitchen, storage of raw materials etc., is done at the kitchen which ensures hygiene and thereby prevents possible adulteration of food. Periodical visits to the kitchen by a qualified nutritionist will ensure that the food being served to the school children meets the necessary nutrition standards. Therefore, the establishment of the new kitchen has been beneficial on various counts.

5.4 Quality Control Mechanism and Monitoring & Evaluation (M&E)

Akshaya Patra Foundation team has dedicated staff who undertake quality control on a regular basis. Quality control is given prime importance and is managed by 2 members – Regional Quality Manager and Quality Executive. When it comes to raw materials, they are categorised and purchased as CoA (Certificate of Analysis) products and non-CoA products. The CoA products are pre-certified with respect to quality by the vendors before selling, whereas the non-CoA products are checked manually. The quality control team checks for adulteration, presence of foreign matter, moisture etc. and assigns a score, which if less than 85 on 100 will be sent back to the vendor. Further, the stored raw materials are monitored on a daily basis.

The Quality Control Team monitors hygiene and safety standards in the kitchen as well – the washing of vegetables that takes place in 3 stages, overlooking cleaning of vessels with steam and sterilisation of machines and monitoring dilution of soap solution. The team also regularly checks whether the employees are following the SOPs, which includes checking if the kitchen staff are wearing hair nets, gloves, safety shoes, aprons etc. Cooking temperature is maintained at 85-90°C to ensure that by the time the food reaches the distribution centres it maintains about 60-75°C and remains hot. The equipment used for cooking is checked monthly.

The whole cooking process is monitored and once the food is prepared food samples are collected and the taste is evaluated and scores are assigned. Every time a new item is added to the menu or the ingredients are changed, the quality control team prepares the nutrition content report, based on the guidelines provided by National Institute of Nutrition (NIN). Additionally, the food samples are tested by an external lab every 6 months.

The management undertakes regular initiatives to collect feedback regarding the food provision from the Headmasters and incorporates the required changes without delay. This procedure allows

them to utilise the resources at their disposal to the best interests of the children consuming the meals. While there still remain a few complaints regarding the menu (which is under the domain of the state government), the Akshaya Patra Foundation staff is seen doing everything they can, including provision of additional items, to make the meals more enjoyable for the children.

5.5 Long Term Benefits

It was found from the responses of the management that one of the important outcomes of the program is that more children will be able to attend the school which in the long term will ensure increased educational levels and thereby more employment opportunities. This will lead to safe and secured lifestyles for them and their families. The program has also addressed the problem of over the pocket expenditure incurred by the headmasters when the meals were prepared by the cooks in the school premises. This was because most of the time the payment from the government was delayed which forced the headmasters to pay from their personal income, to be reimbursed later. Therefore, since the time Akshaya Patra Foundation took over the food supply, it was found that timely, hot and nutritious meals are being provided to the children.

5.6 Sustainability

An overall analysis of the running of the Akshaya Patra Foundation kitchen in Srikakulam shows us that it is extremely sustainable. Taking a deeper look at sustainability indicators such as social equity, environmental protection, economic growth and institutional capacity tells us that this program is viable and scalable.

It plays an extremely crucial role in providing the most vulnerable children of Srikakulam with access to hot, nutritious meals every day. Thereby, meeting one of their fundamental needs and providing them with food security. This is crucial, because food security plays a role in furthering their learning outcomes, nutritional indicators and general child well-being.

By using ingredients which are locally sourced, cooking the meals in a community centralised kitchen and feeding the children in the surrounding areas of the kitchen, the program is ensuring minimum impact on the environment. The food cooked also consists of items which are consumed locally, decided by the government. The leftover food and waste produced by the kitchen and distribution centres is collected and recycled by feeding pigs in nearby piggeries and other hatcheries or farms.

The program is also sustainable because there is all round stakeholder commitment. The benefactors who contribute to the running expenses of the program have shown that they do so year on year. There is government commitment through an understanding with the Office of the DEO where the kitchen supplies food for 3 mandals and 307 schools. As for the management and kitchen staff – in the words of the CEO, Mr. Kaunteya Dasa, *"The organisation was faced with a serious attrition problem a few years ago due to low salaries, but in the recent years, this has been overcome and I expect the team to remain stable over the next few years."* Interviews with senior management also indicate the same, with many of the staff staying on for more than 2 years, since the opening of the kitchen in Srikakulam.

While visibility of the program is not required in this case, the kitchen could only expand feeding to cover more schools and increase the positive impact reported by the school staff and parents of the children. This, however is not an option as the kitchen is almost at full capacity.

A recommendation for the more sustainable functioning of the operations of the HKMCF kitchen in Hyderabad would be to engage the local farmers and source fresh produce. This would ensure quality produce and help keep the price down. Usage of renewable sources of energy for the meal production would also make the operation more sustainable and align with SDGs further. Usage of clean and renewable sources of energy for cooking, as opposed to the burning of briquettes which is the current source of energy would also help in aligning with the SDGs and making operations more sustainable.

5.7 Challenges in Running the Kitchen and Overcoming Them

The management staff and kitchen staff put forth some unique challenges while running the community kitchen in Srikakulam along with some ways to mitigate the same which are being adopted or suggested on their behalf.

Cooking meals which are appealing in taste, smell and appearance is very important for this kitchen as they are catering to small children who tend to be fussier when they are eating. Their intake and nutrition is also of utmost importance. Due to this reason the curries on the menu and items which can be varied have to be cooked constantly keeping the children in mind. Most of the children eating mid-day-meals in Srikakulam are not used to having food items like khichdi and vegetable rice. Despite complaints, major changes were not incorporated as the scheme is very rigid about following the menu in Andhra Pradesh unlike Telangana. Due to this limitation curd is being provided on 2 to 3 days in a week, in addition to the special items on the menu so that the children have a filling meal.

The kitchen staff find preparation of pulihora, as an item for mid-day-meal, to be very hard and time taking as it is done manually; in order to cut down on time and manpower, blenders are required. The lack of blenders is being substituted for, by using grinders which process the food in 6 batches and helps in reducing the time considerably.

Majority of the children come to school either without or by having a very light breakfast like tea and biscuits. This affects their attention levels and adversely influences their education. There is a need to address this problem and provide a good breakfast to facilitate learning. Introducing a breakfast scheme, like the one they are planning for in Hyderabad could be a solution to this problem.

A mechanism to open the dispatched vessels is necessary at schools. The food delivered is reported to be opened by many without proper care before consuming which exposes the food to air and affects the quality. A tag/seal was asked to be placed on the vessels only allowing a specific authority to open the vessels on time for the children's lunch. The vessels used for delivering food sometimes go missing after service and cannot be tracked down. Management level talks and steps towards adopting Radio Frequency Identification (RFID) technology to tackle the issue are currently underway.

Most of the problems faced could be overcome by incorporating small technological changes, logistical management and advanced planning of the operations. This could lead to smoother running of the program and an increase in efficiency.



Picture 3: Honourable Chief Minister, Shri. Jaganmohan Reddy inaugurates the kitchen in Singupuram, Srikakulam.

6. CONCLUSION

The research assessing the impact of centralized kitchen in Srikakulam has found insights broadly on the functioning of kitchen, feedback and satisfaction of beneficiaries, and challenges faced in operation of the kitchen. To encompass varied dimensions, the analysis is drawn from a diversified sample which includes executive and non-executive management of the kitchen, headmaster, and parents to represent children.

The study found that Akshaya Patra Foundation administering the kitchen is contributing to nutritional needs of school going children through its effectiveness in catering mid-day-meals. The primary reason behind satisfaction of the meals is found owing to hot food served on time. The quality of food and transportation system in place has enabled an increase in the satisfaction of the children. The feedback which is collected from children and headmasters regularly helps in quickly resolving issues. It reveals that the children dislike a few dishes like khichdi and vegetable rice due

to the region-specific dietary habits. Given the limitation for modifying the menu, which is under the domain of the government, the kitchen took the initiative of providing curd rice a few days in a week as an additional dish. This is a testament towards Akshaya Patra Foundation's concern for the satisfaction of the children and commitment towards their health and well-being.

Adopting a formal method of feedback collection from students, parents and teachers and incorporating the same into the running of the Akshaya Patra kitchen could be crucial in improving quality of food and satisfaction level among the beneficiaries even further. Accompanying this with a health survey would ensure that the health impact of the program is captured along with disease burden, nutritional indicators and reduction of health expenditure among the children. Annual impact evaluation undertaken for each kitchen which surveys number of enrolled children, change in attendance rates and learning outcomes directly linked to the provision of the MDM would be beneficial in scaling up operations and expanding the scope of the program.

The intervention resolves food security and nutritional requirements of children from underprivileged sections who tend to drop out of schools in order to accompany parents to work. The quality check mechanism was found to be playing a pivotal role in production of quality food by following Standardized Operating Procedures (SOPs) for procurement, processing, production and delivery of the food. The adoption of better equipment and transportation helped in cutting down cost of production and requirement for manpower. Reaching and feeding children in remote locations contributes to reduced dropout rate and facilitates completion of schooling which facilitates further growth and better employment.

Although the centralized kitchen, the first of its kind in the region, has adopted the usage of technology and upgraded equipment the study has found a few factors which would enhance the functioning. The adoption of few equipment which would alleviate burden on workers while cooking specific dishes, would also act as a means of encouraging workers to continue their work with a relieved work load.

Children require a balanced diet to be better attentive during the time they spend doing cognitive activities at school. Most of the children attend school without proper or no breakfast which shows a severe effect on attention span. In view of this, a breakfast program providing adequate food, similar to the one piloted by the Hyderabad kitchen, in place would benefit children's health and educational dimensions. Apart from this, taking a deeper look at the menu and restructuring it would be incremental to improving the quality of mid-day meal provision at the state level.

ANNEXURE

AUROBINDO PHARMA FOUNDATION – HKM CHARITABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR CEO/CFO/GMO/OPERATIONS

Date of interview: [/ /]

27. Name:

28. Designation:

29. Geographical location:

30. Duration of association with HKMCF:

31. What is the objective of the program?

32. How did the partnership with Aurobindo Pharma Foundation evolve?

33. How did the partnership evolve with the following?

- a) Schools
- b) Others (specify)

34. What are your roles and responsibilities?

35. Can you explain the supply chain?

36. What is the extent of coverage?

	Before Lockdown	After Lockdown
Number of meals		
served in a day		
Number of		
locations for food		
distribution in a		
day		

Number of days	
operational in a	
month	
(approximately)	

- 37. In what ways do you think the new kitchen has benefitted the existing program?
- 38. Who are the beneficiaries and how are they identified (category of the beneficiary/selection of the beneficiary process)?
- 39. What is the annual budget? How are the running expenses met?
- 40. How many donors do you have at present?
- 41. Do you have any SOPs to manage the HKMCF kitchen? If yes, please share.
- 42. What measures have you taken to expand the visibility of the program?
- 43. Do you have any plans to expand the coverage under this program?
- 44. If yes, what is your financial planning/have you identified donors?
- 45. How do you rate the functioning of this program?
 - a) Excellent
 - b) Average
 - c) Needs Improvement

Answer: []

- 46. What changes do you wish to make in the future? (in terms of expansion, changes in menu etc.)
- 47. What are the critical challenges in managing the HKMCF meal program? Probes are below but keep it open ended
 - a) Procurement of raw materials
 - b) Variation in the cost of raw materials (an increasing trend in the market)
 - c) Storage of raw materials
 - d) Cooking
 - e) Distribution
 - f) Staff attrition
 - g) Others (specify)

- 48. What are the future challenges you are anticipating?
- 49. Do you have any strategies to address such challenges?
- 50. What are the long-term impacts of this program?
- 51. How do you think that the program is contributing to food security within the vulnerable community?
- 52. Any other information you wish to provide for the purpose of impact assessment.

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR TRANSPORTATION/DISTRIBUTION STAFF

Date of interview: [/ /]

- 2. Name:
- 14. Designation:
- 15. Geographical location:
- 16. Duration of employment with HKMCF:
- 17. The extent of coverage
 - h) Meals served in a day –
 - i) Number of locations for food distribution in a day –
 - j) Number of days operational in the last month –
 - k) Number of vehicles used for food distribution –
- 18. What are your roles and responsibilities?
- 19. How many staff do you have in the transportation/distribution section?
- 20. Can you explain the supply chain?
- 21. How do you rate this program (overall)?
 - j) Excellent
 - k) Average
 - l) Needs Improvement

Answer: []

- 22. What are the changes/improvements/upgrades you observed while transporting/distributing food?
- 23. Do you face any challenges while transporting and distributing the food?
- 24. How do you think these challenges can be overcome?
- 25. What new technology/processes would you like to implement to make your job easier/more efficient?

AUROBINDO PHARMA FOUNDATION – HKM CHARTIABLE FOUNDATION IMPACT ASSESSMENT SCHEDULE FOR QUALITY CONTROL TEAM

Date of interview: [/ /]

12. Name:

- 13. Designation:
- 14. Geographical location:
- 15. Duration of employment with HKMCF:
- 16. What are your roles and responsibilities?
- 17. How many staff do you have on the team?
- 18. Quality controlling mechanism:

Activity	Frequency Monitored	Quality observed
Monitoring procurement of quality raw materials		
Hygiene and safety standards in the kitchen		
Storage of raw materials in kitchen		
Visits to kitchen by qualified nutritionist		

Packing and distribution	
Food wastage/garbage disposal	
Equipment maintenance	
Others (Specify)	

19. How do you rate this program (overall)?

- m) Excellent
- n) Average
- o) Needs Improvement

Answer: []

- 20. What are the problems that you observed?
- 21. What are the changes you wish to make with respect to these problems?
- 22. Do you face any challenges while executing your duties? If yes, explain.

AUROBINDO PHARMA FOUNDATION - HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR KITCHEN STAFF

Date of interview: [/ /]

- 16. Name:
- 17. Designation:
- 18. Geographical location:
- 19. Duration of employment with HKMCF:
- 20. Average working hours per day:
- 21. The extent of coverage
 - l) What is the quantity of food that you cook for lunch?
 - m) What is the quantity of food that you cook for dinner?
 - n) How many people do you think this food serves in a day?
- 22. What are your roles and responsibilities?
- 23. Can you explain the supply chain? (Procurement of ingredients and equipment maintenance)
- 24. How many staff members do you have in the kitchen?
- 25. How is the daily menu prepared?
- 26. Quality controlling mechanism:

Activity	Frequency Monitored	Quality observed
Monitoring procurement of quality raw materials		
Hygiene and safety standards in the kitchen		
Storage of raw materials in kitchen		

Visits to kitchen by	
qualified nutritionist	

27. How do you rate this program (overall)?

- p) Excellent
- q) Average
- r) Needs Improvement

Answer: []

- 28. How do you think the new kitchen has contributed to the quality/quantity of the meals provided?
- 29. What changes do you wish to make in the future? (in terms of expansion, changes in menu etc.)
 - e) Quality and quantity-wise
 - f) Menu and nutritious ingredients
 - g) Hygiene wise
 - h) Others (specify)
- 30. Do you face any challenges while working in the kitchen? If yes, explain.

AUROBINDO PHARMA FOUNDATION - HKM CHARITABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR PARENTS ON SMC, SRIKAKULAM.

Date of interview [/ /]

- 1. Name
- 2. Location
- 3. Age of the child
- 4. Social category
 - a) ST
 - b) SC
 - c) OBC
 - d) OC
 - e) Cannot say
- 5. How many children from your family have Mid-Day Meal (MDM) at schools?
- 6. Which class is the child currently in?
- 7. For how long has the child been having the meals?
- 8. When was the last time the child had meal at school?
- 9. What time does the child receive lunch?
- 10. Are there any complaints from the child about meals?
- 11. Did the child ever face any difficulty from the school staff with respect to meals?
- 12. How do you rate the quantity of the meal?
 - a) Sufficient
 - b) Not sufficient
 - c) Excess
 - d) Neutral
 - e) No answer
- 13. Are you satisfied with the meal?
 - a) Extremely satisfies
 - b) Satisfied
 - c) Dissatisfied
 - d) Extremely dissatisfied

- e) Neutral
- d) No answer
- 14. Reasons for level of satisfaction
 - a) Convenient
 - b) Nutritious
 - c) Hot cooked food
 - d) Timely serving
 - e) Hygienic packing
 - d) Affordable
 - e) Feel strong because of nutritious meal
 - f) Not so hot when served
 - g) The timings of serving are not comfortable
 - h) Unhygienic packing
 - i) Too expensive
 - j) Long queues and waiting time
 - k) Insufficient quantity
 - l) Quality is not good
 - m) Cannot say
- 15. How is the food provided at school different from the food you cook at home?
- 16. Do you think the provision of MDM is a driving factor for children to attend school?
- 17. Do you provide feedback?
- 18. Any action taken on your feedback?
 - a) Yes
 - b) No
 - c) Cannot say/Don't know
- 19. Would you like to share further on Akshaya Patra meal?

AUROBINDO PHARMA FOUNDATION – HKM CHARTIABLE FOUNDATION

IMPACT ASSESSMENT SCHEDULE FOR HM, SRIKAKULAM

Date of interview [/ /]

- 1. Name
- 2. School name, Mandal
- 3. Since when are the meals being provided to your school by Akshaya Patra Kitchen?
- 4. Are the meals provided to you every day?
 - a) Yes
 - b) No
- 5. What time do you receive lunch?
- 6. How many students are catered to in your school through the MDM programme?
- 7. How do you rate the quantity of the meal?
 - a) Sufficient
 - b) Insufficient
 - c) Excess
 - d) Neutral
 - e) No answer
- 8. If excess, what do you do with the excess food?
- 9. What does the daily menu consist of and how does it change?
- 10. How satisfied are you/students with the meal?
 - a) Extremely satisfied
 - b) Satisfied
 - c) Extremely dissatisfied
 - d) Neutral
 - e) No answer
- 11. Reasons for level of satisfaction
 - a) Nutritious
 - b) Hot cooked food
 - c) Timely serving
 - d) Hygienic packing
 - e) Fell strong because of nutritious meal
 - f) The weekly menu is good
 - g) Not so hot when served
 - h) The timings of serving are not comfortable
 - i) Unhygienic packing
 - j) Others
- 12. If others, specify
- 13. How do you rate the behaviour of the Akshaya Patra staff distributing the meal?a) Amicable & Friendly

- b) Adamant & Rude
- c) Neutral
- d) Cannot say
- e) Others
- 14. If others, specify
- 15. Have you had any issues with the meals provided to you? If yes, explain.
- 16. Does Akshaya Patra collect feedback from you on a regular basis?
 - a) Yes
 - b) No
- 17. If yes, elaborate.
- 18. Any action taken on your feedback?
 - a) Yes
 - b) No
 - c) Cannot say/Don't know
- 19. Would you like to share anything further on Akshaya Patra meal provision?

Impact Assessment Study on Construction of Additional Classrooms and Dining Hall in Katragadda Venkata Subbaiah High School Trust

In Chiluvuru of Duggirala Mandal of Guntur District, Andhra Pradesh state

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>
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Full Report





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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,
	Sangareddy District in 2016-2017
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,
	Sangareddy District in 2018-2019
Project 3	Construction of Government ZP High School, Tellapur Village,
	Ramachandrapuram Mandal, Sangareddy District in 2018
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,
	Sangareddy District in 2019-2020
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairtabad,
	Hyderabad in 2019-2020
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based
	painting in 16 Government High Schools in Rajanna Sircilla District through
	Give Foundation in 2018-2019
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,
	Duggirala Mandal, Guntur District in 2019-2020
Project 8	Construction of Skill Development Centre to create employment opportunities
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,
	Srikakulam District in 2019-2020

Objectives of the Assessment Study

- 5. Evaluate the projects for their output, outcome and impact
- 6. Assess the visibility created for the project, local acceptance and ownership
- 7. Assess the perceptions of different stakeholders
- 8. Sustainability for the project

Executive Summary

Objectives of the Assessment: The broad objective of the assessment is to study the impact of construction of infrastructure such as additional classrooms and dining hall in KVS High School in Chiluvuru of Duggirala mandal in Guntur District of Andhra Pradesh. The specific objectives are

- a) Determine whether the project of interest achieved its objectives
- b) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- c) Provide recommendations to ensure sustainability

Assessment Methods: The study team has followed a three-pronged approach: i) physical visit to the centre, ii) individual interactions with teaching staff and the Head of the Institution, and iii) individual semi-structured interviews with students, parents and others. To know the opinion of students and parents on APF interventions, the study team has also interacted with students and their parents besides Village Executive Officer (VEO), Chiluvuru.

Sample Covered: The study team has interacted 2 Trustees, Head Mistress (Telugu Medium School), Principal (English Medium School), 2 senior teachers, Administrative Officer, 6 students, 5 parents and the VEO. The fieldwork was carried out during 27 to 29 April 2021.

Key Findings: The relevance of the project is high since it aims to promote quality education among the weaker sections in the mandal through improved school ambience by providing additional classrooms and a dining hall. The intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

The impact includes i) there is a significant increase in the number of classrooms from 17 to 27; ii) cooking and dining facilities to both hostel students and day scholars for both English & Telugu medium sections; iii) separate toilets for hostels, boys, girls and staff; iv) water facility to hostels, dining hall and washrooms; v) hostel facility for about 100 boys.

Further, there are several changes done in the existing infrastructure for its optimal utilization, thus intervention has been proven effective and efficient in terms of i) separate laboratory, ii) virtual classroom, iii) separate staff rooms for English and Telugu Mediums, iv) construction of additional classrooms for LKG & UKG students; v) recruitment of 12 new staff for English medium and10 retired Aided school teachers in Telugu Medium; vi) dance room for the promotion of cultural activities; and viii) providing training on tailoring for 50 women during Covid period. The parents especially mentioned about the project interventions to lead to i) less fee burden, almost half, when compared to other schools in the surroundings; ii) there is a bus facility to the students of Chiluvuru; iii) no tuitions & fee burden due to quality education; iv) it is a gift to the lower & middle class households of Chiluvuru and other neighbouring villages; v) hundreds of alumni have been working in various Government Departments and in overseas, especially in USA; and vi) the school regained its past glory in terms of enrolment and educational quality.

Overall, there is a significant improvement in enrolment and performance. The enrolment has increased from 150 to 166 in Telugu Medium and 278 to 289 in English Medium. The performance of students in the School Secondary Board Examination is 100 percent. In the year 2018-19, about six students scored 9.5 out 10 grade points.

Opportunities for further improvement and sustainability: Based on the assessment findings, certain other avenues for further improvement are i) establish a RO plant to ensure safe drinking water for the students; ii) provide bus facility to safely travel to neighbouring villages; iii) improvement of playground to encourage sports and games among the students; iv) theme based paintings; v) Corpus fund from alumni and other donors; vi) promote rain harvesting and organic composting to harness the rain water and recycling of dust and other waste; vii) additional furniture in boys hostel and dining hall; viii) to further develop the institution as an 'Education Hub' with courses such as Polytechnic in Agriculture and B.Ed. considering local job opportunities.

Detailed Report

1. Introduction

1.1 Assessment Objectives

The broad objective of the present study is to understand the impact of construction of infrastructure such as additional classrooms and dining hall in Katragadda Venkata Subbaiah High School Trust (KVSHST). The specific objectives are

- a) Determine whether the project of interest achieved its objectives
- b) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- c) Provide recommendations to ensure sustainability

1.2 Research Methodology

The study team has followed a three-pronged approach: i) physical visit to the school, ii) individual interactions with the Head of the Institution and the teachers, and iii) semistructured interviews with students, parents and others. There are about 31 teaching staff, out of which 20 are men and 11 are women. The study team interacted with the Headmistress who looks after the Telugu Medium and the Principal who looks after the English Medium besides an Administrative Officer and two senior teachers.

As a first step, the study team has taken a walk in the school premises to know various infrastructure facilities and their conditions. Secondly, the study team has interacted with the institutional heads and teachers to know the value addition of APF interventions to the educational institution. To know the opinion of students and parents on APF interventions, the study team has interacted with five students and their parents. Finally, the team has interacted with Village Executive Officer (VEO), Chiluvuru.

1.3 Data Collection Tools

An interview schedule was prepared covering the objectives and outcomes of APF intervention, implementation of the project, impact of the project and the voices of stakeholders on the construction of additional classrooms and the dining hall. Secondary data on enrolment, 10th class results and staff details were collected from the Administrative Officer.

1.4 Field Visit

On 28 April 2021, the study team visited and interacted with Institutional heads and teachers. On 29 April 2021, the team interacted with students, their parents, Village Executive Officer and Trust members

1.5 Data Analysis and Reporting

The data collected from both secondary and primary sources were analysed. Simple statistical tools like averages and percentages were used to draw inferences. The study findings are presented as per the objectives of the study.

2. About the Project

2.1 **Project Objectives**

The project has twin objectives: i) construction of additional classrooms to support poor and marginalized communities in the area; and ii) to enhance the quality of education by improving infrastructure facilities in the school. The intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

2.2 Project Output

The outcomes include: i) 5 rooms for class work, ii) 5 rooms for hostels, iii) 10 toilets with hand washing facilities, iv) and a dining hall with kitchen and storeroom for both English and Telugu Medium students.

2.3 Request for Funding

KVS High School Trust is a Government Aided Telugu Medium school. Due to wide-spread private English Medium Schools and lack of interest in the Government on Aided Schools, the enrolment has dropped from 800 to 160 over the years. The teacher strength also came down from 14 to 2 due to no filling of vacancies created by retirement in Aided Schools. At this critical juncture, the school trust approached Aurobindo Pharma Foundation for financial assistance to construct additional classrooms and a dining hall with kitchen and store room. Accordingly, APF has sanctioned Rs. 1 crore to KVS High School Trust.



Img 1: School building

2.4 Stakeholders

Children from poor households especially, the SC, Minorities and other economically weaker sections are benefitted with the intervention besides faculty and parents.

2.5 Project Cost

The budget sanctioned for the project was Rs. 1 crore. The Trust has taken the responsibility of construction and ensured the quality construction of the building. The entire work was completed in seven months without any pending work.



Img 2: Additional Classrooms, Hostels and Toilets

2.6 **Project Inauguration**

On 19 August 2019, the KVS High School Trustees have formally inaugurated the 2nd Floor, the dining hall and the kitchen.



Img 3: Slab

2.7 Funding support from other agencies

Along with APF, other donors and Govt. of AP further supported to create additional infrastructure.

3. Physical infrastructure Facilities

3.1 Location

The school is located in an area of 12 acres in the centre of the village Chiluvuru.

3.2 Classrooms

At present there are 27 classrooms in which 10 (37% of classrooms) are constructed with the financial Assistance of Aurobindo Pharma Foundation which is a significant contribution to the school infrastructure.

3.3 Furniture and Fans

All classrooms have lights and fans. They are in use. All classrooms are well furnished with teak wood desks: 108 big desks, 55 small desks and 38 kids' desks.

3.4 Separate Laboratory

There was no separate room for the laboratory in the past. Now, the laboratory is in a separate room. All the equipment, specimens and other materials are arranged very systematically. Before constructing the additional classrooms it was used for class work.

3.5 Library

Library is in a separate room and accessible to all. The room has electricity, fans and furniture. Separate room was constructed for the library in the year 2018. There are limited books available.

3.6 Virtual Classroom

Earlier there was no virtual classroom. With the availability of additional classrooms in the 2nd floor, two old rooms were converted into virtual classrooms. It is well furnished and 250 students can sit comfortably. There is an inverter facility, sound system, digital screen, LCD projector, desktop. On the other side, there are four desktops for the use of students. The meetings are mostly organized in this hall.

3.7 Staff Room

Since beginning, there was one room for staff, and now there are two rooms - one for Telugu medium and another for English medium teachers.

3.8 Toilets

Of the total 34 toilets, 10 were provided by APF in 2nd floor. All are in working condition, clean and neat. There are more than enough toilet facilities in the campus.

3.9 Dining Facilities

Before APF intervention, there was no dining hall. The students used to take their lunch under the trees. Now, there is a dining hall with a kitchen and storeroom. About 200 students can take lunch at a time.



Img 4: Dining Hall with Kitchen and Storeroom

3.10 Playground

There is a huge playground with good facilities to primary school children. For higher classes, the playing materials are limited and the students play with their own materials.

3.11 Water Facility

There is a bore well and overhead water tank. A high capacity overhead water tank in the place of a small capacity overhead water tank. All the students bring drinking water from their homes.

3.12 Gardening

There are good numbers of horticulture plants in school premises: mango, coconut, teak wood, eucalyptus and it is pollution free. The horticulture plants are more than 70 years old and giving good yields.

3.13 Compound Wall

The premises have very good compound wall and the front side has a good number of paintings of national leaders, freedom fighters, writers and famous personalities. The Government of Andhra Pradesh has sanctioned Rs. 26 lakhs under MGNREGS programme to construct the compound wall.

Particular	Before	After	APF value addition
Direct value add	ition		
12. Classrooms	17	27	5 rooms for class work and 5 rooms for hostels with lights and fans; about 50 percent are poor BC, SC and Minority children. They come from 4 to 5 neighbouring villages

The following table gives the direct value addition to the school physical infrastructure.

13. Dining hall	No	Yes	Dining hall, kitchen and storeroom. Fans and lights are			
			fixed at all places besides Hand wash facilities			
14.Toilets	19	34	10 toilets are on the 2 nd floor and 5 at the dining hall for			
			nursery and LKG students.			
15. Overhead	Small	Big	Small water tank replaced with a big water tank, and 3			
water tank			HP water pump with water connection to toilets and			
			bathrooms			
Indirect value addition						
16. Virtual	No	Yes	Two old classrooms converted as virtual classrooms as			
classroom			many new rooms are available for class work due to			
			construction of additional classrooms, and the			
			renovation of old bungalow by a other donor .			
17. Staff room	Yes	Yes	Two separate staff rooms were set up: for Telugu			
			medium and English medium staff.			
18.Lab in a	No	Yes	Full-fledged laboratory is established in a separate			
separate			room. It will be exclusively used for conducting			
room			practicals to the students and not for classes.			
10011						

4. Committees existing at Institutional level

There is a Career Guidance Cell headed by a senior teacher to provide guidance to students to build their academic and professional careers. In addition to the above, to guide the management and address the issues between students and teachers there are three Committees which are functioning: i) Advisory Council, ii) Parents Committee and iii) Well-wishers Committee.

5. Staff

There are 31 teaching staff, 2 non-teaching staff, 6 sanitary workers, one driver and one watchman. Of the 31 teaching staff, 12 are male and 19 are female. To maintain the enrolment and to ensure quality, KVSHS Trust has filled the vacancies and paying salaries from the Trust. All the teachers are well qualified and having 10 to 15 years of experience in teaching.

6. Changes in Institutional Functioning

The additional classrooms and a dining hall with the kitchen have brought many changes in the functioning of the school. The management and the staff have reported the following changes due to APF intervention.

Particular	Before	After	APF value addition			
10.Separate room for each class	No	Yes	In the past, two / three lower classes managed corridors. Now each class has a separate room			
11.Over crowd in class	Yes	No	Earlier, there were more than 50 students in a classroom and now due to availability of additional classrooms, some classes especially; primary classes are divided into more than one section.			
12.Cooking in open place & dining	Yes	No	The mid-day meal was cooked under the trees in an open place with firewood. Now cooking is done in a kitchen with LPG stoves. Students are having their lunch in the dining hall.			

13.Furniture in classrooms	Yes	Yes	There is adequate furniture in all the rooms
14.Furniture in dining hall	No	No	There was no dining hall in the past. Now there is a dining hall and the students sit on the granite slab floor and have their lunch.
15.Urination in the open fields	No	No	As there are a good number of separate toilets for boys and girls with water connection there is no open urination and defecation practices, and the grey water is connected to a septic tank.
16. Compound wall	No	Yes	Govt. of AP also converged and supported through their MNREGS funds
17.Sanitation /hygiene	Yes	Yes	The campus is very clean and green. No pollution. There are six sanitary staff to maintain cleanliness and sanitation in the campus. Owing to furniture in the classrooms and good seating space, the personal hygiene of the students is good.
18. Dance room / training on tailoring for women	No	Yes	There is a dance room for the benefit of students. On the request of women in the village, the management has started a training programme on Tailoring. About 50 women have undergone training in three batches. The management is very keen to organize vocational courses.

7. Student enrolment and performance

7.1 Enrolment

The data on enrolment during the last three years shows that the enrolment is varying between 430 and 455. The enrolment of girls is higher than the boys in Telugu medium during the last three academic years. But in English medium, the enrolment of boys is higher than girls. Further, enrolment of students is more in English Medium than in Telugu medium. This is due to the parents' preference in sending the boys to English medium, rather than girls.

Enrolment During the Last Three Academic Years										
#	# Condex 2018-19 2019-20 20						2020-2	2020-21		
	Genuer	ТМ	EM	Total	ТМ	EM	Total	ТМ	EM	Total
1.	Boys	71	163	234	75	165	240	89	158	247
2.	Girls	81	115	196	91	124	215	94	97	191
	Total	152	278	430	166	289	455	183	255	438

There is an increase in enrolment in 2019-20 when compared to the academic year 2018-19. The little decrease in enrolment in the year 2020-21 is because of COVID-19 pandemic.

7.2 Performance

The data in the table below shows that the school has achieved 100 percent results of the students appeared for SSC board examination in both the academic years. In the year 2018-

10 th Results During the Last Two Academic Years										
#	No. of		2018-19		2019-20					
#	students	Boys	Girls	Total	Boys	Girls	Total			
1.	Appeared	11	17	28	12	23	35			
2.	Passed	11	17	28	12	23	35			
3.	Failed	00	00	00	00	00	00			

19, about half a dozen students scored 9.5 out of 10 grades. It indicates the quality of education in the school.

8. Awards and Rewards

8.1 Institutional level

The details of awards won by the faculty and the students are as follows: i) Uttama Correspondent and Vidhyadaata: Mr. Narayana Rao, the founder and the life trustee got 'Best Correspondent' and 'Educationist' for his services; ii) Uttama Vidhyaveththa: Old students of Katragadda Venkata Subbaiah High School Trust recognized the services rendered by Mr. Narayana Rao and felicitated him with a memento in 1984-85.

8.2 Students level

i) Inter Schools Recycling Championship: got this award for the clean and green campus from DEO Office, Guntur; and ii) Amaravathi Balala Dinosthavam: Got this award in 2019 from Apex Solutions, Guntur for the students on the occasion of Children's Day.

9. Voices of stakeholders

The stakeholders have expressed their positive perspectives on the impact of APF interventions.

	Particulars		Opinion of students, parents, trustees and VEO
5.	Awareness on	•	Students are well aware of the APF contribution to the school in
	APF activities		announced in the annual day function.
6.	Building design	:	Classrooms are large with big windows, good ventilation, good
	& appearance		flooring, adequate furniture and writing boards.
7.	Toilet facilities	:	There are separate toilets for staff, boys and girls. The toilets are
			neat and clean due to daily cleaning.
8.	Sanitation and	:	There are six sanitary workers in the school to keep the campus
	hygiene		clean and hygienic.
9.	Changes in	:	Adequate facilities of dining hall; toilets; digital classroom,
	infrastructure		separate lab, library, digital classroom and replacement of old building.
10	.Enrollment	:	Few students studying in neighbouring Telugu Medium schools
			and private English Medium schools joined in KVSHS Trust
			English Medium School due to better infrastructure, low fee
			structure, quality education, quality teachers and teaching
			methods.

11.Changes at household level	:	Less fee burden on parents; flexible in collecting fee from the students/parents; when compared to other English Medium Schools, the fee structure is low; transportation / bus facility at reasonable cost with good driver and caretaker; no tuitions burden due to quality teaching.
12.It is a gift to the lower/middle class households	:	Good old school in the mandal; the management has a service motto; a good number of people got employment in the Government sector. Earlier there was only Telugu medium. Now, there is an English medium.

- 10. Conclusion Output Outcome Impact: Katragadda Venkata Subbaiah High School Trust is a Government Aided School promoting education among the weaker sections in Duggirala mandal of Guntur district, Andhra Pradesh. Owing to attraction towards English Medium education by surrounding communities and the meagre support to aided schools, the enrolment has gone down from 800 to 160. To sustain the institution and revive the situation, APF has provided funds at a right time to construct additional classrooms and a dining hall. Due to additional classrooms, there are significant changes in school infrastructure, optimum utilization of infrastructure has happened eventually. The villagers, students and VEO have reported that the school has regained its past glory in terms of enrolment, 10th results and quality education.
- 11. **Opportunities for further improvement and Sustainability:** Based on the findings of the assessment, below are few areas to make the institution further sustainable
 - 1. Establish RO water plant to ensure safe drinking water to the students as they are currently using hand pump water and the tap water supplied by the Gram Panchayat.
 - 2. Extend bus facility to the neighbouring villages for increasing student enrolment since currently the bus facility is only to the Chiluvuru students
 - 3. Improve the playground to encourage sports and games among the students by optimum utilization of vacant land behind the school building.
 - 4. Theme based paintings in key locations of the school.
 - 5. Promote rain harvesting and organic composting structures as it has a good roof top and old horticulture plants and other vegetation.
 - 6. As many old students are well settled within the country and overseas, the management can seek assistance to maintain a corpus fund for further improvement of school infrastructure, sponsoring of poor residential students and merit students.

As a result of APF intervention, the KVS High School Trust has started residential education in the school. Furniture is required both in hostels and dining hall and the Trust needs to explore the possibilities. Impact Assessment of Indian Red Cross Society Cancer Care Supported by Aurobindo Pharma Foundation Sri Potti Sriramulu Nellore district, Andhra Pradesh



Poverty Learning Foundation

(www.plf.org.in)

Hyderabad

June 2021

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Hyderabad, 2021

Between April and June 2021, PLF has executed impact assessment of Aurobindo Pharma Foundation supported cancer care of Indian Red Cross Society, Sri Potti Sriramulu Nellore District. The assessment is designed on OECD impact evaluation principals and collected data from the medical staff and hospital administrator to assess the relevance, effectiveness, efficiency, impact and sustainability of the investment cancer care. Finally, it aims to inform the APF on the effects – intended and unintended, generated by the investments and to what extent benefitting the needy population.

Conceptualization, Data Analysis and Report Writing team from PLF:

Prof. S. Vijay Kumar, CEO

Dr. K. Sundar, Ph.D, Thematic Consultant

Dr. Raja Gopal, MD, Thematic Consultant (Medical)

Mr. SVNJ Butchaiah, Research Consultant

Advisory support from APF:

CSR Team, Aurobindo Pharma Foundation

Overall guidance:

Sri. SP Tucker, Former Chief Secretary, Govt of Andhra Pradesh, & Chairman PLF

Photo Curtesy: IRCS cancer hospital and Dr. Rajagopal, thematic consultant, PLF

Disclaimer:

The designations employed and the presentation of the materials in this report do not imply the expression of any opinion whatever on the part of the PLF and APF. The findings are based on the data and information shared by the APF and IRCS Cancer Hospital.

Citation:

APF & PLF (2021) "Impact Assessment of Indian Red Cross Society Cancer Care Supported by Aurobindo Pharma Foundation, Sri Potti Sriramulu Nellore district", Aurobindo Pharma Foundation, and Poverty Learning Foundation, Hyderabad.

Aurobindo Pharma Foundation 24th Floor, Galaxy, Plot No.1, Sy.No: 83/1, Raidurg Panmaktha, Hyderabad 500032. Tel: +91 40 6672 5000 / 6672 1200 Email: <u>info@aurobindo.com</u> www.aurobindo.com

Acknowledgement

Impact Assessment of Indian Red Cross Society Cancer Care in Sri Potti Sriramulu Nellore district supported by Aurobindo Pharma Foundation, was executed by a professional team of Poverty Learning Foundation (PLF) under the guidance of the Sri. SP Tucker, former Chief Secretary of Andhra Pradesh and Chairman of PLF,

The evaluators are grateful for financial support from the Aurobindo Pharma Foundation and comments and advice received from – CSR Team, Aurobindo Pharma Foundation.

The team gratefully acknowledges the support from Sri. T. Siva Prasad Reddy, Dr. T. Lakshmi, Smt. P. Rajeswari Reddy, Dr. K. Geeta Usha Sree, Dr M. Nageswara Rao, Dr. M. Ramesh Babu, DR. A. Lokeswari, Dr. S. Rajasekhar Reddy, Dr. P. Swarna Latha and Dr. P. Haritha Rani from IRCS cancer hospital.

Support from 33 cancer patients and their caregivers is highly appreciated, and the assessment team is grateful to them.

Any remaining errors and omissions are entirely the responsibility of the authors.

Poverty Learning Foundation

June 2021

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Executive Summary

This impact assessment examined the Aurobindo Pharma Foundation (APF) CSR investment in Indian Red Cross Cancer Hospital in 2019. APF is the philanthropic wing of Aurobindo Pharma Limited and strives for the nation's social and economic growth through its Corporate Social Responsibility program.

As one of the firms committed to creating positive, enduring change in the community, it has taken a focused approach to social responsibility that includes empowering people to give back to their communities, operating in ways that are socially responsible and environmentally sustainable, and working with its stakeholders to address societal challenges.

APF continues to integrate the SDGs into its CSR strategy to have a lasting positive impact on society. Its primary focus is on education and skill development, health care and nutrition, sanitation, social equity, environmental sustainability, disaster management, and rural development.

Adhering to new CSR protocols, Aurobindo Pharma Foundation has to get its interventions assessed to understand whether the interventions have impacted society and, if so, to what extent?

Aurobindo Pharma Foundation has assigned the Impact Assessment of their investment in Indian Red Cross Society Cancer Care in Potti Sriramulu Nellore to the Poverty Learning Foundation (CSR00002642), a think tank with a decade of professional expertise.

The objectives are:

- 1. Examining the inputs, outputs, outcomes, and impact of APF CSR support to IRCS cancer hospital,
- 2. Quantify the visibility created and local acceptancy,
- 3. Quantifying the perceptions of different category of stakeholders,
- 4. Examine the sustainability of the project, and
- 5. Lessons learned for future planning.

PLF adopted the OECD evaluation framework to judge the impacts. The OECD DAC Network on Development Evaluation (EvalNet) has defined six evaluation criteria – relevance, effectiveness, efficiency, impact, and sustainability – and two principles for their use. These criteria provide a normative framework used to determine the merit or worth of an intervention. They serve as the basis upon which evaluative judgments are made.

Eight doctors, one convenor, one administrator, few lab technicians were thoroughly interviewed to get sufficient information on the impact. Besides, 33 cancer patients were interviewed to understand their satisfaction over the quality of care. During the interviews with patients, the study team also had a chance

to interact with their caregivers. Finally, it provides credible and valuable information, enabling the lessons learned to feed into the decision-making process of APF.

APF has provided Elekta Flexitron HDR (IR) (IR) 10 channels equipment for brachytherapy¹⁹ to IRCS cancer hospital during 2019. The cost of the equipment was INR 1.35 crore.

RELEVANCE - Is the intervention meeting the intended purpose?

- 1. Investment by APF in building the capacity of the IRCS cancer hospital by providing Elekta Flexitron HDR (IR) (IR) is the right choice. With cancer being on the rise across Andhra Pradesh, oncologists call for early detection to check the growth of the disease. It is possible with advanced equipment.
- 2. APF support has added value to the philanthropic support by *Jakka Sujathamma*, and *Dodla Varadha Reddy* to IRCS cancer hospital. It has brought excellent local visibility to the hospital.
- 3. Having the Elekta Flexitron HDR (IR) is much relevant to the present cancer care. It facilitated the medical team to treat cancer patients more effectively. The hospital is accredited with the Department of Health, Government of Andhra Pradesh, and linked to YSR Aaroggya Sree scheme. It supplements other cancer care services in Potti Sriramulu Nellore district.
- 4. The high volume of patients with Brest, Cervical, and Oral cavity and Pharynx cancer, the medium volume of patients with digestive and respiratory system cancer, low volume of patients with Pancreatic, Genital, Urinary, and Endocrine systems related cancer are availing the treatment.
- 5. It signifies the availability of specializations, visibility, and popularity of the IRCS cancer hospital among neigh boring districts, including Tamil Nadu.
- 6. It also collaborated with Lion's Club, Vasavi Club, Walkers' Associations in organizing the rural health camps.
- 7. It brings visibility to surgical equipment; for instance, Elekta Flexotron HDR, results in an increasing patient flow. Such joint camps will also attract funds (in the form of donations) to the hospital.
- 8. Most female patients approach the hospital for treatment in Cervix, Breast, and head and neck cancer. Among males, the majority are having Head and Neck Cancer, GI tract cancer, and Genito-Urinary cancer.

¹⁹ Nore: Elekta is the company name manufactured the Flexitron HDR machine. Brachytherapy is the treatment process. Brachytherapy is suited as a single modality or in combination with other treatments such as external beam radiation therapy. Elekta Brachytherapy offers you best-in-class clinical solutions, a worldwide presence and above all, a commitment to patient care. <u>https://www.elekta.com/brachytherapy/</u>

EFFECTIVENESS - Is the intervention effective to reach defined objectives?

- 9. After installing the Elekta Flexitron HDR (IR) in 2019, most cancer patients, who used to approach other cancer hospitals, turned to IRCS cancer hospital increased patient flow.
- 10. After having the Elekta Flexitron HDR (IR), the demonstration effect, in terms of quality of care, has spread across the IRCS, and the society is planning to start a similar hospital with cancer specialization in Srikakulam need is more.
- 11. Multidisciplinary team meetings (MDTMs) occasionally take place to learn the technology and use the new device.
- 12. Through Elekta BrachyAcademy, IRCS medical team, including peer teams, aims to a peerto-peer medical education portfolio. It includes clinical workshops and training visits to lead hospitals.

EFFICIENCY - how well are resources being used?

- 13. By saving the customs duty on Elekta Flexitron HDR (IR), the hospital has procured two more apparatuses: Couch costs INR sixteen lakhs and Breast Board costs INR seven lakhs. It indicates the efficient way of using the grant from APF.
- 14. The annual maintenance cost of Elekta Flexitron is managed by its funds generated from treating the patients under YSR Aarogya Sree scheme.
- 15. The good practice is that one of the doctors served the cancer patients free of cost over the years by donating her salaries back to the hospital. It is one of the significant models under a philanthropy.
- 16. In the absence of a specific revenue model, the hospital generates funds from donors and local philanthropies, efficiently using the money in standard quality maintenance.

IMPACT - What difference does the intervention make?

- 17. The impact of the advanced Elekta Flexitron HDR (IR) is evident from the increased patient flow between 2019 and 2021.
- 18. The advanced technology of Elekta Flexitron HDR (IR), has improved the efficiency of doctors in treating cancer patients, particularly with: Head & Neck, Bronchus & esophagus, Breast, Skin, Prostate, Rectum, Bladder, and Gynaecology related complications.
- 19. Elekta Flexitron HDR (IR) is giving better outcomes in patients' care. Oncologists confirmed the benefits both to patients and to the medical team. It minimized out-of-pocket expenses, reduced unwanted variations in the process, scope to gain life expectancy, reduced the waiting time.
- 20. It allowed the medical staff to tailor the care around patients' health conditions.
- 21. The smooth clinical workflow, improved treatment efficiency, treatment accuracy without errors are the significant impacts with Elekta Flexitron HDR (IR).
- 22. It further minimized the number of sessions patients has to undergo resulting in cost saving to the patient. It is one of the value-added to the investment.

- 23. Overall the level of patient satisfaction is high. Quality diagnosis and treatment result in medical adherence by patients and lower inpatient mortality rates.
- 24. Effective use and impact of Flexitron can be ensured if the IRCS cancer hospital has a CT scan facility.

SUSTAINABILITY - will the benefits last?

- 26. The existence of the YSR Arogya sree scheme is primarily supporting to sustain efforts of IRCS cancer hospital.
- **27**. Sustainability in mobilizing cancer patients depends on how the hospital is equipped with modern equipment to treat cancer cases. Having a CT scan and linear accelerator further supports IRCS cancer hospital to reach out to many in a more efficient manner.
- 28. The sustainability of the hospital is linked with an effective and professional way of MIS. It impacts the management of patient care and related administrative functions.

Concluding Recommendation

- 29. The impact assessment found that IRCS cancer hospital has justified the investment from APF by efficiently utilizing the Elekta Flexitron HDR (IR) Brachytherapy in treating 775 cancer patients.
- 30. Keeping the success and efficiency aside, IRCS cancer hospital has to explore sufficient funds to procure CT scan. It will help the poor patients who cannot offer corporate costs to get CT scan results from private clinics.
- **31.** It is essential to upgrade the equipment to meet the growing needs, addressing emerging medical challenges in cancer care and treatment. Necessary exploration may be done for funding support from government or any other related institutional donors.
- 32. Though most patients are satisfied with the services, it is essential to focus on different ways to minimize registration time and improve hygienic sanitation through bio-toilets. Most importantly, it should establish digital MIS to simplify the registration process and preserve the patients' data for a more extended period.

Section -1

INTRODUCTION

CONTEXT

Aurobindo Pharma Foundation (APF) is the philanthropic wing of Aurobindo Pharma Limited and strives for the nation's social and economic growth through its Corporate Social Responsibility program.

As one of the firms committed to creating positive, enduring change in the community, Aurobindo Pharma Foundation, has taken a focused approach to social responsibility that includes empowering people to give back to their communities, operating in ways that are socially responsible and environmentally sustainable, and working with its stakeholders to address societal challenges.

Aurobindo Pharma Foundation continues to integrate the SDGs into its strategy to have a lasting positive impact on society. Its primary focus is on education and skill development, health care and nutrition, sanitation, social equity, environmental sustainability, disaster management and rural development.

Adhering to new CSR protocols, Aurobindo Pharma Foundation has to get its interventions assessed to understand whether the interventions have impacted society and, if so, to what extent?

Aurobindo Pharma Foundation has assigned the Impact Assessment of their investment in Indian Red Cross Society Cancer Care in Potti Sriramulu Nellore to the Poverty Learning Foundation (CSR00002642), a think tank with a decade of professional expertise. PLF adopted OECD evaluation framework to judge the impacts. The OECD DAC Network on Development Evaluation (EvalNet) has defined six evaluation criteria – relevance, effectiveness, efficiency, impact and sustainability – and two principles for their use. These criteria provide a normative framework used to determine the merit or worth of an intervention. They serve as the basis upon which evaluative judgements are made.

OBJECTIVES OF IMPACT ASSESSMENT

- 6. Examining the inputs, outputs, outcomes and impact of APF CSR support to IRCS cancer hospital,
- 7. Quantify the visibility created, and local acceptancy,
- 8. Quantifying the perceptions of different category of stakeholders,
- 9. Examine the sustainability of the project, and
- 10. Lessons learned for future planning.

These objectives are answered by determining its:

- f. **Relevance** the extent to which the objectives of the IRCS cancer hospital is consistent with the beneficiary requirements;
- g. Efficiency the measure of how economically resources/inputs are converted into results;
- h. Effectiveness the extent to which the objectives of investments were being achieved;

- i. **Impact** positive and negative, primary and secondary long-term effects of an investments, directly or indirectly, intended or unintended; and
- j. Sustainability the probability of continued benefits after the project period.

Finally, it provides the information that is credible and useful, enable the lessons learnt to feed into decisionmaking process of APF.

ASSESSMENT QUESTION MATRIX

The impact assessment matrix has been derived from the key objective of impact assessment focusing on (1) inputs, outcomes, and impact; (2) visibility created; (3) satisfaction of end-users, and (4) sustainability. To collect the data and information, PLF adopted mixed methods (qualitative and quantitative). The key informants in this assessment are (1) Medical staff, (2) administrators, and (3) patients.

With the help of literature synthesis, the following data collection instruments were developed, validated, and standardized -

- v. Semi-structured questionnaire (Annexure 1),
- vi. Semi-structured schedule (Annexure 2),
- vii. MIS template, and
- viii. Checklist.

Through semi-structured questionnaires, the PLF team interacted with the designated doctors and administrators. The assessment focused on the investment by APF and the outcomes. The team has approached the cancer patients, including few care givers who have availed different levels and forms of services through semi-structured scheduled. It collected information on patients' satisfaction levels on specific parameters.

In addition, specific case studies were documented to highlight how the interventions benefitted those in need. Finally impact assessment addressed the following questions:

- > What change can be observed in relation to the objectives of the APF funding and the objectives of interventions made by implementing partners?
- > To what extent can observed changes be attributed to the intervention?
- > Are there any unintended impacts?
- > What mechanisms delivered the impact? What are key contextual features for these mechanisms?

RESEARCH FRAMEWORK

This impact assessment addresses three types of questions:

- 5. The descriptive question that explains what has taken place
- 6. The normative question makes a comparison between before and after investments from APF
- 7. The cause-and-effect question that examines the differences in the outcomes after intervention

Impact assessment synthesized the critical questions from the literature and framed the right selfexplanatory questions to know the impact (causal effect) of the inputs. The support given by the APF-CSR is to procure advanced equipment to ensure quality treatment for cancer patients. Accordingly, the assessment focused on one-to-one interviews and MIS data given by the IRCS cancer hospital team.

PLF will follow a results chain framework, which refers to the order in which results arise, beginning with activities, inputs, outputs, and outcomes. These interact with contextual features to produce impact. While documenting the result chain framework, PLF will implement a mixed-method research model.

APPROACH

The impact assessment team from PLF team, has selected medical staff, administrator and cancer patients, and few care givers for the purpose of assessment. Here the aim is to assess the impact of APF-CSR support and it improved the quality of services and to what extent cancer patients are satisfied. In this process, this assessment adopted the approach with following specific activities –

- vii. Mixed-method with quantitative analysis complemented by qualitative outputs.
- viii. Interviews with medical staff and administrator to get information on the inputs and outcomes;
- ix. Interviews with cancer patients and few caregivers who have availed the services
- x. Analysis of manually managed MIS data.
- xi. Impact assessment by incorporating key informant interviews, and;
- xii. Conducting mixed-methods operational research into different programme interventions and making strategic recommendations

DATA SOURCE

Four broad sources are used to get relevant information: (1) documents, (2) MIS data (manually managed) (3) medical staff and administrator, and (4) perceptions of patients and caregivers. The evaluation matrix relies on information provided by APF and IRCS cancer hospital.

Impact assessment team has had one-to-one interviews with doctors, convenor, administrator and lab technicians.

To understand the satisfaction levels, 33 patients, including caregivers who availed cancer care services were contacted virtually and obtained their perceptions/experiences on quality of care. Five case studies were also collected through telephonic interviews with the patients to assess the effectiveness and impact of the health services in IRCS cancer hospital.

Using ATLAS-ti and SPSS, (Statistical Package for Social Sciences) collected information has been translated into descriptions in line with evaluation framework adopted in this assessment.

LIMITATIONS

Adhering to the pandemic protocols, the assessment team has spent limited time with the medical team and administrators and collected the specific information on the impact of investment in terms of improved

quality care, work efficiency, and increased volume of patients. The team has visited the facilities and interacted with few patients. Besides, the assessment team has scheduled virtual meetings with the medical staff, administrator, and cancer patients, including caregivers executed telephone interviews. However, this approach has taken considerable time, assessment team able to capture maximum data and information required to justify the impact. Maximum care has been taken while constructing the self-administered and self-explanatory questionnaires and also checklists for telephonic interviews. The assessment team has followed the "no information left behind" model while drafting the questionnaires and executing the interviews. Maximum care has been taken in analyzing the data and information drawn through interviews and MIS datasheets.

Section 2

OUTCOMES OF THE IMPACT ASSESSMENT

Cancer cases could increase by 12% in the next five years, says ICMR report²⁰. World Health Organization (WHO) projections estimate the incidence of cancer to increase exponentially by the year 2030, with the annual number of new cases rising from 14.1 million in 2012 to 21.6 million in

2030 and deaths due to cancer rising from 8.8 million worldwide in 2015 to more than 12 million in 2030^{21} .

At the same time, earlier diagnoses and improvement in cancer therapies have also led to an increase in survival that includes more than 300 million cancer survivors worldwide.

The most common cancer cases are: Breast, Cervix uteri, Colorectum, Larynx, Leukaemia, Lip, oral cavity, Lung, Oesophagus, Ovary, and Stomach (Fig. 1). More than 50% of cancer patients require radiotherapy



as part of cancer care, and it is frequently used to treat these most common types.

²⁰ ICMR & NCIDR (2020) "National Cancer Registration Program" https://www.ncdirindia.org/All_Reports/Report_2020/resources/NCRP_2020_2012_16.pdf

²¹ World Health Organization (2017) "Cancer" WHO, Geneva, 2017. https://www.who.int/health-topics/cancer#tab=tab_1

The projected incidence of patients with cancer in India among males was 679,421 (94.1 per 100,000) and among females 712,758 (103.6 per 100,000) for the year 2020. One in 68 males (lung cancer), 1 in 29 females (breast cancer), and 1 in 9 Indians will develop cancer during their lifetime (0-74 years of age)²².

Considering the number of cancer patients with different types of cancer, Aurobindo Pharma Foundation (APF) has supported Indian Red Cross Society Cancer Hospital in Potti Sriramulu Nellore district to procure 1.35 crore worth Elekta Flexitron HDT (IR) 10 channel brachytherapy²³ equipment, which is more advanced generation equipment in radiotherapy was installed in IRCS cancer hospital.

RELEVANCE

Is the intervention doing right things?

Impact assessment has examined the reasons behind supporting the IRCS Cancer Hospital with advanced radiotherapy equipment to provide quality care to the cancer patients.

The partnership:

With cancer being on the rise across Andhra Pradesh, oncologists call for early detection to check the growth of the disease. As per the National Cancer Registry (NCR), with 58,000 cancer cases, Andhra Pradesh stands in 10th place²⁴.

With a vision to prevent and alleviate human suffering in the face of emergencies, to protect life and health, and to ensure respect for the human being, by mobilizing the power of volunteers, the Indian Red Cross Society established *Jakka Sujathamma* Cancer Detection Centre, in 2001, inaugurated by the then Governor of Andhra Pradesh, Sri. C. Rangarajan and *Dodla Varadha Reddy* Radio Therapy Centre,

To address the growing burden and achieve targets for premature mortality reduction from noncommunicable diseases (NCDs) set out in the WHO Global Action Plan for the Prevention and Control of NCDs 2013– 2020 and achieve target 3.4 of the 2030 United Nations Sustainable Development Goals effective programs in comprehensive cancer control are needed - says WHO. (Controlling cancer –

https://www.who.int/activities/controlling-cancer)

in 2006, inaugurated by Dr. A.P.J Abdul Kalam, the then President of India. It functions with 22 medical staff, 8 technical staff, 42 nursing staff, 11 paramedical staff, 23 admin staff, 42 housekeeping, and other category staff. Besides, it has a well-established infrastructure, including 105 general beds and 12 ICUs.

It has surgical Oncology, Radiotherapy, Chemotherapy, Laparoscopy, Pathology, Mammography, Ultra-sound colour doppler facilities to provide cancer care services to the improvised patients.

²² Prasanth Mathur et al (2020), "Cancer Statistics, 2020: Report From National Cancer Registry Programme, India", JCO Global Oncology, An American Society of Clinical Oncology Journal, Volume 6. <u>https://ascopubs.org/doi/pdf/10.1200/GO.20.00122</u>²³ Elekta Brachytherapy solutions are designed for precise, targeted treatment of various cancers such as cervical, prostate, breast, skin and rectal. Brachytherapy is suited as a single modality or in combination with other treatments such as external beam radiation therapy. Elekta Brachytherapy offers best-in-class clinical solutions, a worldwide presence and above all, a commitment to patient care.

²⁴ ICMR (February 2019) Media Report. https://main.icmr.nic.in/sites/default/files/ICMR_News_1.pdf

As mentioned earlier, radiotherapy plays a critical role in treating cancer patients, and the hospital was using the Elekta-little genie HDR brachytherapy machine, which was old generation equipment, which is used only to treat gynaecology cancer. Recognizing the cancer care services, APF has partnered with IRCS cancer hospital and to promote the service for cancer patients with modern brachytherapy equipment. Here it is to be noted that APF is having its CSR presence and doing social welfare activities for instance, health camps, providing education/health/other rural



infrastructure etc., in the district.

APF investment in modern equipment – Elekta Flexitron HDR (IR) to IRCS cancer hospital can be justified on the following points:

The advanced technology-driven equipment to treat cancer patients more effectively,

It facilitates effective treatment to oesophagus along with cynic carcinogens,
IRCS accredited with Department of

Health, Government of Andhra Pradesh,

- IRCS cancer hospital supplements other cancer care services in Potti Sriramulu Nellore district, and
- IRCS is the only cancer hospital in the district or the state that provides cancer treatment at free/nominal cost

Coverage:

This assessment has noticed that IRCSCC has not digitalized its MIS system. It is because of shortage of funds. Sri. Siva Prasad Reddy, the convenor, says, "One lacuna at our end is the undigitized data. Since the digitization of data regularly calls for additional expenditure, we have put the process on hold and looking for donors support".

As per the available manual records, 98% of the patients availed the cancer treatment are from below poverty line (BPL) families. They all come under *the Arogya Sree*²⁵ scheme of the Government of Andhra Pradesh. The majority of these BPL category patients are from Scheduled Caste, Backward Castes, and poor Muslim minority families.

Just 2% of the patients, who falls in above poverty line, are in paying category. The hospital does not charge any exorbitant amounts for the paying category patients too. Mostly the charges for them are in the range of 20%-25% excess compared to *Dr. YSR Aarogyasri scheme*patients.

As per the records available, patients with different types of cancer are visiting the IRCSCC Hospital (Fig 1). High volume of patients with Brest, Cervical, and Oral cavity and Pharynx cancer, medium volume of patients with digestive and respiratory system cancer, low volume of patients with Pancreatic, Genital, Urinary and Endocrine systems related cancer are availing the treatment.

²⁵ The Government of Andhra Pradesh launched the YSR Aarogyasri scheme in 2007 to develop funds for poor people (in the BPL category) who cannot consider the medical bills of their surgeries or treatments. One of the main advantages of the scheme was the cashless treatment in most of the government hospitals of Andhra Pradesh state.

It signifies the availability
of specializations, visibility
and popularity of the IRCS
cancer hospital among the
communities in
neighbouring districts –
Chittoor, and Prakasham,
including from Tiruvalluru
of Tamil Nadu.Type of CancerIRCS
cancer hospitalBrestCarvical
CervicalOral cavity & PharynxPancreatic
Multiple myeloma
Digestive systemsIRCS
cancer hospitalBrain
Pancreatic

conducts many awareness camps in addition to those conducted by State health department *(Dr. YSR Aarogyasri scheme).* For instance, it works closely

	Table 1 : Volume of patients (annual average)							
Type of Cancer	Source MIS							
	High	Medium	Low	Nil				
Brest								
Cervical								
Oral cavity & Pharynx								
Pancreatic								
Multiple myeloma								
Digestive systems								
Brain								
Respiratory systems								
Bones								
Genital systems								
Urinary systems								
Endocrine systems								
Skin								

with the Lion's Club - Pinakini; Lion's Club - South; Vasavi Club - Nellore; Rotary Club - South; Walkers' Associations at Nellore, Buchireddypalem, Guduru, and Kavali. During such camps, due acknowledgments were given to the donors, including APF. During the camps, IEC materials, for instance - placards, posters, and pamphlets are intensively used.

It brings visibility to surgical equipment for instance, Elekta Flexotron HDR, results in an increasing flow of patients. Such joint camps will also attract funds (in the form of donations) to the hospital.

As per the MIS (Fig 2), a total number of 10994 cancer

patients have under gone various treatments in the hospital. Of this, the majority (72%) have undergone treatment in medical oncology, followed by surgical oncology (11%) radiation oncology (10%) and brachytherapy (7%).

It is evident that majority of female patients are approaching the hospital for treatment in Cervix, Breast and head and neck cancer. Among males, majority are having Head and Neck cancer, IRCS cancer hospital is the first hospital in Andhra Pradesh to install the Elekta Flexitron HDR (IR) model to treat cancer patients.



GI tract cancer and Genito-Urinary cancer.

EFFECTIVENESS

The IRCS cancer hospital is reducing the load of cancer patients in other similar facilities in nearby districts, particularly in Tirupati, Vijayawada, Hyderabad, and Chennai. After installing Flexitron HDR in 2019, most of the cancer patients, who used to approach other cancer hospitals, turned to IRCS cancer hospital. It is evident from MIS information, which says that before installing the new HDR machine, since 2009, the hospital treated 2377 patients (average 238 patients per

annum). In 2019, Elekts Flexitron HDR, was installed in the hospital. Since then, within two vears of span (between 2019 and 2021), 996 cancer patients were treated (average 439 patients per annum). Tt signifies an annual of 46% increase annually.

Table: 3 Patients treated between 2019 and 2021					
Patients	Radiation Oncology (Treated by Radiotherapy)	Brachy- therapy (Treated by HDR)	Medical Oncology (Treated by Chemotherapy)	Surgical Oncology (Treated by Surgeries)	Grand total
Male	356	3	NA	325	684
Female	760	772	NA	939	2471
Total	1116	775	7839	1264	10994

Having Elekta Flexitron HDR (IR) Brachytherapy is real advantage for IRCS cancer hospital. Brachytherapy is most commonly used to treat <u>prostate cancer</u>. It also can be used for gynecologic cancers such as <u>cervical cancer</u> and <u>uterine (endometrial) cancer</u>, as well as <u>breast cancer</u>, <u>lung cancer</u>, <u>rectal cancer</u>, <u>eye cancer</u>, and <u>skin cancer</u>.

After having the Elekta Flexitron HDR (IR), the demonstration effect, in terms of quality of care, has spread across the IRCS, and the Red Cross society is planning to start similar hospital with cancer specialization in Srikakulam where the need is more.

The MIS information says that, since 2019, 1116 patients treated in Radiation Oncology, 775 in Brachytherapy, 7839 Medical Oncology and 1264 Surgical Oncology (Table 3).

This assessment found that the hospital effectively uses the Elekta Flexitron HDR (IR) to treat carcinomas like Cervical, Ulval, and other related to gynecology and esophagus. As mentioned in the above table, 772 female patients with different gynecological carcinomas and three male patients with esophageal carcinomas are treated. In addition, other carcinomas are being treated with indigenous cobalt equipment (Table 3).

Peer-to-peer learning

Peer-to-peer learning helps in the capacity building of multidisciplinary teams. In IRCS cancer hospital, physician peer review has been integral to radiation oncology practice for decades, and over recent years, has taken on even greater prominence to enhance safety and quality. As a result, multidisciplinary team meetings (MDTMs) are taking place occasionally.

The another advantage of having Eleckta Flexitron is that the Elekta is running the Brachy Academy, which aims to advance the successful use of brachytherapy. It comprises a complete peer-to-peer medical education portfolio and includes clinical workshops and training visits to lead

hospitals. For example, the medical team utilizes such advantages in the IRCS cancer hospital.

It is evident that Elekta Flexitron HDR (IR) being used effectively and more appropriately to treat female patients with different gynaecological

EFFICIENCY

IRCS Cancer Care hospital does not have any dedicated funding support from the government despite of their consistent convergence through *YSR Arogya sree* scheme. However, during the initial phase, in 2006, the union government has sanctioned three crores to procure indigenously manufactured radiation equipment: Radical Beam Cobalt Unit.

On the other, individual donors and philanthropy bodies have supported our operations over a while. To quote a few examples are the donations from Mahaveer Jain Trust of Potti Sriramulu Nellore and a few individuals who liked to remain incognito. Funds generated in the hospital are just sufficient for working capital (salaries and maintenance).

Financial efficiency:

The Elekta Flexitron HDR (IR) machine was imported from the Netherlands with an APF grant of INR 1.35 crores. In addition to Flexitron HDR, the administration has spent procuring two more apparatuses: Couch costs INR sixteen lakhs and Breast Board costs INR seven lakhs. It indicates the efficient way of using the grant from APF.

The Indian Red Cross Hospital has a customs duty exemption. Thus, of the total cost of HDR equipment, INR 23 lakhs' customs duty saved, and the same has been invested in procuring essential equipment - Couch and Breast Board. Adding these two pieces of equipment have added value to the quality of care.

The annual maintenance cost of Elekta Flexitron is around INR 38,000 as the machine is under the three years warranty period, including one year replaceable warranty. Once this is over, the cost of maintenance will increase to 16 lakhs per year. Once in six months, the electronic chip in the Flexitron has to be replaced for better function. The hospital management is already making financial backups to have AMC with Elekta, Chennai, for maintenance from 2022 onwards. Hospital administration is planning to generate sufficient revenue through donations and meet the AMC cost.

While talking about the donors, Siva Prasad Reddy said that "the donors (individual and institutional) donate an amount equal to or more than Rs. 2.5 lakhs can nominate the members into the management committee of Red Cross Society. Most of such nominated members often visit the hospital, counsel the patients under treatment about precautions after treatment, diet, sensitizing the patients and their caregivers on the issues relating to cancer disease". It is one way of creating patient-friendly interventions from donors.

As of now, there is no specific revenue model for IRCS cancer hospital. The required funds are generated from the patients treated under the *Arogya Sree* scheme and from quite a few paying category patients. The current revenue is INR 50 lakhs per month, sufficient to meet staff and hospital maintenance salaries.

Interviews with Sri. Siva Prasad Reddy, Ms. Rajeswari Reddy, from administration and Dr. Lakshmi, Dr Geetha Usha Sree, Dr. Nageswara Rao, the assessment team found that IRCS cancer hospital is not deviating the funds from donors given for specific purpose. The IRCS cancer hospital receives donations and grants for specific items, and such grants are spent on the designated project intervention or equipment. Cost-sharing between two donors is discouraged by the institution as part of its internal policy. In any surplus fund, it will be diverted towards an equally important component with due knowledge and consent from the respective donor(s).

Another good practice is that under any circumstances funds from donor's is not used as working capital. Neither is it spent for the general maintenance of the hospital.



day administration, including the staff salaries.

Another exciting feature is that few doctors, such as Dr. T. Lakshmi, CMO, Sri. Siva Prasad Reddy, Convenor, donating their salaries back to the hospital and do free service over the decades.

This assessment found that the major challenge in finance management is: delay in receiving *Dr. YSR Aarogyasri scheme* payments from the Andhra Pradesh Government, which stresses the day-to-

Human resources:

IRCS cancer hospital has radiotherapy (Cobalt Beam and Brachy Therapy), Chemotherapy, Laparoscopy, Clinical Laboratory and Pathology, Mammography, X-ray unit, and Ultrasound cum Color Doppler. IRCS cancer hospital is managing with limited financial resources into inputs and achieving outcomes efficiently. However, given the projections on cancer patients, it should have a revenue model and exploration for additional funds and increases the number of oncologists and radiologists in the future.



Head and Neck, Breast, Thyroid, Colon and Rectum, Cervix, Endometrium, Ovary, Prostate, Soft Tissues and Bone tumor and Mediastinal tumors are the primary cancers being treated in this hospital.

The hospital has limited medical team: chief medical officer, surgical oncologist, radiation oncologist, pathologist, and radiologist. Three consultant doctors with specializations support the services. Besides, one

convenor and one administrator is managing the hospital administration on day-to-day basis. Besides, there are quite few nursing staff, lab technicians and management staff.

IMPACT

Operational efficiency:

The impact of the advanced Flexitron HDR is clearly evident from the increased patients flow between 2019 and 2021 (Till March). Before installing Flexitron HDR machine, the number of patients was less than the patient's flow after installation. Data says, between 2009 and 2019, 2377 patients (238 per year) undergone radiotherapy. After installing Flexitron HDR machine (2019 to date): 966 patients (439 per year) undergone radiotherapy.

The advanced technology of Elekta Flexitron HDR (IR) (IR), has improved the efficiency of doctors in treating the cancer patients, particularly with: Head & Neck, Bronchus & oesophagus, Breast, Skin, Prostate, Rectum, Bladder, and Gynaecology related complications. Dr. G. Usha Shree, Radiation Oncologist said that *"introduction of advanced equipoment has ensured smooth clinical workflow and facilitates more efficient information that can be included in the patients Continuity of Care Document (CCD). The introduction of new Elekta Flexitron HDR (IR) in 2019 has improved workflow efficiency and treatment certainty".*

Besides, treatment with Elekta Flexitron HDR (IR) (IR) is giving better outcomes in patients' care. Oncologists and other medical staff confirmed that because of new equipment, patients are benefitted by reducing unnecessary costs on repeated visits, reduced unwanted variations in the process of treatment, scope to gain life expectancy, reduced the waiting time.

It helps the medical staff in tailoring the care around patients' health conditions. Since the patient flow has increased to 49%, it increased the workload to the medical staff. *'It sometimes putting work pressure on the medical team that may affect the quality of services,*" says Dr. Usha Sree.



The medical team confirms that the smooth clinical workflow, improved treatment efficiency, treatment accuracy without errors are the significant impacts with Elekta Flexitron HDR (IR). In particular, this technology is allowing doctors to treat head and neck, breast, prostate, rectum, bladder, and cervical cancers

more efficiently than ever before. It also allows the perfect sessions with the patients.

In other words, after installing the Elekta Flexitron HDR (IR), the number of sessions patients has to undergo has been reduced considerably. With fewer sessions, patients can save the cost of treatment. While describing the advantage of Elekta Flexitron, Dr Usha Sree said: "the treatment is given in one or two briefs (around 15 minutes) sessions for HDR brachytherapy, delivering radiation directly to the tumor. After the final treatment, the catheters are removed and the patients can return home. It saves the out-of-pocket expenditure of the patients".

The clear impact out of Elekta Flexitron HDR (IR) for patients: *less out-of-pocket expenses, less waiting time, improved quality of treatment, and medical adherence* – says the medical team.

Patients' satisfaction:

Patient-reported quality of care is one of the parameters to judge the quality of care. Therefore, the present assessment examined the perceptions directly with 33 cancer patients and their care givers who availed of the treatment sometime in 2020.

Overall the level of satisfaction expressed by the patients during the assessment is high. In general, Quality diagnosis and treatment result in medical adherence by patients and lower inpatient mortality rates. In this context, the present assessment found that the majority of the cancer patients interviewed during the patient's satisfaction survey are much satisfied in critical indicators (Fig: 3). Hence, they are keen on recommending the hospital to known people who are looking for cancer treatment.

All 33 patients and their caregivers expressed their satisfaction (Fig 3) over the quality of medical care, advice and counselling by doctors, care by administrative staff, and free treatment (as the majority are



covered under Dr. YSR Aarogyasri scheme).

Further to these, there are few critical issues such as registration, non-availability of CT scan where patients are satisfied. Specifically, not most (69%) of the patients (including caregivers), are dissatisfied with the administrative procedure in getting registered for medical consultancy and further treatments. The leading cause

is that IRCS cancer hospital is accredited under Dr. YSR Aarogyasri scheme; as mentioned in the previous discussions, almost 95% of the patients are available for Dr. YSR Aarogyasri scheme registration time taking process. Therefore, it is making the patients wait to get registered for consultancy and treatment.

The next majority (48%) are dissatisfied because non-availability of "CT scan" (Computed Tomography scan) in the hospital. "A CT scan is inevitable and helps doctors find cancer and show things like a tumor's shape and size. CT scans are most often an outpatient procedure" - says medical Oncologists Dr. Geeta Usha Sree and Dr. T. Lakshmi, CMO.

In the absence of CT scan, roughly 60% of the cancer patients area refer to nearby commercial clinics in Potti Sriramulu Nellore town. Therefore, it increases the out-ofpocket expenditure on low-income families. Present assessment found that IRCS cancer hospital faces technical challenges in the absence of top-end radiotherapy equipment, notably "Linear Accelerator and scanning facility, the CT Scan Machine. Similarly, sometimes IRCS cancer hospital doctors refer 40% of the cancer patients to SVIMS, Tirupati, Chennai, and Hyderabad to get more sophisticated treatment with Linear Accelerator. It further affects the financial backups of low-income families.



Referring to this issue, Mr. Siva Prasad Reddy and Dr. T. Lakshmi explained their attempts to generate additional funds to procure CT scan and Linear Accelerator equipment: "Since the spring of 2020, we are initiating our best efforts into approaching different philanthropy. However, due to the pandemic, most of the donors have minimized their

contributions. Whatever we collected is not sufficient to meet procure CT scan that costs around 3 to 6 crores and Linear Accelerator, costs around 10 to 11 crores. Under unavoidable circumstances, our doctors are referring the patients to outside clinics/hospitals for CT scan and advanced treatment through Linear Accelerator".

After getting the registration, patients have to wait for a considerable time to meet the doctors for an initial consultation. As 72% of the patients expressed their satisfaction over waiting time, quite a few (28%) expressed their low satisfaction levels. It is due to the high volume of cancer patients and fewer doctors on a particular day. Quite a few patients (12%) believe that occasionally the number of doctors and volume of patients are not matching.

Patients' perceptions of a hospital's cleanliness can significantly impact their overall care and hospital experience. The present assessment found that the majority (70%) were satisfied with the cleanliness, few (30%) pointed out the unhygienic toilets. The more significant majority (92%) expressed their positive opinion about the care during the treatment and care (91%) by nursing staff.



Before registration, patients have to wait in the waiting space, occasionally in the hospital corridor, which is inconvenient to the cancer patients

Broadly, the patient satisfaction survey summary indicates that IRCS cancer hospital is rendering its best services, meeting the needs of the patients to maximum levels. From the patients perspective, the following are the critical suggestions -

- > YSR Arogya Sree patient registration process needs to be faster,
- Additional doctors to support leading doctors in the follow-up procedures,
- Need to have CT scan failing which the patients flow may come down in coming years,
- > Nursing staff needs proper orientation on people skills, and
- Toilets need to be kept hygienic.

The overall impact of Elekta Flexitron HDR (IR) is -

- Less clinical challenges in oncology
- Facilitate efficient treatment
- Cost saving for patients
- > Accurate data driven leads to efficient case management
- Ensure smooth workflow efficiency
- ➤ Allows peer-to-peer learning

However, the concerns expressed by the medical staff, particularly in the Oncology department, is "work pressure" as the number of patients is increasing. It may cause stress among the medical team. To reduce the workload and stress, IRCS Cancer hospital administration may have to explore additional funds and increase the strength of the technical team. Management can introduce "stress-away wellness programs.

Radiation exposure is another factor behind stress among the medical team in the oncology unit. *The medical team is adhering to the safety measures and oncology-related standard operating procedures to avoid radiation*, says Dr. Usha Sree.

Present impact assessment collected few case studies (see appendix), to understand the perceptions of cancer patients, mainly from poor families. It concludes that the quality of care and most of the patients are satisfied with the services.

SUSTAINABILITY

The sustainability of IRCS cancer hospital is not an issue as it has visibility and credentials. The only challenge assessed by the assessment is – financial backup and advanced equipment. This assessment found that presently hospital is meeting its financial needs primarily through patients fee from the YSR Aarogya Sree scheme. As it happens to be a Government-sponsored scheme, the periodicity of payments may not be timely, which hampers the hospital management. Though it may not impact the hospital's sustainability, it may become a hurdle to improve the infrastructure, including new generation equipment to improve patient care and treatment.

To meet the future demands in cancer care, this hospital has to have CT scan and Linear Accelerator. Having advanced equipment and a good number of the medical team is one of the judging points of sustainability of the hospital.



number of patients in the coming years.

IRCS cancer hospital has the vision to serve a maximum number of poor cancer patients in the coming days. to achieve its vision; the administration is planning to replace the Cobalt Radiation Therapy machine, which is outdated, and planning to have Linear Accelerator and CT scan to improve the in-house treatment efficiency. The oncologists reported that the Linear Accelerator radiation machine has the lowest minimum side effects during the treatment and is highly effective in treating a wide range of cancers through radiation therapy. It helps in providing cancer care to a maximum



The sustainability of the hospital is linked with an effective and professional way of MIS. It impacts the management of patient care and related administrative functions. It can improve the overall system's efficiency through automation and generates necessary reports for managing operations, performance, quality, planning, decision-making, and reporting for projects. MIS is dynamic, and hospitals need to update digital technology regularly.

CONCLUDING REMARKS AND RECOMMENDATIONS

The impact assessment found that IRCS cancer hospital has justified the investment from APF by efficiently utilizing the Elekta Flexitron HDR (IR) Brachytherapy in treating 775 cancer patients. Besides, it is evident that 51% increase in patient flow to the hospital. The vision of IRCS cancer hospital and the aim of APF in providing free treatment to poor cancer patients is justified as greater majority of the patients are from poor families who cannot offered corporate care. It is evident that cancer patients are coming from neighbouring districts – Chittoor, Prakasham and Tiruvallur of Tamil Nadu. Considering this success model, IRCS decided to establish similar cancer care hospital in Srikakulam district. The investment in Elekta Flexitron HDR (IR) has positive impact on the health care services, particularly to the female patients. With this machine, output efficiency has increased along with treatment quality.
Keeping the success and efficiency aside, IRCS cancer hospital has to explore sufficient funds to procure CT scan. It will help the poor patients who cannot offered corporate costs to get CT scan results from private clinics.

It is essential to upgrade the equipment meeting the growing needs, addressing emerging medical challenges in cancer care and treatment. Having Linear Accelerator is essential to maximize the outcomes for patients with cancer care. Necessary funding opportunities may be explored from government and other institutional donors

Though most of the patients are satisfied with the services, it is important to focus on different ways to minimizing the time for registration, and bio-toilets. Most importantly, it should establish digital MIS to make the registration process simple, and preserve the patients data for longer period.

Appendix:

Concern and Care: Red Cross Hospital and Its Doctors

Case Study-1

Name:	Rajeswari Muga (48)
Resident:	Nandigunta Village, Vinjamur Mandal, SPSR Nellore Dt.
Health Issue:	Cervical Cancer
Doctor consulted:	Dr. Nageswara Rao, Dr. Geeta Ushasree and Dr. Lokeswari

Patient status post treatment): Grate relief

The family of Rajeswari Muga and her husband (Nandigunta village, Vinjamur Mandal, SPSR Nellore district) is a poor family with meagre means of income. Husband works as a small-time catering professional operating within the limits of Vinjamur. Rajeswari works as an agricultural daily wager. Both of them earn grudging yields from their work, neither sufficient to form surplus nor enough to get both ends meet. They oscillate between hard work and low earnings often times. The couple has two male children. One is married and settled. The other is a mentally challenged boy (*Divyaang Child*) who stays with parents. The family was soon hard hit by a new development that catapulted into a major health issue for Rajeswari. Postmenopause, Rajeswari experienced bleeding on a regular basis. Doubting its onset, the couple rushed to a local gynaecologist at Atmakur town, Dr. Deepika who after 15 days of treatment advised the couple to go to Red Cross Cancer Care Centre at Nellore. By that time when she approached IRCS cancer hospital, the couple spent around one lakh rupees borrowed from various known sources.

They finally stood completely pauperised with the problem unresolved and unsolved. When they went to Red Cross Hospital, their first surprise was the fantastic hospitality of the staff and doctors. The attendant dismay for them was offer of free treatment. The couple enjoyed the break of first light and signs of relief. The team of doctors comprising M/s Nageswara Rao, Geeta Ushasree and Lokeswari began treating her.

Since the patient had no Dr. YSR Aarogyasri schemehealth insurance card (under BPL category), the doctors went an extra mile in recommending her case to Chief Minister's Office (CMO) for immediate approval of Dr. YSR Aarogyasri schemecard. Meanwhile the treatment began on a modest note. Rajeswari underwent HDR Brachytherapy (which is popularly known in the local dialect as Chinna Current or Small Current) and Radiotherapy (which is known as Pedda Current or Big Current). Rajeswari was advised 25 sittings (Brachytherapy) and 5 sittings (Radiotherapy) respectively. By the time she began radiotherapy sessions, the CMO of AP positively responded and issued fresh Dr. YSR Aarogyasri schemecard to Rajeswari. Subsequently her treatment was totally free. The couple had to absorb only transportation costs (approximately 100 kilometres from home).

Rajeswari and her husband declared without mincing words that there were four crucial enabling factors: the unthinkable service quality at Red Cross Hospital and the friendly nature of staff; the magnanimity of the Chief Minister in immediately responding to the letter from the doctors; penniless treatment at the Red Cross hospital; and the divine nature of doctors in granting a fresh lease of life for Rajeswari. For sure, Aurobindo Pharma Foundations' help to Red Cross Hospital has met its pre-meditated and lofty objective.

Fear of Death and Fresh Lease of Life

Case Study-2

Name:	Pothamma Nakka (43)	
Resident:	Naidupeta, SPSR Nellore Dt.	
Health Issue:	Cervical Cancer	
Doctor consulted:	Dr. Geeta Us	hasree
Patient status (Post treatment):		Normal and back to work

Pothamma Nakka (Female, 43 years residing at Mambaka Village, Naidupeta Mandal) best represents a case of ordinary and doubting patient pieced between torment and turmoil on one hand and hope and wish on the other. Like Shakespearean Ghost (*Banquo's Ghost*), her fear about death, on account of carcinoma disease loomed large like a frightful hallucination which for long haunted her memories and mind. At the end, Red Cross Cancer Care Centre put her fears to rest and buried deep in newly-found confidence and assurances on fresh life. Pothamma, her husband and both their daughters (25 and 16 years, unmarried) are daily wagers. When the life was going smooth, Pothamma's health received a sudden jolt. She began bleeding in an abnormal way which dashed her to local doctor at Naidupeta. The consequent diagnosis confirmed her disease as cancer. The doctor referred her to Red Cross Centre at Nellore instead of SVIMS (Tirupati) and Chennai-based hospitals.

Pothamma's worries began on a fearful note. The diagnosis of cancer combined with her limited knowdge about cure enacted a pandemonium in her life causing panic and self-imposed pain. The induced personal melancholy was out of sheer ignorance and innocence. In a fit of desperation, Pothamma thought of committing the final act in her life. At this juncture her relatives stepped in. Some of them had earlier received successful treatment at Red Cross Centre. These relations, once upon patients and presently cancer-survivors, counselled Pothamma and asked her to reconcile with the reality and prepare for treatment. Finally, Pothamma gave a nod to go to Nellore.

At Red Cross Cancer Centre, Nellore the treatment for Pothamma began on the expected lines. Post the diagnostic procedures at the hospital, Dr. Geeta Ushasree prescribed Brachytherapy (*Small Current*; 25

sittings) and Radiation Therapy (*Big Current*, 5 sessions). Pothamma was admitted as an inpatient for six weeks during the treatment when she received everything free of cost. She was later discharged and sent back home. Pothamma says *she is indebted to Dr. Geeta for a life time because the new lease of time (life) has been the doctor's precious gift to her family, especially her daughters*. Pothamma is now back to normalcy and working routines. She is now busy with marriage alliances of her daughters. She is given to a strong and deeply-entrenching belief that her new life would not have been possible in the absence of Rec Cross Cancer Centre. The social efficacy of Aurobindo Pharma Foundation's donation is indirectly reverberating and echoing in the words of cured patients across the district. Patients' satisfaction is a direct appreciation for the facilities created at Red Cross Cancer Care Centre, Nellore. This is an obvious conclusion emanating from the opinions thus expressed.

Treatment at its best: Experiences with therapy

Case Study-3

Name:	Mahati Maramsetti (59)	
Resident:	Naidupeta, SPSR Nellore Dt.	
Health Issue:	Cervical Cancer	
Doctor consulted:	Dr. Sumant and Dr. Lokeswari	
Patient status (Post treatment): Active in daily re		

Mahati Maramsetti (female, 59 years) of Naidupeta in Nellore district is a Kalamkari (dye & art) designer and an active member of local self-help groups (SHG). Her imaginative faculties in the conception of designs of Kalamkari prints have been recognised and helped her in her livelihood activities. Her husband is a casual worker whose erratic errands are neither lucrative nor dependable. She has been highly diligent and disciplined in her work in view of her husband's irregularities. The couple has two children (boy and girl), both married and settled. While the going was smooth for the family, a newly emerged health issue sufficiently disturbed the calm and peace at the domestic front.

Mahati began bleeding a year ago and she suspected some imminent ailment owing to the protracted problem. Her worry and concern put her on tenterhooks and she started looking for appropriate treatment. Mahati visited the SVIMS (Tirupati) hospital where cervical cancer was detected. Treatment began. At this juncture, her relatives, a few of whom had earlier similar issues with bleeding were treated at Red Cross Hospital, Nellore advised Mahati to approach Nellore medical facility instead of commuting a long distance (Tirupati-90 kilometres and Nellore-50 kilometres). Mahati was personally convinced by the advice received from her relatives and soon landed in Red Cross Hospital. Th treatment continued. Mahati had undergone 25 sessions of Brachytherapy (*Small Current*) and 5 sittings of Radiotherapy (*Big Current*). Dr. Sumant and Dr. Lokeswari formed the core medical team and treated her. At present she is completely normal and back to her regular duties of life and livelihoods. Asked to comment on the treatment procedures, Mahati quips, *the treatment is excellent and the staff are amazing. I have, particularly full praise for counselling staff members of the hospital who helped me conquer fear and anxiety*. She puts her holistic experience in an emotive expression.

For her, Red Cross Hospital at Nellore symbolised *a home disguised as a hospital*. The feel-at-home factor has been her great experience during the treatment period. It summarises the efficacy of the medical facility. She would like to don the role of a change agent in counselling other such patients in her locality before they seek treatment. The change in her attitude towards social responsibility is the direct outcome of the hospitality and treatment she received at the Red Cross Hospital. The social mission of Aurobindo Foundation finds its echo in these manifested submissions by the treated patients. Mahati's health condition is highly normal today enabling her active participation in the self-help group affairs at Naidupeta.

Post-treatment, she claims that she has trained two batches of poor women on Kalamkari designs. Mahati not only regained health, but restored her earlier economic activity today. Mahati has a valid suggestion to make. She strongly feels that the Red Cross Hospital should procure a CT Scanner so that poor patients are relived from the exorbitant charges from private scanning centres at Nellore. Installation of the scanner

would be highly advantageous to the hospital as well as poor and prospective patients knocking at the doors of the hospital.

Unto the Last: Red Cross at the Door Step

Case Study-4

Name:Govinda Rao Busala (45)Resident:South Rajupalem, Nellore Suburban, SPSR Nellore Dt.Health Issue:Oral CancerDoctor consulted:Dr. Geeta UshasreePatient status (Post treatment):Fast recovery

Govinda Rao Busala (45 Years, Male) is migrant labourer who shifted to Nellore from Srikakulam district seven years ago with his home-maker wife and two girl children (presently 16 and 9 years respectively). Absence of gainful work in Srikakulam made him search for green pastures in Nellore district. He has been employed by a local rice miller at South Rajupalem with an on-campus accommodation facility. Both the girls are studying though both of their parents remain non-literate. The description (also the definition) of stark poverty ideally suits Govinda Rao's family. He is the lone earning member without any other source to bank upon in times of emergency. The still waters are sufficiently disturbed recently. Six months ago, Govinda Rao detected a small ulcer on his tongue which grew in size over the next few weeks. He experienced difficulty in gulping, munching and swallowing. He suspected some lurking danger and his worrying began on an urgent note. The wife and husband decided to retreat and go to the native place. But the prospect of fear and non-availability of livelihood distracted them. For, there is no guarantee for food, shelter and work back at home which they presently enjoy. Finally, the couple decided to drag on at Nellore, come what may.

Govinda Rao holds Dr. YSR Aarogyasri schemehealth insurance card. His case was immediately taken up and biopsy report was called for. When the reports confirmed the presence of carcinoma, Dr. Geeta Ushasree suggested him to undergo Brachytherapy and Radiotherapy in a sequential manner. Govinda Rao followed the suggested line of treatment and had undergone 33 sittings of brachytherapy (*Small Current*) and three sessions of radiotherapy (*Big Current*) as on date. Three more sessions are still pending. He was treated free of cost (except for scanning reports that he obtained from private agencies in the town). After the treatment he enjoyed a sigh of relief and signs of betterment. Today, Govinda Rao can gulp liquid food (mostly in juicy form) while munching, biting and swallowing still pose some problems. His ability to mouth words is slowly getting restored. He has to attend three more sessions of radiation. Since his physical condition became weak, he requested the rice mill owner to allow his wife to work. The miller has been magnanimous. The roles are reversed now: working wife and recuperating husband. The only suggestion by the couple is installation of CT Scanner Machine at the hospital, which helps poor patients who cannot offered the cost of CT scan in outside clinics.

The couple has repeatedly thanked the Red Cross Hospital and Dr. Geeta Ushasree for granting a fresh life to Govinda Rao. Charged with emotion and thankfulness, the wife says: ... we frame the photo of Dr. Geeta... she is the new Goddess going to occupy an important place in the already existing pantheon of Gods in our home. Added, the couple profusely thanked the staff members of the hospital who are the real catalysts in infusing strong

doses of confidence. Red Cross Hospital triumphantly reached the *unto the last*. Aurobindo Foundation has a substantial role in the social triumph of Red Cross medical facility. The milk of human kindness and the gist of institutional care are explicitly felt in cases like the present. Gods must be willing to nurture and sustain the work and mind of these pro-poor institutions.

Money Saved & Health Shoved

Case Study-5

Name:	Ankamma Thalla (56)
Resident:	Neerubhotlapalli, Ka
luvoya Mandal, SPSR	Nellore Dt.
Health Issue:	Cervical Cancer
Doctor consulted:	Dr. Lokeswari

Patient status (Post treatment): Recovery as per expectations

The case of Ankamma Thalla (Female, 56 years) of Neerubhotlapalli village under Kaluvoya Mandal is reflective of an interesting development. She hails from a toddy-tappers' family whose household income often bordered on relative sufficiency. It has been sufficient for daily maintenance sans scope for accumulation for any untoward need emerging without notice. She was widowed in 2011 and since then she and the family were looked after by her only son, Ramesh. She has two children, a girl (25 years and married) and a boy (22 years). Her son left India for Kuwait in the year 2008 in search of green pastures and gainful work. He was trained in air-conditioning mechanism and repairs and, was later employed in the same trade. When he was slowly settling down with surplus and satisfaction, the news of his mother's ill-health shattered his dreams and imagination. Without wasting time, he returned home in the year 2019.

Ankamma experienced the problem of excess bleeding at an age when it is generally an unnatural phenomenon. The local doctor at Kaluvoya referred her to the Red Cross Hospital. Her son, with accumulated monies at command wanted to drive his mother to a metropolitan hospital. His search finally ended at Adyar Cancer Institute, Chennai (old Madras). On the other, their relatives, friends and local doctor preferred Red Cross Centre at Nellore. After intense consultations and negotiations, Ankamma and her son had favoured an initial and casual visit to Nellore hospital. But after visiting the centre, they were fully convinced that it would be a proper place for treatment. The biopsy tests confirmed cancer. Dr. Lokeswari is the consulting doctor who treated Ankamma. She underwent 25 sittings of Brachytherapy (*Small Current*) and three Radiotherapy (*Big Current*) sessions. A decision on further sessions of radiotherapy is subject to some more tests. Owning to Covid-19 pandemic, Ankamma did not visit the hospital in the recent period. Once the alarming situation comes under active control, she likes to visit the centre for final advice on treatment. Meanwhile, her son has decided to stay back at Nellore and contracted some work locally.

Ankamma is a normal human being today attending to life's routines with afresh alacrity and vigour. She and her son are extremely happy beings since they could avoid incurring lot of expenditure by bypassing the choice of Chennai. Her son, Ramesh says that *we would have been pauperised had we gone to Chennai for* treatment. Thanks to Red Cross Hospital and Dr. Lokeswari in particular for saving my hard-earned money while boosting the physical health prospects of my mother. Aurobindo Foundation's grant to the Red Cross Hospital is more than justified as reflected by patient satisfaction levels. The son and mother duo are highly satisfied with the quality treatment that was accorded free of cost (under Arogya Sree Health Insurance Scheme). When asked to comment on her overall experience in the hospital, Ankamma paints a very positive and rosy picture about the facilities available for the poor in the hospital. She, however, extends a few requests to management. She opines that management would initiate some steps in near future for the better maintenance of common toilets in the hospital.

Abbreviations

APF	Aurobindo Pharma Foundation
CCD	Continuity of Care Document
СМО	Chief Medical Officer
CSR	Corporate Social Responsibility
СТ	Computerized Tomography
DAC	Development Assistance Committee
GI tract	Gastrointestinal tract
HDR	High Dose Rate
IRCS	Indian Red Cross Society
IR	InfraRed Conversions
MDTM	Multidisciplinary Team Meeting
MIS	Management Information System
NCD	Non-Communicable Disease
NRC	National Cancer Registry
OECD	Organization for Economic-cooperation and Development
OPD	Outpatient Department
PLF	Poverty Learning Foundation
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
SVIMS	Sri Venkateswara Institute of Medical Sciences
WHO	World Health Organization



IMPACT ASSESMENT STUDY ON UPGRADATION OF LIFT IRRIGATION SCHEME

On Manjira River at Borpatla Village, Hathnoora Mandal, Sangareddy District of Telangana State

An Initiative of Aurobindo Pharma Foundation through

Corporate Social Responsibility (CSR)





Participatory Rural Development Initiatives Society

#2-6-41/75, Sathsang Vihar, Upperpally, Rajendranagar, Hyderabad-500048, Telangana, India Website: www.prdis.com. E-mail:<u>prdis@hotmail.com,prdis.hyd@gmail.com</u>

June, 2021

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FULL REPORT

By



Participatory Rural Development Initiatives Society

#2-6-41/75, Sathsang Vihar, Upperpally, Rajendranagar, Hyderabad-500048, Telangana, India Website: www.prdis.com. E-mail:<u>prdis@hotmail.com,prdis.hyd@gmail.com</u>

June, 2021

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2.7 Tabulation & Analysis

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ABBREVIATIONS

AEO	-	Agricultural Extension Officer
APF	-	Aurobindo Pharma Foundation
APMAS	-	Mahila Abhivrudhhi Society, Andhra Pradesh (APMAS)
CSR	-	Corporate Social Responsibility
FFS	-	Farmer Field School
FGD	-	Focused Group Discussions
FPO	-	Farmer Producer Organization
GP	-	Gram Panchayat
HQ	-	Head Quarter
LIS	-	Lift Irrigation Scheme
NABARD	-	National Bank for Agriculture and Rural Development
NGO	-	Non-Government Organization
NRM	-	Natural Resource Management
PACS	-	Primary Agricultural Cooperative Society
PPP	-	Public Private Partnership
PRDIS	-	Participatory Rural Development Initiatives Society
Q	-	Quintal
SDGs	-	Sustainable Development Goals
SRI	-	System of Rice Intensification
TSIDC	-	Telangana State Irrigation Development Corporation
VDC	-	Village Development Committee
		i

IMPACT ASSESSMENT TEAM

Mrs. M.V.K.Prasanti, Team Leader Mrs. C.Maria Victoria, Research Officer Mr. P. Narendra Babu, Research Officer Mr. P.Babu, Engineer

Overall guidance: Dr. M.N.Reddy, Senior Consultant, PRDIS

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ACKNOWLEDGEMENT

We are grateful to Aurobindo Pharma Foundation for giving this opportunity to assess the Impact of Borpatla Lift Irrigation Scheme. Our sincere thanks to CSR team of Aurobindo Pharma Foundation for their cooperation and guidance throughout the study.

Our special thanks to Telangana State Irrigation Development Corporation (TSIDC), the implementing agency & Agricultural Extension Officer for providing necessary information pertaining to the scheme.

We also extent our thanks to Mahila Abhivruddhi Society, (APMAS) NGO for their help in data collection and arranging farmers for Focused Group Discussions.

Finally, we would like to express deep sense of gratitude to Farmers, Panchayat staff, Village Officials and other stakeholders for their cooperation during the study.

Prof.S.V.Reddy, President & Executive Director PRDIS, Hyderabad

IMPACT ASSESMENT STUDY ON UPGRADATION OF LIFT IRRIGATION SCHEME EXECUTIVE SUMMARY

CONTEXT

A Lift Irrigation scheme on Manjira River at Borpatla village, Hathnoora Mandal of Sangareddy District was initiated by the erstwhile Government of Andhra Pradesh during the year 2010 which was not in good working condition due to silt in Nakkavagu and dysfunctional pipelines, motors etc., Besides, there was also a need for infrastructure development such as roads, farm produce storage sheds etc., for easy access to fields and transport of produce to markets.

Based on request of the farmers, Aurobindo Pharma Foundation has extended CSR fund of Rs130 lakhs to Telangana State Irrigation Development Corporation (TSIDC) during 2018 for upgradation of the lift irrigation scheme. About 572small and marginal farmers were directly benefitted covering a net area of 400 acres, besides about 250 farmers were indirectly benefitted through recharge of bore wells covering 300 acres. Thus, a total of 700 acres belonging to 822 farmers were positively impacted due to this intervention. In addition, due to lift irrigation about 200 fishermen had enhanced their livelihood due to a water pond of 230 acres in proximity. Furthermore, roads and infrastructure facilities were created for benefit of farmers to deal with aspects related to post harvest.

Keeping in view the importance of the project and the need for assessing the impact on the farming community, Foundation has entrusted this study to Participatory Rural Development Initiatives Society (PRDIS) a professional NGO with two decades of experience in undertaking Monitoring, Evaluation and Impact studies.

OBJECTIVE

The study was conducted with overall objective to assess the impact in terms of socio-economic, environment and other changes in farming as well as ancillary benefits to the farming community.

METHODOLOGY

The methodology adopted a combination of before and after controlled experimental design and ex- post-facto research design. A total of 100 farmers comprising direct beneficiaries (60) indirect beneficiaries (20) and control group (20) were selected by a simple random sampling method. The data was captured by both quantitative and qualitative methods such as interviews, Focused Group Discussions (FGDs) and participatory methods. Furthermore, stakeholders and expert opinion and case studies were also captured.

MAIN FINDINGS – OUTPUT – OUTCOME – IMPACT:

- All the beneficiaries understood the objectives and were satisfied with lift irrigation performance and benefits
- Post lift irrigation scheme, there was a shift in cropping pattern from cotton to paddy by majority of beneficiaries while the control group of farmers are still dependent on cotton
- The cropping intensity due to lift irrigation increased from 100 to 200 percent (growing two crops in a year)in case of all direct beneficiaries, however in about 65 percent of land of indirect beneficiaries, the cropping intensity increased from 100 to 200 percent
- The majority of beneficiaries have reported that they have gained more knowledge and skills after Lift Irrigation through related crop demonstrations, Farmer Field School method of trainings, Training Programs as organized by Agricultural Department and APMAS NGO thus contributing to upgraded skills of human capital.
- There was a significant increase in net income of direct beneficiaries. The Net Income of direct beneficiaries got more than doubled i.e., from Rs.15,000/- to Rs.39,500/- per acre due to double cropping, reduction in cost of cultivation and increase in productivity. Thus, for the cost incurred to a tune of Rs. 130 lakhs on lift irrigation scheme, an equivalent benefit has been obtained through doubled net income of farmers. Considering furthermore benefits to reap during next few years, this CSR intervention can be quoted as an excellent social investment of Aurobindo Pharma Foundation to benefit farmers immensely.
- APMASNGO with the support of APF CSR fund, has formed a Farmer Producer Organization (FPO) namely Jai Kisan Agricultural Mutually Aided Cooperative Society Ltd in the same village, in which some of the beneficiaries under lift irrigation scheme are also members and getting quality inputs at affordable price. Some of the beneficiaries have also become active members of Primary Agricultural Cooperative Society (PACS), Borpatla through which they got benefitted through crop loan.
- There was a change in livelihood and lifestyle of beneficiaries after this intervention of lift irrigation. The farmers are utilizing additional income generated through lift irrigation for purchase of Agricultural inputs / implements, household items, motor vehicles and other expenses towards education of children and family health.
- The infrastructure development like roads, sheds etc., in the project area are also helpful for easy marketing and transport of farm produce
- The stakeholder's reaction and analysis revealed that the majority have ranked `Very Good` with respect to Relevance, efficiency, and effectiveness and overall performance of the scheme. However, the sustainability and impact were rated as 'Good'.

V

OPPORTUNITIES FOR IMPROVEMENT & SUSTAINABILITY

- The experience gained in successful implementation of upgradation of Borpatla Lift Irrigation scheme by Aurobindo Pharma Foundation in convergence with TSIDC is an excellent model which can be replicated in other feasible locations or further expanded for improving livelihood of farming communities.
- It is also observed that there is a scope for improving farmer's income further, by strengthening FPO, Primary Agriculture Cooperative Society and by promoting agriculture and allied livelihood activities. The local youth and women can be sensitized and trained in this direction. The assistance of NABARD and other applicable government schemes can be sought to deal with this issue.
- Aurobindo Pharma Foundation or any other donors with the support from local stakeholders (Beneficiaries, FPO, Cooperative Society and Government of Telangana) can initiate construction of rural godowns, sufficient drying yards, strengthening of Customs hiring Centers and Rice Mills etc. on PPP basis to address post-harvest and supply chain challenges in future. The existing FPO can play a vital role in this aspect.
- The farmers and representatives of Village Institutions have voiced for expansion of Lift Irrigation Scheme by installation of two more motors to further cover about 150 acres benefiting 80 more farmers in the village. The Agriculture and Irrigation Department of Telangana also opined the same. A feasibility study may be undertaken to examine this.
- There is a need to strengthen Borpatla lift irrigation management committee and its functionality to look into water stewardship issues, promoting water saving methods (SRI Cultivation, direct seeding, alternate wetting and drying etc.,), water cess, maintenance of lift irrigation and other infrastructure to ensure its sustainability.
- There is a scope for further increase in paddy crop productivity by strictly following water and soil test-based recommendations specially on nitrogen management, introducing suitable varieties which are resistant to Blast, stem borer and green manuring etc., FPO may focus to do more intensive trainings and advocacy in this aspect. It is also suggested to arrange more exposure visits to farmers to the nearby Lift Irrigation Schemes and also agriculture research stations for exposure for better cultivation and water management practices.
- There are several examples of lift irrigation in combination with micro irrigation serving more catchment area including rainfed areas. The similar integrated model can be examined and kept in view in future expansion so that more farmers can be benefitted and also shift in cropping pattern towards high-value crops can happen.

CONCLUSION

The upgradation of Borpatla Lift Irrigation Scheme on Manjira River has demonstrated the potential for increasing Agricultural Productivity, Net Income and improving the Rural Livelihoods of small & marginal Farmers. The convergence model of Public Private Partnership adopted is worth replicating in different areas. This initiative also contributed for achieving relevant Sustainable Development Goals (SDG 12 and 17) on Responsible production systems, sustainable agriculture and environmental sustainability. While the efforts of Aurobindo Pharma Foundation in convergence with Government of Telangana are very much appreciated, the opportunities for further improvement exist to ensure sustainability especially through convergence of corporate, TSIDC, local institutions like FPO and PACS, thus it will be a valuable addition for further upliftment of farming community.

CHAPTER 1

INTRODUCTION

1.1. PREAMBLE

Sustainable water management is essential for survival and promoting collective water stewardship aims to achieve sustainable water management. This is a stakeholder inclusive process to ensure all farmers are equally benefitted and thus ensuring shared water governance. There are different methods of irrigation for supply of water and lift irrigation is one of them to bring collective ownership among farmers.

Lift irrigation is the method of irrigation in which water instead of being transported with natural flow (as in gravity fed canal systems) it is lifted with external energy such as electric power by using pumps or other electric means. Lift Irrigation schemes are useful where the target land is at a higher level. The benefits are minimal land acquisition and low water loses. However, it needs complex pumping and power equipment. In this method of irrigation, promoting water stewardship is also very important to ensure equitable access to water for all farmers in catchment area.

1.2. THE NEED FOR ASSESSMENT

A Lift Irrigation scheme on Manjira River at Borpatla village, Hathnoora Mandal of Sangareddy District was taken up by the erstwhile Government of Andhra Pradesh during the year 2010 as Sri Rama lift irrigation Scheme which was not in good working condition due to silting in Nakkavagu and accordingly repairs to motors and pumping systems. Besides there was also need for infrastructure development such as roads, sheds etc., for better market access of farm produce. The Irrigation Department of Government of Telangana made a representation through the beneficiaries to Aurobindo Pharma Foundation to provide Rs130 lakhs for up-gradation of existing Borpatla Lift Irrigation Scheme. Accordingly, Aurobindo Pharma Foundation has extended Rs130 lakhs from Corporate Social Responsibility (CSR) fund during 2019 for up-gradation of lift irrigation Scheme to implement the same through Telangana State Irrigation Development Corporation (TSIDC).

This initiative has been undertaken keeping in view the welfare of farmers in Borpatla village which has been adopted as a model village to improve the livelihoods. Through this project, about 572 small and marginal farmers are directly benefitted covering a net area of 400 acres besides about 250 farmers were indirectly benefitted through recharge bore wells covering 300 acres. Thus, a total of 700 acres belonging to 822 farmers were positively impacted due to this intervention. In addition, roads and other infrastructure were created in the fields for ease of transport and marketing of the produce.

In view of the importance of this project and its potential in creating social, economic and environmental impacts among the farming community, Aurobindo Pharma Foundation decided to get this impact assessed through a third party organization namely Participatory Rural Development Initiatives Society (PRDIS), which is a professional NGO with two decades of experience in conducting monitoring, evaluation and impact studies for both National and International Organizations.

1.3. ABOUT PRDIS

Participatory Rural Development Initiatives Society (PRDIS)(www.prdis.org) is a registered and reputed professional National Level Development Organization (NGO) established during the year 1999 operating from Hyderabad, Telangana, India.

Participation, Partnership and Empowerment are the guiding principles of PRDIS. It has been working on the areas of Sustainable Agriculture, Agri-business, rural development and Natural Resource Management. This organization has also been providing consultancy services to the Central Government, various State Governments, Agro Based Industries, Foundations, International Development Agencies on Field activities, Monitoring, Evaluation, Impact studies, base line survey and capacity building activities concerning with Sustainable Agriculture, Agribusiness and Rural Development issues.

1.4. ABOUT AUROBINDO PHARMA FOUNDATION (APF)

APF is the Philanthropic arm of Aurobindo Pharma Limited and serves for social and economic growth of the nation through its Corporate Social Responsibility (CSR) programs around different thematic areas such as Education and skill Development, Health and nutrition, sanitation, social equality, sustainable agriculture and rural development, Environmental sustainability etc., The foundation has also aimed to develop few identified rural villages into model villages through Integrated Rural Development Activities.

1.5. BORPATLA VILLAGE PROFILE

Aurobindo Pharma Foundation has adopted Borpatla village under its Corporate Social Responsibility (CSR) agenda. Borpatla is the village where Aurobindo Pharma Ltd Unit 1 also exists.

Borpatla is one of the Gram Panchayats (GP) of Hatnoora Mandal in Sangareddy District of Telangana. A total of 578 families are residing in this village. This village is located one KM away from the main road connecting Sangareddy (Medak district HQ) to Narsapur (a town in Medak district). There is one high school and one primary school in this village. Most of the households depend on agriculture for their livelihood. The major crops grown in the area are Paddy, Cotton and Redgram.

MAP OF THE VILLAGE



BRIEF PROFILE OF THE VILLAGE

DISTRICT	DETAILS
Total Population	2633
Total Households	578
Female Population	1348
Total Literates	1295
Scheduled Tribes (ST) Population	32
Scheduled Caste(SC) Population	765
Working Population	42.7%
Child Population	316

1.6. OBJECTIVES OF THE ASSESSMENT

- 1. To evaluate the impact of the project in terms of social, economic, environmental and other benefits for the farming community
- 2. To examine the changes in cropping pattern, cropping intensity, productivity(yield), cost of cultivation, net income, migration, lifestyle and other relevant issues
- 3. To study and find out the amount of visibility created for the project, local acceptance and ownership
- 4. To assess the perception of beneficiaries, stakeholders and experts about the relevance, effectiveness, efficiency, impact, sustainability and overall performance of the scheme
- 5. To get the views of stakeholders for sustainability and to suggest the opportunities for further improvement

1.7. EXPECTED OUTCOME OF THE ASSESSMENT

• Socio economic data of the sample respondents

- Comparative analysis of the socio-economic and environmental impacts among beneficiaries
- Changes in cropping pattern, cropping intensity, productivity, cost of cultivation, Net income, migration, lifestyle and other issues
- Documentation of present status of lift irrigation in terms of relevance, effectiveness, efficiency, Impact, sustainability and overall performance as perceived by stakeholders
- Benefits of lift irrigation scheme as perceived by stakeholders and suggestions for sustainability

1.8. LIMITATIONS

- The study was taken up during Covid 19 pandemic and therefore relatively it took more time. The study was limited to a sample of 60 direct beneficiaries, 20 indirect beneficiaries and 20 respondents of control group, hence the interpretation should be done with caution for generalization.
- However, within the time limitation, in order to capture qualitative data and cross verification of the quantitative data, suitable participatory methods such as Focus Group Discussions (FGDs), Transect walk and observations were employed for the study.

1.9. PRESENTATION OF THE STUDY

The study is presented in five chapters and each chapter is developed to a clear exposition of various aspects of the main theme.

Chapter 1 Deals with Introduction, highlighting the importance of the study, objectives, expected outcomes, limitations and presentation of the study report.

Chapter 2 Deals with Methodology - research design, sampling, tools and methods of data Collection and tabulation and analytical procedures.

Chapter 3 Deals with Findings and Discussions on Impact Assessment in terms of socioeconomic, environment and situational variables, knowledge levels, change in cropping pattern, net income, productivity, cost of cultivation, groundwater resource, impact on allied activities and for livelihood improvement etc.

Chapter 4 Include Case Studies on selected interventions

Chapter 5 Deals with Summary of findings, opportunities for further improvement and sustainability and conclusion on -Output, Outcome and Impact

CHAPTER 2

METHODOLOGY

This Chapter Presents the methodology followed in conducting the impact assessment study of upgradation of Borpatla Lift irrigation scheme for increasing Agricultural Productivity and improving the Livelihoods of farmers of Borpatla and surrounding villages. In this chapter, the research design, sampling procedures, variables and targeted changes, instruments and methods used for collective of data, analytical procedures and statistical tools followed for interpretation of data, were presented.

2.1. RESEARCH DESIGN

A scoping study and consultations had confirmed the need for the combination of research designs to be adopted for Impact Assessment.

Before and after controlled experimental design was followed in case of capturing the changes in cropping pattern, cropping intensity, productivity, net income and related changes. Ex-post facto research deign was adopted to obtain data related to personal, socio, economic and situational variables as well as knowledge, impact indicators and views of stakeholders and experts. However relevant data in both designs were compared with indirect beneficiaries and control group of farmers (Farmers whose farms located much away and no way impacted with lift irrigation)

The study was done in two phases i.e., Phase - I includes Scoping Study, Consultations, selection of indicators, selection of sample respondents and preparing research tools while during Phase- II quantitative and qualitative data were collected and analyzed.

2.2. SAMPLING

A total of 100 farmers comprising of direct beneficiaries (60), indirect beneficiaries (20) and control group (20) and they were selected by a simple random sampling method.

2.3. VARIABLES AND TARGETED CHANGES

Independent Variables

- Age
- Literacy
- Occupation
- Farming experience
- Views of respondents, Key informants and other stakeholders
- Social Participation Membership in FPO, SHGs / Cooperative
- Human Capital Knowledge
- Diffusion and multiplier effect

Dependent Variables

- Changes in Cropping Pattern
- Changes in Productivity
- Changes in Cropping Intensity
- Changes in Cost Of Cultivation
- Change in Net Income
- Change in Ground Water Table

• Change in Livelihoods and Lifestyle

In addition, relevance, effectiveness, efficiency, Impact, Sustainability and other performance indicators were used to measure overall impact as perceived by beneficiaries and stakeholders.

2.4. INSTRUMENTS USED FOR DATA COLLECTION

The following instruments were used for data collection

- Interview schedule
- Focused Group Discussion Checklist
- Key informant interviews
- Ranking method for overall impact

The instruments were pretested and used for collection of data (Annex 2)

- Interview Schedule: The interview schedule was formulated based on scoping study incorporating the dependent and Independent variables in different sections.
- Focus Group Discussions (FGDs): The FGDs have captured qualitative data. The focus group discussions have been organized by the Impact Assessment team with the beneficiaries for major interventions.
- **Case Studies:** Case studies were documented with the selected respondents covering the major interventions. These case studies have depicted and explored the change process in a more probing manner as compared to the questionnaire survey topics. These will be added as a supplement and compliment to the FGDs.
- Key Informant interviews: A limited number of key informant interviews were conducted to further understand the dynamics of changes that occurred due to the Lift Irrigation Scheme. The key informants includes opinion leaders, Panchayats /Sarpanch and members, heads of community based institutions such as Lift Irrigation Management Committee, SHGs, Farmer Producer Organization (FPO),PACS, Village Officials, selected beneficiaries, Officials of Department of Agriculture and Irrigation etc., The information also was used to supplement quantitative information. In addition, the information was also used in ranking the impact indicators on relevance, effectiveness, efficiency, impact, sustainability and overall performance of the project.
- **Transect Walk:** The Impact Assessment team along with farmers had Transect Walk to the catchment area of Lift Irrigation Scheme to understand the dynamics and physically verify the facilities.
- Observations: The Impact Assessment team and researchers also used observation as one of the tools to document the interventions as evidence. During the process, they also got information about the assets created and cost benefit analysis of the interventions. During the process, participatory monitoring of the field conditions was also done.

• Secondary Data Reviews: A further source of evidence is the secondary data. In addition to the information (primary data) gathered directly from the informants through household survey and FGDS, secondary data were also collected from different agencies on the supply chain and input delivery issues as well as price of paddy and other commodities.

2.5. RAPPORT

Rapport was established with the villagers and the beneficiaries by visiting them prior to data collection and discussing several issues including marketing concerns and other constraints expressed by them as well as offering suitable solutions.

2.6. DIGITIZATION OF THE DATA COLLECTED AND VALIDATION OF THE DATA

Entire data collection through interviews were cross checked by the Impact Assessment team and digitalized in proper formats.

2.7. TABULATION & ANALYSIS

The Impact Assessment team of the PRDIS has designed all the required tables, keeping in view the objectives, expected results and the data collected. Analysis has been done for each table generated using simple statistical tools like frequency, percentages, graphical and pictorial presentations were made wherever required.

CHAPTER 3

RESULTS AND DISCUSSIONS

Based on the data collected for the study through Interview schedules, FGDs, observation and other Participatory tools, analysis was made and the findings are presented and discussed below:

3.1. AGE OF FARMERS

From the Table 3.1, shows Age of Farmers in direct, indirect and control group sample respondents.

	BENEFICIARY CATEGORIES (%)			
AGE OF FARMERS (YEARS)	Beneficiaries	Indirect Beneficiaries	Control	
18-40	28	40	50	
41-60	68	60	45	
60 above	3	0	5	

From the Table 3.1, it is clear that majority of sample farmers are in the age group of 41-60 years followed by age group of 18-40 years.

3.2. LITERACY

The following Table 3.2 shows the difference in the literacy level of the direct, indirect and control group sample respondents

	BENEFICIARY CATEGORIES (%)				
LITERACY LEVEL	Direct Beneficiaries	Indirect Beneficiaries	Control		
Illiterate	20	35	45		
Primary school	68	25	25		
Secondary school	8	40	20		
Graduate	3	0	10		
Total Literacy Rate	80	65	55		

It is observed form the Table 3.2, that majority of Direct (80percent) and indirect beneficiaries (65percent) are literates. Even in control group also similar trend was observed. Literacy of farmers has relevance with their quick adoption rate to latest crop cultivation practices.

3.3. OCCUPATION

The following Table 3.3, shows the occupation status of respondents

	BENEFICIARY CATEGORIES (%)				
OCCUPATION	Direct Beneficiaries	Indirect Beneficiaries	Control		
Agriculture	100	100	100		
Dairy	0	0	0		
Others	0	0	0		

From the Table 3.3, it is clear that Agriculture is the main occupation for all the respondents. However, it is also found out through FGDs that about 10% of respondents are also employed and works part time as Agriculture Labor.

3.4. LAND HOLDING OF RESPONDENTS

	BENEFICIARY CATEGORIES (%)				
CATEGORY	Direct Beneficiaries	Indirect Beneficiaries	Control		
<2.5 (Acres)	57	50	85		
2.5 to 5 (Acres)	28	45	25		
5 > (Acres)	25	5	0		

The Table 3.4, shows the Land holdings of sample respondents

The Table 3.4, shows that majority of the respondents are marginal (Less than 2.5 acres) and small (2.5 to 5 acres) land holders which includes leased land also.

3.5. FARMING EXPERIENCE

The Table 3.5, shows the farming experience of respondents

FARMING	BENEFICIARY CATEGORIES (%)			
EXPERIENCE (YEARS)	Direct Beneficiaries	Indirect Beneficiaries	Control	
0-10	3	0	5	
11-20	15	25	25	
20 above	82	75	70	

From Table 3.5, it is evident that majority of sample respondents are having farming experience of 20 years and above signifying their dependence on agriculture.

3.6. INCREASED IRRIGATED AREA

The Table 3.6, shows the increased area under irrigation

	DIRECT BENEFICIARIES		INDIRECT BENEFICIARIES		CONTROL FARMERS	
AREA	Before Lift Irrigation	After Lift Irrigation	Before Lift Irrigation	After Lift Irrigation	Before Lift Irrigation	After Lift Irrigation
Rainfed (%)	27	0	83	36	100	100
Irrigated (%)	73	100	17	64	0	0

Source of irrigation prior to Lift: Canal and borewells



Figure 1: Percentage of increased irrigated area after lift irrigation

As shown in Table 3.6, direct beneficiaries reported that 27 percent of their land was rainfed and 73 percent of their land was irrigated before the upgradation of Lift irrigation whereas 100 percent of the land is irrigated at present. However, about 83 percent of Indirect Beneficiaries land was rainfed and only 17 percent was irrigated before, and at present 64 percent of land was irrigated.

The secondary data collected from the records indicates that a total of 572 farmers were directly benefited cultivating paddy in 400 acres under Lift Irrigation, whereas about 250 farmers were indirectly benefitted through recharge of bore wells cultivating 300 acres.

3.7. CHANGES IN CROPPING PATTERN

The Table 3.7, shows the changes in cropping pattern

BENEFICIARY	CHANGE IN CROPPING PATTERN DUE TO THE LIFT IRRIGATION(%)		
CATEGORT	Yes	Νο	
Direct Beneficiaries	100	0	
Indirect Beneficiaries	90	10	
Control	0	100	





From table 3.7, it is clear that all the direct beneficiaries have changed cropping pattern with a shift from cotton to paddy whereas about 90 percent of indirect beneficiaries shifted from cotton to paddy. This is because of assured water supply through Lift Irrigation and also increase in ground water potential. Interactions with irrigation department also revealed that there could be increased water table and stability of water table through both crop seasons. Further, few farmers opined that there is an increased land value due to improved land productivity because of assured irrigation.

3.8. CROPPING INTENSITY

BENEFICIARY	CROPPING INTENSITY IMPROVEMENT DUE TO LIFT IRRIGATION		
CATEGORY	Before	After	
Direct Beneficiaries	100	200	
Indirect Beneficiaries	100	165	
Control	100	100	

The following Table 3.8, shows the changes in cropping intensity* (Percentage)

^{*}Cropping Intensity: It refers to raising of no.of crops from the same field during one agricultural year



Figure 3: Cropping Intensity improvement due to lift Irrigation

From the table 3.8, it is clear that before upgradation of lift irrigation, the direct beneficiaries used to grow single crop but at present they are growing two crops of paddy in a year thus doubled the intensity (200%) whereas 65% of the land of indirect beneficiaries is double cropped. There is no change in cropping intensity in control group. Mostly they are growing cotton.

3.9. COST OF CULTIVATION

From the table 3.9, it shows the cost of cultivation of crops in Rupees

CROP	COTTON	PADDY	PADDY
Seed Variety	Hybrid	MTU 1010	KNM118/RNR15048/RNR21278/BPT5204
	Cotton		(Sannalu)
Seed Cost	1650	1400	1200
Preparation Cultivation	1000	1000	1000
Plantation	1500	6000	6000
Fertilizers Cost	2600	3500	3500
Pesticides	5200	1500	1550
Irrigation Cost	0	800	800
Weeding Labor Cost	6600	4400	4400
Harvesting Cost	11000	2000	2200
Any New Practices	No	No	No
adopted after Lift			
Irrigation			
Total	29500	20600	21450

From the table 3.9, it can be inferred that the cost of cultivation of Hybrid Cotton Per acre is Rs.29550/-while paddy MTU1010 is Rs.20600/- and Paddy KNM118/RNR15048/RNR21278/BPT5204 (Sannalu) is Rs.21450/-.Farmers also reported that due to less use of pesticides and fertilizers and application of green manure as trained by experts, the cost of cultivation is reduced by about Rs.1000/- to Rs.3000/- per acre after lift Irrigation and related trainings on crop husbandry. The trainings and Demonstrations organized by Department of Agriculture and APMAS (NGO) have brought this change.

3.10. PRODUCTIVITY (YIELD)

The table 3.10, shows Productivity (yield) enhancement of crops before and after Lift Irrigation

	PRODUCTIVITY (Yield in q/acre)		
BENEFICIART CATEGORT	Kharif Paddy	Rabi Paddy	
Before Lift irrigation	19	0	
After Lift irrigation	22	24	



Figure 4: Yield increase in q/acre before and after lift irrigation

From Table 3.10, it is clear that productivity levels have significantly increased after Lift Irrigation to an extent of 3-5 q/acre of paddy

3.11. KNOWLEDGE LEVELS

Table 3.11,	shows	the	knowledge	level	of	sample	respondents	on	recommended
practices of	[;] paddy	cultiv	vation						

BENEFICIARY	DIRECT E	BENEFICIARY	INDIRECT BENEFICIARY	
CATEGORY	Yes	No	Yes	No
Low Knowledge < Mean	40	10	50	40
Medium knowledge = Mean	40	50	50	50
High knowledge >Mean	20	40	-	10

From the table 3.11, it is evident that direct beneficiaries have gained more knowledge after the lift irrigation because of demonstration and training programs organized by Agricultural Department and APMAS (NGO) specially on `N` Management, Blast and stem borer, water management and post-harvest technologies. Indirect beneficiaries also equally gained knowledge due to knowledge diffusion and farmer to farmer extension.

3.12. INCREASE IN NET INCOME

From Table 3.12, shows the increase in Net income (per acre annually) of beneficiaries

IRRIGATION	CROP	KHARIF NET INCOME (RS.)	RABI NET INCOME (RS.)		
Before Lift irrigation	Paddy	15000	0		
After Lift irrigation	Paddy	19500	20000		
Total Increased Net income percentage after Lift irrigation: 163%					





From Table 3.12 it is clear that with a single crop of paddy before lift irrigation the beneficiaries were getting net income of Rs. 15000/- per acre whereas due to lift irrigation the average Net Income is Rs.39500/- per acre annually for two crops. This is also due to productivity enhancement of 3 to5 q/acre per acre and also reduction in cost of cultivation. Thus, for the cost incurred to a tune of Rs 130 lakhs on lift irrigation scheme, an equivalent benefit has been obtained through doubled net income of farmers. Considering furthermore benefits to reap during next few years, this CSR intervention can be quoted as an excellent social investment of Aurobindo Pharma Foundation to benefit farmers immensely.

3.13. GROUND WATER

The following Table 3.13, shows the response of sample respondents about ground water improvement by observation, discussion with the beneficiaries and Agriculture & Irrigation Department Officials due to lift irrigation

BENEFICIARY	IMPROVEMENT IN GROUND WATER DUE TO LIFT IRRIGATION			
CATEGORY	Yes	Νο		
Direct Beneficiaries	100	0		
Indirect Beneficiaries	95	5		
Control	0	100		

As per the Table 3.13, all the direct beneficiaries and 95 percent of indirect beneficiaries reported to have increase in ground water level due to lift irrigation. The indirect beneficiaries also said in the past single crop was cultivated now that they are able to irrigate more acres and grow two crops in a season there by getting increased income.

3.14. ENVIRONMENTAL ASPECTSAROUND WATER MANAGEMENT

BENEFICIARY	ENVIRONMENTAL ASPECTS SUCH AS WATER MANAGEMENT (%)			
CATEGORY	Yes	No		
Direct Beneficiaries	0	100		
Indirect Beneficiaries	0	100		
Control	0	100		

The table 3.14, shows interest of farmers towards water stewardship

From the Table 3.14, all the respondents said that so far, they had no environmental related problems around water due to lift irrigation and cultivation of paddy for two seasons. However, during interactions farmers opined that they can be trained on water stewardship program and climate smart agriculture like SRI Cultivation and direct sowing of paddy as a proactive approach and to avoid any water shortage in future.
3.15. SATISFACTION OF BENEFICIARIES ON INFRASTRUCTURE DEVELOPMENT

BENEFICIARY	INFRASTRUCTURE DEVELOPMENT THROUGH LIFT IRRIGATION SCHEME (%)			
CATEGORY	Yes	Νο		
Direct Beneficiaries	100	0		
Indirect Beneficiaries	80	20		
Control	0	100		

The table 3.15, shows the Satisfaction of Beneficiaries on Infrastructure Development

As per Table 3.15, it shows 100 percent direct beneficiaries and 80 percent indirect beneficiaries had benefited due to infrastructure development such as roads, sheds etc. This has helped in easy transport and marketing of produce obtained from both seasons of lift irrigation as well as for movement of heavy machinery such as harvester etc. This also benefited to save considerable amount towards transport cost. All the respondents are thus satisfied with the benefits due to infrastructure development.

3.16. SOCIAL PARTICIPATION

The Table 3.16, shows the Membership status of the respondents

	FPO/ COOPERATIVE SOCIETY MEMBER (%)			
BENEFICIART CATEGORT	Yes	No		
Direct Beneficiaries	40	60		
Indirect Beneficiaries	30	70		

From the Table 3.16.it is observed that 40 percent of direct beneficiaries and 30 percent of indirect beneficiaries reported that they are members of either FPO or PACS. It is reported by village officials and AEO that few beneficiaries of Lift Irrigation are also members of FPO and still there is an opportunity for more to subscribe to avail related benefits. However, many beneficiaries of lift irrigation scheme are also willing to join in the FPO as opined by them

3.17. MEMBERS BENEFITTED THROUGH FPO AND PACS

The Table 3.17, shows different kinds of benefits as members

BENEFITS THROUGH FPO &	BENEFICIARY CATEGORY			
COOPERATIVE SOCIETY MEMBER	Direct Beneficiaries (%)	Indirect Beneficiaries (%)		
Agriculture Inputs	75	70		
Machinery	20	10		
Loans	10	5		
Marketing	80	60		
Others	20	10		

It is clear from the Table 3.17that members of FPO and PACS are getting benefits of quality Agricultural inputs with affordable costs, loan with less interest, machinery on hire and also benefits of marketing of the produce.

3.18. SATISFACTION ABOUT LIFT IRRIGATION SCHEME

BENEFICIARY			
CATEGORY	Very Much	Satisfied	Not Satisfied
Direct Beneficiaries	20	80	-
Indirect Beneficiaries	10	90	-

The Table 3.18, shows the extent satisfaction of respondents on Lift Irrigation Scheme

It is clear from Table 3.18, that all the sample direct and indirect beneficiaries were satisfied with the lift irrigation and its benefits. However, they have also voiced for extension of the lift irrigation by installing two more motors so that it can benefit additionally 150 acres of land and also tail enders gets water on time besides recharge of bore wells. From this it is evident that the respondents have understood the objectives, performance and benefits of the project, thereby greater visibility for the scheme.

3.19. ASSESSMENT OF IRRIGATION SCHEME BY STAKEHOLDERS

RANKING METHOD WAS USED FOR ASSESSMENT (Very Good-5, Good-4 Average-3, Not up to the mark-2, Poor-1)

S.NO	CRITERIA	ASSESSMENT	REMARK
1.	Relevance	5(Very Good)	The lift irrigation scheme initiated on Manjira River at Borpatla village by erstwhile AP Government was not in good working condition due to silting in Nakkavagu and accordingly repairs to motor and pipelines etc. Besides the approach Road was also not in good condition. Had upgradation of the scheme was not undertaken by Aurobindo Pharma Foundation, majority of farmers could have no opportunity to grow second crop of paddy and the Ground water condition could have been `critical`. Thus the project is most relevant to access to water source and to increase the income and improve the livelihoods.
2.	Efficiency	5(Very Good)	The convergence effort of Aurobindo Pharma Foundation with Telangana State Irrigation Development Corporation (TSIDC) having high technical capabilities to design and implement Lift irrigation scheme to deliver the water required for sufficient consumption of crops in the catchment area, has paid dividends in terms of efficiency of the project.

3.	Effectiveness	5(Very Good)	Both Technical and farmers feedback about the effectiveness has been excellent, in terms of delivery of water on time with minimum loses through pipelines. It has paved the way for crop productivity enhancement, improved income by increasing in cropping intensity, livelihood, further improvement and changes in lifestyle.
4	Impact	4(Good)	All the direct and indirect Beneficiaries and other stakeholders expressed their satisfaction about the gain and usefulness of the CSR intervention. They said they gained more knowledge and skills through training, demonstration and other extension activities. They felt socio-economic and environment benefits were accrued due to the project.
5	Sustainability	4(Good)	The sustainability of the project can be further achieved by activating the village development committee, lift irrigation management committee duly involving Panchayat, SHGs, FPO, village officials, Department officials of Agriculture irrigation and PACS to monitor and manage the scheme.
6	Overall performance	5(Very Good)	The Lift irrigation scheme has proved to have socio, economic and environment impact benefiting farmer's livelihood improvement. The Borpatla village being adopted as a model village by Aurobindo Pharma Foundation and initiating several interventions such as skill training, sanitation, education, infrastructure, development besides formation of FPO and installation of custom hiring center will add for further enhancement of impact. Thus, the visibility of the project is very good.

3.20. SOME OF THE DATA REGARDING THE FOLLOWING VARIABLES IS CAPTURED THROUGH FOCUS GROUP DISCUSSIONS

- Migration: Farmers are under the opinion that there is no migration from their village now to other areas for labor work due to effective irrigation through lift scheme and thus two crops are grown. Earlier the labor for transplanting and weeding operations of paddy comes from neighboring villages and sometimes, this poses a challenge and problem in peak periods due to labor shortage. Some of the families, there is a reverse migration happening as the agriculture is prospering now in the village.
- Supply Chain: There are no issues raised by farmers on this aspect, since the produce directly marketed to Government in most cases and in some cases the paddy is converted to rice and sold. Existing FPO is also guiding the farmers on paddy procurement, market linkages and value addition.
- Livelihoods and Lifestyle: The farmers are happy with the improvement of their income and Livelihood as a result of Lift Irrigation Scheme. This has paved way for transforming their Lifestyle

as evidenced from improvement in their living conditions. The additional income gained now by most of the farmers is spent for renovation of their houses and purchase of agriculture implements and household equipment, meeting expenses towards children education, purchase of Livestock including milch animals and goats/sheep besides investing on petty business etc. Majority had food and nutrition security and they also are able to lead a better life now. Villages attribute this transformation to consistent efforts of Aurobindo Pharma Foundation.

3.21. SUGGESTIONS

The following suggestions were also shared by the beneficiaries during interactions:

- Expansion of lift irrigation scheme with two more motors for an additional 150 acres and to benefit to increase water levels for effective recharge bore wells
- Majority of farmers felt that it is necessity to strengthen lift irrigation management committee and improve its functionality and deliverables
- Need for organizing entrepreneurship skill development Programs in Agriculture for youth is observed so that they can be self-employed and generate employment for many more.
- Most of the farmers felt necessity for more rigorous trainings on best agronomic practices such as soil test-based fertilizer use, introduction of new paddy varieties suitable
- To strengthen custom hiring center by providing modern equipment like transplanter, harvesters etc. by Farmer Producer Organization.
- Majority also felt that the allied activities in agriculture such as Livestock (milch animals) sheep and Goat farming, aquaculture, kitchen gardening will help them to compliment and supplement their income.

CHAPTER 4

CASE STUDIES

Small farmer reaping benefits from Lift Irrigation

Mr.Potlacheruvu Krishnaiah is a small farmer in Borpatla village having 2 acres of land, married with children studying intermediate education. He also having small grocery Shop managed by his family. He is a member of Fisheries Society, Director of Farmer Producer Organization and Primary Agricultural cooperative Society.

He said that before the lift irrigation he was cultivating paddy under tank fed irrigation in only one season, however after irrigation he is able to take two crops of Paddy. He is cultivating KNM118and MTU1010 of Paddy variety. The productivity of Paddy also increased from 25 q/acre- 30 q/acre per acre due to availability of water, Nitrogen Management and use of green manure in Paddy fields. The cost of cultivation is about Rs.15,



000/- per acre and he is able to have net income of about Rs.25, 000 – Rs. 30,000/- per acre per season. In addition he gets about Rs.5, 000 from aqua culture and about one lakh from small grocery Shop. He also says that Roads& infrastructure facilities created by Aurobindo Pharma Foundation is helping them for easy access to market. He has no problem of selling Paddy since Government is procuring directly and part of its value added and sells as rice.

He voiced bigger concern on labour problem and said that modern inputs and machinery can partly solve the problem. He also said that there is a need to revitalise beneficiary committee of Lift irrigation, so that regular payments are given to operator and also attend in minor repairs by collecting money from beneficiaries. He also felt to activate FPO to undertake Sale of quality inputs and marketing of produce besides training farmers.

He has utilised the additional income generated successfully for house construction and children education. He also endorsed the good efforts of Aurobindo Pharma Foundation in providing other infrastructure facilities in the village such as roads, RO, toilets etc.

The major suggestion offered by him is to take up entrepreneurship skill development programmes for rural youth for self-employment. Indeed, he says that great transformation on villagers lives & livelihoods happened due to Aurobindo Pharma Foundation support especially due to up gradation of Lift Irrigation scheme.

Farming under Bore Wells – Benefits of lift irrigation



Mr.Manne Ramakrishna S/o M.Narsimhulu is a married and having three children and his wife helps him in farming activities and owns 5 acres and leased 4 acres of agricultural land. He is cultivating Paddy and cotton in his fields and also has one cow and 3 calves and using milk for domestic purpose. Before commencement of the Lift Irrigation programme he used to cultivate only one crop in a season. Initially they have a problem for insufficient water for irrigation purpose. Prior to implementation of Lift Irrigation programme crops used to suffer during drought and therefore productivity and production would be low.

He said that the depletion in ground water levels could be seen even though there was considerable higher rainfall earlier. The situation has changed tremendously during the

recent years with the availability of sufficient water for farming due to the introduction of Lift Irrigation System. He submitted that they have increased earnings and prosperity in the village. Now he is not only harvesting two crops in year but also using advanced machinery and tools because of the existence of custom hiring centre at the village level. He is a member of Farmer Producer Organization and Primary Agricultural cooperative Society.

He said that before the lift irrigation he was cultivating Chickpea and chilly under tank fed irrigation in only one season, however after lift irrigation due to the recharge of ground water levels he is able to take two crops of Paddy and cotton cultivation in 3acres of land and he is also growing onion as a second crop after cotton harvested. He is cultivating KNM118 and MTU1010 of Paddy variety. He also says that Roads & infrastructure facilities created by Aurobindo Pharma Foundation is helping them for easy access to market, he expressed his gratitude towards the training given by the Aurobindo Pharma Foundation on Skill development programme for women and youth as his daughter also as part of the training programme and now she could be able to earn and stand on her own.

He suggested regarding the expansion of lift irrigation to the uncovered area, where his land also exists along with other holdings and all of them gets more benefits if lift irrigation expands. He requested Aurobindo Pharma Foundation and Gram Panchayat to consider his plea to make the expansion should happen very soon. He thanked Aurobindo Pharma Foundation for their effort to make lift irrigation scheme to happen and leading to a great success.

Changing Lives and Livelihoods through lift irrigation

Mr.Banda Pochaiah S/o Mallaiah resident of Borpatla village. He has two children who are acquiring higher education, his daughter is studying B.Tech and his son is studying Degree and his wife also member of Village Development Committee. He holds 18 acres of land, out of which 10 acres of land is under lift irrigation and 8 acres of land is under Borewell and grows Paddy crop prior to Lift Irrigation. He used to harvest only 25-30 bags per acre, however with the improved water availability due to Lift Irrigation he is producing 45-50 bags per acre and using BPT5204/RNR15048 Variety and MTU1010 variety. He also uses green manuring in his farm. It is a low cost and effective technology in minimising cost of fertilizers and safeguarding productivity. With the improved Paddy productivity and fodder availability, Pochaiah invested in buying 60 Sheeps



and 2 cows. He uses his own farm Paddy straw as fodder and he is giving excess fodder freely to the nearby Goshalas. With sheep rearing he could be able to get around one lakh rupees additionally per annum. The two buffaloes yield around 4 litres of milk and is consumed by the family members.

In his family, all women members participate in all types of field work and his wife is associated with the Custom Hiring Centre and also actively took part in organizing few trainings and sensitize the farmers on the maximum utilization of farm machinery and its benefits along with Agricultural Extension Officer.

He possesses a tractor and a motor bike besides a house in Borpatla Village. He believes that prosperity came after the upgradation of Lift Irrigation System in the village. He admits that due to the Lift Irrigation Programme, his income levels were increased and with this he could able to clear his loans and debts. Mr.Pochaiah is not an isolated case enjoying the fruits of prosperity due to improved lift irrigation system but one amongst around 600 households in the village.

Borpatla village and its Lift Irrigation program are distinct when compared to its surrounding villages or to other villages. Its prosperity, development and improved livelihoods attract further attention of many to invest for social development. Whatever is invested for improving lift irrigation system, we got equal benefit within a year due to doubling of net income and due to cultivation of two crops. All his family members are satisfied with the benefits which are provided by the Aurobindo Pharma Foundation.

CHAPTER 5

SUMMARY OF MAIN FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

Based on the results of the Impact of the up-gradation of Lift Irrigation Scheme taken up by Aurobindo Pharma Foundation in convergence with Telangana Government in Borpatla village of Sangareddy District of Telangana State, a Brief Summary of main findings, Conclusion(Output-Outcome-Impact) and opportunities for further improvement and sustainability are presented below:

5.1. SUMMARY OF MAIN FINDINGS

5.1.1. Personal and Social Profile of Respondents

Majority of sample respondents are in the age group of 41-60 years, literates with agriculture as main occupation, small scale and marginal farmer operating 2-5 acres of land with farming experience of about 20 years. This determines the quick adoption rate of Borpatla farmers towards new technologies.

5.1.2 Change in Cropping Pattern

There was a shift in cropping pattern from cotton to paddy by all the direct beneficiaries in the scheme. However about 90 percent of indirect beneficiaries shifted from cotton to paddy because of increase in ground water potential.

5.1.3 Change in Cropping Intensity

The cropping intensity due to Lift Irrigation has increased from 100-200 percent of Direct Beneficiaries whereas in 65 percent of cultivated area of indirect beneficiaries the cropping intensity is doubled.

5.1.4 Reduction in cost of cultivation

The farmers reported that due to less use of fertilizers and pesticides and application of green manure as advised by Agriculture Department and APMAS through trainings and demonstration the expenditure of cost of cultivation is reduced by about Rs.1, 000/- to Rs.3, 000/-post intervention of lift irrigation scheme

5.1.5 Increase in Crop Productivity

The Crop Productivity has increased from 3 to 5 q/acre of paddy as compared to previous situation

5.1.6 Increase in Net Income

There was a significant difference in net income of beneficiaries before and after the scheme. Infact, farmers have reported that the income got doubled (from Rs. 15,000/- to Rs. 39,500/-) per acre due to double cropping and increase in productivity. They also felt their livelihoods have improved and there is a improved food &nutrition security for their families. Thus, for the cost incurred to a tune of Rs 130 lakhs on lift irrigation scheme, an equivalent benefit has been obtained through doubled net income of farmers. Considering furthermore benefits to reap during next few years, this CSR intervention can be quoted as an excellent social investment of Aurobindo Pharma Foundation to benefit farmers immensely.

5.1.7 Institutional approaches

After Lift Irrigation, many of the beneficiaries have joined Farmers Producer Organization and became active members of PACS. Similarly, many women in the village joined in Self Help Groups (SHGs)

5.1.8 Increase in Irrigation Area

Direct beneficiaries reported that 27 percent of their land was rainfed and 73 percent of their land was irrigated before the upgradation of Lift irrigation whereas 100 percent of the land is irrigated at present. However, about 83 percent of Indirect Beneficiaries land was rainfed and only 17 percent was irrigated before, and at present 64 percent of land was irrigated

5.1.9 Increase Ground Water Potential

Majority of beneficiaries reported that the Ground Water levels have increased due to Lift Irrigation and benefited many farmers

5.1.10 Knowledge Levels

There was gain in knowledge levels of Direct Beneficiaries compared to indirect beneficiaries due to intensive trainings by APMAS NGO and agriculture department. The Indirect Beneficiaries also acquired knowledge through farmer–farmer extension and exposure visits

5.1.11 Migration

Farmers and agricultural laborers are not migrating to other areas for work after Lift Irrigation. In addition, they are getting labor from neighboring villages for agricultural operations. The labor shortage problems are resolved as evident.

5.1.12 Satisfaction about Lift Irrigation and Infrastructure facilities

Majority of farmers are very much satisfied with Lift irrigation Scheme and Infrastructure facilities as created by Aurobindo Pharma Foundation. They understood the objectives of the scheme, performance and potential uses. Thus, the visibility of the scheme and commitment of the farmers is noticed.

5.1.13 Ranking of Sustainability Indicators

Majority of stakeholders have ranked `Very Good` with respect to Relevance, efficiency, and effectiveness of the scheme. However, the sustainability, impact and overall performance was rated as 'Good'

5.1.14 Livelihood and Lifestyle

There was a change in lifestyle of farmers due to additional Income generated through agriculture, livelihood opportunities improvement, awareness and Skill Development Programs as initiated by APMAS NGO empowering women, as evident in their housing and habits followed

5.2 OPPORTUNITIES FOR IMPROVEMENT & SUSTAINABILITY

- The experience gained in successful implementation of upgradation of Borpatla Lift Irrigation scheme by Aurobindo Pharma Foundation in convergence with TSIDC is an excellent model which can be replicated in other feasible locations or further expanded for improving livelihood of farming communities.
- It is also observed that there is a scope for improving farmer's income further, by strengthening FPO, Primary Agriculture Cooperative Society and by promoting agriculture and allied livelihood activities. The local youth and women can be sensitized and trained in this direction. The assistance of NABARD and other applicable government schemes can be sought to deal with this issue.
- Aurobindo Pharma Foundation or any other donors with the support from local stakeholders (Beneficiaries, FPO, Cooperative Society and Government of Telangana) can initiate construction of rural godowns, sufficient drying yards, strengthening of Customs hiring Centers and Rice Mills etc on PPP basis to address post-harvest and supply chain challenges in future. The existing FPO can play a vital role in this aspect.
- The farmers and representatives of Village Institutions have voiced for expansion of Lift Irrigation Scheme by installation of two more motors to further cover about 150 acres benefiting 80 more farmers in the village. The Agriculture and Irrigation Department of Telangana also opined the same. A feasibility study may be undertaken to examine this.
- There is a need to strengthen Borpatla lift irrigation management committee and its functionality to look into water stewardship issues, promoting water saving methods (SRI cultivation direct

seeding, alternate wetting and drying etc.,), water cess, maintenance of lift irrigation and other infrastructure to ensure its sustainability.

- There is a scope for further increase in paddy crop productivity by strictly following water and soil test-based recommendations specially on Nitrogen Management, introducing suitable varieties which are resistant to Blast, stem borer and green manuring etc., FPO may focus to do more intensive trainings and advocacy in this aspect. It is also suggested to arrange more exposure visits to farmers to the nearby Lift Irrigation Schemes and also agriculture research stations for exposure for better cultivation and water management practices.
- There are several examples of lift irrigation in combination with micro irrigation serving more catchment area including rainfed areas. The similar integrated model can be examined and kept in view in future expansion, so that more farmers can be benefitted and also shift in cropping pattern towards high value crops can happen

5.3. CONCLUSION – OUTPUT-OUTCOME-IMPACT

The upgradation of Borpatla Lift Irrigation Scheme by Aurobindo Pharma Foundation in convergence with Telangana State Irrigation Development Corporation has demonstrated the potential impact in terms of changes in cropping pattern, cropping intensity, productivity enhancement, increase in income, social, environmental and other benefits.

It was found from the study that there is a great transformation among farmers in terms of their behavioral changes and Lifestyle. Many are members of Farmer Producer Organization and cooperative Society. They also have knowledge, awareness on the developmental issues created by Aurobindo Pharma Foundation through APMAS and Department of Agriculture. Some of them also earning income through subsidiary occupations like aquaculture, milch animal, kitchen gardens, sheep/goat rearing, tailoring etc.,

Indeed, the interventions initiated through the Lift Irrigation scheme aligned and contribute to the This initiative also contributed for achieving relevant Sustainable Development Goals (SDG 12 and 17) on Responsible production systems, sustainable agriculture and environmental sustainability.

While the efforts of Aurobindo Pharma Foundation in convergence with Government of Telangana are very much appreciated, the opportunity for further improvement exists to ensure sustainability especially through convergence of corporate, TSIDC, local institutions like FPO and PACS, thus it will be a valuable addition for further upliftment of farming community.

Annex - 1

IMPACT ASSESMENT STUDY ON UPGRADATION OF LIFT IRRIGATION SCHEME

On Manjira River at Borpatla Village, Hathnoora Mandal, Sangareddy District of Telangana State

(An Initiative of Aurobindo Pharma Foundation undertaken through Corporate Social Responsibility)

INTERVIEW SCHEDULE

Responde	ent No:			Na	me of the Investigator:
Village:	Borpatla	Mandal:	Hathnoora	Distric	t: Sangareddy
١.	Socio Economic Informat	ion			
1.	Name of the respondent				and S/o
2.	Age(In completed years)				
3.	Farming experience (No.	of years)			
4.	Education Status				
Illiterat	e:()Primary School:() Second	ary school:()	Graduate: ()
5.	Occupation : Agriculture	e ()	Any other()	
١١.	Particulars of land holdir	ıg			
	Owned	d (/	Acres)		

	leased(Acres)					
1.)	Before lift irrigation:Rainfed () irrigated ()	Rainfed () irrigated (
, 2.	After Lift Irrigation:Rainfed()) irrigated ()	Rainfed () irrigated (

- III. Information on Farming activity
 - 1. Crop Yield Income 2. Crop Yield Income 3. Crop Yield Income

Before Lift irrigation

After Lift irrigation

- 1. What are the major crops grown in your farm?
- 2. Please let me know the details of practices followed about the major crops grown per acre?

Particulars	Details (Per Acre)	Amount Rs. (Per Acre)
Seed variety		
Seed rate (quantity and cost)		
Fertilizers		
Pesticides		
Irrigation		
Weeding labor		
Harvesting labor		
Any new practices adopted after lift irrigation		

- 3. Whether, cropping intensity has been improved due to lift irrigation? If yes, Give Details
- 4. Is there any change in cropping pattern due to the lift irrigation? If yes, Give Details
- 5. Is there any improvement in ground water due to lift irrigation? Yes/ No

	1. Dairy	Milk Yield	Incom e	2. Poultry	Yiel d	Incom e	3. Fisher y	Yield	Income
Before Lift irrigation									
After Lift irrigation									

6. Any other Enterprises and its income:

- IV. Are there any measures taken for environmental problems such as water management , drainage etc. after lift irrigation? If yes please give details.
- V. Are you a member of Farmer Producer Organization / Cooperative Society?
- VI. What are the benefits you got through as a member the Cooperative/ FPO?
- VII. Is there benefit for you due to the infrastructure development such as roads through the lift irrigation scheme. If yes please mention the benefits?
- VIII. What are the lift irrigation maintenance mechanisms at present?
- IX. How did you spend the surplus amount generated out of crops / enterprises due to lift irrigation?
- X. Any other suggestions for improving the lift irrigation for the benefit of farmers?

CHECKLIST FOR STAKEHOLDER PERCEPTION AND OBSERVATIONS

SL.NO.	ASSESSMENT	ASSESSMENT QUESTIONS
	CRITERIA	

1	Relevance	Did overall goal match needs of project area?
2	Efficiency	What outputs were achieved?
		Whether they were as per the plan?
		Was implementation scheduled as planned?
		Was the project cost within planned limit?
		Was the fund utilization prudent?
3	Effectiveness	Did the outputs help achieve the goal?
4	Impact	What is the various tangible and intangible positive and negative impacts (socio- economic, environment, technology, knowledge, awareness) for different stakeholders of the project?
5	Sustainability	Would the impact created by the project sustains?
		What measures adopted?
		What modifications required for sustainability?
6	Overall Performance	How would this project lead to overall development aimed at?

Annex-3



GOVERNMENT OF TELANGANA DEPARTMENT OFCO—

OFFICE OF THE REGISTRAR OF MUTUALLY AIDED CO-OPERATIVE SOCIETIES FOR SANGAREDDY DISTRICT

Certificate of Registration

under section 5 of the Mutually Aided Co-operative Societies Act, 1995 I do hereby certify that

JAI KISAN AGRICULTURE PRODUCER MUTUALLY AIDED COOPERATIVE SOCIETY LTD. , BORPATLA (V} HATHNOORA {M}

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AMC/SRD/DCO/2018/2617

Topeiherw//ñ iis bye-laws

Given under my hand and seal

Registrar of Mutually Aided Co-operative Societies

ASSESSMENT STUDY PHOTOGRAPHS













IMPACT ASSESMENT STUDY OF A MODEL VILLAGE Borpatla, Hathnoora Mandal, Sangareddy District of Telangana State

(An Initiative of Aurobindo Pharma Foundation undertaken through Corporate Social Responsibility)



Full Report



Participatory Rural Development Initiatives Society (PRDIS)

#2-6-41/75, Sathsang Vihar, Upperpally, Rajendranagar, Hyderabad-500048, Telangana, India Website: www.prdis.org, E-mail: prdis@hotmail.com, prdis.hyd@gmail.com

June - 2021

IMPACT ASSESMENT STUDY OF A MODEL VILLAGE

Borpatla, Hathnoora Mandal, Sangareddy District of Telangana State

(An Initiative of Aurobindo Pharma Foundation undertaken through Corporate Social Responsibility)

Full Report



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<u>#2-6-41/75, Sathsang Vihar, Upperpally, Rajendranagar, Hyderabad-500048,</u> Telangana, <u>India</u> Website: www.prdis.org. E-mail:prdis@hotmail.com; prdis.hyd@gmail.com

June - 2021

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ABBREVIATIONS

ALA	Ananda Lahari Abhyasana	
ANM	Auxiliary Nurse Midwife	
APF	Aurobindo Pharma Foundation	
APMAS	Mahila Abhivruddhi Society, Andhra Pradesh	
ASHA	Accredited Social Health Activist	
ATW	Any Time Water	
СВО	Community Based Organisation	
CC Roads	Concrete Cement Roads	
COVID-19	Corona Virus Disease	
CSR	Corporate Social Responsibility	
FPO	Farmer Producer Organisation	
IHHL	Individual Household Latrines	
LED	Lights Emitting Diodes	
MACS	Mutually Aided Cooperative Society	
ODF	Open Defecation Free	
PRDIS	Participatory Rural Development Initiatives Society	
RO	Reverse Osmosis	
SDG	Sustainable Development Goals	
SHGs	Self Help Groups	
SWM	Solid Waste Management	
UN	United Nations	
VDC	Village Development Committee	
VHNSC	Village Health Nutrition and Sanitation Committee	

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IMPACT ASSESSMENT TEAM

Mrs. Sreelakshmi Consultant, PRDIS & Team Leader Mrs. C. Maria Victoria, Research Associate Mr. P. Narendra Babu, Research Associate

Overall Guidance: Dr. M. Suryamani, Senior Consultant, PRDIS

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ACKNOWLEDGEMENT

We are grateful to Aurobindo Pharma Foundation for giving the opportunity of impact assessment of CSR project on transforming Borpatla as a Model Village.

Our sincere thanks to CSR team of Aurobindo Pharma Foundation for their cooperation and guidance throughout the study.

Our special thanks to Mahila Abhivruddhi Society, Andhra Pradesh (APMAS-NGO), the implementing agency of model village project for their guidance and help in data Collection and other aspects during impact assessment study.

Finally, we would like to express deep sense of gratitude to Villagers, Panchayat staff, village Officials and Other stakeholders for their cooperation during the study.

Prof. S. V. Reddy President & Executive Director PRDIS, Hyderabad

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IMPACT ASSESMENT STUDY OF A MODEL VILLAGE Borpatla, Hathnoora Mandal, Sangareddy District of Telangana State

EXECUTIVE SUMMARY

India contributes mammoth share of its annual budget towards rural development, but still rural India lacks behind urban amenities in almost all development parameters. Despite being several past initiatives by Government of India at all levels and private sectors, there is still a significant gap between rural and urban areas. To fill the gap the idea of *Adarsh Gram / Model village* has been explored by the government to address poverty, health, education and livelihood related challenges comprehensively. The model villages address resource deficits in each of these sectors with adequate focus on special needs of the village. Towards this direction, Aurobindo Pharma Foundation (APF) adopted Borpatla village in Hathnoora mandal of Sangareddy district and took the help of Mahila Abhivruddhi Society, Andhra Pradesh (APMAS) to identify the basic problems of the village and to develop as a model village. Under Corporate Social Responsibility, aiming at integrated development for improving the overall quality of life of the villagers, the project was implemented in collaboration with APMAS from 2016 to 2020 with an outlay of Rs 1.02 Crores. Participatory Rural Development Initiatives Society (PRDIS) is selected to assess the impact of the project.

The important objectives of this study are to evaluate the intervention activities for their output, outcome and impact in terms of human capital, social, environmental and economic concerns; to study the amount of visibility created for the project, local acceptance and ownership; to assess the perceptions of different stakeholders about interventions adopted in the village and to evaluate sustainability of the project and recommend future strategies.

Ex-post facto research design was adopted to obtain data related to personal socio-economic and situational variables as well as knowledge and adoption of practices. Respondents (100) were selected at random. Physical verification, participatory methods, interviews and case studies were used for assessment.

The overall impact assessment of the project as perceived by beneficiaries and also based on stakeholders views is given below

Relevance: As per need assessment study of APMAS, Borpatla village was lacking proper connectivity through roads, drainage facilities, safe drinking water, educational facilities, healthcare, irrigation and self-employment opportunities of women and youth etc. Thus, the project taken up by Aurobindo Pharma Foundation to transform the Borpatla into the model village by providing the needed facilities and awareness on time is relevant.

Efficiency: The convergence efforts of APMAS (NGO) with government and non-government organizations as well as making their project a community lead initiative is attributed as efficient. Besides, completion of this project on time with cost, quantity and quality is perceived as efficient.

Effectiveness: Both stakeholders and beneficiaries (100) feedback about effectiveness indicate that the project contributed for their significant improvement of livelihoods, quality of lives and environment.

Uniqueness: The project has set a good model of community lead convergence initiative that can be replicable in other areas as per the stakeholder's opinion.

Impact: The project has created social, economic and environmental impact besides enhancing Human capital as perceived by stakeholders.

Main Findings

- > All the planned interventions related to holistic development of the village such as poverty, health, education and livelihoods were implemented.
- Out of 578 HH around 300 HH could get clean treated drinking water. All of them have the knowledge of water borne diseases and importance of using safe drinking water (RO water plant).
- All the beneficiary respondents expressed their satisfaction about assistance provided for the toilet construction at their home. The physical verification at random also revealed the proper utilization and maintenance of toilets.
- All the respondents and beneficiaries are satisfied with the daily Garbage collection and solid waste management. Manure generated thus, is being applied for avenue plantations and other plants growing under green belt programme. It is considered to be important intervention for maintaining sanitation, hygiene and pollution free environment which is vital for health care and sustainable lives.
- Majority of farmers (572) are benefitting through lift irrigation, Primary Agricultural cooperative society and Farmer Producer Organization services, which directly impacted economic status of farmers and thus able to improve their nutritional security, lives and livelihoods.
- Under skill development for women around 60 SHG members could get tailoring training. They are all able to save around Rs. 500/- per month by stitching their own and family members' clothes. Around 20 percent of these women are earning from Rs. 500/- to Rs. 1500/- per month through this self-employment opportunity.
- Awareness programmes organized along with ASHA and ANM workers had helped the community members to increase overall knowledge and awareness about nutrition food, sanitation, personal health and hygiene thus resulted in personal and environmental care.
- Under the model village programme, CC roads were laid out, 210 LED and 20 solar lights were installed. All the respondents have expressed their satisfaction.
- Due to the initiatives concerning school, respondents felt benefitted to get quality education, improving the children attendance and thus resulted in motivation for both management and students.
- Most of the respondents are not aware of importance and functioning of Village Development Committee as an institution to drive and sustain various initiatives
- Migration has been reduced due to increased livelihood opportunities created and it is good to note that reverse migration is also taking place.

These findings are in alignment with journey towards fulfillment of Sustainable Developmental Goals (SDG- 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13 and 17 on No poverty, Zero Hunger, Good health and well-being, quality education, gender equality, affordable and clean energy, decent work and economic growth, reduced inequalities, responsible consumption and production, climate action, partnerships for the goals respectively).

There is a need for formation of theme-wise (water, sanitation, women, youth etc) village level sub committees involving all relevant community members. Further, formation of a Village Development Committee (VDC) is also necessary which can be headed by village Sarpanch involving representatives of each subcommittee as members for planning, implementation and monitoring of different activities. This is important for creating visibility and ownership on overall development of village for all communities in the village. In this direction it is recommended to have Village Level Participatory Approach (VLPA) as a tool for facilitating formation of committees and find the emerging problems and solutions.

- Considering covid and other relevant challenges, it is also necessitated to form a health committee which will look into regular health aspects through health camps, health checkups, and awareness programs in convergence with ongoing health system of state government and other private partners.
- To further expand underground drainage system across the village especially in SC Colony and to install RO drinking water system.
- There is also a need for few more Individual Household Latrines in view of emergence of nuclear families which will facilitate Total Sanitation in the village.
- It is desirable to expand green belt program in waste lands for environmental protection and biodiversity.
- It is good to initiate entrepreneurship Skill Development Programs for youth in areas such as cup making, candle preparation, embroidery work, kitchen gardening, dairy etc. for self employment and to get additional income.
- > FPO activities shall be strengthened further for conducting trainings on agriculture best practices, water stewardship programs so as to influence more farmers towards sustainable agriculture.

Conclusion

Development of Borpatla as a Model Village is a laudable initiative taken up by Aurobindo Pharma Foundation under Corporate Social Responsibility. The activities taken up have resulted in Integrated Rural Development of village resulting in changing the Lives and Livelihoods of most of the villagers. Early impacts of Social, Economic and Environmental changes are clearly visible. However more directed efforts are needed to bring behavior changes among residents to own, sustain and take forward the momentum. It is advisable to handhold this adoption program for few more years to completely attain the status of model village.

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CHAPTER-1 INTRODUCTION

1.1 Preamble

It is estimated that more than half of Indian population would be rural even in 2050. According to census 2011, there are around 65 lakh villages in India and almost all of them are in dire need of growth accelerators. Country contributes mammoth share of its annual budget towards rural development, but still rural India lacks behind urban amenities in almost all development parameters. Despite being several past initiatives by Government of India at all levels and private sectors, there is still a significant gap between rural and urban areas. To fill the gap, the idea of *Adarsh Gram* / Model village has been explored by the government to address poverty, health, education and livelihood related challenges comprehensively. The model villages address resource deficits in each of these sectors with adequate focus on special needs of the village. A model village is a type of mostly self-contained community and used in the sense of an ideal to which other development scould aspire. Model village concept is being adopted by many government and non government for improving the overall quality of life of villagers. A model village is a sustainable community that is able to generate and maintain resources necessary to improve its level of wellbeing by strengthening the sustainability pillars of infrastructure, livelihood and services.

Towards this direction, Aurobindo Pharma Foundation (APF) adopted Borpatla village in Hathnoora mandal of Sangareddy district and took the help of Mahila Abhivruddhi Society, Andhra Pradesh (APMAS) to identify the basic problems of the village and to develop as a model village. Under Corporate Social Responsibility, aiming at integrated development for improving the overall quality of life of the villagers, the project was implemented in collaboration with APMAS from 2016 to 2020 with an outlay of Rs 1.02 Crores. Participatory Rural Development Initiatives Society (PRDIS) is selected to assess the impact of the project.

1.2 Need and Importance of the Study

Aurobindo Pharma Foundation has been instrumental since its inception to execute various CSR projects around rural development and model villages and accordingly Borpatla model village project has been taken up under their CSR. In view of the importance of this project and its potential in creating social, economic and environmental impacts in Borpatla, Aurobindo Pharma Foundation decided to get this impact assessed through a third-party organization namely Participatory Rural Development Initiatives Society (PRDIS), which is a professional NGO with two decades of experience in conducting monitoring, evaluation and impact studies for both National and International Organizations.

1.3 About the Village

Borpatla is one of the gram panchayats of Hathnoora mandal in Sangareddy district of Telangana State. This village is located at 1 km away from main road connecting Sangareddy to Narsapur (a town in Medak district). The village being located in a strategic location, Aurobindo Pharma foundation has adopted with a view to not only to develop the village but also to showcase the development to the neighboring villages for adoption and thus improving the quality of life of the people. The village has a total of 578 families and a population of 1817 with agriculture as a main occupation. There is one high school and one primary school in this village. One of the Aurobindo Pharma Limited units is located in the vicinity of the village. (Map of village in Annexure 1)

1.4 About Organizations

a. Aurobindo Pharma Foundation (APF): APF is the Philanthropic arm of Aurobindo Pharma Limited and serves for social and economic growth of the nation through its Corporate Social Responsibility (CSR) programs around different thematic areas such as Education and skill Development, Health and nutrition, sanitation, social equality, sustainable agriculture and rural development, Environmental sustainability etc., The foundation has also aimed to develop few identified rural villages into model villages through Integrated Rural Development Activities. Thus, APF efforts have contributed towards holistic community wellbeing with a long term vision of achieving sustainable development goals (SDGs) of UN.

b. Mahila Abhivruddi Society, Andhra Pradesh (APMAS): APMAS is an implementing partner of model village project of Peyyilapalem village as funded by APF. It is a renowned national level non-profit organization that has its roots in the Self-Help Groups movement in the country. APAPMAS provides technical assistance to NGOs, Governments, Banks and others involved in SHG and FPO promotion and during the last 19 years, APMAS has three main verticals in which it undertakes various projects and one of its main verticals is Innovations and Pilots. The focus of this vertical is primarily for learning and up-scaling (by the government) towards attaining inclusive growth in the rural and urban communities by undertaking innovations and pilots.

c. Participatory Rural Development Initiatives Society (PRDIS): Participatory Rural Development Initiatives Society (PRDIS) (www.prdis.org) is a registered and reputed professional National Level Development Organization (NGO) established during the year 1999 operating from Hyderabad, Telangana, India. Participation, Partnership and Empowerment are the guiding principles of PRDIS. It has been working on the areas of Sustainable Agriculture, Agri-business, rural development and Natural Resource Management. This organization has also been providing consultancy services to the Central Government, various State Governments, Agro Based Industries, Foundations, International Development Agencies on Field activities, Monitoring, Evaluation, Impact studies, base line survey and capacity building activities concerning with Sustainable Agriculture, Agribusiness and Rural Development issues. (a Brief about PRDIS in Annexure 2).

1.5 Objectives of the Assessment

- To evaluate various interventions for their output, outcome and impact in terms of human capital, social, environmental and economic concerns.
- To study the amount of visibility created for the project, local acceptance and ownership.
- To assess the perceptions of different stakeholders about the interventions adopted in the village.
- To evaluate sustainability of the project and recommend future strategies.

1.6 Expected Deliverables

A report consisting of assessment findings, feedback from beneficiaries and stakeholders, in terms of output and impact and recommendations for the sustainability of the project.

1.7 Limitations

- 1. The study was taken up during Covid 19 pandemic and therefore relatively it took more time for collection of data.
- 2. The study is limited to 100 respondents covering all interventions and hence findings are to be interpreted with caution for generalization.
- 3. The study team captured baseline data through recall method using Interview Schedule and Focused Group Discussions.

1.8 Presentation of the assessment report

This study report is presented in five chapters. The first chapter deals with introduction and 2nd one deals with different interventions/activities implemented in Borpatla village. The 3rd chapter deals with assessment methodology and 4th chapter covers results, discussions, and findings of the study. Chapter five deals with Summary, recommendations and conclusions.

CHAPTER-2 PROJECT INTERVENTIONS

Under this project "Model Village" various interventions are done in Borpatla village such as clean drinking water, sanitation facilities, good quality of health and education services, livelihood options, LED lights, Formation of Farmer Producer Organization (FPO) to achieve the targeted objectives

2.1 Baseline Study

APMAS team visited Borpatla village during 2016 to understand the ground realities of the village. The team interacted with communities, village leaders, panchayat members, CBOs and relevant members of the institutions. They discussed about concept of model village, scope of development works to be undertaken in the village and listened to the views of villagers. They also identified potential areas of interventions which involves human and infrastructure development activities. The outcome of the baseline study was reviewed and approved by CSR Committee of Aurobindo Pharma Foundation for further implementation in partnership with APMAS.

The following are the interventions

2.2 Provision of Safe drinking water (RO water)

For setting up of RO water plant, APMAS team approached Gram Panchayat and Village Development Committee (VDC) members. Accordingly, a Reverse Osmosis (RO) drinking water plant of 3000 litres per hour capacity is installed and catering to the needs of the villagers. Most of the villagers have been using this purified water for drinking. Using appropriate treatment technology, this plant is operational every day and residents of the village are sensitized to get their daily household's need of drinking water at a nominal price of Rs. 5/- per 20 litres. Due to less price, poorest of the village are also affordable to buy and access this facility. The facility has been handed over to Gram Panchayat to operate independently.



2.3 Skill Development for Women

Tailoring training has been given to the interested women in the Borpatla village in partnership with USHA International. About 57 women have been trained and completed their training course in 3 months successfully and awarded with a certificate (Annex-3). Some of the women have also trained in embroidery work. Through this training, it provided self-employment at their homes and local market etc.

2.4 Sanitation Facilities

Open defecation leads to contamination of the environment and accordingly this intervention has been planned in alignment with Swachh Bharat scheme of Gol and Telangana state. Toilet construction at each house is necessary to prevent infectious diseases and help to ensure physical and mental well-being. Very few households in Borpatla were having this facility prior to project. Through this intervention in convergence with government, 250 households were covered, and Aurobindo Pharma Foundation has paid beneficiary share of Rs. 5,000/- per toilet out of total IHLL unit cost of Rs. 17,000/-.

2.5 Solid Waste Management



Wet & Dry Garbage bins

Proper domestic solid-waste collection is very important for ensuring public health, safety and environmental quality. A Tata Ace vehicle has been given to Panchayat to collect garbage from all the households every day morning each household is provided with two buckets to segregate dry waste and wet waste. Due to this intervention, every household get habituated to waste segregation at source. The collected waste is converted to compost. The responsibility of waste vehicle periodical maintenance is assigned to village panchayat for ensuring ownership. Village sanitization is also taken up during Corona.

2.6 Provision of Health Services and Medicines

Key health service providers at Borpatla are ASHA, ANM and Anganwadi workers who regularly keep in touch with the community and act as link across communities, existing health system and Gram Panchayat. As a project intervention, APMAS team coordinated with these health service providers and organized awareness sessions on personal hygiene, care, nutrition, sanitation and covid 19. Further, medical and health teams distribute medicines to villagers. This whole effort strengthened health monitoring system at Panchayat to hold periodical meetings with all the health officials in order to get a better understanding of the various schemes and programmes as well as to explore areas of regular co-ordination and convergence.

2.7 Farmer Producer Organization (FPO)

APMAS has also initiated a Farmer Producer Organization (FPO) by name Jai Kisan Agriculture Mutually Aided Co-Operative society Ltd in Borpatla village and that has been registered under MACS Act. Through this FPO, farmers have been getting quality inputs at an affordable price. Farmers are trained on agriculture best practices through Farmer Field Schools (FFS) and by organizing exposure visits to a FPO by name - Dharani Farmer Producer Organization located at Kamareddy District.

2.8 Establishment of Custom Hiring centre (CHC)

Custom Hiring Centre has been established for hiring farm implements (rotavator, Tractor and chaff cutter etc.,) in Borpatla village which could successfully empower farmers to tide over the shortage of labour and improve efficiency of agricultural operations. CHC uses the revenue generated from hiring charges for repair and maintenance of the implements and as a revolving fund.

2.9 Installation of LED Lights

To improve road safety for commuters during night time, the project has provided 210 LED lights and 20 solar lights and APMAS facilitated for installation of these lights in the streets of the Borpatla village. This will be able to bring far less expensive, healthier and environmentally friendly lighting at the village.

2.10 Women's Day celebrations

To create enthusiasm and togetherness, APMAS conducted celebrations on International Women's day (8^{th} March) and



motivated village women (housewives, farm workers and individual entrepreneurs) to actively participate. APMAS team along with women volunteers (ASAH workers, ANMs, SHG group leaders, Village elders and School teachers) explained to the women about the importance of the occasion and opportunities to mainstream women in different activities. They also emphasized the significance of the child rights, gender equality, women's rights, women nutrition-related aspects and role of women in overall development of the village.

2.11 Twinning of School Programme

Twinning of school programme is aimed to link the schools located in rural areas with Private, Aided or Government schools in urban areas to enable interaction amongst the students and for sharing of their experiences. Under this exchange program, the students of each section from higher classes from rural schools may be brought to schools in urban areas for one week and vice-a-versa for greater exposure. In this context, APMAS has facilitated first of its kind, by connecting Borpatla High School with Gaudium School, Hyderabad in this twinning programme. Besides, several activities have been initiated by the Aurobindo



Pharma Foundation like renovation of Government school building, renovation of classrooms with modern amenities, distribution of study materials to the students etc., to improve quality of education in the school.

2.12 Implementation of green belt Program

APMAS team. in collaboration with Haritaharam of Telangana program government, had taken up a large-scale treeplanting program in the village to increase greenery and to improve quality of environment. Under this, shade trees, avenue trees and fruit trees were planted along the sides of main road and in barren lands. Necessary care has been taken to ensure that these plants survive and established into big trees. Villagers were made aware of benefits of plantation through different means of communications.



View of Avenue plantations

2.13 Creation of community infrastructure

The development of rural infrastructure could promote economic growth, improve the standard



Concrete Cement Roads

of living and lifestyle of villagers, the and them from elevate poverty by generating both the farm and nonfarm employment and opportunities, earning increasing productivity, providing access to basic goods and



services and thus improving health and physical condition of the people. Under this infrastructure development program APMAS through funding from Aurobindo Foundation has implemented different activities like construction CC roads, drainage system, compound wall at the funeral yard etc.

CHAPTER-3

METHODOLOGY

This chapter presents the methodology followed in conducting the study and gives details of research design, sampling procedure, variables and their empirical measurement, instruments and methods used for collection of data, analytical procedures and statistical tools followed for interpretation of the data.

3.1 Research Design

Ex-post facto research design was adopted to obtain data related to personal, socio-economic and variables as well as knowledge and adoption of practices.

3.2 Selection of Sample Respondents

Stratified random sampling method was used by considering wide range of activities benefitting different stakeholders. A total of 100 household respondents were selected at random for administering the questionnaire and interviews for capturing the data. It covers about minimum of 15 percent of the total beneficiary families.

3.3 Variables and their Empirical Measurement

S.No.	Variables	Empirical Measurement		
	DEPENDENT VARIABLES			
1.	Knowledge	Schedule developed for the study		
2.	Awareness about health, nutrition,	Schedule developed for the study		
	sanitation, hygiene			
	INDEPENDENT VARIABLES			
3.	Age	Chronological age of the respondent		
4.	Education	Formal education		
5.	Opinion on Aurobindo and APMAS	Schedule developed for the study		
6.	Opinion of women on Tailoring and	Schedule developed for the study		
	other requirements			
7.	Environment concerns	Schedule developed for the study		
8.	CC roads usage	Schedule developed for the study and Observations		
9.	Toilets usage	Schedule developed for the study		
10	RO plant usage	Schedule developed for the study		
11	FPO services usage	Schedule developed for the study		

Table –3.3 Variables and their empirical measurement

12	School services	Schedule developed for the study

In addition, checklists were prepared for Focused Group Discussion (FGDs) where in the data from beneficiaries, GP, AEO, APMAS representative's views were captured for validation.

3.4. Methods of Data Collection

a) Rapport

Rapport was established with the villagers and the beneficiaries by visiting them prior to data collection and discussing several issues including marketing concerns and other constraints expressed by them as well as by offering suitable solutions

b) Interview

Interview method was one of the prominent methods employed for data collection. This involves interviewing the respondents and getting answers through verbal responses based on the structured and open-ended questions.

c) Participatory methods

The highlights of the assessment study are the use of participatory methods by the assessment team in order to supplement and complement the data generated through interviewing with the help of questionnaire. The participatory methods have also given an opportunity to generate additional qualitative data besides cross validating the data obtained through interview schedule questionnaire. The following participatory methods were employed.

- Focused group discussions
- Participatory monitoring of the asset conditions
- Transect walk

The data were also cross validated by checking at random some of the questions with the respondents. The validity of the data was also confirmed with the stakeholders.

d) Case Studies: In order to strengthen the study further, case studies on different Interventions were conducted. The cases also reflected the behavioral / livelihood changes.

3.5 Instruments used for Data Collection

A scoping study was conducted by the assessment team through PRA techniques such as transect walk, FGDs to know the situation and also for development of tools for data collection. It includes both interviewing respondents and collection of the data from them. The structured schedule was used for data collection. Besides interviewing, field visits were made till the total information was collected from all the respondents.

3.5.1. Designing the Interview Schedule

The schedule consisted of eight parts. The first part associated with profile characteristics of respondents. The second part dealt with Women tailoring training. Third part meant for knowing knowledge of Village Development Committee, health, nutrition, safe drinking water. The fourth part dealt with sanitation and hygiene, streetlights, green belt, graveyard, women programmes. The fifth parts dealt with the Individual Sanitary Latrines. The sixth part dealt with formation and training of Farmer Producer Organization. Seventh part dealt with school services and the last part with opinion on comprehensive services. The interview schedule was constructed in English (Annexure-4).

3.5.2. Training of Investigators

The assessment team was trained in data collection methods and tools.

3.5.3. A check list was prepared for Focused Group Discussion (FGDs) with beneficiaries and stakeholders (Annexure-5).

3.6. Statistical Tools Used

To convert the results into findings, few statistical tests were used as given below for analyzing the data.

- 1. Frequency and Percentage
- 2. Charts

3.7. Preparation of Report

The data thus collected through interview schedule were coded, tabulated, analyzed and presented in tables to make the findings easily understandable. The findings emerged out of the study were suitably interpreted, necessary conclusions and inferences were drawn and presented in the following chapter.
CHAPTER-4

RESULTS AND DISCUSSIONS

This chapter presents the objective wise results of the study. The discussion of the study is presented in percentages.

4.1. Personal and Social Profile of the Respondents

4.1.1 Age

It

Table 4.1.1 Distribution of respondents according to their age (Percentage)

	Age category	Percentage of Beneficiaries
	Youth (18 to 24 years)	12
	Young adults (24 to 40)	70
	Middle age (40 to 60 years)	18
	Old age (Above 60 years)	Nil
he	Total	100

interpreted

from table 4.1.1 that majority (70%) of the selected respondents are young adults and followed by middle age (18%).

This trend shows that many young farmers are staying in the village and working for other occupations as well as farming.

4.1.2 Education status

can

Table: 4.1.2 Distribution of respondents according to their education (Percentage)

Education Level	Percentage of Beneficiaries
Illiterate	19
Primary school	16
Secondary school	51
Intermediate	8
Graduate	6
Total	100

Table 4.1.2 Shows 81% of the sample respondents are literates. It also shows that a higher percentage of respondents (51%) have Secondary school level education (up to 10th class). This trend signifies the need for introducing skill development programmes for youth and farmers which would enable to have both farm and off farm skills to empower them to have additional income and better lifestyle.

4.1.3 Occupation

Table: 4.1.3 Distribution	n of respondents	according to their	occupation (Percentage)
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category	Percentage of Beneficiaries
Agriculture and allied	84
Any other	16
Total	100

Table: 4.1.3 shows that for majority of the respondents (84%) main occupation is agriculture and allied sectors. Remaining respondents (16%) occupation consists of tailoring, being a housewife, students, working in nearby establishments etc. It indicates that more training activities (supply chain, value addition etc.,) can be organized to improve the skills related agriculture and allied sector.

4.2 Skill Development Initiatives for Women

There are 57 women trained on tailoring for 3 months in 3 batches from Borpatla village in the year 2019-20. Out of them 49 were interviewed for impact assessment related to tailoring questions or information.

4.2.1 Opinion on the Quality of training

Responses	Percentage of Beneficiaries
Very good	Nil
Good	85
Average	15
Below average	Nil

Table 4.2.1 Shows majority of the respondents (85%) opined that the training was good and able to learn cutting, stitching skills related to women and children clothes. All the respondents have expressed their gratitude to Aurobindo Pharma Foundation and APMAS for organizing training and issue of certificate in collaboration with USHA Company.

Focussed Group Discussions reveal that some of them have bought sewing machines, but few economically backward women could not buy. There is a possibility that these women can get credit from banks through SHG's.

4.2.2 Opinion on Before and After Training

Respondents have shared their opinion that before training they do not have knowledge and skills of tailoring, confidence and were dependent only on agricultural labour and farming income. After the tailoring training they are confident of tailoring skills besides they are deriving satisfaction due to increased income, decision making and better purchasing capacity.

4.2.3 Regular Stitching Orders

Majority of sample respondents (92%) of trained are limited to stitching of their own family members clothes besides repair work of regularly wearing clothes. Only 8 percent of respondents are getting stitching orders from the neighbouring community. In Focused group

discussions it was revealed that neighbouring community members think that newly trained persons may not flawlessly stitch the women clothes specially blouses. A few respondents have hope of getting orders from neighbours within 6 months to 1 year. However, some of the respondents have expressed that they are happy to stitch our own clothes though we do not get orders from outside.

4.2.4 Average earnings from Tailoring

On an average, around 8 percent of the sample respondents are getting income of Rs. 1,000/to Rs. 1,500/- per month. They are spending the money on purchase of vegetables, groceries followed by purchase of clothes. FGDs revealed that those who are stitching their own clothes are able to save around Rs. 300/- to Rs. 500/- per month. We can perceive from this trend that there are more than required trained persons exist in the village hence the entire trained are not able to earn optimum money on tailoring. Hence it is advisable to evolve a method where in all the interested trained women come together and establish a tailoring centre where in all the trained women get optimum money besides strengthening their skills with latest fashions and designs.

4.2.6 Savings for future needs.

Responses on Savings in Rupees	Percentage of Beneficiaries
Nil	10
Below Rs. 500	70
500 to 1000	15
Above 1000	5
Total	100

Table 4.2.6 shows the responses on savings per month for future

From the table 4.2.6 it is evident from the table that majority of sample respondents (70) of trained women are saving below Rs. 500/- per month, then 15 percent between Rs. 500/- to Rs. 1,000/- while around ten percent are not able to save any money.

Majority of women in FGD's reveal that if they earn around Rs. 5,000/- to Rs. 8,000/- per month then they can save money for their future needs.

4.2.7 Skill up gradation in Tailoring

All the sample respondents wanted to have further training on designer dresses, blouses stitching and embroidery work.

Women in Focussed Group Interactions revealed that if they learn latest designs, then we can earn good amount of money as well as enjoy by wearing them. The additional money can able to spend for household activities, education and health.

4.2.8 Interest on other trade

Other than tailoring, majority of the respondents (61%) have interest to train on disposable cup making, followed by candle making and DTP course.

It is suggested to organise training programs that has assured market linkage especially in nearby markets.

4.3 Nutrition, Safe Drinking Water through Reverse Osmosis Plant

4.3.1 Village Health Nutrition and Sanitation Committee (VHNSC)

Ninety percent of sample respondents do not know about the Village Health Nutrition and Sanitation Committee (a subcommittee under VDC) and meetings facilitated by APMAS. However, from the stakeholder views, the committee has been formed to take collective actions on issues related to health and its social determinants at the village level as per National Rural Health Mission. The committee is envisaged to take leadership in providing a platform for improving health awareness and access of community for health services, address specific local needs and serve as a mechanism for community-based planning and monitoring. It should act as a sub-committee of the Gram Panchayat that has 15 members and should comprise elected member of the Panchayat as a head of the committee; ASHA worker residing in the village shall be the member secretary and convener of the committee.

In Focused Group Discussions members of Gram Panchayat could recollect the meetings and topics discussed on health and nutrition aspects of pregnant women and children below six years.

4.3.2 Health services

All the respondents were getting health advisories from APMAS team in collaboration with ASHA, who is a woman resident in the Borpatla. Weekly ANM visits the village and along with ASHA worker, they both provide primary medical care, advice on sanitation, hygiene, antenatal and post-natal care, escorting expectant mothers to hospital for safe delivery.

4.3.3 Awareness programme on Sanitation

Diagram 4.3.3 shows the responses about awareness on sanitation



It is clear from the chart that around 33 percentages of respondents could recall the campaign organized by APMAS and said that good sanitation and hygiene practices is one of the most effective means of reducing the spread of diarrheal diseases, which are the leading cause of death among children under five. Hence, sanitation is to be considered as a key indicator of development and to note that encouraging individuals and communities is

essential to adopt good sanitation and hygiene practices.

4.3.4 Drinking water from RO plant

Diagram 4.3.4 shows the responses on accessing RO drinking water



It is clear from the diagram that majority of the respondents could access drinking water from the existing RO plant. Around 33 percent of respondents could not get because of distance and as they need to commute. It is reveled in focused group discussions that in view of increased population in the last three to four years, the villagers expressed the need for two mini-RO plants for the village and SC colony.

4.3. 5 Benefits of Purified Drinking Water

All the respondents (100%) could feel the benefits of drinking RO water to facilitate good health, tasty (maintains essential minerals) and to become free from water born diseases specially diarrhea which was regular challenge earlier. All the beneficiaries are happy with the existing RO system and there have been no maintenance issues of RO. It indicates that all have good knowledge on importance of purified drinking water.

4.4 Sanitation and Hygiene Initiatives

4.4.1. Village Development Committee

Diagram 4.4.1 shows the responses about knowledge of Village Development committee



It is clear from the diagram that only 5 percent of the respondents are aware of VDC. The key functions of the VDC are to align the existing problems and resources by making strategic

decisions, sustainability of project activities and finally it is to ensure the healthy environment and an overall development of the village.

It is advisable to form sub committees in each development activity and then form a Village Development Committee with representation from each sub committees headed by Sarpanch of Gram Panchayat.

4.4.2. Drainage Cleanliness

Table 4.4.2 shows the responses regarding drainage cleanliness

Responses	Percentage of Beneficiaries
In our area they are not cleaning regularly.	65
Occasional, earlier it was regular.	
Weekly once	34
Never done	1
Total	100

It is clear from the Table 4.4.2 that 65 percent of respondents said that cleaning is not regular while 34 percent reported it is weekly once. It indicates that there is a need for regular monitoring of the activity because it directly influences the health of the community members.

4.4.3. Roads Cleanliness

Table 4.4.3 shows the responses regarding roads cleanliness

Responses	Percentage of Beneficiaries
Main roads are being cleaned by GP regularly but not peripherally.	66
Cleaning is done every alternate day.	34
Total	100

It is evident from the Table 4.4.3 that Roads are being cleaned regularly but focused group discussions reveal that roadsides are not regularly being cleaned. There is a need for regular monitoring by the concerned subcommittee.

4.4.4 Garbage Collection

All the respondents are satisfied with daily garbage collection. As part of a major drive to make Borpatla as a clean village, the community members were given two dustbins each for collecting dry and wet garbage separately. Earlier the garbage was dumped at old wells, nearby dump yards and as per their own choice.

4.4.5 Awareness Programme on solid waste management

All the respondents (100%) could recall the awareness programme organized on Solid Waste management. It is important because it helps in maintaining the cleanliness of the whole village. It needs to be practiced because the entire population's health and community hygiene depends on it. Respondents are well aware that, the manure prepared from waste is being used for avenue plantations.

4.4.6 Concrete Cement (CC) Roads

All the respondents are satisfied with the CC roads laid. Village is fully covered with CC roads however there is a need for few roads at SC colony.

4.4.7 Light-Emitting Diode (LED) - Lights

Under the model village programme, 210 LED and 20 solar lights were installed. All the respondents have expressed their satisfaction. However, some of the LED lights needs replacement and proper maintenance by GP.

4.4.8 Sanitary and Hygiene activities

Borpatla village was under total sanitation during the project period. All the respondents are happy for the support of Aurobindo Pharma Foundation and state government. Wash basins in few IHLL were also provided to wash hands with soap after using the toilet. Awareness also created on personal hygiene activities especially before preparing food, eating, or breastfeeding.

4.4.9 Green Belt Development

Diagram 4.4.9 shows the responses about benefits of green belt development in the

village



All the respondents are satisfied with the plants along roadside and pathway. They all have knowledge on main advantages of green belt to maintain good environment quality. Trees help in trapping particulate matter, removing carbon dioxide and other pollutants from air and release of oxygen into the air thereby improving the air quality.

4.4.10 Up gradation of Funeral Yard

All the respondents have expressed their satisfaction over compound wall and allocation of space for each community in the funeral yard.

4.4.11 Awareness programmes and campaigns on developmental issues

Majority of Respondents (85%) could be able to recall the awareness programmes. They told that campaigns were done on Child care, pregnant women care, neo natal post natal care, nutrition, hygiene of Adolescent boys and girls. A Health camp was organised with qualified doctors and checked the general health of community members and given referral services for those in need of further verification.

4.4.12 Special Programmes organized for women

The respondents (89%) could recall the programmes organized for women and those were annual women's day celebrations and an exposure visit to strengthen the activities of SHGs.

4.5 Individual Household Latrines

Out of total 264 toilets in the village, around 250 have been constructed since 2016 to March 2020 through this project. Aurobindo Pharma Foundation has contributed Rs. 5,000/- along with Govt. fund of Rs. 12,000/- per toilet besides labor contribution from the beneficiaries. Now, the village has been declared as open defecation free village.

It was found that all the respondents are using toilets and are well aware of benefits of using and adverse ill effects of open defecation due to awareness programmes organized by APMAS and GP. Further, there is a request from respondents for 100 toilets in the village because of newly formed families.

4.6 Formation And Training of FPO and PACS

Name of Benefits	Respondents Percentage
Access to inputs	60
Access to custom hiring centre	30
Technical training	10
Total	100

Table 4.6 shows the responses about the benefits of FPO

Aurobindo Pharma Foundation in partnership with APMAS has facilitated the formation of and registration (Annex – 6) of Farmer Producer Company with a membership of farmers of six villages adjacent to Borpatla. Out of this, around 80 farmers have become the members from Borpatla village. These farmers are happy for getting benefits from FPO on subsidized inputs, farm equipments through custom hiring centre, access to loan, technical trainings etc. Besides, from Borpatla village, around 250 farmers have become active members of Primary Agricultural Cooperative society which is formed with farmer membership of 36 Gram Panchayats. This cooperative has been providing access to loan, financial institutions, government schemes, procurement centers, inputs etc.

Furthermore, Aurobindo Pharma Foundation has upgraded lift irrigation scheme of state government. Because of lift irrigation, around 572 farmers are directly benefiting and able to deal with adverse externalities such as erratic monsoon, inadequate water etc.

Both cooperative society and FPO are helping the farmers with inputs, forward and backward linkages.

4.7 School Interventions

Primary school was provided with three Vidya Volunteers, Compound wall, and repairs to school building, a computer, shoes, and school uniform, stationary. The Vidya volunteers have concentrated more on spoken English and supporting as para teachers

- Zilla Parishad High School was provided with projector, benches, chairs, computer, toilets; classrooms have been constructed, provided two vidya volunteers, celebrated teacher's day maths day- science day and given gifts to children who performed well in the competitions.
- School staff, teachers are very much satisfied of various project interventions and thus improved services. Because of projector, computer, internet services, school management can be able to arrange periodic interactive classes – informative videos, games, science experiments-in schools for the benefit of students especially during covid.

Focused Group Discussions conducted in the village with teachers, students and parents have endorsed that there is need for improving higher education through providing merit scholarships, arranging study tours and excursions for students. Parents and teachers also to encourage children on need of pursuing higher education.

4.8 Opinion on public services

Table 4.8 shows the responses of respondents about the benefits and improved services due to model village project interventions.

Responses category	Percentage of
Very good	15
Good	75
Fair	10
Poor	Nil

It is clear from the table 4.8 that majority of the respondents (90%) and beneficiaries have rated the public services as good which is also endorsed during FGDs.

4.9 Assessment of the Model Village Interventions and alignment with Sustainable Development Goals (SDGs)

SDG	Theme	Interventions	
No			
SDG 1	No Poverty	Integrated rural development model aims at reducing poverty.	
SDG 2	Zero Hungry	The Agricultural Development activities and formation of FPO contributed for food and nutritional security and sustainable Agriculture.	
SDG 3	Good Health and wellbeing	The health interventions such as Health and Awareness camps and facilitating residents to access to health care contribute for Good health and wellbeing.	
SDG 4	Quality Education	Towards this goal, the project has renovated and constructed primary and secondary school buildings, provided facilities, vidya volunteers, provided many aids to children.	
SDG 5	Gender Equality	Women empowerment through skill trainings and other awareness programs, strengthening women self-help groups have contributed to ensure Gender equality.	

	Clean water	To meet this, safe drinking water is supplied with RO plant and several
SDG 6	and	measures for sanitation were taken up including toilets to all.
	sanitation	
	Affordable for	To provide green energy, LED bulbs, solar lights were installed in villages
5007	green energy	and sensitization programmes were organized.
	Decent work	Formation of FPOs, upgradation of lift irrigation scheme and creating
SDG 8	and	other work avenues for women leads to decent work and possible
	economic growth	economic growth in the village
		Having a common need-based development agenda through different
SDG 10	Reduced inequalities	meaningful interventions paved the way for reduced inequalities and
		equal access to resources through inclusive development models
	Responsible	Training of farmers on sustainable agriculture, best agriculture
SDG 12	Consumption	practices, water stewardship programs influence the farmers to
	and production	produce crops responsibly with a minimal impact on environment
SDC 12	Climate	One of the project interventions was green belt development and
300 13	Action	reduction in pollution by segregating solid and plastic waste.
	Bromoting	The project is done through partnership model and undertaken various
SDG 17	nartnershin	activities through convergence with government, corporate and village
	participinp	communities.

From the Table, it is clearly evident that the activities undertaken by Aurobindo Pharma Foundation towards Integrated Development and transforming Borpatla Village into a Model Village align with several sustainable development goals stated above. These efforts are in alignment with journey towards fulfillment of Sustainable Developmental Goals (SDG - 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13 and 17 on No poverty, Zero Hunger, Good health and well-being, quality education, gender equality, affordable and clean energy, decent work and economic growth, reduced inequalities, responsible consumption and production, climate action, partnerships for the goals respectively).

4.10 Stakeholder Perception and Overall Assessment of Model Village Activities.

1.	Relevance	Borpatla village was lacking proper connectivity through roads, drainage facilities, safe drinking water, educational facilities, healthcare, self-employment opportunities of women, strengthening of self-help groups etc. Thus, the project taken up by Aurobindo Foundation to transform the Borpatla into the model village by providing the needed facilities and relevant capacity building is most relevant.
2.	Efficiency	The convergence efforts of APMAS (NGO) with government and non- government organizations as well as making the project a community lead initiative, can be attributed for this project to consider as efficient. Besides, completion of this project on time with cost, quantity and quality is perceived as efficient.

3.	Effectiveness	Both stakeholders and beneficiary respondents (100) feedback about effectiveness indicate that the project contributed for their significant improvement in livelihoods, quality of lives and environment.
4.	Uniqueness	The project has set a good and replicable model of community lead convergence initiative that can be replicable in other areas.
5.	Impact	The project has created social, economic and environmental impact besides enhancing Human capital as perceived by stakeholders. Social Impact is created through Empowered SHGs, organization and strengthening of VDC to take up developmental activities, formation of FPO and strengthening of PACS and lift irrigation scheme for the benefit of farmers. Human capital through improved skills among women on tailoring increased enrollment & school attendance, awareness and knowledge on health, nutrition, hygiene, sanitation etc. Economic Impact though Trained women are getting regular income now when compared with their earlier work involving mostly household tasks and field works. Improved access to SHG loans, improved income due to increased crop and livestock productivity further helped for community's self-sustenance. Environmental Impact is created by Increased Avenue plantations, converting waste land as green belt, making Open Defecation Free village, laying new CC roads and drainage system, implementing solid waste management program and installing solar/LED lights. (Check list is annexed -7).
6.	Sustainability	The programme is sustainable based on its social acceptance, replicability and economic viability. However, strengthening of village committees and organizations is necessary to further sustain the efforts. The VDC, Panchayat and FPO voiced to take responsibility for sustainability.

CHAPTER- 5

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Model village concept is being adopted by many government and nongovernment institutions engaged in Rural Development aiming at integrated participatory holistic development for improving the overall quality of life of villagers. The Aurobindo Pharma Foundation has adopted Borpatla village in Hathnoora mandal of Sangareddy district and taken up several developmental activities through community development led developmental process. APMAS implemented the project and these interventions started from 2016 and continued till 2020 with a total outlay of Rs 1.02 Crores.

Aurobindo Pharma Foundation has been instrumental since its inception to execute various CSR projects around rural development and model villages and accordingly Borpatla model village project has been taken up under their CSR. In view of the importance of this project and its potential in creating social, economic and environmental impacts in Borpatla, Aurobindo Pharma Foundation

decided to get this impact assessed through a third-party organization namely Participatory Rural Development Initiatives Society (PRDIS).

5.1 The Results of the Study are Summarized and Presented below

A. Personal and Social Profile of the respondents

Majority of the respondents belong to young age (18 to 40 years) and literates. Further, main occupation is agriculture for most of them. A quick adoption to newer technologies in agriculture can be also inferred from this data due to better literacy rates besides the emerging need of exposing youth to skill programs.

B. Skill Development Training Programme

All the respondents have expressed their gratitude to APMAS and Aurobindo Pharma Foundation for organizing training and issue of certificate in collaboration with USHA Company. The trainings are impactful to show a clear-cut difference in their knowledge, skill and confidence levels.

All the respondents wanted to have further training pertaining to tailoring especially on dress stitching, designer blouses stitching and embroidery work. Other than tailoring they wish to train about disposable cup making, followed by candle making and DTP course.

C. Health, Nutrition, Safe Drinking Water through Reverse Osmosis Plant Village Health Nutrition and Sanitation Committee (VHNSC)

Ninety percent of sample respondents do not know about the Village Health Nutrition and Sanitation Committee (a subcommittee under VDC) and meetings facilitated by APMAS.

Health services

All the respondents have been getting advisories from APMAS in collaboration with ASHA and ANM.

Awareness programme on Sanitation

Around 33 percentages of respondents could recall the campaign organized by APMAS and said that good sanitation and hygiene practices is one of the most effective means of reducing the spread of diarrheal diseases, which are the leading cause of death among children under five.

Drinking water from RO plant

Majority of the respondents could get drinking water from the existing RO plant. Around 33 percent of respondents could not get because of distance. All the respondents (100%) could feel the benefits of drinking RO water to facilitate good health, tasty (maintains essential minerals) and to become free from water borne diseases specially diarrhea. All the beneficiaries are happy with the existing RO system and there have been no maintenance issues of RO.

D. Sanitation and Hygiene Initiatives Village Development Committee (VDC)

Only 5 percent of the respondents are aware of VDC. The key functions of the VDC are to align the existing problems and resources by making strategic decisions, sustainability of project activities and finally it is to ensure the healthy environment and an overall development of the village.

Drainage, Roads Cleanliness

Respondents (65%) felt that cleaning is not regular and main roads are being cleaned by GP but not sides.

Garbage collection

All the respondents are satisfied with daily garbage collection. As part of a major drive to make Borpatla as a clean village, the community members were given two dustbins each for collecting dry and wet garbage separately.

Awareness Programme on solid waste management

All the respondents (100%) could recall the awareness programme organized on Solid Waste management. It is important because it helps in maintaining the cleanliness of the whole village. It needs to be practiced because the entire population's health and community hygiene depends on it. Respondents are well aware that, the manure prepared from waste is being used for avenue plantations.

Concrete Cement (CC) Roads

All the respondents are satisfied with the CC roads laid. Village is fully covered with CC roads however there is a need for few roads at SC colony.

Light-Emitting Diode (LED) - Lights

Under the model village programme, 210 LED and 20 solar lights were installed. All the respondents have expressed their satisfaction. However, some of the LED lights needs replacement and proper maintenance by GP.

Sanitary and Hygiene Activities

Borpatla village was under total sanitation during the project period. All the respondents are happy for the support of Aurobindo Pharma Foundation and state government. Wash basins in few IHLL were also provided to wash hands with soap after using the toilet. Awareness also created on personal hygiene activities especially before preparing food, eating, or breastfeeding.

Green Belt Development

All the respondents are satisfied with the plants along roadside and pathway. They all have knowledge on main advantages of green belt to maintain good environment quality.

Upgradation of Funeral Yard

All the respondents have expressed their satisfaction over compound wall and allocation of space for each community in the funeral yard.

Awareness Programs and Campaigns On Developmental Issues

Majority of Respondents (85%) could be able to recall the awareness programmes. They told that campaigns were done on Child care, pregnant women care, neo natal post natal care, nutrition, hygiene of Adolescent boys and girls.

Special Programmes Organized for Women

The respondents (89%) could recall the programmes organized for women and those were annual women's day celebrations and an exposure visit to strengthen the activities of SHGs.

E. Individual Household Latrines

Out of total 264 toilets in the village, around 250 have been constructed since 2016 to March 2020 through this project. Aurobindo Pharma Foundation has contributed Rs. 5,000/- along with Govt. fund of Rs. 12,000/- per toilet besides labor contribution from the beneficiaries. Now, the village has been declared as open defecation free village.

F. Formation and Training of FPO

Aurobindo Pharma Foundation in partnership with APMAS has facilitated the formation of Farmer Producer Company with a membership of farmers of six villages adjacent to Borpatla. Out of this, around 80 farmers have become the members from Borpatla village. These farmers are happy for getting benefits from FPO on subsidized inputs, farm equipment through custom hiring center, access to loan, technical trainings etc. Besides, from Borpatla village, around 250 farmers have become active members of Primary Agricultural Cooperative society which is formed with farmer membership of 36 Gram Panchayats. This cooperative has been providing access to loan, financial institutions, government schemes, procurement centers, inputs etc.

G. School Interventions

School staff, teachers are very much satisfied of various project interventions and thus improved services. Because of projector, computer, internet services, school management can be able to arrange periodic interactive classes – informative videos, games, science experiments–in schools for the benefit of students.

H. Opinion on Public Services

Majority of the respondents (90%) and beneficiaries have rated the services as good.

5.2 Recommendations

- There is a need for formation of theme-wise (water, sanitation, women, youth etc) village level sub committees involving all relevant community members. Further, formation of a Village Development Committee (VDC) is also necessary which can be headed by village Sarpanch involving representatives of each subcommittee as members for planning, implementation and monitoring of different activities. This is important for creating visibility and ownership on overall development of village for all communities in the village. In this direction it is recommended to have Village Level Participatory Approach (VLPA–Annexed–8) as a tool for facilitating formation of committees and find the emerging problems and solutions.
- Considering covid and other relevant challenges, it is also necessitated to form a health committee which will look into regular health aspects through health camps, health checkups

and awareness programs in convergence with ongoing health system of state government and other private partners.

- To further expand underground drainage system across the village especially in SC Colony and to install RO drinking water system
- There is also a need for few more Individual Household Latrines in view of emergence of nuclear families which will facilitate Total Sanitation in the village
- It is desirable to expand green belt program in waste lands for environmental protection and biodiversity
- It is good to initiate entrepreneurship Skill Development Programs for youth in areas such as cup making, candle preparation, embroidery work, kitchen gardening, dairy etc. for selfemployment and to get additional income.
- FPO activities shall be strengthened further for conducting trainings on agriculture best practices, water stewardship programs so as to influence more farmers towards sustainable agriculture.

5.3 Conclusion

Development of Borapatla as a Model Village is a laudable initiative taken up by Aurobindo Pharma Foundation under Corporate Social Responsibility. The activities taken up have resulted in Integrated Rural Development of village resulting in changing the Lives and Livelihoods of most of the villagers. Early impacts of Social, Economic and Environmental changes are clearly visible. However more directed efforts are needed to bring behavior changes among residents to own, sustain and take forward the momentum. It is advisable to handhold this adoption program for few more years to completely attain the status of model village.

CASE STUDY-1

Tailoring training Improved Living Status

Ms. P. Prameela, wife of Sri Pochaiah, aged 20 years living in Borpatla village of Hathnoora mandal in Sangareddy district in Telangana state. Prameela has come from a farmer family. She completed intermediate and then got married at the age of 18. Her husband is a small farmer cum labour. Further, she is a mother of a year old boy. Prior to the commencement of Aurobindo project, she is a house wife dependent on husband for all her financial needs. She came to know about training programme on tailoring from her neighbors, organized by APMAS in collaboration with USHA Company, supported by Aurobindo Pharma Foundation, and decided to undergo training.

During the training Prameela got skills in stitching of women garments like blouse, dress, bags, night dress, scarf, frock, patiyala, kajuri pant etc. She also learnt to design and make a variety of clothes. She has decided to earn money out of stitching at home.

After the training she invested Rs 5000/- out of which Rs 3000/- is taken from SHG to purchase a new and modern sewing machine. Now, she started earning Rs. 1,000/- to Rs. 1,500/- per month by getting stitching orders from neighboring community. She also repaid the loan and also saved some money. As her income increased, she could spend on household needs, clothes etc. Now she is



self-dependent, and her confidence level has been increased. The standard of her living is also increased. She wanted to have further trainings in stitching of designer blouses and embroidery to improve her skills and income.

CASE STUDY-2

Twinning and handholding resulted in Strengthened Village School Education

Before Aurobindo Pharma Foundation project intervention- the primary and ZPHS schools have some of the inconveniences such as Physical and infrastructural barriers, no separate toilets, repairs to classrooms, shortage of classrooms, non-availability of Teaching and Learning Materials (TLM), no proper lighting in classrooms, no furniture etc.

Technical barriers would include no IT-enabled classrooms or even provision of basic computers, etc. The attitudinal barrier would include challenges where teachers or children do not exhibit favorable and congenial behaviour. This may also result in the lack of



Independence day celebrations

motivation. In this connection APMAS has



Children in Morning Assembly

introduced, first of its kind Twinning program to the Borpatla High School by connecting with Gaudium School, Hyderabad.

Further, several activities have been initiated by Aurobindo Pharma Foundation. Primary school was provided with three Vidya Volunteers, Compound wall, repairs to school building, a computer, shoes, school uniform, stationary. The

Vidya volunteers have concentrated more on spoken English and acting as para teachers and also taught moral values.

Zilla Parishad High School was provided with projector, benches, chairs, computer, toilets, classrooms have been constructed, provided two vidya volunteers, celebrated teacher's daymaths day- science day and given gifts to children who performed well in the competitions.

Ms. Amulya a teacher in the school said that "every morning, in the school assembly, after drill and meditation, one student has to read important news from the newspaper and three abbreviations. Other good practices include students maintaining a diary, teachers writing homework in the daily diary, and the students are expected to get their parents to sign it regularly. Overall, we see a visible change in students' interest and thus their attendance". She further went on to say that "The most noticeable positive benefit is the improvement in boys behavior and cooperation, Education is important but behavior and discipline is most important".

Due to this, impact the villagers have been able to save their expenditure on private schools. Their children are receiving good-quality education at a low cost besides improved moral values.

CASE STUDY-3

Transforming Lives and livelihoods through Integrated Rural Development

Mr. Veeraswamy S/o Laxmaiah is MPTC in Borpatla village of Hathnoora mandal, studied Diploma in ECE (Hardware) and for 15 years he worked in Software Company at Hyderabad.



In 2019 elections, he got elected as MPTC and he left his job and dedicated his services to the village development. He has two children studying Degree and Secondary school and his wife is a member in SHG group. He said that "earlier our village is very much lagging behind in all developmental indicators, but with the initiation taken by Aurobindo Pharma Foundation along with APMAS organization and when they worked towards model village based on Integrated

Village Development approach the village shape is completely changed and many visible changes can be seen now in different areas like safe drinking water, health, education, sanitation, livelihood, school infrastructure development, introducing solid waste management, micro entrepreneurship, physical infrastructure and governance etc.

He also felt the there is a need to sustain these efforts by more ownership of communities and village development committee. He further mentioned about benefits of FPO and PACS and village lift irrigation scheme due to collective efforts of farmers and initiation of Aurobindo Pharma Foundation.

He admits that with the tremendous efforts made by the Aurobindo Pharma Foundation



LED lights, Compound wall of Funeral Yard,

in partnership with APMAS organization, has yielded results in being transformed as a model village and set an example for many other neighboring villages.

About Borpatla Village

Borpatla is a Village in Hathnoora Mandal in Sangareddy district of Telangana State, India. It belongs to Telangana region. As part Telangana Districts re-organization, Borpatla Village Hathnoora Mandal reorganized from Medak District to Sangareddy district. It is located 12 KM towards East from District headquarters Sangareddy and 4 km from Hathnoora. The total geographical area of village is 1080 hectares.



Village Map

Borpatla Population

Borpatla Local Language is Telugu. Borpatla Village Total population is 2633 and number of houses are 578. Female Population is 51.2%.

Population

Census Parameter	Census Data
Total Population	2633
Total No of Houses	578
Female Population %	51.2 % (1348)
Scheduled Tribes Population %	1.2 % (32)
Scheduled Caste Population %	29.1 % (765)
Working Population %	42.7 %
Child(0 -6) Population by 2011	316
Girl Child(0 -6) Population % by 2011	48.4 % (153)

Agricultural Commodities Data

Borpatla Manufacturers and Agricultural Commodities Data		
Description Type	Commodities	
Agricultural Commodities (First)	PADDY	
Manufacturers Commodities (First)	N/A	
Agricultural Commodities (Third)	RED GRAM	

Participatory Rural Development Initiatives Society (PRDIS)

Plot 230, Shiva Nagar Colony, Hyderguda, Hyderabad-500048 Website: www.prdis.org. E-mail: www.prdis@hotmail.com, prdis.hyd@gmail.com Phone No: 9440051598 (A Brief)

Participatory Rural Development Initiatives Society (PRDIS) is a registered and reputed professional National Level Development Organization (NGO) established during the year 1999 operating from Hyderabad, Telangana, India.

Participation, Partnership and Empowerment are the guiding principles of PRDIS. It has been working on the areas of Sustainable Agriculture, Agri-business, rural development and Natural Resource Management. This organization has also been providing consultancy services to the Central Government various State Government, Agro Based Industries, international Development Agencies on Field activities, Monitoring, Evaluation studies, base line survey and capacity building activities concerning with Sustainable Agriculture, Agribusiness and Rural Development issues.

Dr. S. V. Reddy, The chief functionary of the organization has served in various capacities, ranging from Professor of Agricultural Extension in ANGR Agricultural University to special assignments as Advisor (Agricultural Extension) to the Government of Uganda and Consultant to the World Bank and FAO in Sub-Saharan Africa and India. He is assisted in this endeavor by 30 full time professional staff and senior consultants, 31 part time staff and consultants, 90 Field staff and 10 support staff, incurring an expenditure of more than Rs. 400lakh annually.

In addition to Telangana, Andhra Pradesh, India, PRDIS has also been involved in implementation of projects in Chhattisgarh, Jharkhand Karnataka, Tamilnadu and Pondicherry. It has also been invited as resource organization to implement Farmer Field Schools (FFS) in Orissa and Madhya Pradesh. PRDIS continues to offer Agribusiness Consultancy to large scale irrigated rice programme undertaken by J.N. Agritech International Limited, Uganda, East Africa, Biofuel project of Rusni Bio Fuels company, Organic inputs of Prathista Industries Ltd., Hyderabad, India and to several Agripreneures.

PRDIS since its inception has been focusing its attention on Sustainable Agricultural Development programmes majorly on Productivity enhancement Initiatives with eco friendly technologies with supply chain management with regard to crops such as cotton, sugarcane, chillies, maize, paddy and ground nut operating in different states.

The organization has been implementing productivity enhancement programme in cotton with IPM and INM technologies using Farmer Field Schools (FFS) approach since 2002 with support from FAO, Solidaridad, Syngenta Foundation and state government. Of late, more attention is paid on Better Cotton Initiative (BCI) Programme which is being operated with about 25000 farmers at present. This programme is being operated in the states of Telangana and Andhra Pradesh. In addition, PRDIS is also implementing sustainable spice initiative Programme with support from spice board of India and IDH. In both the programmes greater emphasis is made on supply chain management and market led extension.

PRDIS also has been engaged in capacity building programmes of farmers and farm women, Agri clinics and Agribusiness centre's programme for unemployed agricultural graduates and Entrepreneurship Skill Development Programmes of rural youth. Of Late DDU-GKY Skill Development Programme with GoI and Telangana Govt. is being undertaken for Rural youth. In addition to organizing public awareness campaigns on Decent Work as well as workshops and seminars on Farmer Rights, Biotechnology, Skill development and Agripreneurship. A National and International Conference were also organized during 2017-2018 on Agricultural extension and sustainable Development Goals in Collaboration with National & International Organizations.

The staff and consultants have 10-40 years of experience on the concerns of Participatory Approach, Agribusiness, community mobilization, market lead extension, information and communication, Gender, Agriculture, Health, Education and Natural Resource Management including Irrigation and Water Shed Development and Farmer Field Schools (FFS). It has successfully completed water shed programmes as PIA in Boothpur mandal of Mahabubnagar District under APRLP and also acted as resource agency to guide other NGOs in this process. It has two training centers one at Mahabubnagar and other at Warangal of Telangana State with residential and classroom facilities to accommodate about 100 participants in each center and (6) branch offices. Most of the programmes are funded by FAO, DFID, WHO, Ministry of Rural Development, CAPART, Gol, NIMSME Government of Telangana, Andhra Pradesh, Chhattisgarh, Jharkhand, MANAGE, PJTSAU, A.N.G.R. Agricultural University, International NGOs like BCI and IDH, Agro Industries etc. The organization has also undertaken District Level Monitoring of Rural Development Programmes by Government of India, Agricultural Technology Management Agency (ATMA), Baseline and Impact Assessment studies of FAO, IFAD and CAPART, Government of India.

PRDIS is a National Level Monitor (NLM) for Ministry of Rural Development, GoI and it has distinction of having invitation and receiving memento from H.E. the President of India on 15th August 2006 at Rashtrapathi Bhavan, New Delhi for outstanding work in Sustainable Agriculture for working with small scale farmers in Tribal areas. It has also received award for creating public awareness on biodiversity and environment with people participation from A.P. Biodiversity Board. The organization is affiliated to Agricultural Skill Council of India (ASCI), Govt. of India, New Delhi for undertaking Entrepreneurship and Agricultural Skill Development Programmes for Rural Youth.

Annex 3

Tailoring Certificate



Annex 4

IMPACT ASSESMENT STUDY OF A MODEL VILLAGE

Borpatla Village, Hathnoora Mandal, Sangareddy District of Telangana State

(An Initiative of Aurobindo Pharma Foundation undertaken through Corporate Social Responsibility)

INTERVIEW SCHEDULE

Respondent No:		Name of the Investigator:
Village : Borpatla	Mandal: Hathnoora	District: Sangareddy
XI. Socio Ed 6. Name o 7. Age(In d 8. Farming 9. Educatio	conomic Information f the respondent: completed years): g experience (No. of years): on Status:	and S/o:
Illiterate:())) Primary School:() Second	lary school:()Graduate:(
10. Occupa	tion: Agriculture () Any other ()

A. Skill development (Tailoring) Initiatives for women

- 1. In which year have you been trained?
- 2. How long has the training been organized?
- 3. What is your opinion on the quality of training organized?
- 4. In your opinion, what is the difference before and after training?
- 5. Are you getting regular orders from customers for tailoring services?
- 6. On an average, how much do you earn per month on Tailoring?
- 7. How do you spend your money? What are the items do you purchase with your income?
- 8. How much do you save for future endeavors?
- 9. Do you in need of further skill up gradation in Tailoring related activities. If yes, please mention
- 10. Other than tailoring are you interested in any other Entrepreneurship / trade.

B. Health, Nutrition, Safe Drinking Water through RO plant

- 1. Do you aware of village health, nutrition and sanitation committee facilitated by APMAS?
- 2. Are you attending meetings organized by the committee?
- 3. What are the issues discussed in the meetings?
- 4. Did you get any health benefits from Aurobindo/ APMAS services?
- 5. If yes please mention the benefits
- 6. Did you attend any awareness programme organized by APMAS on sanitation?
- 7. Do you get drinking water from RO plant installed by Aurobindo foundation: Y/N
- 8. What are the benefits of protective drinking water?
- 9. Is there any challenges regarding maintenance?
- 10. Is there anything you are in need?

C. Sanitation and Hygiene Initiatives

- 1. Do you know about a Village Development committee: Y/N
- 2. How often is drainage being cleaned?
- 3. How often the roads are cleaned and bleached?
- 4. Is Door to door collection of garbage satisfactory?
- 5. What was the procedure earlier?
- 6. Is Tractor / rickshaw coming to you daily to pick up garbage?
- 7. Do you know who is paying salary to sanitation worker?
- 8. Did you attend Awareness programme on solid waste management?
- 9. Do you know about Solid Waste management is being done by whom, where?
- 10. How do you feel about the CC roads laid by Aurobindo?
- 11. Are LED lights fully covered in your village?
- 12. Who maintains the services?
- 13. Are you satisfied with the sanitary and hygiene activities taken up by Aurobindo through APMAS?
- 14. Please tell us the benefits of green belt development in your village
- 15. What are the up gradation activities in funeral yard?
- 16. Is it useful?
- 17.Did you attend any public awareness programmes and campaigns on developmental issues? If yes, please mention the topics.
- 18. Is there any special programme organized for women groups?
- 19. Do you in need of any other services?

D. Toilets

- 1. When did you get constructed the toilet in your house?
- 2. Did you contribute anything for the construction? Cash or Kind? if cash how much?
- 3. What was the amount you got/spent from Aurobindo/ APMAS to construct the toilet?
- 4. Are your all family members using toilet?
- 5. Can you tell few benefits of using toilets?
- 6. What are the disadvantages of open defecation?
- 7. Is there any requirement from your side regarding toilets?

E. Formation and training of FPO

- 1. Are you a member of Cooperative / FPO: Y/N?
- 2. When did you become a member of Cooperative/ FPO?
- 3. What was the name of your Cooperative /FPO?
- 4. Do you know how many members you have in your Cooperative /FPO?
- 5. What are the benefits did you get from Cooperative /FPO so far?
- 6. What are the activities being done by Cooperative /FPO?
- 7. What are the future plans of Cooperative/ FPO?
- 8. Do you require support for forward and backward linkages?

F. School

9. What are the supplies to school provided by Aurobindo through APMAS

- 10. Please mention the benefits of these services
- 11. What are the additional requirements for the school up gradation and children welfare?

G. Opinion

12. How do you rate the benefit s and services provided by Aurobindo Pharma foundation?

Very good/ Good/Fare/Poor

- 13. What do you expect from Aurobindo foundation as additional resources for your village?
- 14. How often do you meet APMAS representative?
- 15. How do you rate about the organization services for your village? Very good/ Good/Fare/Poor

H. Comments of the Investigator

Annex 5

FGD's CHECKLIST

Skill development (Tailoring) Initiatives for women

- Your opinion on the quality of training organized
- > Need of further skill up gradation in Tailoring related activities
- > Any other Entrepreneurship / trade are in need.

Health, Nutrition, Safe Drinking Water through RO plant

- Awareness of village health, nutrition and sanitation committee (VHNSC) formation meetings, topics of meetings.
- RO plant advantages and challenges

Sanitation and Hygiene Initiatives

- > Awareness and knowledge about a Village Development Committee
- Drainage cleanliness
- Door to door collection of garbage
- Awareness on solid waste management
- > Opinion about the CC roads laid by Aurobindo
- > LED lights coverage in the village, maintenance issues
- > Benefits of Green belt development in your village
- Activities in funeral yard
- > Public awareness programmes and campaigns on developmental issues.
- Special programs for women groups.

Toilets

- Benefits of using toilets
- Disadvantages of open defecation
- > Any requirement from your side regarding toilets.

Formation and training of FPO

- Benefits from Cooperative /FPO
- Activities of Cooperative /FPO
- Future plans of Cooperative/ FPO
- Support for forward and back ward linkages

School

- Supplies to school provided by Aurobindo through APMAS
- Benefits of these services
- > What are the additional requirements for the school up gradation and children welfare?
- **Opinion:** Rate the benefits and services provided by Aurobindo Pharma foundation

Annex-6



GOVERNMENT OF TELANGANA DEPARTMENT OF CO—

OFFICE OF THE REGISTRAR OF MUTUALLY AIDED CO-OPERATIVE SOCIETIES FOR SANGAREDDY DISTRICT

Certificate of Registration

under section 5 of the Mutually Aided Co-operative Societies Act, 1995 I do hereby certify that

JAI KISAN AGRICULTURE PRODUCER MUTUALLY AIDED COOPERATIVE SOCIETY LTD. , BORPATLA (V} HATHNOORA {M}



" 1

AMC/SRD/DCO/2018/2617

Topeiher w//ñ iis bye-laws

Given under my hand and seal

Registrar of Mutually Aided Co-operative Societies

Annex 7

Checklist for Stakeholder Perc	ception and Observations
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SI.No.	Assessment Criteria	Assessment Questions
1	Relevance	Did overall goal match needs of project area?
2	Efficiency	What outputs were achieved?
		Whether they were as per the plan?
		Was implementation scheduled as planned?
		Was the project cost within planned limit?
		Was the fund utilization prudent?
3	Effectiveness	Did the outputs help achieve the goal?
4	Uniqueness	Did the project have any unique feature
		comprising inputs to the extent of goals
		achieved?
		Can the project be replicated?
5	Impact	What is the various tangible and intangible
		positive and negative impacts (socio-
		economic, environment, technology,
		knowledge, awareness) for different
		stakeholders of the project?
6	Sustainability	Would the impact created by the project
		sustains?
		What measures adopted?
		What modifications required for sustainability?

VILLAGE LEVEL PARTICIPATORY APPRAOCH (VLPA) FOR RURAL DEVELOPMENT – A CONCEPT NOTE

INTRODUCTION

Since independence, India witnessed number of development programmes in action towards rural reconstruction. These programmes adopted either top down or sector or area or target group approach with minimum involvement and participation of the village residents. This has created developed gaps between various socio-interest groups and different geographical areas. Villages Level Participatory Approach (VLPA) is designed to plug these gaps through motivation and empowerment of village residents.

WHAT IS VLPA

It is a participatory process in which all village residents are involved in identifying, prioritizing, and analyzing problems, preparing action plans, implementing, monitoring and evaluation through village implementation committees elected by Gram Sabha.

OBJECTIVES

- To facilitate the village resident to identify, analyze their problems and to prepare action plan, to motivate villagers to take responsibility for the development of their villages involving various socio interest groups.
- To aid mobilization of resources from within and outside the village to implement the action plan and to put pressure on different partners (government services, NGOs etc) to deliver quality services in a timely fashion.
- To encourage and train the village residents to monitor and evaluate the implementation of action plan.

KEY FEATURES

- All village residents (Gram Sabha) are involved
- Adopts bottom up and systematic approach
- Integrated multi-sector plans addressing all concerns (broad based rural development.
- Villagers are trained on priority settings, identification of beneficiaries, decision making and setting agenda for action.
- Establishment of village committees by Gram Sabha to oversee implementation monitoring and evaluation of the plans.
- Empowering village residents to demand for timely services
- Establishing linkages with the existing institutions (panchayats, cooperatives, block/mandals)
- Promotion of partnership among various stakeholders.
- Rationalization, integration and harmonization of resources.

PRINCIPLES AND CONSIDERATIONS

• Involvement of Grama Sabha

- Education and training
- Triangulation
- Emphasis on village resident's leadership role
- Holistic development
- Addressing equity concerns
- Self-help, mutual help and cooperation
- Programme Vs project approach
- Rational use of resources

PHASES AND PRCESS OF VLPA

- Selection of a village
- Information and approval of the villagers
- Secondary data collection and rapport building
- Training of trainers
- Diagnosis Problems, Opportunities, and resources through village mapping, transect Venn diagram and semi structured interviews
- Problem analysis: Prioritization and finding causes and effects
- Search for solutions: to understand the perception and motivation of village residents to solve priority problems and to identify villager's proposals to solve the problem.
- Planning: Translates objectives into activities/actions for implementation within a given time frame and budget. The action plans are prepared jointly by intervening agencies, experts and villagers which are presented for approval and adoption by Grama Sabha.
- Implementation arrangements: Grama Sabha elects Village Implementation Committees (VICs) sector wise. Balanced representation is given by including panchayat, ward members, women, youth, SC, ST and BCs. In addition to it, Village Coordination Committee (VCC) is constituted drawing Chairperson of VICs, Sarpanch (Panchayat President), Village Administrative Officer (VAO)/Village Development Officer (VDO, who will oversee the implementation of plans, mobilize villagers and resources. It also facilitates communication and dialogue within community outside and intervening agencies. These committees are expected to meet on a designated date every month to review the progress and set agenda for action.
- Monitoring and Evaluation: continuous process of VLPA. The committees are trained on this important function.

It is hoped that members of VICs and VCC will eventually be trained and registered to take-up the role of Village Based Organization (VBOs) to promote Self-reliant villages.

EXPECTED OUTPUT AND BENEFTIS

- Increased empowerment of rural people to identify their problems, determine development needs and demand for services.
- Improved cooperation among village residents
- Development of village, mandal and district plans with people's participation
- Increased collaboration among stakeholders and integrated rural development

- Developed rural capacity to form self-help groups and identify viable/fundable project
- Optimum use of resources and increased contribution from villagers towards development activates.
- Capacity building of the village residents, development staff and other stakeholders in participatory planning, implementation, monitoring and evaluation.

CONCLUSION

This innovative approach was introduced in 22 villages of Bijinepally mandal of Mahabubnagar district of Telangana State by PRDIS-a NGO based in Hyderabad for identification of on-farm, off-farm and non-farm skills enterprises and entrepreneurs During this process about 2000 villagers and other stakeholders were trained in participatory planning, monitoring and evaluation. All stakeholders are enthusiastic and share positive signals that VLPA holds the key towards rural transformation by strengthening village panchayat and other village-based institutions. However, there is an urgent need to test and fine tune the methodology in few mandals of selected districts representing different geographical and cultural variations and to evaluation it before further expansion. The VLPA can also serve as a launching pad for implementation of programmes of central and state governments like Janmabhoomi, NREGS, National Rural Livelihood Mission, National Skill Development Mission etc., with people's participation and commitment. Further, more, it can strengthen democratic institutions like panchayats in rural reconstruction process.

IMPACT ASSESMENT STUDY OF A MODEL VILLAGE

Peyyalapalem, Kodavalur Mandal of Nellore District of Andhra Pradesh State

An Initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility





Participatory Rural Development Initiatives Society (PRDIS)

#2-6-41/75, Sathsang Vihar, Upperpally, Rajendranagar, Hyderabad-500048, Telangana, India Website: www.prdis.org, E-mail: prdis@hotmail.com, prdis.hyd@gmail.com

June -2021

IMPACT ASSESMENT STUDY OF A MODEL VILLAGE

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FULL REPORT



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June-2021

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ABBREVIATIONS

ALA APF	Ananda Lahari Abhyasana Aurobindo Pharma Foundation
APMAS	Mahila Abhivruddhi Society, Andhra Pradesh
ARS	Agriculture Research Station
ATW	Any Time Water
CC Roads	Concrete Cement Roads
CSR	Corporate Social Responsibility
DATTC	District Agricultural Technology & Transfer Center
FPO	Farmer Producer Organisation
IHHL	Individual House Hold Latrines
ODF	Open Defecation Free
PRDIS	Participatory Rural Development Initiatives Society
SDG	Sustainable Development Goals
SHGs	Self Help Groups
SWM	Solid Waste Management
UN	United Nations
VDC	Village Development Committee
IMPACT ASSESSMENT TEAM

Mrs. Sreelakshmi, Consultant PRDIS & Team Leader Mrs.MVK.Prasanti, Consultant, PRDIS Mrs. C. Maria Victoria, Research Associate Mr. P. Narendra Babu, Research Associate Mr.M.Ghandi, Research Associate

Overall Guidance: Dr. M. Suryamani, Senior Consultant, PRDIS

ACKNOWLDGMENTS

We are grateful to Arobindo Pharma Foundation for giving this opportunity to assess the Impact of Peyyalapelam Model Village.

Our sincere thanks to CSR team of Aurobindo Pharma Foundation for their cooperation and guidance throughout the study.

Our special thanks to Mahila Abhivruddhi Society, Andhra Pradesh (NGO), the implementing agency of model village project for their guidance and help in data Collection and other aspects during impact assessment study.

Finally, we would like to express deep sense of gratitude to Villagers, Panchayat staff, village Officials and Other stakeholders for their cooperation during the study.

Prof. S. V. Reddy,

President & Executive Director,

PRDIS, Hyderabad.

IMPACT ASSESSMENT STUDY OF A MODEL VILLAGE

Peyyalapalem, Kodavalur Mandal of Nellore District of Andhra Pradesh State

EXECUTIVE SUMMARY

India contributes mammoth share of its annual budget towards rural development, but still rural India lacks behind urban amenities in almost all development parameters. Despite being several past initiatives by Government of India at all levels and private sectors, there is still a significant gap between rural and urban areas. To fill the gap the idea of Adarsh Gram

/ Model village has been explored by the government to address poverty, health, education and livelihood related challenges comprehensively. The model villages address resource deficits in each of these sectors with adequate focus on special needs of the village. Towards this direction, Aurobindo Pharma Foundation, under Corporate Social Responsibility, adopted Peyallapalem village to develop it as a Model village. This programme was implemented from 2016 to 2019-2020 with an outlay of 1.41 crores through Mahila Abhivruddhi Society, Andhra Pradesh (APMAS) NGO and also funded of Rs.25 lakhs directly to Peyyalapalem Gram Panchayath towards village development. Participatory Rural Development Initiatives Society (PRDIS) is selected for Impact assessment of the model village project implemented by APMAS.

The important objectives of this study are to evaluate the intervention activities for their output, outcome and impact in terms of human capital, social, environmental and economic concerns; to study the amount of visibility created for the project, local acceptance and ownership; to assess the perceptions of different stakeholders about interventions adopted in the village and to evaluate sustainability of the project and recommend future strategies.

The methodology adopted is Ex Post Facto Research design. The total households in the village are 292 and out of them 45 beneficiaries were selected using stratified random samplings representing all the activities. The beneficiaries were interviewed and also collected data through the questionnaire.

The overall impact assessment of the project as perceived by beneficiaries and also based on stakeholders views is given below

Relevance: As per need assessment study of, Peyyalapalem village was lacking proper connectivity through roads, drainage facilities, safe drinking water, educational facilities, healthcare, irrigation and self-employment opportunities of women and youth etc. Thus, the project taken up by Aurobindo Pharma Foundation to transform the Peyyalapalem into the model village by providing the needed facilities and awareness on time is relevant.

Efficiency: The convergence efforts of (NGO) with government and non-government organizations as well as making their project a community lead initiative is attributed as efficient. Besides, completion of this project on time with cost, quantity and quality is perceived as efficient.

Effectiveness: Both stakeholders and beneficiaries (45) feedback about effectiveness indicate that the project contributed for their significant improvement of livelihoods, quality of lives and environment.

Uniqueness: The project has set a good model of community lead convergence initiative that can be replicable in other areas as per the stakeholder's opinion.

Impact: The project has created social, economic and environmental impact besides enhancing Human capital as perceived by stakeholders.

- Social Impact is created through Empowered SHGs (23), organization and formation of Village Development Committee (VDC) to take up developmental activities, formation of Farmer Producer Organization (FPO) with 81 members for the benefit of farmers.
- **Human capital:** Improved skills among women on tailoring increased enrollment & school attendance, awareness and knowledge on health, nutrition, hygiene, sanitation etc.
- Economic Impact: Trained women are getting regular income now when compared with their earlier work involving mostly household chores and field works. Improved access to SHG loans, improved income due to skill trainings, increased crop and livestock productivity further helped for community's self-sustenance.
- Environmental Impact is created by Increased avenue plantations, establishing homestead gardens, converting waste land as a community park, making Open Defecation Free village, laying new CC roads and drainage system, implementingsolid waste management programme and installing solar lights. Solid waste management and recycling of compost for avenue tress is a hallmark impact towardsenvironmental sustainability.
- The recognition through Andhra Pradesh state government "Smart village small Ward" award, Janma Bhoomi Maa Ooru award further signifies the impact created by the project.

SUSTAINABILITY: The programme is sustainable based on its social acceptance, replicability and economic viability. However, strengthening of village committees and organizations is necessary to further sustain the efforts. The VDC, Panchayat and FPO voiced to take responsibility for sustainability.

These findings are in alignment with journey towards fulfillment of Sustainable Developmental Goals (SDG- 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13 and 17 on No poverty, Zero Hunger, Good health and well-being, quality education, gender equality, affordable and clean energy, decent work and economic growth, reduced inequalities, responsible consumption and production, climate action, partnerships for the goals respectively).

RECOMMENDATIONS: There is a scope for improvement of interventions initiated in the model village in general. Some of the specific actions to be focused are –

- About 80% Households have milk animals hence it is desired to have more skill training programmes on dairy/calf rearing and management, value addition of feed & fodder banks, making of by products, Artificial Insemination in cattle, processing units etc., so that women and youth shall get more employment and entrepreneurial opportunities. Veterinary services can be further strengthened to meet the challenges and problems related to livestock.
- Majority (58%) of community member's occupation is farming. Hence there is a need for strengthening of the FPO activities in convergence with Rytu Barosa Kendra's (RBK of Regatichilaka which is in close proximity to Peyallapalem) (RBK is Farmer empowerment center, a scheme of Government of AP) to get access to and benefits concerning agriculture inputs, value addition, marketing, custom hiring centre, technical guidance for productivity enhancement etc.
- FPO activities shall be strengthened further for conducting trainings on agriculture best practices, water stewardship programs so as to influence more farmers towards sustainable agriculture.
- There is a need for construction of rural godowns and processing units for value addition of paddy and enhanced income.
- > Exploring avenues for upgrading current primary school for Higher School Education within the village to reduce school dropouts and to sustain their education to next level.
- Handholding and strengthening of Village Development Committee (VDC) is necessary to sustain and improve the project activities such as green belt development, maintenance of Reverse Osmosis plant for ensuring health, taking up of more skill training programmes for women and youth, effective access to government entitlements/schemes related to SHGs, farmers, socially disadvantaged groups etc.
- Imparting on farm, nonfarm and off farm skill trainings to women and youth based on a skill gap analysis. It can be done to determine the need and identification of trades which have entrepreneurial potential in the village and neighboring villages.

CONCLUSION

Transformation of Peyyalapalem village with Integrated Rural Development activities by Aurobindo Pharma Foundation as a model village is phenomenal. Through model village project, the village has taken up a different shape of following an institutional approach like VDCs, FPOs etc. Some of the infrastructure such as Mahila Bhawan, Farmer's training centre, Community Park remains as monumental effort to witness by next many generations and to sustain the past efforts. It is a commendable effort and all the residents are very much satisfied with this initiative. It is evident from the study that socio, economic transformation happened leading to a self-reliant village. All the activities undertaken are aligning with relevant Sustainable Developmental Goals of United Nations. This effort is only possible by the collaborative efforts of the villagers/Gram Panchayath and other stakeholders. It is possible to replicate the effort in other areas as a model since it is a viable and sustainable project. Peyyalapalem has reached a stage of inspiring and influencing other villages in proximity. Whole efforts and approach in model village reflects the harmonized ideology among communities of Peyyalapalem village.

CHAPTER-1 INTRODUCTION

1.1. CONTEXT

It is estimated that more than half of Indian population would be rural even in 2050. According to census 2011, there are around 65 lakh villages in India and almost all of them are in dire need of growth accelerators. Country contributes mammoth share of its annual budget towards rural development, but still rural India lacks behind urban amenities in almost all development parameters. Despite being several past initiatives by Government of India at all levels and private sectors, there is still a significant gap between rural and urban areas. To fill the gap, the idea of Adarsh Gram / Model village has been explored by the government to address poverty, health, education and livelihood related challenges comprehensively. The model villages address resource deficits in each of these sectors with adequate focus on special needs of the village. A model village is a type of mostly self- contained community and used in the sense of an ideal to which other developments could aspire. Model village concept is being adopted by many government and non government for improving the overall quality of life of villagers. A model village is a sustainable community that is able to generate and maintain resources necessary to improve its level of wellbeing by strengthening the sustainability pillars of infrastructure, livelihood and services.

In the year 2016, towards this direction, Aurobindo Pharma Foundation has adopted Peyyalapalem village in Kodavalur Mandal of Nellore District, Andhra Pradesh under Corporate Social Responsibility (CSR) and partnered with Mahila Abhivruddhi Society, Andhra Pradesh (APMAS) to implement the



Study team visit to Peyyalapalem Model village

developmental activities for transforming it as a model village. The project started from 2016 as community led developmental process and continued till 2020 with an outlay of Rs 1.41 crores based on situational analysis of Peyyalapalem village as done by APMAS. In addition, Rs. 25 lakhs is given to Gram Panchayat for village development.

1.2 NEED AND IMPORTANCE OF THE STUDY

Aurobindo Pharma Foundation has been instrumental since its inception to execute various CSR projects around rural development and model villages and accordingly Peyyalapalem model village project has been taken up under their CSR. In view of the importance of this project and its potential in creating social, economic and environmental impacts in Peyyalapalem, Aurobindo Pharma Foundation decided to get this impact assessed through a third-party organization namely Participatory Rural Development Initiatives Society (PRDIS), which is a professional NGO with two decades of experience in conducting monitoring, evaluation and impact studies for both National and International Organizations.

1.3 ABOUT THE VILLAGE

Peyyalapalem village is a Panchayat integrated rural development plan for transforming the village with a combination of Human and Infrastructure under Kodavalur Mandal, Kovur Taluk of Nellore district in Andhra Pradesh. As per the 2011 senses, the total House Holds in the village 292 HH's, about 1500 population (Male: 700 Female: 800). The village has one primary school and one anganwadi centre too.



PROFILE		
Total Population	(M- 700 & F-800)	
Total Households	292	
Main Occupation	Agriculture	
ICDS Centre's	02	
Government Schools 01		

1.4 ABOUT PRDIS

Participatory Rural Development Initiatives Society (PRDIS) (www.prdis.org) is a registered and reputed professional National Level Development Organization (NGO) established during the year 1999 operating from Hyderabad, Telangana, India. Participation, Partnership and Empowerment are the guiding principles of PRDIS. It has been working on the areas of Sustainable Agriculture, Agri-business, rural development and Natural Resource Management. This organization has also been providing consultancy services to the Central Government, various State Governments Agro based Industries, Foundations, International Development Agencies on Field activities, Monitoring, Evaluation, Impact studies, base line survey and capacity building activities concerning with Sustainable Agriculture, Agribusiness and Rural Development issues. (A Brief about PRDIS in Annexure 1).

1.5 ABOUT AUROBINDO PHARMA FOUNDATION (APF)

APF is the Philanthropic arm of Aurobindo Pharma Limited and serves for social and economic growth of the nation through its Corporate Social Responsibility (CSR) programs around different thematic areas such as Education and skill Development, Health and nutrition, sanitation, social equality, sustainable agriculture, animal welfare, homes for needy, disaster management, rural development, Environmental sustainability etc., The foundation has also aimed to develop few identified rural villages into model villages through Integrated Rural Development Activities. Thus, APF efforts have contributed towards holistic community wellbeing with a long-term vision of achieving Sustainable Development Goals (SDGs) of UN.

1.6 ABOUT APMAS

APMAS is implementing partner of model village project of Peyyalapalem village as funded by APF. It is a renowned national level non-profit organization that has its roots in the Self- Help Groups movement in the country. Provides technical assistance to NGOs, Governments, Banks and others involved in SHG and FPO promotion and during the last 19 years, has three main verticals in which it undertakes various projects and one of its main verticals is Innovations and Pilots. The focus of this vertical is primarily for learning and up- scaling (by the government) towards attaining inclusive growth in the rural and urban communities by undertaking innovations and pilots.

1.7 OBECTIVES OF THE SUTDY

- 1. To evaluate the activities for their output, outcome and impact in terms of human capital, social, environmental and economic concerns.
- 2. To study the amount of visibility created for the project, local acceptance and ownership.
- 3. To assess the perceptions of different stakeholders about the benefits and views.
- 4. To evaluate sustainability of the project and recommend future strategies.

1.8 EXPECTED DELIVERABLES

A report consisting of assessment findings, feedback from beneficiaries and stakeholders, in terms of output and impact and recommendations for the sustainability of the project.

1.9 LIMITATIONS

- 1. The study was taken up during Covid 19 pandemic and therefore relatively it took more time for collection of data.
- 2. The study is limited to 45 respondents covering all interventions and hence findings are to be interpreted with caution for generalization.
- 3. The study team captured baseline data through recall method using Interview Schedule and Focused Group Discussions.

1.10 PRESENTATION OF THE ASSESSMENT REPORT

This study is presented in five chapters as follows

Chapter -1	Deals with Introduction which gives an account of Model village programme, Need and importance of the study, Objectives and Limitations.
Chapter- 2	Deals with different activities implemented in Peyyalapalem village.
Chapter-3	Deals with Methodology with different dimensions namely sampling procedures, variables and measurements, instruments of investigation, methods of data collection and analytical tools.
Chapter-4	Deals with Results and discussions of the study with valid reasoning of the findings.
Chapter-5	Deals with Summary, Recommendations and Conclusions.

CHAPTER-2 PROJECT INTERVENTIONS

Under this project on "Model Village" various interventions have been taken up in Peyyalapalem village such as strengthening of SHGs, clean drinking water, sanitation facilities, good quality of health and education services, livelihood opportunities, installation of LED lights, sustainable agriculture and green development, organizing health camps etc., to achieve the targeted objectives.

Below are different Interventions and related activities under each intervention

2.1 STRENGTHENING OF SELF HELP GROUPS



APMAS has provided hands-on training for SHGs group members on different aspects like financial discipline, to encourage monthly savings, opening of bank accounts, related bookkeeping, inter-loaning with low interest rates among group members and pay back to the banks. The most significant aspect of these collectives is that they are wholly managed by the women and thus require constant motivation. Regularly conducted meetings at Mahila Bhavan which is located in the village itself and as

constructed by Aurobindo Pharma Foundation within scope of model village project.

2.2 PROVIDING SKILL DEVELOPMENT TRAINING FOR POTENTIAL YOUTH AND WOMEN



Under skill development for women, AP has provided Tailoring training for the interested women in the Peyyalapalem village in partnership with USHA International (a pioneering institute in tailoring machines). Women (46) were trained and they had completed their 3 months tailoring course successfully and they were awarded with a course completion certificate. Some of the women were also trained on Hand embroidery Work.

2.3 PROVISION OF SAFE DRINKING WATER



Access to safe drinking water is a fundamental human right and an essential step towards improving living standards especially to sustain good health. Access to potable quality water is one of the main objectives of the Sustainable Development Goals (SDGs). The UN- SDG 6 states that "Water sustains life, but safe clean drinking water defines civilization". In this context, APMAS has installed Reverse Osmosis (RO) plant with 2000 liters Capacity which is being used for public consumption. Villagers were provided with

the ATW (Any Time Water) cards for access to get the water with a nominal fee of Rs.5 per 20 liters of purified water.

2.4 SOLID WASTE MANAGEMENT (SWM) & TOILETS



Under sanitation programme in alignment with Swachh Bharat scheme of Gol and AP state, has constructed "Chetta Nundi Sampada Tayari Kendram" (Wealth from waste) wherein every alternate day a sanitation worker collects the waste from the household and dump in collection centre. This is to protect human health and improve quality of life among people living in this village, to reduce environmental pollution and make rural areas clean. In addition, 137 Toilets were constructed in convergence with Government. A.P government declared this village as Open Defecation Free village and awarded Janma Bhoomi Maa Ooru award from district administration during 2018.

2.5 ORGANIZING HEALTH CAMPS



Organized health camps at Peyyalapalem village in association with Department of Health. The objective of conducting the health camp was to create awareness on general health among the people, provide general health check-up and counseling them on basic healthcare and hygiene. Majority of the villagers have attended these health camps and diagnosed with few minor issues based on which few cases were further referred to the Mandal

and District hospitals for better treatment. Eye checkups and cataract surgeries were done in association with Pushpagiri hospital, Hospital.

2.6 EDUCATION INITIATIVES



APMAS with the help of Aurobindo Pharma Foundation has initiated several activities like renovation of Government school building and classrooms with modern amenities, distribution of study materials, uniforms,

shoes and bags to the students etc. It has created lot of excitement and interest among students, teachers, parents and community. Apart from this many events were organized at the school like Independence Day celebrations, Republic Day celebrations and National Sports day celebrations and held competitions and prizes were distributed to the students.

2.7 INFRASTRUCTURE DEVELOPMENT ACTIVITIES



Under the infrastructure development, through funding from Aurobindo Pharma Foundation, APMAS has initiated different activities like construction of CC roads and drainage system, installation of adequate number of concrete benches at park, adequate lighting arrangements through installation of around 106 LED and 20 solar streetlights, wall painting for Anganwadi centre and construction of Bus Shelter etc.

2.8 MAHILA BHAVAN



In Peyyalapalem, APF through APMAS has constructed Mahila Bhavan (of 600 square feet area) where skill development trainings, regular SHG meetings and trainings on health and nutrition by the ANMs and ASHA workers

were organized. Every year international women's day is celebrated on 8th March at village level and discuss the importance of this occasion as well as to organize competitions and recognize through prizes to motivate rural women and keep their morale up.

2.9 FARMER'S TRAINING CENTRE



Farmer training centre was established to impart trainings to the farmers on agriculture and allied sectors besides farm advisory services as per local cropping patterns. This centre also provides veterinary services like regular

Check-ups, artificial insemination, surgeries, vaccination and take up different extension programmes. To sustain further, by involving 81 farmers shareholders, a Farmer Producer Organization (FPO) has been established to empower local farmers.

2.10 GREENBELT DEVELOPMENT

Under green development programme in alignment with Andhra Pradesh "Neeru – Chettu" scheme with the help of VDC have distributed total 1000 plants to all households to mitigate the pollution and to get good quality air. Necessary care has been taken to ensure that these plants survive and sustain further to grow.



CHAPTER-3 METHODOLOGY

This chapter presents the methodology followed in conducting the study. It gives details of research design, sampling procedure, variables and their empirical measurement, instruments and methods used for collection of data, analytical procedures and statistical tools followed for interpretation of the data.

3.1 RESEARCH DESIGN

Ex-post facto research design was adopted to obtain data related to personal socio- economic and situational variables as well as knowledge and adoption of practices. Interviews were held for tracking changes before and after implementation of development activities. However, further validation of changes was also made by asking the stakeholders and key informants on the interventions and getting the answers through recall method.

3.2 SELECTION OF SAMPLE RESPONDENTS

The village has total of 292 families and a population of about 1500. Considering wide range of activities benefitting different stakeholders on the whole, 45 respondents were selected by adopting stratified random sampling for administering the questionnaire and to conduct interview for capturing data about their perception on the benefits regarding common village development activities undertaken by the foundation such as education, health, safe drinking water, sanitation, street lights, CC roads, green belt, skill development, agriculture FPO & SHGs.



3.3 VARIABLES AND THEIR EMPIRICAL MEASUREMENT

Table –3.3 Variables and their Empirical Measurement

S.No	Variables	Empirical Measurement		
DEPEN	DEPENDENT VARIABLES			
1.	Knowledge (based on facts, information and skills acquired through experience and education)	Schedule developed for the study		
2.	Awareness (based on perceiving, knowing, conscious of events) about Health, Nutrition, Sanitation and Hygiene	Schedule developed for the study		
INDEP	ENDENT VARIABLES			
1	Age	Chronological age of the respondent		
2	Education	Formal education		
3	Opinion on Aurobindo and AP	Schedule developed for the study		
4	Opinion of women on Tailoring and other requirements	Schedule developed for the study		
5	Environment Concerns	Schedule developed for the study		
6	CC roads usage	Schedule developed for the study and Observations		
7	Toilet's usage	Schedule developed for the study		
8	RO water plant usage	Schedule developed for the study		
9	FPO services usage	Schedule developed for the study		
10	School services	Schedule developed for the study		

In addition, personal interviews were conducted with selected beneficiaries, Gram Panchayat, Agricultural Extension Officer; AP representatives for validation and also to capture their perception abut Relevance, Effectiveness, Efficiency, Uniqueness Impact and Sustainability of the Project.

3.4 METHODS OF DATA COLLECTION

a) Rapport

Rapport was established with the villagers and the beneficiaries by visiting them prior to data collection and discussing several issues including marketing concerns and other constraints expressed by them as well as by offering suitable solutions.

b) Interviews with Beneficiaries

Interview method was one of the prominent methods employed for data collection. This involves interviewing the respondents and getting answers through verbal responses based on the structured and open-ended questions.

c) Stakeholders Consultations

In addition, selected stakeholders (Gram Sarpanch, ex-sarpanch, Agriculture Extension officer school teacher, anganwadi teacher etc.,) were also consulted. The data were also cross validated by checking at random some of the questions with the key informants.

3.5 INSRUMENTS USED FOR DATA COLLECTION

3.5.1. Designing the Interview Schedule

The schedule consisted of eight parts. The first part associated with profile characteristics of respondents. The second part dealt with Women tailoring training. Third part meant for knowing knowledge of Village Development Committee, health, nutrition, safe drinking water. The fourth part dealt with sanitation and hygiene, streetlights, green belt, grave yard, women programmers. The fifth parts dealt with the Individual Sanitary Latrines. The sixth part dealt with formation and training of FPO. Seventh part dealt with school services and the last part with opinion on comprehensive services. The interview schedule was constructed in English (Annexure - 2).

3.5.2. Training

The field supervisors and investigators were trained in data collection methods and tools.

3.6 STATISTICAL TOOLS USED

To convert the results into findings few statistical tests are used as given below for analyzing the data.

- 1. Percentage
- 2. Charts

3.7 PREPARATION OF REPORT

The data thus collected through interview schedule were coded, tabulated, analyzed and presented in tables to make the findings easily understandable. The findings emerged out of the study were suitably interpreted, necessary conclusions and inferences were drawn and presented in the following chapter.

CHAPTER – 4 RESULTS AND DISCUSSIONS

This chapter presents the objective wise results of the assessment, and the discussion of this study is presented in percentages.

4.1PERSONAL AND SOCIAL PROFILE OF THE RESPONDENTS

4.1.1 Age



It can be interpreted from diagram 4.1.1 that majority (40%) of the selected respondents are of young age and followed by middle age (40%). This trend shows that many young and middle-aged people are staying in the village and this is a reflection for more opportunities for inclusive development of the village.



4.1.2 Education status

Diagram 4.1.2 Shows that total literacy rate is 89%. Majority of the respondents (40%) have primary school education followed by secondary school education (33%). This trend signals the need for introducing skill development programmes for youth and farmers, to empower them with farm and off farm skills and thereby improved livelihoods. Furthermore it is suggested that efforts may be made to upgrade primary school up to secondary school.

4.1.3. Farming experience

CATEGORY	PERCENTAGE OF BENEFICIARIES
Agriculture and allied sector	58
Any other (housewives, students, school teachers, small scale vendors etc)	42
Total	100

 Table 4.1.3. Distribution of respondents according to their farming experience

From table 4.1.3 Shows that for majority of the respondents (58%) major occupation is agriculture and allied sector activities. It indicates that more training activities can be organized on Agri-supply chain and value addition to improve their skills and livelihoods.

4.2 SKILL DEVELOPMENT TRAINING FOR WOMEN

Women (46) were trained on tailoring for 3 months in 2 batches and awarded certificate (Annex-3) in the year 2019-20. The sample respondents, 25 percent of the trained women informed that the training was good

and learnt all the stitching skills related to women and children clothes. Majority of them have bought stitching machines. They are getting regular stitching work orders from neighbors' and able to earn around Rs. 1500/- per month on an average by majority of sample tailoring respondents (56%). They are spending the earned money for domestic expenses and able to save around Rs 500/- to Rs 1,000/for the future expenditure. During the interactions, they have expressed the need for further training on advanced dress designs, blouses, embroidery and marketing linkages to enhance their skills and livelihoods. Existing SHGs in the village along with VDC can take a lead in this direction.



Thus, the tailoring training given for women by APMAS through CSR funding of Aurobindo Pharma Foundation has made a significant impact on their lives.

4.3 STENGTHENING OF SELF HELP GROUPS (SHGs)

During personal interviews the sample respondents (25%) expressed that meeting of 26 Self Help Groups in the village are irregular till 2016. APMAS have been organizing regular trainings of these groups since project inception in 2016. As a result, 23 SHGs are working properly on monthly savings, credit, regular meetings, audits and maintaining records. The sample respondent individuals have availed loan from state government scheme up to Rs.1,00,000/- per each SHG member and used that money for their development activities like agricultural, house repair/construction, educational expenses, marriage expenses etc. and they are able to repay @ Rs 4,000/- EMI timely. The perusal of activities undertaken by SHGs (Diagram 4.3) in the village shows that there is need for intensifying promotion of enterprises and their active participation in awareness campaigns on COVID-19, understanding government schemes etc.



4.4 HEALTH, SOLID WASTE MANAGEMENT AND SAFE DRINKING WATER

Personal interviews and interactions with beneficiaries have revealed that all the villagers are drinking good quality water from Reverse Osmosis (RO) plant and resulted in reduced water borne diseases especially diarrhea in children which was a frequent phenomenon prior to installing RO plant. Village Development Committee has been taking well care of RO



Plant daily operations. Concerning health, all sample respondents have expressed their satisfaction because they got eyes checked free of cost, got spectacles fitted with good quality lenses, got operated for cataract at a free of cost by Aurobindo Pharma Foundation in collaboration with Pushpagiri Eye Hospital, Hyderabad. Furthermore, awareness campaigns undertaken on importance of nutritious

food for women, children, adolescents and training camps for animal health had benefited respective groups.

All the interacted respondents and beneficiaries in Focused Group Discussions are aware of existence of VDC and their meetings as VDC members have been discussing about the sustainability of all activities of the project such solid waste management, RO plant, toilets, LED lights etc.

4.5 SANITATION AND HYGIENE INITIATIVES

All the respondents are satisfied with laying of CC roads, drainage system and installation of LED lights by Aurobindo. Entire village is fully covered with CC roads. These roads and drainages are being cleaned regularly.

The personal interviews reveal that all the sample respondents are satisfied with daily domestic garbage collection. A sanitation

worker has also been placed to collect and segregate solid waste and its management. The Solid Waste compost is being used for avenue plantations in the village, also selling the compost to the farmers.

Aurobindo has supported through beneficiary contribution of Rs. 3,000/- while rest of per toilet construction cost of Rs. 15,000/ is borne by government; accordingly 137 beneficiaries are covered under IHHL scheme of government of AP. With this convergence, each beneficiary is ensured with a proper quality toilet construction. Thus,

the village is also declared as one of the open defecation free villages in Nellore district among 100 villages under Swachh Bharat and awarded Janma Bhoomi Maa Ooru award from district administration during 2018. It was found that all the respondents are using toilets and are well aware of benefits of using and adverse ill effects of open defecation because of awareness camps organized by APMAS. All the respondents are satisfied with the saplings given for their homestead and planted along roadside and pathway.

The abandoned/barren land in the village was developed into a park and children and adults are effectively using it.

4.6 FORMATION OF FPO AND TRAINING AT FARMERS TRAINING CENTER

Under the scope of project, constructed a farmers training centre and facilitated formation and registration (Annex-4) of a Farmer Producer Organization (FPO) as an avenue for farmers meetings and trainings respectively. Farmers (81) have become the active members/shareholders in FPO. FPO has become an opportunity for these farmers to get united for

bargaining on their common interests besides seeking other benefits from FPO such as subsidized inputs, farm equipment through custom hiring center, access to loan, technical trainings etc.

Farmers training centre is also equipped with veterinary services to provide regular check-ups and referral services to cattle.







4.7 SCHOOL AND ANGANWADI

The existing Primary School was provided with Compound wall, doors, Vidya Volunteers, repairs to school building besides other school supplies such as shoes, school uniform, and stationary for children. Observed improved school attendance from 85% to 95% by the students (40%) because of these interventions. The enrollment also increased by 18% School staff, teachers are very much satisfied for the improved facilities and services. Similarly, Anganwadi centre was decorated with children learning activity pictures and provided with toys, kitchen garden, compound wall and drinking water.



Primary School Compound wall, children, Vidya volunteers and Anganwadi School

4.8 OPINION ON PUBLIC SERVICES

It is clear from the graph 4.8 that majority of the respondents (93%) among beneficiaries have rated the public services of Aurobindo and APMAS as very good and few rated as good (7%) which is also endorsed during Focused Group Discussions.



4.9. ASSESSMENT OF THE MODEL VILLAGE INTERVENTIONS AND SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Table 4.9 Theme wis	e SDGs and Pro	ject Interventions
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SDG	Theme	Interventions	
SDG 1	No Poverty	Integrated Rural Development model aims at reducing poverty.	
SDG 2	Zero Hungry	The Agricultural Development activities and formation of FPO contributed for food and nutritional security and sustainable Agriculture. Green leafy vegetables grown at Anganwadi centre helped children to cope up with malnutrition.	
SDG 3	Good Health and wellbeing	The health interventions such as Health and Awareness camps and facilitating residents to access to health care contributes for Good health and wellbeing.	
SDG 4	Quality Educatio n	Towards this goal, the project has renovated and constructed school building, provided facilities, given books to children.	
SDG 5	Gender Equalit y	Women empowerment with social development and other programmes, strengthening women self-help groups have contributed for Gender equality.	
SDG 6	Clean water and sanitation	In order to meet this good safe drinking water is supplied with RO plant and several measures for sanitization were taken up including toilets to all.	
SDG 7	Affordable for green energy	In order to provide green energy, LED bulbs were installed in villages and sensitization programmes were organized	
SDG 8	Decent work & economic growth	Formation of FPOs, up gradation of lift irrigation scheme and creating other work avenues for women leads to decent work and possible economic growth in the village.	
SDG 10	Reduced inequalities	Having a common need-based development agenda through different meaningful interventions paved the way for reduced inequalities and equal access to resources through inclusive development models.	
SDG 12	Responsible Consumption and production	Training of farmers on sustainable agriculture, best agriculture practices, water stewardship programs influence the farmers to produce crops responsibly with a minimal impact on environment.	
SDG 13	Climate Action	One of the project interventions was green belt development and reduction in pollution by segregating solid and plastic waste.	
SDG 17	Promoting partnership	The project is done through partnership model and undertaken various activities through convergence with government, corporate and village communities.	

From the table, it is clearly evident that the activities undertaken by Aurobindo Pharma Foundation towards Integrated Development and transforming Peyyalapame Village into a Model Village align with several sustainable development goals stated above. These efforts are in alignment with journey towards fulfillment of Sustainable Developmental Goals (SDG- 1,2,3,4,5, 6,7,8,10,12, 13 and 17 on No poverty, Zero Hunger, Good health and well-being, quality education, gender equality, affordable and clean energy, decent work and economic growth, reduced inequalities, responsible consumption and production, climate action, partnerships for the goals respectively).

4.10. STAKEHOLDER PERCEPTION AND OVERALL ASSESSMENT OF MODEL VILLAGE ACTIVITIES (Checklist – Annexure-5)

Table 4.10 Stakeholders perc	eption and Overall Assessment
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1.	Relevance	The Peyyalapalem village was lacking proper connectivity through roads, drainage facilities, safe drinking water, educational facilities, healthcare, irrigation and self- employment opportunities of women and youth etc. Thus, the project taken up by Aurobindo Foundation to transform the Peyyalapalem into the model village by providing the needed facilities and awareness on time, is relevant.
2	Efficiency	The convergence efforts of (NGO) with government and non- government organizations as well as making their project a community lead initiative can be attributed as efficient. Besides, completion of this project on time with cost, quantity and quality is perceived as efficient.
3	Effectiveness	Both stakeholders and beneficiaries (45) feedback about effectiveness indicate that the project contributed for their significant improvement livelihoods, quality of lives and environment.
4	Uniqueness	The project has set a good model of community lead convergence initiative that can be replicable in other areas.
5	Impact	The project has created social, economic and environmental impact besides enhancing Human capital as perceived by stakeholders.
		 Social Impact is created through Empowered SHGs- 23

		 Organization and formation of VDC to take up developmental activities, formation of FPO with 81 members for the benefit of farmers. Human capital through improved skills among women on tailoring, increased enrollment & school attendance, awareness and knowledge on health, nutrition, hygiene, sanitation etc.
		 Economic Impact though Trained women are getting regular income now when compared with their earlier work involving mostly household chores and field works. Improved access to SHG loans, improved income due to increased crop and livestock productivity further helped for communities self- sustenance.
		 Environmental Impact is created by Increased avenue plantations, establishing homestead gardens, converting waste land as a community park, making Open Defecation Free village, laying new CC roads and drainage system, implementing solid waste management programme and installing solar lights. Solid waste management and recycling of compost for avenue tress is a hallmark impact towards environmental sustainability The recognition through Smart ward- small village award further signifies the impact created by the project.(award picture, Annexure -6)
6	Sustainability	The programme is sustainable based on its social acceptance, replicability and economic viability. However, strengthening of village committees and organizations is necessary to further sustain the efforts. The VDC, Panchayat and FPO voiced to take responsibility for programme sustainability.

CHAPTER - 5

SUMMARY OF MAIN FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

Model village concept is being adopted by many government and nongovernment institutions engaged in Rural Development aiming at integrated participatory holistic development for improving the overall quality of life of villagers. Model village concept is adopted by Aurobindo Pharma foundation under corporate social responsibility in partnership with Mahila Abhivruddhi Society (APMAS). The foundation has adopted Peyyalapalem village in Kodavalur mandal of Nellore district and taken up several developmental activities through community led developmental process. The development process started from 2016 and continued till March 2020 with an outlay of Rs. 1.41 crores through APMAS and also direct funding of Rs.25 lakhs by Peyyalapalem Gram Panchayath.

Aurobindo Pharma Foundation has been instrumental since its inception to execute various CSR projects around rural development and model villages and accordingly Peyyalapalem model village project has been taken up under their CSR. In view of the importance of this project and its potential in creating social, economic and environmental impacts in Peyyalapalem, Aurobindo Pharma Foundation decided to get this impact assessed through a third-party organization namely Participatory Rural Development Initiatives Society (PRDIS).

5.1 THE FINDINGS OF THE ASSESSMENT AND RECOMMENDATIONS ARE SUMMARIZED AND PRESENTED BELOW

- Majority of the selected respondents are of young to middle aged, primary to secondary school educated with agriculture and allied activities as major occupations. This trend shows that many young farmers and middle-aged farmers are staying in the village and this is a reflection for more opportunities for inclusive development of the village. This trend also signifies the need for introducing skill development programmes for youth and farmers, to empower them with farm and off farm skills and thereby improved livelihoods.
- Under this scope of project constructed a farmers training centre and facilitated formation of a Farmer Producer Organization (FPO) as an avenue for farmers meetings and trainings respectively. Around 81 farmers have become the active members/shareholders in FPO. Hence there is a need for strengthening of the FPO activities in convergence with Rytu Barosa Kendras (RBK of Regatichilaka which is in close proximity to Peyallapalem) (RBK is Farmer empowerment center, a scheme of Government of AP) to get access to and benefits concerning agriculture inputs, value addition, marketing, custom hiring centre, technical guidance for productivity enhancement etc. FPO activities shall be strengthened further for conducting trainings on agriculture best practices, water stewardship programs so as to influence more farmers towards sustainable agriculture.
- Farmer's training centre is also equipped with veterinary services to provide regular check-ups and referral services to cattle. Veterinary services can be further strengthened to meet the challenges and problems related to livestock. About 80% Households have milchy animals hence it is desired to have more skill training programmes on dairy/calf rearing and management, value addition of feed & fodder

banks, making of by products, Artificial insemination in cattle, processing units etc., so that women and youth shall get more employment and entrepreneurial opportunities.

- Tailoring training program for women by APMAS along with USHA company has brought phenomenal changes in their lives by imparting stitching skills and thus improving their income. During the Focused Group discussions, women have expressed the need for the training on advanced dress designs, blouses and embroidery to enhance their skills and livelihoods.
- Women empowerment was done through strengthening of Self-Help Groups and their activities. A mahila bhavan is also constructed for organizing training programmes and meetings. To strengthen further, it is recommended that imparting on farm, nonfarm and off farm skill trainings to women based on a skill gap analysis. It can be done to determine the need and identification of trades which have entrepreneurial potential in the village and in close proximity.
- All the villagers have drinking water from Reverse Osmosis plant, resulted in reduced water born diseases specially diarrhea in children which was a regular phenomenon earlier. Concerning health, all sample respondents have expressed their satisfaction for awareness camps given, health checkups and cataract operations. These types of camps shall be taken by VDC in future.
- Primary School and Anganwadi centre have been provided with educational materials, renovations, repairs and vidya volunteers which helped to improve children attendance (from 85% to 95%). It is advised to explore avenues for upgrading current primary school for Higher School Education within the village to reduce school dropouts and to sustain their education to next level.
- The personal interviews reveal that daily garbage collection, solid waste management, application of compost to avenue plantations helped in keeping good health, hygiene and environment.
- All the respondents are satisfied with the CC roads, LED lights installed by Aurobindo Pharma Foundation. Village is fully covered with CC roads and these roads and drainages are being cleaned regularly.
- Solid waste management and recycling of compost for avenue tress is a hallmark impact towards environmental sustainability. Having a community park in a remote village sets new benchmark for many villages to follow the suit
- Some of the infrastructure such as Mahila Bhawan, Farmers training centers remains as monumental effort to witness by next many generations and to sustain the past efforts
- The village is declared as open defecation free village. It is one among 100 villages in Nellore district declared as ODF. The status quo has to be maintained by VDC and Gram Panchayat. Out of very few ODF villages in AP, this village has been recognized as ODF through convergence between CSR support and government subsidy scheme around IHHL.
- All the respondents knew about existence of VDC and their meeting topics concerning with sustainability of developmental activities. Handholding and strengthening of Village Development Committee (VDC) is necessary to sustain and

improve the project activities such as green belt development, maintenance of Reverse Osmosis plant for ensuring health, taking up of more skill training programmes for women and youth, effective access to government entitlements/schemes related to SHGs, farmers, socially disadvantaged groups etc.

 All the respondents and beneficiaries have rated the services of Aurobindo Pharma Foundation and as good. It is sensed that village has a common voice and ideology to meet their community needs.

5.2 CONCLUSION

Transformation of Peyyalapalem village with Integrated Rural Development activities by Aurobindo Pharma Foundation as a model village is phenomenal. Through model village project, the village has taken up a different shape of following an institutional approach like VDCs, FPOs etc. Some of the infrastructure such as Mahila Bhawan, Farmer's training center, Community Park remains as monumental effort to witness by next many generations and to sustain the past efforts. It is a commendable effort and all the residents are very much satisfied with this initiative. It is evident from the study that socio, economic transformation happened leading to a self-reliant village. All the activities undertaken are aligning with relevant Sustainable Developmental goals of United Nations. This effort is only possible by the collaborative efforts of the villagers and other stakeholders. It is possible to replicate the effort in other areas as a model since it is a viable and sustainable project. Peyyalapalem has reached a stage of inspiring and influencing other villages in proximity. Whole efforts and approach in model village reflects the harmonized ideology among communities of Peyyalapalem village.

CASE STUDY-1

Empowered with Skill and Income

Ms. Peyyala Srilakshmi, wife of Ravindra, aged 36 years living in Peyyalapalem village of Kodavalur mandal in Nellore district in Andhra Pradesh state. She married at the age of 19



years after completing her intermediate education. She is living with her husband, Mr.Ravindra who is a small holder farmer, a daughter studying 2nd year intermediate and a son studying 9th class. She stays at home and occasionally helps her husband in farm activities. She has interest to learn a skill to

supplement her family income. She is a member in a ten member Self Help Group in Peyyilapalem village.

Through the representatives of APMAS, Ms. Srilakshmi came to know about the tailoring training taken up by APMAS through Aurobindo Pharma Foundation CSR fund . Upon her keen interest, she joined the tailoring training and completed the training successfully in 2019.

During the training Srilakshmi got skills in stitching of women garments like designer blouse, dress, bags, night dress, scarf, frock, patiyala, pant etc. She also learnt to design and make a variety of clothes. Due to this training, she has decided to continue the sewing work besides house work for improving the standard of life.



After the training she invested Rs. 5600/- to purchase a new and modern sewing machine. Now, she started earning Rs. 1,500/- to Rs. 2000/- per month by getting stitching orders from neighboring community. She got bulk order of stitching masks during covid time. She is spending this additional income on purchase of vegetables, fruits, groceries, clothes etc. She told that about 40 women from the same village were also trained in tailoring trade. Now she is self-dependent and her confidence level has been increased to lead a meaningful life. The standard of her living is also increased through this income as an entrepreneur. She wanted to have further trainings on other skills like embroidery work. She is looking forward to connect with better market linkages to get bulk orders.

CASE STUDY-2

Sustainable Development Because of Model village Project

Mr. Penaka Subhash Reddy 56 years of age has around 30 years of experience in farming. He is one of the directors of FPO formed by APMAS in Peyyilapalem. Initially he worked as a civil contractor and later got into farming profession. He has two sons and wife Mrs. Anusha is a Sarpanch of Peyyalapalem village. He grows Paddy in 30 acres and in 10 acres of land he is growing horticulture crops such as Chilli, groundnut and vegetables. Per acre they are producing 25 quintals of paddy and using NLR34449, RNR15048 varieties.

During APMAS model village project, he got involved voluntarily and further motivated villagers to get engaged in model village interventions. He is also well informed about the new technologies in farming through FPO trainings and he is further interested in adopting new technologies and to become a role model for other farmers. Mr. Subhash Reddy is also selected as a 'Best Progressive Farmers' in Nellore District and invited by Agriculture department in their exhibitions and exposure visits. He is a member of Progressive Farmers Club in District Agricultural Technology & Transfer (DATT) Centre. As he is also one of the innovative farmers and Scientific Advisory Committee member of ARS, Nellore, having him in a key role in FPO added furthermore value. While organizing FPO meetings, he has been taking lead for successful proceedings of meetings and to support APMAS for necessary follow-up to complete various actions under model village project. Mr. Subhash Reddy is also very guideful to his wife (sarpanch) to take an active lead in Aurobindo Pharma Foundation model village project and also motivating her constantly.

Mr. Subhash Reddy has a concern on farm labour scarcity that may impact future of agriculture and delay in many farm operations. In order to overcome this situation, he has suggested to establish a custom hiring centre

through FPO and proper training programmes should be implemented for improving the skill of the agricultural labours. FPO at Peyyilapalem has considered many of his views to strengthen FPO and custom hiring centre.

He thanked Aurobindo Pharma Foundation and APMAS NGO for their efforts to transform their



village into a model village through Integrated Village Development approach and very appreciative of this holistic project as many visible changes can be seen in different areas like safe drinking water, health camps, education, school infrastructure development, sanitation, livelihoods, introducing solid waste management, micro entrepreneurship, physical infrastructure and governance etc.

Participatory Rural Development Initiatives Society (PRDIS) Plot 230, Shiva Nagar Colony, Hyderguda, Hyderabad-500048, Website: www.prdis.org. E-mail: www.prdis@hotmail.com,

Phone No: 9440051598

(A Brief)

Participatory Rural Development Initiatives Society (PRDIS) is a registered and reputed professional National Level Development Organization (NGO) established during the year 1999 operating from Hyderabad, Telangana, India.

Participation, Partnership and Empowerment are the guiding principles of PRDIS. It has been working on the areas of Sustainable Agriculture, Agri-business, rural development and Natural Resource Management. This organization has also been providing consultancy services to the Central Government various State Government, Agro Based Industries, international Development Agencies on Field activities, Monitoring, Evaluation studies, base line survey and capacity building activities concerning with Sustainable Agriculture, Agribusiness and Rural Development issues.

Dr. S. V. Reddy, The chief functionary of the organization has served in various capacities, ranging from Professor of Agricultural Extension in ANGR Agricultural University to special assignments as Advisor (Agricultural Extension) to the Government of Uganda and Consultant to the World Bank and FAO in Sub-Saharan Africa and India. He is assisted in this endeavour by 30 full time professional staff and senior consultants, 31 part time staff and consultants, 90 Field staff and 10 support staff, incurring an expenditure of more than Rs. 400lakh annually.

In addition to Telangana, Andhra Pradesh, India, PRDIS has also been involved in implementation of projects in Chhattisgarh, Jharkhand Karnataka, Tamilnadu and Pondicherry. It has also been invited as resource organization to implement Farmer Field Schools (FFS) in Orissa and Madhya Pradesh. PRDIS continues to offer Agribusiness Consultancy to large scale irrigated rice programme undertaken by J.N. Agritech International Limited, Uganda, East Africa, Biofuel project of Rusni Bio Fuels company, Organic inputs of Prathista Industries Ltd., Hyderabad, India and to several Agripreneures.

PRDIS since its inception has been focusing its attention on Sustainable Agricultural Development programmes majorly on Productivity enhancement Initiatives with eco friendly technologies with supply chain management with regard to crops such as cotton, sugarcane, chillies, maize, paddy and ground nut operating in different states.

The organization has been implementing productivity enhancement programme in cotton with IPM and INM technologies using Farmer Field Schools (FFS) approach since 2002 with support from FAO, Solidaridad, Syngenta Foundation and state government. Of late, more attention is paid on Better Cotton Initiative (BCI) Programme which is being operated with

about 25000 farmers at present. This programme is being operated in the states of Telangana and Andhra Pradesh. In addition, PRDIS is also implementing sustainable spice initiative Programme with support from spice board of India and IDH. In both the programmes greater emphasis is made on supply chain management and market led extension.

PRDIS also has been engaged in capacity building programmes of farmers and farm women, Agri clinics

and Agribusiness centre's programme for unemployed agricultural graduates and Entrepreneurship Skill Development Programmes of rural youth. Of Late DDU-GKY Skill Development Programme with GoI and Telangana Govt. is being undertaken for Rural youth. In addition to organizing public awareness campaigns on Decent Work as well as workshops and seminars on Farmer Rights, Biotechnology, Skill development and Agripreneurship. A National and International Conference were also organized during 2017- 2018 on Agricultural extension and sustainable Development Goals in Collaboration with National & International Organizations.

The staff and consultants have 10-40 years of experience on the concerns of Participatory Approach, Agribusiness, community mobilization, market lead extension, information and communication, Gender, Agriculture, Health, Education and Natural Resource Management including Irrigation and Water Shed Development and Farmer Field Schools (FFS). It has successfully completed water shed programmes as PIA in Boothpur mandal of Mahabubnagar District under APRLP and also acted as resource agency to guide other NGOs in this process. It has two training centers one at Mahaboobnagar and other at Warangal of Telangana State with residential and classroom facilities to accommodate about 100 participants in each center and (6) branch offices. Most of the programmes are funded by FAO, DFID, WHO, Ministry of Rural Development, CAPART, Gol, NIMSME Government of Telangana, Andhra Pradesh, Chhattisgarh, Jharkhand, MANAGE, PJTSAU, A.N.G.R. Agricultural University, International NGOs like BCI and IDH, Agro Industries etc. The organization has also undertaken District Level Monitoring of Rural Development Programmes by Government of India, Agricultural Technology Management Agency (ATMA), Baseline and Impact Assessment studies of FAO, IFAD and CAPART, Government of India.

PRDIS is a National Level Monitor (NLM) for Ministry of Rural Development, Gol and it has distinction of having invitation and receiving memento from H.E. the President of India on 15th August 2006 at Rashtrapathi Bhavan, New Delhi for outstanding work in Sustainable Agriculture for working with small scale farmers in Tribal areas. It has also received award for creating public awareness on biodiversity and environment with people participation from A.P. Biodiversity Board. The organization is affiliated to Agricultural Skill Council of India (ASCI), Govt. of India, New Delhi for undertaking Entrepreneurship and Agricultural Skill Development Programmes for Rural Youth.

ANNEX-2

IMPACT ASSESSMENT OF A MODEL VILLAGE

A study of Peyyalapalem village in Kodavalur Mandal of Nellore District of Andhra Pradesh State

(Adopted and developed by Aurobindo Pharma Limited under Corporate Social Responsibility)

INTERVIEW SCHEDULE

Respondent No:	Na	ame of the Investigator:	
Village: Peyyalapalem	Mandal: Kodavalur	District: Nellore	
I. Socio Economic Inform	ation		
 Name of the response 	ndent :	and S/o	
2. Age(In completed	years):		
Farming experience	e (No.of years):		
4. Education Status:			
Illiterate: () Primary Sc	hool: () Secondary school:()Gradua	te:
5. Occupation : Agrici	ulture())Any othe	er ()	
A. Skill development (Tailorin	g) Initiatives for women		
1. In which year have you	been trained?.		
2. How long has the train	ing been organized?.		
3. What is your opinion on the quality of training organized?.			
4. In your opinion, what is	s the difference befor	re and after training?.	

- 5. Are you getting regular orders from customers for tailoring services?.
- 6. On an average, how much do you earn per month on Tailoring?
- 7. How do you spend your money?. What are the items do you purchase with your income?.
- 8. How much do you save for future endeavors?
- 9. Do you in need of further skill up gradation in Tailoring related activities. If yes please mention
- 10. Other than tailoring are you interested in any other Entrepreneurship / trade?
- B. Strengthening Self Help Groups.
 - 1. How many Self Help Groups do you have in your village?
 - 2. How many are functioning now?
 - 3. What are the activities of SHGs?

- 4. Please give details of Loan received
- 5. Did you receive any training organized by AP?
- 6. If Yes, what are the contents of training?
- C. Health, Nutrition, Safe Drinking Water through R.O plant
- 1. Do you aware of Village Development Committee working for health, nutrition and sanitation facilitated by AP?.
- 2. Are you attending meetings organized by the Committee?
- 3. What are the issues discussed in the meetings?
- 4. Did you get any Health benefits from Aurobindo/ AP services? If Yes, please mention the benefits
- 5. Did you attend any awareness programme organized by AP on Sanitation?
- 6. Do you get drinking water from RO plant installed by Aurobindo foundation

Y/N

- 7. What are the benefits of protective drinking water?
- 8. Is there any challenges regarding maintenance?
- 9. Is there anything you are in need?

D. Sanitation and Hygiene Initiatives

- 1. How often is drainage being cleaned?
- 2. How often the roads are cleaned and bleached?
- 3. Is Door to door collection of garbage satisfactory?
- 4. What was the procedure earlier?
- 5. Is Tractor / rickshaw comes to you daily to pick up garbage?
- 6. Do you know who is paying salary to sanitation worker?
- 7. Did you attend Awareness programme on solid waste management?
- 8. Do you know about Solid Waste management is being done by whom, where?
- 9. How do you feel about the CC roads laid by Aurobindo?
- 10. Are LED lights fully covered in your village?
- 11. Who maintains the service?
- 12. Are you satisfied with the Sanitary and Hygiene activities taken up by Aurobindo through AP?
- 13. Please tell us the benefits of Green belt in your village
- 14. Please tell about Park development activities in your village
- 15. Did you attend any public awareness programmes and campaigns on developmental issues? If yes please mention the topics.
- 16. Do you in need of any other services?

E. School & Anganwadi

- 1. What are the supplies to school provided by Aurobindo through AP?
- 2. Please mention the benefits of these services
- 3. What are the additional requirements for the school up gradation and children welfare?
- 4. What are the supplies to Anganwadi provided by Aurobindo through APMAS?
- 5. Please mention the benefits of these services
- F. Farmer Meeting Place and Veterinary programmes
- 1. Do you know about farmer meeting place constructed by Aurobindo through AP?
- 2. When did it was constructed?
- 3. Did you/ spouse attended the meeting in this building?
- 4. Is there any amenities required for this building?
- 5. Please tell us about the Veterinary programmes taken by Aurobindo through AP

G. Opinion

- How do you rate the benefit s and services provided by Aurobindo foundation? Very good/ Good/Fare/Poor
- 2. What do you expect from Aurobindo foundation as additional resources for your village?
- 3. How often do you meet APMAS representative?
- 4. How do you rate about the organization services for your village? Very good/ Good/Fare/Poor

H. Comments of the Investigator

ANNEX - 3



ANNEX -4



Government of Andhra Pradesh Department of Cooperation

Office of the Registrar of Mutually Aided Co-operative Societies, Nellore.

Certificate of Registration under Section 5 of the Andhra Pradesh Mutually Aided Co-operative Societies Act, 1995.

In Pursuance of the provisions of Sub-Section 6 of Section 4 of the Andhra Pradesh Mutually Aided Co-operative Societies Act, 1995. (By Conferment of Powers to the District Co – operative Officer vide G.O.Rt.No.118. Agriculture and Cooperation (Coop, IV) Department, Dated 2-4-1996.)

I do hereby certify that the

The Peyyalapalem Agriculture Producers Mutually Aided Co-operative Society Limited., Peyyalapalem Village, Kodavalur Mandal, S.P.S.R Nellore District.



Registrar of Mutually Aided Co-operative Societies

District Co-operative Officer, Nellore.

Annex-5

Checklist for Stakeholder Perception and Observations
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SI.No.	Assessment Criteria	Assessment Questions
1	Relevance	Did overall goal match needs of project area?
2	Efficiency	What outputs were achieved?
		Whether they were as per the
		plan?
		Was implementation scheduled as planned?
		Was the project cost within planned
		limit? Was the fund utilization prudent?
3	Effectiveness	Did the outputs help achieve the goal?
4	Uniqueness	Did the project have any unique
		feature comprising inputs to the
		extent of goals achieved?
		Can the project be replicated?
5	Impact	What is the various tangible and intangible
		positive and negative impacts (socio-
		economic, environment, technology,
		knowledge, awareness) for different
C		Stakeholders of the project?
6	Sustainability	would the impact created by the project
		sustain? What measures adopted?
		What modifications required for sustainability?

Annex – 6


Impact Assessment Study on Strengthening of infrastructure of 16 government schools In Sircilla, Yellareddypet, Gambhiraopet and Mustabad mandals Of Rajanna Sircilla District, Telangana state

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

Impact Assessment Study on Strengthening of infrastructure of 16 government schools In Sircilla, Yellareddypet, Gambhiraopet and Mustabad mandals Of Rajanna Sircilla District, Telangana state

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)

Full Report



Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details			
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,			
	Sangareddy District in 2016-2017			
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,			
	Sangareddy District in 2018-2019			
Project 3	Construction of Government ZP High School, Tellapur Village,			
	Ramachandrapuram Mandal, Sangareddy District in 2018			
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,			
	Sangareddy District in 2019-2020			
Project 5 Construction of Saraswathi Vidya Mandir High School in				
	Hyderabad in 2019-2020			
Project 6	6 Construction of additional classrooms, compound walls, toilets, theme-bas			
	painting in 16 Government High Schools in Rajanna Sircilla District thro			
	Give Foundation in 2018-2019			
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,			
	Duggirala Mandal, Guntur District in 2019-2020			
Project 8	Construction of Skill Development Centre to create employment opportunities			
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,			
	Srikakulam District in 2019-2020			

Objectives of the Assessment Study

- 9. Evaluate the projects for their output, outcome and impact
- 10. Assess the visibility created for the project, local acceptance and ownership
- 11. Assess the perceptions of different stakeholders
- 12. Sustainability for the project

Executive Summary

Objectives of the Assessment: The broad objective of the assessment is to study the impact of various CSR activities undertaken by Aurobindo Pharma Foundation to develop infrastructure of 16 government schools in Rajanna Sircilla district. The specific objectives are:

- 4) Determine whether the project of interest achieved its objectives and to assess the CSR activities like new classroom construction, school painting, school theme painting carried out in the schools
- 5) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project

6) To provide suggestions for the sustainability of the programme

Assessment Methods: The sample schools were selected with conditions that at least one school is there from all the four mandals (where the project was carried out) and at least one school from all the four different CSR interventions (class rooms construction, school painting, theme painting and combination of all these three). The field survey was done at all the 16 government schools in a two-day field visit. In the visit to every school, physical interaction was done with headmaster, teacher, school-in charge and others whosoever was available during the visit. The study team also had continuous interaction with the GIVE Foundation who was the main implementing agency. The field observations also formed the source of data for the assessment.

Sample Covered: As part of the assessment, the study team visited 16 government schools of various categories in Rajanna Sircilla district, Telangana. The schools were located in Sircilla (02 schools), Yellareddypet (08 schools), Gambhiraopet (05 schools) and Mustabad (01 school) mandals of the districts. The samples selected for further interviews were representative of all the CSR interventions.

- Two schools out of five were sampled under "Construction of additional classrooms"
- Two schools out of five were sampled under "Entire School painting"
- One school out of three schools was sampled under "School Theme painting"
- One school out of three schools was sampled under "Combination of construction of additional classrooms and Entire School painting"

Key Findings: The CSR activity of additional classrooms was helpful in giving more space to the school infrastructure to accommodate more students and also decongest the existing classrooms. For many schools this gave separate classrooms for separate sections. For the CSR activity of the entire school painting, the intervention helped the school in getting a fresh and attractive look. Thereby. the local residents found the public schools are more appealing. In many schools, there was a combination of the CSR activities which added more strength to the school infrastructure and outlook of the schools. For schools where the school theme painting was done, it was much appreciated by all the stakeholders. It enhanced the enrollment in the schools and also improved the attendance of the existing students.

The direct impact of all the CSR activities was that it attracted various stakeholders to the government schools. Thus, adding to the improved accessibility to education for the local residents majorly coming from marginalized communities. The primary stakeholder being the students and teachers, received an enabling environment for learning and teaching as their attendance was improved in the process except few temporary challenges like no provision for PwD to access first floor

The CSR interventions thus add to India's effort towards achieving Sustainable Development Goal (SDG) 04, which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". Under the SDG 4, the activities have a direct impact on target 4-A, which specifies to, "Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all".

Based on the assessment findings and responses from the stakeholders, the following opportunities can be explored for further improvement and sustainability.

- 1. Additional furnishing required in the new classrooms
- 2. Additional classrooms with the provision for virtual classes
- 3. Provision for ramps and railing to ensure access to physically challenged
- 4. Painting for the entire school with vibrant colors and theme-based paintings; repainting of schools and paining of new construction
- 5. Undertake school theme painting in more schools
- 6. Explore creating a model school with combination of CSR activities

Overall, APF CSR initiatives have added to the development of an enabling learning environment for all 16 schools. Further, there is a huge opportunity for other schools in Rajanna Sircilla district and the school authorities can explore funding from various foundations to strengthen the education system in the region.

Detailed Report

1. Introduction

1.1. Assessment Objectives

The broad objective of the assessment is to study the impact of various CSR activities done by Aurobindo Pharma Foundation to develop infrastructure and face lift of 16 government schools in Rajanna Sircilla district. The specific objectives are:

- Determine whether the project of interest achieved its objectives and to assess the CSR activities like new classroom construction, school painting, school theme painting carried out in the schools
- Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- To provide suggestions for the sustainability of the programme

1.2. Research Methodology

To address the above objectives, the study team adopted the following methods;

- Coordination with GIVE Foundation team (implementing agency) for getting available information/literature on the projects and planning for the field visits
- Physical interviews of GIVE Foundation staff who have accompanied during the field visits
- Recording field observations during the physical visits to the school
- Physical interviews of headmasters, school-in-charge, Teachers, School Management Committee members, administrative staff (whoever was available during the visits).
- Telephonic interviews of primary, secondary and tertiary stakeholders

1.3. Data Collection

For data collection, both primary and secondary data collection methods have been used. For primary data, the source was the interviews (physical and telephonic) of headmasters, teachers, SMC members, School administrative staff, parents and GIVE foundation staff. During the field visits, the study team also had the chance to interact with tertiary stakeholders like contractors/painters that has helped in adding different perspective to the findings. The study team in a certain context (wherever it was feasible) tried to interact with the local residents and officials like Mandal Education Officer and Panchayat officials.

For secondary data, the study team collected the available information (budget statement, audit statement, proposals etc.) on the CSR activities from GIVE Foundation team and information of the schools (annual report, media coverage, human resources and student profile, achievements etc.) from the respective school administration.

1.4. Field Visits

The study team in coordination with GIVE Foundation Telangana head Mr. Sanketh and Field staff Mr. Shirish (Program Manager, Sircilla) planned a two-day field visit to survey the 16 schools in four mandals. The details are as following:

#	School Code	Mandal	School Name	CSR activities	Cost Rs.	Physical
						interaction
1	36140600570	Sircilla	ZPHS Sircilla	Construction of 2	19,97,436	Headmaster
				class rooms		
2	36140600508	Sircilla	MPPS Tarakarama	Construction of 2	10,98,684	Headmaster,
			Nagar	class rooms		Teacher
3	36140900802	Yellareddypet	ZPHS Dumala	Entire School	2,00,000	School-in-
				Painting		charge, Staff
4	36034101002	Yellareddypet	UPS Rajannpet	Construction of 2	11,68,502	School-in-
				class rooms		charge
5	36034100907	Yellareddypet	ZPHS R. Gollapally	Construction of 2	18,37,905	Teacher (SMC
				class rooms		member)
				Entire school		
				painting		
6	36034100901	Yellareddypet	PS Gollapally	School Theme	1,43,558	School-in-
				painting		charge
7	36034200103	Gambhiraopet	ZPHS	Entire School	2,56,999	School-in-
			Gajasingaram	Painting		charge
8	36034200102	Gambhiraopet	MPPS	Entire School	1,46,062	Headmaster
			Gajasingaram	Painting		
9	36140901701	Yellareddypet	PS Venkatapur	School Theme	1,45,366	Teacher
				painting		
10	36141100104	Mustabad	ZPHS Kondapur	Construction of 2	19,05,994	Teacher
				class rooms		
				Entire school		
				painting		
11	36140901403	Yellareddypet	ZPHS	Entire School	1,84,161	School-in-
			Bandalingampally	Painting		charge
12	36140901401	Yellareddypet	PS	Construction of 2	11,49.250	School-in-
			Bandalingampally	class rooms		charge
13	36140901104	Yellareddypet	ZPHS R. Boppapur	Construction of 1	10,45,132	School-in-
				class room		charge
				Entire school		
				painting		

 Table 1: Field Visits made to Government Schools on 29 April and 5 May 2021

14	36034200101	Gambhiraopet	MPPS O/C	Entire School	1,00,000	School-in-
			Gajasingawaram	Painting		charge
15	36034201606	Gambhiraopet	ZPHS Kothapally	Construction of 1	7,33,480	School-in-
				class room		charge
16	36034201001	Gambhiraopet	MPPS	School Theme	1,75,000	Teacher (SMC
			Gambhiraopet	painting		member)

As indicated in the Table 1 above, each of the first eight schools were visited on 27 April and the remaining 8 schools were visited on 5 May 2021. During the field visits, the contact details of the stakeholders like SMC Chairperson and Vice- Chairperson, senior staff, parents etc., were taken from the school representatives and contacted them over the phone for their responses.



Imgs 1 & 2: Interaction government school in Yellareddypet and Interaction with Mr. Shirish, GIVE Telangana

1.5. Data Analysis and Reporting

For data analysis, the 16 schools were categorised into four broad CSR activities to get responses representing the entire sample under study.

#	CSR Categories	Schools	Sample for Interviews
1	Construction of two or one classrooms	05	02
2	Entire school painting	05	02
3	School theme painting	03	01
1	Construction of two/one classrooms and Entire	03	01
4	School painting		
	Total	16	6

The necessary information for all the 16 schools is obtained through interaction with the headmasters²⁶, GIVE Foundation staff and from field observations. Samples were taken from each category for virtual interviews. For every category a sample was randomly selected and from every sample the stakeholders (comprising parents, SMC chairperson and teachers) were interviewed.

²⁶ In few cases the headmasters were not available due to being covid-19 positive.

2. About the Project

Under constituency comprehensive development program, government took a special interest and the impact of this initiative is clearly visible as many schools have been transformed in the process and received good outcomes. Aurobindo Pharma

Foundation has joined the initiative and undertaken various activities in16 government schools in Sircilla district aiming at provision of better facilities and environment for students in government schools.

Some of the key activities supported through this program are – construction of class rooms, theme based painting and school painting

The impact study is focused on 16 schools in which CSR activities are carried out in different contexts and combinations. The government school type includes primary school and upper primary school largely at Mandal Parishad level and high school at district level. The schools vary from size,



space, human resources, facilities, budget, outreach and impact. The total budget of the overall CSR activity for the 16 schools was Rs. 1.5 crores from the year 2017 to 2020.



Img 3: Map locations of 16 government schools in Sircilla district (part of the study)²

² For few schools the GPS coordinates have not been mapped, therefore the nearest location was taken

3. Key Findings

3.1. Construction of New Classrooms

#	School name	Mandal	Activities
1	ZPHS Sircilla	Sircilla	
2	MPPS Tarakarama Nagar	Sircilla	Construction of 02 classrooms
3	UPS Rajannpet	Yellareddypet	
4	MPPS Bandalingampally	Yellareddypet	
5	ZPHS Kothapally	Gambhiraopet	Construction of 01 class room
	Total		

Table 2: List of government schools

As the table indicates, under this CSR activity category, each of the four public schools got 2 additional classrooms and one public school got 01 additional classroom. Out of the five schools, two are high schools (under the district level), two are primary schools (at mandal level) and one is upper-primary school.

Depending upon the school type and space available, the rooms have been furnished with fans, boards and electrification. The construction time for each activity was between 7 to 8 months.

The objective of this program was 'to give more space to the school infrastructure to accommodate more students and also decongest the existing classrooms. The outcome was observed with successful completion in setting up additional classrooms in the respective schools. This intervention has helped in up-scaling the outreach and impact of delivery of public-school education system in the region.

All the concerned stakeholders were aware of the activities and knew about its objectives. The responses received from the parents indicate that with the overall development of the school, they feel confident about the future of their children. The local residents are now willing to send their children to such government schools.

The students responded saying that because of the renovation works carried out by the administration through CSR activities, the school has been transformed and the congestion in classrooms has been reduced. This has enabled the administration to have a separate classroom for separate sections. This overall effort had a positive impact on improving the learning environment in the school.

3.1.1. ZPHS Sircilla

ZPHS, Sircilla is one of the biggest and oldest schools in the region of Sircilla. It is well known and equipped with many facilities and good infrastructure after APF CSR interventions. It delivers a quality education to a large number of students. Some of the features are as follows:

- The school has a total strength of 1000 students, 31 rooms with 20 classrooms.
- It has a dining hall with a capacity of 500 students and a separate kitchen where food is prepared

- Along with the two new classrooms constructed, it got a FIFA-standard football ground²⁷ and other facilities through donors.
- There are adequate separate toilets for boys, girls, staff with proper signage
- There is a science lab, model library and computer lab
- The teaching medium is both English and Telugu
- There are total of 28 teachers (16 male and 12 female)
- The entire campus is neat and clean and well maintained

The additional classrooms have

- Four fans, one board, one table chair for the teacher, desk and chair for students
- The ventilation is to be improved
- On every desk, 3 students are made to sit, this takes the capacity of 60 students for the new rooms
- This has given space for two sections of 9th grade



Img 4: Re-modelled version of ZPHS Sircilla³



Imgs 5 & 6: New classroom for 9th grade under the APF CSR Activity at ZPHS Sircilla

³ https://timesofindia.indiatimes.com/city/hyderabad/zp-school-in-sircilla-sports-fifa-standard-ground/articleshow/80638680.cms

Particulars	Before intervention	After intervention
Furniture in the class rooms	Yes (some classrooms)	Yes (all classrooms)
Separate laboratory with equipments	No	Yes
Dedicated library	No	Yes
Separate staff room	No	Yes
Playground with modern facilities	No	Yes
Ro water plant	No	Yes
Separate room for each class	No	Yes
No overcrowding in classrooms	Yes	No
Food serving and eating in dining	No	Yes

The impact of the CSR activities in specific areas is as follows:

The school is undergoing construction of various types and stages. It has received CSR grant from various agencies to develop further infrastructure. With the series of development activities being carried out, the school has received "Swacch Pathshala Award" and various awards at Mandal and District level. The Headmaster responded that the school is further aiming towards the following;

- Fill the vacant post of PT teacher (there is ample number of sports materials available with the school)
- Setting up of more digital classrooms to enhance the quality of education

3.1.2. MPPS Tarakaramanagar, Sircilla is a very old school, a small premise which accommodates two buildings (with ground plus first floor) and one independent room for the model library. The 'ROOM to READ' NGO facilitated the work of setting up the library for the school through a donor. The construction of two classrooms was completed in a period of 12 months. With the intervention, the strength of students has increased due to an enabling environment with a proper ventilation. Now the government is taking care of the maintenance.



Imgs 7 & 8: Front view and stone slab in MPPS Tarakarama Nagar School

The following are the areas need attention for further improvement:

- Focus on developing the playground to conduct sports activities
- Ensure more taps and train on judicious use of water
- Improve the maintenance of the toilets for boys and girls
- Ensure kitchen space for preparing the meals
- Maintenance of wall paintings
- Renovation and make over to the building

3.1.3. UPS Rajannpet, Yellareddypet, has completed its construction of two classrooms under APF CSR activities 2018-19.



Imgs 9 & 10: Stone slab and Furniture in the class room

The classrooms are small in size and furnished with fans, board, electrification, simple furniture for teachers and have proper ventilation. Over two years of construction, the two new classrooms are in a functional state and are used by sections of 6th grade and 7th grade. There are various construction activities happening in the school premise under the CSR program of other donors.

3.1.4. Mandal Parishad Primary School Bandalingampally, Yellareddypet

The study team has observed the following aspects:

- The school has compound walls with gate for entry and exit
- The school has little open space for sports
- There are separate toilets for boys and girls with water availability
- Separate kitchen space is available for cooking mid-day meals
- Various school clubs are formed art & literature, Eco club, Literacy club, Sports and Health club
- Infrastructure facility for drinking water needs to be improved



Imgs 11, 12 & 13: Classroom converted into library

The new rooms constructed were utilised for one classroom and one for the library. The library was curated by the Room to Read NGO. The one classroom was utilised for section 5th grade. The room was equipped with a fan, furniture and electrification. The new room has given additional space for students to study and avail the opportunities.

3.1.5. ZPHS Kothapally, Gambhiraopet is located adjacent to the main road; therefore, it is accessible, and its location is convenient for all the stakeholders.

- It has a spacious campus with open ground for various activities
- The school has availability of drinking water facility and separate wash area
- Infrastructure is disable friendly and the campus is neat and clean
- The school has compound wall on all sides with proper gate for entry and exit
- Toilets are located outside of the main building and there are no separate toilets

The construction of one additional classroom by APF proved to be beneficial for the school. This has created space for more students to study and also reduced the number of students per classroom. The room is furnished with basic important items and is fully functional.



Imgs 14 & 15: Open Ground and Disable friendly platform

3.2. Entire School Painting

Under this CSR activity the entire school premises (including the compound wall) were painted with one common colour (pink variant). This was done in the five government schools as listed in the table below.

#	SCHOOL CODE	MANDAL	SCHOOL NAME
1	36140900802	Yellareddypet	ZPHS Dumala
2	36034200103	Gambhiraopet	ZPHS Gajasingawaram
3	36034200102	Gambhiraopet	MPPS Gajasingawaram
4	36140901403	Yellareddypet	ZPHS Bandalingampally
5	36034200101	Gambhiraopet	MPPS O/C Gajasingawaram

 Table 3: List and details of schools under "Entire school painting" category

Out of the five schools, three are high schools (under district administration) and two are primary schools (under Mandal administration). The average timeline for the painting time was less than a month and this activity continued without much delay or constraints.

As the outer look is always appealing, the painting gives a fresh appearance to the school, but the maintenance is to be improved. According to the students, teachers and local residents, the government schools were never painted on a regular basis and the school didn't look attractive as the buildings were quite old. With the CSR intervention, the schools are now turned into attractive.

3.2.1.ZPHS Dumala, Yellareddypet

The high school has a huge campus with open ground for conducting various activities for the students. The features of the school are as follows:

- The school location is little away from the main road but it is still accessible
- There are a total 8 classrooms and a few classrooms are fully furnished. The school is further in need of staff room, storage room etc
- The school has compound wall on all sides
- There is availability of water supply for both drinking purposes and toilets
- There are separate toilets but the location of the toilets is not appropriate
- There is a Math Lab, Computer Lab and a Model library for the students
- There are wall paintings done extensively.



Imgs 16 & 17: Entire School painting of ZPHS Dumala



Imgs 18 & 19: Disable friendly ramp, Maths lab and Model Library

The painting of the entire school under APF CSR activities took place in October 2018. This gave the school a fresh look and added a lot to the beautification. But over the years, the colour has started to fade away and the school would require another round of painting.

3.2.2. ZPHS Gajasingawaram, Gambhiraopet

The school premise is very spacious. The school is easily accessible as it is adjacent to the main road. The classrooms have adequate ventilation and infrastructure. There are no wall paintings on the school premises. The school has compound walls (with gate) on all the sides. There is open space but not spacious enough for conducting big sports activities. The school has two buildings till first floor and then one low lying structure.



Img 20: Entire school painting of ZPHS Gajasingawaram

The entire school premises were painted with plain pink colour in 2018. The pink colour is common to all the government schools and is easily maintained. The painting gave the school a fresh look but over the period, the paint has faded away. The students, parents and other such respondents stated that the painting colour can be made bright and used in a mixed format rather than keeping it plain. The school has also received funding under various CSR activities especially Bharti Foundation, Coca Cola Foundation, Room to Read NGO, etc.



Img 21: Stone slab for APF CSR Activities of entire school painting at ZPHS Gajasingawaram

3.2.3. MPPS Gajasingawaram, Gambhiraopet

The MPPS School has compound walls on all the sides with an opening gate. Both the ZPHS and MPPS Gajasingawaram are located in the same premises.



Img 22: Study team interacting with the headmaster of MPPS Gajasingawaram

- The school has a total of 110 students from 1st grade to 5th grade.
- It has no separate toilets for the students and the staff use the same toilets. The toilets from ZPHS are shared with the MPPS.
- The school has one classroom in the open in the corridor. There is a need of more classrooms with proper furnishing and ventilation.
- The interior arrangements like racks, cupboards etc. in the Headmaster cum staff room need to be improved
- There is adequate room for library which has been curated by ROOM to READ NGO
- •
- Most of the premise is accessible by differently-abled people.



Imgs 23 & 24: School Painting and Slab for inauguration

Along with the CSR activity of overall school painting, APF has provided furniture earlier such as double-desks to the students. The Headmaster and the SMC have responded that due to the various CSR interventions the image of the school has improved and parents are selecting the public schools over private schools.

3.2.4. ZPHS Bandalingampally, Yellareddypet

The school has a huge campus with a good amount of open space. It has compound walls with gate for entry and exit. There are separate toilets present in the premises but the infrastructure is not adequate. The drinking water facility is present and is functioning. The school has wall painting and has infrastructure which is disable friendly. The entire school was painted with a plain pink colour as part of the CSR activities. This activity was completed two years ago and over the period the paint has slightly faded away. This would require one more round of coating for further life. The Impact of the project in specific areas is as follows:

Below is impact of APF:

Particulars	Before intervention	After intervention
Separate room for each class	Yes	Yes
No classes in the corridor	No	No
Separate room for staff	No	Yes
Library in a separate room	No	Yes
Separate toilets for staff/students	Yes	Yes
Cooking in open place	No	No
Furniture in class rooms	Yes	Yes



Img 25: Entire school painting of ZPHS Bandalingampally High School

3.3. Construction of new classrooms and Entire School Painting

In three high schools there was a combination of CSR activities carried out in the form of construction of new classrooms and painting the entire school.

#	MANDAL NAME	SCHOOL NAME	CSR ACTIVITIES
1	Yellareddypet	ZPHS R. Gollapally	Construction of 2 class rooms
			Entire school painting
2	Mustabad	ZPHS Kondapur	Construction of 2 class rooms
			Entire school painting
3	Yellareddypet	ZPHS R. Boppapur	Construction of 1 class room
			Entire school painting

Table 4: List and details of government schools under APF CSR activities

This comes with a higher impact intervention of

- Enhancing the school infrastructure by giving space for more students to study and also decongest the already overburdened classrooms
- To give a good outlook presence to the school infrastructure, thus making it more attractive and appealing for the students and other stakeholders.

For many students and parents, this was an appreciated intervention as they experienced multiple development activities transforming the school. The extra space with the classroom gave more freedom and flexibility to the teaching staff and enabled them with proper monitoring of students' performance. The multiple interventions led to entry of more CSR activities (from different stakeholders) targeting other development activities needed by the schools.



Img 26: Entire School painting activity at ZPHS R. Boppapur

3.3.1. ZPHS R Gollapally, Yellareddypet

Some of the features of the school are as follows:

- The school has compound walls on all sides
- There is a model library with furnished items and reading materials (curated by ROOM to READ)
- There is a storeroom and independent kitchen space for cooking.
- There are separate toilets for boys and girls with required facilities
- There is drinking water facility



Img 27: Stone Slab

• The premise and the infrastructure are accessible to differently abled students.

The constructed classroom has adequate ventilation. It has four fans, basic furniture, black board and teaching platform.

There is a need for one more classroom for the school as some of the classrooms are not in good condition. The entire school has been painted in plain pink colour with the help of a group of painters. This gave the school a fresh look and attracted the students and teachers. But over the years the paint has faded away and the school needs another coating of painting done.

3.3.2. ZPHS Kondapur, Mustabad

Some of the key features of the school are:

- The high school premise is huge and is easily accessible as it is adjacent to the main road.
- It has a huge playground which has sports materials for games like volleyball, kho-kho etc.
- There is a compound wall but with a broken gate.
- The school infrastructure needs proper refurbishment
- The infrastructure is to be made disable friendly.
- The school has to provide with dedicated labs and library for the students.
- It has a RO plant set up which is fully functional
- There are six teaching staff (4 male and 2 female)

The addition of two new classrooms in 2019 has given an added advantage to the school. It has given space for admission for new students and also released the congestion in the existing classrooms. The furnished new classrooms with proper ventilation have added a positive impact on the students. The impact of the CSR activities in specific areas is as follows:

Particulars	Before intervention	After intervention
Number of classrooms	12	14

Dedicated kitchen for cooking	No	Yes
Playing material	No	No
Rainwater harvesting structures	No	No
Separate room for each class	No	No (but the congestion has
		reduced in other classrooms
Sanitary conditions	Poor	Good
Personal hygiene of students	Average	Good
Furniture in classrooms & dining	No	Yes (Dining room is small)
halls		



Img 28 & 29: Ongoing CSR Activities at ZPHS Kondapur School

The entire school was also painted with plain pink colour under APF CSR activities.



Img 30: Stone slab for inauguration of new classroom as part of APF CSR activities

3.3.3.ZPHS R Boppapur, Yellareddypet

The features of the school are as follows:

- The school has compound walls on all sides with a gate for entry and exit.
- There is a huge playground on the backside of the premise. This is a new area which has been given by the panchayat to the school.
- The playground has sufficient space to conduct various sports activities and other events.
- The school also has a small solar cell unit installed which provides electricity to small appliances
- There are wall paintings especially about Covid-19 awareness.
- There is a dedicated kitchen space for cooking (wood as fuel) but there is no dining hall.
- There is drinking water facility with regular water supply
- There are separate toilets for boys and girl



Img 31: School painting at ZPHS R. Boppapur School

The construction of one classroom took place on the ground floor and the class is being utilised for teaching a section of 10th grade. With the addition of another classroom, it has not only benefited the students (with more focus from the teacher) but has also resulted in more admissions to the public schools. This has an overall positive impact on the learning outcomes of the students which was also witnessed in the students' performance in their SSC exams. However the classroom has to be further furnished. The school administration is looking for more additional classrooms to reduce the number of students per classroom, which would also enable efficient teaching and learning both.



Img 32: Sone slab of inauguration of classroom under APF CSR activities

The entire school was painted in plain pink colour which has been found to be common for all the government schools. This is also done to identify the schools. However the school has to maintain this properly and to paint further wherever it is required.



Img 33: Performance of grade 10 students in the SSC board exams

3.4. School Theme Painting

In the wake of declining strength, schools are adopting different methods to retain the existing strength as well as attract students studying in private English medium schools. In this context, to enhance the outlook of the school infrastructure, the idea of "School theme Painting" was

integrated into the list of CSR interventions. The proposal was prepared by the respective Mandal Parishad Development Officer, Mandal Education Officer in close coordination with the school administration. Under the list of government schools, the following activities took place.

#	School Name	Mandal	School Theme
			activities
1	Primary School Gollapally	Yellareddypet	School bus
2	PrimarySchool Venkatapur	Yellareddypet	Golconda Fort
3	MPPS Gambhiraopet	Gambhiraopet	T-Hub

Table 5: List and details of schools under "School theme painting"

The idea behind the theme selection came from a collective decision from the school management, administration and other stakeholders.

All the schools selected for the 'school theme painting' activity was of 'primary school' category. For each activity, the entire school premise (including the compound wall) was covered under the theme. Though the painting was done a couple of years ago, the look was still maintained. This has also been appeared in multiple newspapers⁴. As per the artist, it took him less than 15 days to complete the theme-based painting in each school and further suggested to go with other themes around climate change, cleanliness, social initiatives etc to educate the students.



Img 34: Golconda Fort theme painting on Primary School Venkatapur

⁴ <u>https://www.thenewsminute.com/article/train-bogey-classroom-meet-telangana-artist-remodelling-govt-schools-87917</u>



Imgs 35 & 36: Interaction with Mr. N Chandu, Head artist and wall paintings in the school

As part of the APF CSR activities, a replica of the Golconda Fort, one of the landmarks in Hyderabad, was selected as the school theme painting of the Venkatapur Primary School of Yellareddypet Mandal. MPPS School in Gambhiraopet was given the theme painting of "T-Hub" which is the largest incubator for start-ups in India initiated by Govt of Telangana.

Responses from the stakeholders

The responses received from the parents, SMC members, headmaster, and teachers and also the local residents were common and positive throughout. According to the responses of Headmaster and teachers, the respective schools' strength has increased with almost all the

> "Many kids from the vicinity joined the school and the attendance of existing students also increased since it's a new environment for them"

> > Ms. Lakshmi, Headmaster- MPPS Gambhiraopet

children in the village attending school due to the new face of the primary schools (which are located mostly in villages).

For students studying in Primary school, Gollapally (Yellareddypet Mandal), they excited to see a resemblance of their school with a bus thus the whole ambience has become quite vibrant. The students from MPPS Gambhiraopet and Primary school Venkatapur, who probably never saw Golconda fort and T-Hub in person, the theme painting received a good response. Even for the local residents the schools have become a site seeing place.

For the primary school teachers this has been a beautiful experience and even their attendance has increased.

3.4.1. Primary School Gollapally, Yellareddypet

The study team has observed the following features also:

- The school has a capacity of 82 students from 1st grade to 5th grade. On an average each grade has nearly 16 students.
- The teaching medium is Telugu and it has attracted students from the local neighborhood.
- The school has facilities of drinking water (with regular water supply) and separate toilets for students and staff (with regular water supply and signage)
- The school has wall paintings on the remaining walls and there are a good number of notice boards.
- There is disable friendly footboards and platforms for easy access, but there
 are classrooms on the first floor and the access to differently abled is difficult.
- The school has a compound wall on three sides with an entry gate but one side is left open. This allows many stray animals to litter in the premise.
- The school is located slightly away from the main road in a populated neighborhood.



Img 37 & 38: Stone Slab for APF CSR activities and "School Bus" theme, Primary School, Gollapally

3.4.2. Primary school Venkatapur, Yellareddypet

The study team met the school in-charge and not able to meet the Headmaster who was in quarantine due to testing covid-19 positive. The mandal has been in the news for its proactive approach towards strengthening the delivery of quality education.

#	PARTICULARS	Before	After	Status
1	Number of classrooms	5	7	5 are in use
2	Furniture in classes	Yes	Yes	Double desk given by APF
3	Fans in classes	Yes	Yes	Four in each room

Fable 6: Basic details of Prima	ry School, Venkatapur
--	-----------------------

4	Laboratory	No	No	No need
5	Library	Yes	Yes	In use (curated by Room to Read)
6	Virtual class room	No	No	
7	Separate toilets for boys/girls	No	No	Facilities shared with adjacent ZPHS
8	Kitchen	Yes	Yes	Separate room for cooking; nice wall painting done
9	Dining hall	No	No	Student capacity is less to have a dining hall and the dining is done in corridors or under the trees
10	Playing ground	Yes	Yes	Huge spacious ground with gardening
11	Playing material	No	No	There are no playing materials available
12	Water tank	Yes	Yes	Motor is there
13	Water taps	Yes	Yes	In use but there is need of more taps
14	RO water plant	No	No	
15	Compound wall	No	Yes	The school is compounded on all sides; it is connected to the premise of ZPHS on one side. The theme painting is also done on some parts of the compound wall.

There are other CSR activities conducted by other corporate houses and NGOs in the school premises. For example, the toilets have been constructed by another CSR partner (in 2016-17) (but this is not in good shape) and the library set up has been done by 'Room to Read' NGO. The school has a School Management Committee, Children Committee and Children clubs.

Table 7: Enrolment status due to the CSR intervention

PARTICULARS	BEFORE THE INTERVENTION			PRESENT (2020-21)		
	Total	Boys	Girls	Total	Boys	Girls
ENROLLMENT	130	63	67	152	74	78

The above table clearly indicates the increase in the overall student enrollment due to the school theme painting of 'Golconda Fort'. The school observed an overall increase of 17% student enrolment. For boys the increase was 17.5% and for girls was 16.5%.

For the inaugural of the 'school theme painting' at the school, the chief invitees were MEO, the village sarpanch and SMC chairperson. The CSR work has been recorded in various print and electronic media like Namaste Telangana, Enadu, Varta and Jyothi, SR News Channel etc.



Imgs 39 & 40: CSR Activities at Primary School Venkatapur

3.4.3. MPPS Gambhiraopet

The school theme painting was 'T-HUB' and the study team was accompanied by the school teacher (also part of the SMC). The features of the school are:

- The school has a total of 188 students (101 boys and 87 girls) from nursery to 5th grade.
- The school premise is small and compounded on all sides with walls (has a gate for entry)
- The school painting looked afresh, and the premise is regularly kept neat and clean.
- The school infrastructure has two floors with classrooms, Headmasters plus staff room, toilets, water drinking areas, model library.
- The ground floor has a disable friendly platform since it is not possible to access the first floor.
- The toilet infrastructure is very poor and the facilities are not in good condition. This is also due to the small premise of the school.
- The school is located on the main road (in the market area) and hence easily accessible. The school theme painting makes the presence more attractive.



Imgs 41, 42, 43 & 44: T-Hub School theme painting for MPPS Gambhiraopet School

4. Analysis and Suggestions

From the analysis of findings from responses of primary, secondary, tertiary stakeholders and field observations, the impact of the CSR activities in the form of construction of additional rooms, school painting and school theme painting can be easily observed. The activities have indeed led to a positive impact towards developing and further strengthening the infrastructure of various government schools in Sircilla district. This has also directly impacted the learning environment of students in the region who are seeking quality education which is available, accessible and affordable to them.

With the initiation of APF CSR activities, it led to the attraction of other CSR interventions in the school premises. This also encouraged the school administration to take up ownership and accountability for various activities leading to strengthening of the school infrastructure and image.

Based on the assessment findings and analysis, the following interventions can be relooked, upscaled or replicated with the aim to continue the collaborative effort towards strengthening of government school infrastructure.

4.1. Construction of New Classrooms

Intervention area 1: Additional furnishing (fans, electrification (wiring), black board, doubledesks etc.,) needed in the classrooms. As per the responses from the school administration and field observations, it was found that more furnishing is required to make the classroom functional in all manners. The furnishing in the form of cupboards, proper ventilation, and quality table-chair for teachers is also required.

Intervention area 2: Additional Classrooms

Many schools (especially the primary schools) have specified the need for more classrooms which can be also utilised for library set up or staff rooms. The primary school, upper primary school would require more infrastructure support.

Intervention area 3: Set up of Virtual Classrooms

The newly constructed classrooms under the CSR interventions of APF can be transformed into digital or virtual classrooms and this can be gradually expanded to other classrooms. In the technology era, the entire education system has been significantly enhanced with the extensive use of digital learning platforms and methods. For schools that do not have the budget to support such infrastructure are to be supported by the public-private partnership models to have virtual classrooms to support innovative and impactful way of learning.

Intervention area 4: Disable-friendly Infrastructure

The classrooms constructed in many contexts are accessible by differently abled students but for the classrooms on higher floors, the access is a challenge. Even for many schools the outer infrastructure itself didn't have a design for disable friendly structure. As the idea is to provide an enabling learning environment to all, the disabled friendly environment is to be ensured.

4.2. Entire School Painting

Intervention area 1: Second round of painting needed

In all the school cases, the activity of school painting gave a fresh look and also added to the beautification of the school. This initiative took an active part in improving the image of public government schools in the region. This is an activity which would require intervention at regular periods and a specified budget would be needed for the same.

Intervention area 2: Entire school painting for remaining schools

Looking at the impact of the school painting activity, the same can be replicated/up-scaled to other remaining schools.

4.3. School Theme Painting

This may be up-scaled and replicated in other schools. The design and theme is also to be extended inside the classrooms, toilets, staff rooms etc.

4.4. Model School

The needs fulfilled through the individual CSR activities, if presented in collective/combination form of all the activities, would bring a larger impact in the form of a model school. This was observed in the context of three schools where the combination of 'Construction of classrooms and Entire school painting' was carried out.

The 'Model school' is a combination of all the CSR activities of classroom construction, entire school painting and theme painting along with additional features mentioned in section 4.1, 4.2 and 4.3. To this list, the following interventions can also be introduced. One example from the present study would be of ZPHS Sircilla which has benefited with a collaborative approach of various CSR interventions.

ACTIVITIES	DETAILS
Improving toilet	As observed in most of the schools the toilet facilities are not adequate,
infrastructure	poorly maintained, no separate toilets (for boys, girls and staff), not fully
Drinking water	All the schools had the facility of drinking water but in most of the cases
Disable	there were no facilities for RO water plant. It also requires maintenance.
friendly	and all infrastructure related activities
infrastructure	
Solar units	In India's vision of achieving Paris agreement commitments towards
	climate change, the government institutions like schools can work as a
	platform to establish the infrastructure for renewable energy. And this
	would also give safe and sustainable energy to the school for their uses.
Playing ground	a) For schools (mainly high schools) which have a large campus,
and playing	the open space is to be designed in a manner to be fully utilized
materials	for sports activities.
	b) And for this activity there is a need of playing/sports equipment
	c) For schools with no open space or large campus, alternatives
	need to be searched
	d) Providing playing materials to give emphasis on indoor games
	One of the key interventions of CSR activities could be to promote
learning	language learning as a foundational need for the world of work. To
(English &	encourage inclusiveness, there is a need to prepare students to be
other	confident in their expression, to be able to compete and succeed in any
languages)	kind of environment.
Collaborative	In order to bring a larger impact and outreach, a holistic approach of
action for	strengthening the education infrastructure is required. In many schools
larger impact	various CSR activities ⁵ have taken place or in progress. All the involved
	stakeholders can design a strategy to work on multiple intervention areas
	and develop a 'Model School' in the process, which can be further up-
	scaled and replicated.

⁵ Bharathi Foundation adopted 50 schools and arranged library, furniture, sports kits and conducting summer camps, science workshops and every year providing Motivational classes to X class students.

Give Telangana Rural Empowerment to support Govt schools. Project period August 2018 – July 2023 Strengthening the Health care, Health care Infrastructure and quality education on Govt schools in Rajanna Siricilla District. ROOM to READ NGO has established Libraries with furniture in 40 schools in the Rajanna Siricilla district. (Govt. and Local Body schools)

5. Conclusion – Output – Outcome and Impact

Corporate Social Responsibility (CSR) in letter and spirit was meant as a great opportunity to encourage convergence of public and private policy and to create initiative and ownership among the beneficiaries. This has been well evident in the CSR activities in the Indian education sector, which have been working on lines of complementing the national agenda, improvement of education indices, addressing deficiencies in the existing school system. As per the study, APF education CSR programmes have been planned around real challenges and developed and progressed accordingly. As changes through CSR interventions especially in education sector are in the form of immediate output, short term outcome and long term impact, impact assessment shall be done at different phases to make proper assessments as per existing variables and factors make the programs more sustainable.

In the present study, APF CSR initiatives have added to the development of an enabling learning environment for all stakeholders. This is also of great significance as not many CSR players invest directly into infrastructure and image building of schools. Along with strategic planning and capital requirements there would be a need of inculcating ownership and accountability within the school administration through strengthening of school committees.

There are a total of 343 primary schools (total 16148 students), 85 upper primary schools (total 6945 students), and 137 high schools (total 33524 students) in Rajanna Sircilla districts. Therefore, there is a huge intervention area for APF or other donors to further carry out its impact through its CSR activities and strengthen the education system in the region.

Impact Assessment Study on Skill Development Centre In Varisam village of Ranasthalam mandal in Srikakulam district, Andhra Pradesh state

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)







Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

Impact Assessment Study on Skill Development Centre

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Full Report





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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,
	Sangareddy District in 2016-2017
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,
	Sangareddy District in 2018-2019
Project 3	Construction of Government ZP High School, Tellapur Village,
	Ramachandrapuram Mandal, Sangareddy District in 2018
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,
	Sangareddy District in 2019-2020
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairtabad,
	Hyderabad in 2019-2020
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based
	painting in 16 Government High Schools in Rajanna Sircilla District through
	Give Foundation in 2018-2019
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,
	Duggirala Mandal, Guntur District in 2019-2020
Project 8	Construction of Skill Development Centre to create employment opportunities
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,
	Srikakulam District in 2019-2020

Objectives of the Assessment Study

- 13. Evaluate the projects for their output, outcome and impact
- 14. Assess the visibility created for the project, local acceptance and ownership
- 15. Assess the perceptions of different stakeholders
- 16. Sustainability for the project

Executive Summary

Objective of the Assessment: The broad objective of the assessment is to study the impact of Skill Development Centre (SDC) in Varisam promoted by Aurobindo Pharma Foundation. The specific objectives are

- a) Determine whether the project of interest achieved its objectives
- b) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- c) Provide recommendations to ensure sustainability

Assessment Methods: To address the above objectives the study team has followed a threepronged approach: i) physical visit to the centre, ii) individual interactions with teaching staff and Head of the Department (HOD), and iii) individual interviews with old students and their parents. The study team has collected both qualitative and quantitative data from primary and secondary sources by administering qualitative as well as quantitative data collection methods. A checklist was developed to conduct interviews with faculty, management of APF and old & present batch trainees to know the impact of the programme.

Sample Covered: Fieldwork for data collection was carried out during 30 April to 2 May and the study team has interacted with 15 members (4 SDC staff, 1 Cluster Officer of APL- Skill Development Centre and 10 trainees covering three old batches and the present batch). To interact with the students, the batch-wise list of students and their phone numbers were collected from the Skill Development Centre.

Key Findings: The relevance of the project is very high since the SDC is established based on skill gap trends in pharma sector, to enhance the knowledge of the students with practical skills and to make them employable in the Pharma & allied industries. The vision of the SDC primarily supports SDG8 to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. The capital cost of the project is 7.9 crores with a recurring expenditure of 49 lakhs per annum. The whole setup is established in a record time of seven months, and inaugurated in September 2018 by the District Collector, Srikakulam, APF representatives and other officials.

Impact: The physical infrastructure at the Centre is exceptional. There are two training halls with modern facilities and 4 labs (wet lab, GC lab, HPLC lab and hot zone). All the labs are equipped with the latest instruments and software. There is a dining hall and RO plant to cater to the needs of faculty and trainees. The qualified faculty members with M.Sc. Chemistry and 15 to 20 years' experience in Pharma Industry are well acquainted with modern teaching methods.

About 89 trainees of three batches have completed their course and obtained certificates. The trainees have shared their positive perspectives on the functioning and the impact of SDC. The responses include: i) ambience and centre design is so suitable for the defined purpose; ii) the training halls are suitable for modern teaching methods; iii) labs are well equipped with latest software; iv) qualified and vastly experienced faculty in teaching and Pharma Industry; v) curriculum is well-balanced with theory and practical; and vi) very good hygiene and sanitation in the premises.

Per batch enrolment is varying from 21 to 32 candidates with an average of 28 per batch. Overall, both men and women are equally opting this course. A majority of the trainees got placement in either APL (internship) to an extent of 44 percent or rest through other Pharma Companies. Though the trainees enrolled are from 8 districts of AP, majority of them are from Srikakulam (47%) and Vizianagaram (38%). The SDC has been following multiple strategies to improve the enrolment over the batches.

Opportunities for Improvement & Sustainability: Few areas to be improved are: i) Creating more awareness about SDC across the districts in the state; ii) Revisiting the curriculum to make it more industry oriented and to develop soft skills iii) review on internal assessment and feedback; iv) Stipend to ensure a proper accommodation v) More exposure to GC lab, data analysis skills vi) Leveraging other potential opportunities to improve job placement vii) accreditation of SDC by recognized agency; viii) affiliation with state and national level agencies like APSSDC and NABARD

Detailed Report

1. Introduction

1.1 Assessment Objectives

The broad objective of the assessment is to study the impact of Skill Development Centre (SDC) promoted by Aurobindo Pharma Foundation in 2018. The specific objectives are

- a) Determine whether the project of interest achieved its objectives
- b) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- c) Provide recommendations to ensure sustainability

1.2 Research Methodology

To address the above objectives the study team has followed a three pronged approach: i) physical visit to the centre, ii) individual interactions with teaching staff and Head of the Department (HOD), and iii) individual interviews with old students/their parents

There are four faculty members headed by the HOD. In addition, there is a Cluster Head who monitors the Skill Development Centre. The study team has interacted with all four faculty members and the Cluster Head. To interact with the students, the batch-wise list of students and their phone numbers were collected from Skill Development Centre. About 10 trainees were interviewed covering three old batches and the present batch.

1.3 Data Collection Methods

Both primary and secondary data was collected by administering qualitative as well as quantitative data collection methods. Primary data includes the opinion of faculty and the voices of students. The secondary data includes infrastructure facilities in the centre, student enrolment, and stipend for students etc. An interview schedule was developed to conduct interviews with faculty and students, mainly focusing on facilities at the SDC, issues at the centre and the impact of the programme.

1.4 Field work

On 30 April 2021, the study team visited the Skill Development Centre and interacted with faculty and Cluster Head. On 1 and 2 May 2021, the team interacted with students and other stakeholders over the phone as there are no students in the campus due to COVID-19 pandemic.

1.5 Data analysis and Reporting

The data collected on enrolment and placements of all the three batches is subjected for further analysis. Simple statistical tools such as percentages and averages were computed to draw meaning inferences and to make comparisons. The stakeholders' responses were analysed and represented as the opinion of students and staff on the impact of the intervention, concerns and suggestions for the betterment of Skill Development Centre.

2. About Skill Development Centre

2.1 Vision

Skills and knowledge are the driving forces of economic growth and social development for any country. Aurobindo Pharma Foundation has promoted an initiative to help the students of M.Sc. & B.SC Chemistry and M. Pharmacy to enhance their knowledge and practical skills to promote employability in the pharma industry. The vision of the SDC primarily supports SDG8

to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

2.2 Project Cost

The total cost of the project was 7.9 crores and completed in seven months. An old building was renovated as Skill Development Centre and APF has taken the responsibility of renovation of the building.



Img 1: Skill Development Centre Building

2.3 Management of SDC

The Skill Development Centre is being managed by Aurobindo Pharma Foundation. Rs. 49 lakhs is being released per year to meet the training and other expenses.

2.4 Eligibility and Selection of Candidates for Training

Following are the eligibility criteria: i) B.Sc., M.Sc. Chemistry and M. Pharmacy students who have completed their studies and unemployed are eligible to join the six months training programme. There are facilities in the centre to enrol up to 50 members in a batch. The trainees are provided with the theory and practical knowledge as per the weekly and monthly schedules drawn by the faculty.

2.5 **Project Inauguration**

The Skill Development Centre was inaugurated on 27 September 2018 by the District Collector and other APF officials.



Imgs 2 & 3: Inauguration of the Skill Development Centre covered by the media

3. Physical Infrastructure Facilities

3.1 Location

The Skill Development Centre is located in Varisam village of Ranasthalam mandal in Srikakulam District of Andhra Pradesh. The total area of the SDC is 25 acres. There is a public and private transportation facility from district and mandal headquarters to Pydibhimavaram where the APL main unit -11 is located. The APL provides bus at free of cost from Pydibhimavaram to SDC and back.

3.2 Training halls

There are two air-conditioned training halls with good ventilation and adequate infrastructure such as chairs, LCD projector, digital screen, desktop, sound system, white board and other accessories. All the 50 students can be seated comfortably as the halls are spacious.

3.3 Laboratory facilities

The Centre has HPLC Lab, GC Lab, Wet Analysis Lab and Hot Zone Area with modern analytical laboratory and latest instruments having advanced software like HPLC, GC, UV, IR, DSC and PSA in order to provide continuous and intensive practical training to the trainees; make them experts in resolving the trouble shooting in the instruments and make them adhere to good documentation practices (GDP), good laboratory practices (GLP and implementation of good manufacturing practices (GMP).



3.4 Dining hall

There is a separate building for the canteen and 50 people can dine at a time. There is a RO water plant in the dining hall



Img 5: Dining Hall with RO Plant for Drinking water

3.5. Toilet facilities

There are separate toilets for men and women trainees.

3.6. Details of staff

There are four teaching staff, one lab boy, one woman for housekeeping and two security persons. The faculty members are well qualified and experienced: M.Sc. Chemistry with 15 to 20 years of experience in teaching and Pharma Industry.

3.7. Committees at Institutional Level

There is a well-structured teaching team under cluster head to handle routine activities.

3.8. Incentives for the students

The SDC provides the following incentives to the trainees: i) Rs. 4,000 as stipend per month per student; ii) free bus transportation from Pydibhimavaram to SDC to back; iii) apparel to attend the lab; and iv) lunch and tea to the trainees at free of cost.

4. Enrolment

4.1 Batch-wise enrolment

The data shows that the enrolment in a batch is varying from 21 to 32 with an average of 29. The highest number of enrolment is in 2^{nd} (32) and 1^{st} batches (31) followed by 3^{rd} (26) and 4^{th} (21) batches. The faculty has reported that due to COVID 19 there is a low enrolment in the 4^{th} batch.

	Batch-wise Gender Composition of Trainees (in %)								
#	Gender	1 st Batch N=31	2 nd Batch N=32	3 rd Batch N=26	4 th Batch N=21	Total N=110			
1	Male	38.7	43.8	46.2	47.6	43.6			
2	Female	61.3	56.3	53.8	52.4	56.4			
	Total	100.0	100.0	100.0	100.0	100.0			

4.2 Gender composition

The data shows that of the total 110 trainees enrolled, majority of the trainees are female (56%) followed by male (44%). Similar trend is found across the batches, however the percentage of male trainees is increasing over the years.

4.3 Geographical spread of trainees

The data shows that the trainees enrolled are from 10 districts. The large number of trainees enrolled from Srikakulam (47%) and Vizianagaram (38%) followed by Visakhapatnam, East Godavari, Chittoor, Krishna, Kurnool, West Godavari and Prakasam each representing less than 1 to 5 percent. The data also shows that the 1st batch students are from 3 districts; 2nd batch students are from 5 districts; 3rd batch students are again limited to 3 districts; however, 4th batch students are enrolled from 7 districts. It means information about the SDC has been spreading across the districts in the state.

	Geographical Spread of Trainees (in %)									
#	Gender	1 st Batch N=31	2 nd Batch N=32	3 rd Batch N=26	4 th Batch N=21	Total N=110				
1	Chittoor			3.8	4.8	1.8				
2	East Godavari		12.5			3.6				
3	Krishna				4.8	0.9				
4	Kurnool		3.1			0.9				
5	Prakasam				4.8	0.9				
6	Srikakulam	45.2	34.4	69.2	42.9	47.3				
7	Visakhapatnam	6.5	9.4		4.8	5.5				
8	Vizianagaram	48.4	40.6	26.9	33.3	38.2				
9	West Godavari				4.8	0.9				
	Total	100.0	100.0	100.0	100.0	100.0				

4.4 Strategies for enrolment improvement

To improve enrolment the management has been following multiple strategies: i) Information about SDC through the employees of Aurobindo Pharma Limited; ii) distribution of brochures through students; iii) visits to University Colleges having Dept. of Chemistry in Vizianagaram, Srikakulam and Visakhapatnam at the end of academic year to share information about the training programme.

5. Certification

The candidates who have successfully completed a seven months training programme with a clear track record and mandatory attendance with active participation in the internship will be awarded with a training completion certificate.

So far, 89 trainees of three batches have completed their course and obtained certificates. The SDC organizes 'Certification Ceremony', after completion of course with the trainees. There are no dropouts. All the trainees who enrolled have completed their course successfully.

6. Internships or Placements

6.1 Batch-wise placements

The data shows that majority trainees (70%) got placement either in Aurobindo Pharma Limited (44%) or in other Pharma Companies (26%). However, about 30% of the trainees need to ascertain placement or internship. The percentage of trainees who got placement has been decreasing over the batches: 90% in 1st batch, 75% in 2nd batch and 42% in 3rd batch.

	Batch-wise Placement of Trainees (in %)								
#	Name of company	1 st Batch N=31	2 nd Batch N=32	3 rd Batch N=26	Total N=89				
1	APL	64.5	28.1	38.5	43.8				
2	Other Companies	25.8	46.9	3.8	26.9				
3	Needs to ascertain	9.7	25.0	57.7	29.2				
	Total	100.0	100.0	100.0	100.0				

6.2 Company-wise placements

Many trainees in 1st and 3rd batches got placement in Aurobindo Pharma Ltd and many of the 2nd batch trainees got placement in other companies. As many trainees look for permanent job opportunities with pharma companies immediately after completion of the course without internship, there is less percent of placement. Further, the women prefer job locally close to their domicile.



The data shows that the percentage of male trainees who got placement or internship is very high with 92% when compared to female trainees (55%). Further, the percentage of trainees got internship has been decreasing over the batches irrespective of gender. The percentage of female trainees got internship has fallen down from 84% to 14% due to their location preference.

7. Voices of Stakeholders

The stakeholders have expressed positive perspectives on SDC functioning and its impact.

Particulars		Opinion of students, faculty and HOD
13. Awareness about SDC	:	The trainees knew about the course through i) APL employees, ii) Sarpanch, iii) relatives and iv) SDC faculty visits to University Colleges having Chemistry Department.
14. Building ambience and design	:	All the 10 trainees and 4 faculty members have reported that the appearance, design and quality of construction are very good. The centre is located in a beautiful location. No pollution and any other disturbances
15. Accommodation	:	It is designed as a non-residential Skill Development Centre. Accommodation facility is to explored in close proximity
16. Training halls with modern facilities	:	Training halls are spacious, ventilated, well-furnished and equipped to use modern teaching methods – LCD projector, PPT presentation, white board etc.
17. Labs are well equipped with latest software	:	Labs are fully equipped; students have full access to instruments during practical sessions to gain hands-on experience; all the instruments are new with the latest software which is normally used in companies; such latest equipment are not even found in University Chemistry Departments.
18. Dining hall for staff & trainees	:	Dining hall is in a separate building very adjacent to the main building; well furnished with hand washing facilities.
19. RO plant for drinking water	:	RO plant was installed in the dining hall itself.
20. Separate toilets for men and women	:	There are separate toilets for men and women with water connection and hand-washing facilities, and the toilets are well maintained.

21.	Qualified and experienced faculty	:	Faculty is very good – highly qualified, experienced in teaching and long years of association with the Pharma Industry. Most students mentioned about significant role played by centre Head
22.	Balanced curriculum	:	Equal importance to both theory and practicals. Theory classes are in forenoon and practical sessions are in the afternoon. Some of the students have reported that it is a i) knowledge building program, ii) update student's skills, iii) can survive in any company with the training, iv) provides a holistic perspective on Pharma Industry and v) provides hands on experience on different instruments.
23.	Good hygiene and sanitation	:	Management gives top priority in keeping the campus clean and green and maintaining very good vegetation in the campus. There are a lot of flora and horticulture plants such as mango at the SDC.
Ar	eas needs to be imp	oro	ved
1.	Awareness on SDC	:	Considerable awareness among the students of University Colleges other than Vizianagaram, Srikakulam and Visakhapatnam districts may be created
2.	Hostel facility to out-station trainees	:	Need to get a proper accommodation in proximity
3.	Stipend	:	Stipend to support a reasonable accommodation locally
4.	Theory classes and practical sessions	:	More emphasis and focus on practical classes
5.	Review on internal assessments	:	A proper review mechanism on internal assessments would help
6.	Acquaintance to GC Lab	:	More time to spend in GC lab
7.	Reading material	:	Additional reading material may be provided through a mini library to improve soft skills and technical aspects
8.	Data analysis & interpretation	:	Sufficient hands-on experience may be provided for analysis and interpretation of results
9.	Job Placements	:	More avenues for placement may be explored through industry association/networking

8. Conclusions- Output – Outcome – Impact

Skill Development Centre of Aurobindo Pharma Foundation is a great bequest for science graduates of Srikakulam and Vizianagaram districts. It is established in a nice location with good infrastructure and ambience. Faculty is highly qualified and experienced team. Facilities in the labs are extraordinary. Faculty is using modern methods of teaching. Trainees are more acquainted with the latest instruments in the Pharma Industry. Overall, the functioning of SDC is excellent and impacting many rural youth to improve their skills and opportunities for getting in to jobs.

9. **Opportunities for Improvement & Sustainability**

Few areas to be improved are:

i) Creating more awareness about SDC across the districts in the state; ii) Revisiting the curriculum to make it more industry oriented and to develop soft skills iii) review on internal assessment and feedback; iv) Stipend to ensure a proper accommodation v) More exposure to GC lab, data analysis skills vi) Leveraging other potential opportunities to improve job placement vii) accreditation of SDC by recognized agency; viii) affiliation with state and national level agencies like APSSDC and NABARD.

Impact Assessment Study on Saraswathi Vidya Mandir High School In Khairtabad, Hyderabad, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

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Full Report





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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,
	Sangareddy District in 2016-2017
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,
	Sangareddy District in 2018-2019
Project 3	Construction of Government ZP High School, Tellapur Village,
	Ramachandrapuram Mandal, Sangareddy District in 2018
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,
	Sangareddy District in 2019-2020
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairtabad,
	Hyderabad in 2019-2020
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based
	painting in 16 Government High Schools in Rajanna Sircilla District through
	Give Foundation in 2018-2019
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,
	Duggirala Mandal, Guntur District in 2019-2020
Project 8	Construction of Skill Development Centre to create employment opportunities
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,
	Srikakulam District in 2019-2020

Objectives of the Assessment Study

- 17. Evaluate the projects for their output, outcome and impact
- 18. Assess the visibility created for the project, local acceptance and ownership
- 19. Assess the perceptions of different stakeholders
- 20. Sustainability for the project

Executive Summary

Title of the Project: Construction of Saraswathi Vidya Mandir High School, Khairtabad, Hyderabad

Objectives of the Assessment: The **prime objective** of the assessment is to study the impact of the construction of a school building for Saraswathi Vidya Mandir High (SVMH) School in Khairtabad, Hyderabad. The **specific objectives** of the study are i) assess the degree of achievement of the objectives mentioned in the proposal submitted to APF; ii) assess the leverage for creating infrastructure facilities for the school; iii) assess the impact created due to the construction of the school building among the various stakeholders and iv) make recommendations for further improvement and sustainability

Assessment Methods: The assessment has adopted the following methods to study the above objectives.

- Physically visited the Saraswathi Vidya Mandir High School at Khairatabad (visited each classroom, toilet blocks, and other facilities)
- Held direct interaction with the School Management Committee members (Secretary & Treasurer and 2 non-teaching staff)
- Held virtual interaction with the School Management Committee members (2), teachers (3), students (5) and their parents (3)
- Review of school records on enrolment, academic performance, annual reports, photos, media coverage, fees details etc.

Sample Covered: The assessment methodology consists of primary and secondary data collection through an assessment tool covering the objectives and outcomes of APF intervention, implementation and impact of the project and the voices of stakeholders on the construction of the school building, toilet blocks, infrastructure facilities and the requirements. Secondary data on students' strength, 10th class results and staff details were collected from the school administrative staff and the records. About 17 interactions were held (direct interaction with 4 and virtual interaction with 13).

Key Findings: The data collected from both the primary and the secondary sources were analysed. The key findings of the assessment are given below.

Relevance: The relevance of the project is very high since the school is catering to the educational needs of the students from the poor and vulnerable families belonging to lower middle class and working class consisting of private employees, municipal workers, waste pickers, sweepers, daily wage labourers and migrant families living in and around Khairatabad. The modern, quality and value-based education at low cost will enable the poor and vulnerable students to excel not only in studies and careers but also to become socially responsible persons.

Effectiveness: The school construction was done in one year and most of the infrastructural facilities are in place which is evident for the effectiveness of the parties involved in school construction and establishment of infrastructure. The meticulous project execution by school management and NEMI foundation without disrupting regular school activities, is commendable and to achieve prescribed project objectives. The school now has all the modern facilities and hence will be effective in contributing in a significant manner towards achieving the goals of the New Education Policy and the goal 4 of the SDGs (Sustainable Development Goals) on quality education and SDG 10 on reduced inequalities. The investment in the project will directly contribute to the poor and the marginalised accessing quality and value-based education and indirectly contribute towards alleviating poverty and reducing gender inequality also.

Efficiency: The new building of SVMH, its ambience and the latest and modern facilities shall attract more students in coming years. The capacity of the new building is 520 students now. The students of SVMH mostly belong to middle and lower middle-class families. Actually, the strength of the school has increased by 40 percent from 257 in 2017 to 363 in 2018 due to the introduction of English medium. However, it has declined by 29% from 364 to 263 in 2019-20, due to Covid 19. The percentage of girls (55%) is higher than the boys since the parents prefer the boys to attend private schools, which is evident in the prevailing patriarchal mindset

and thoughts in the society. The new setup of school is efficient enough to revive this situation to run the school at its fullest capacity through complemented efforts of schoolteachers.

Sustainability: APF funded project is very much sustainable through supplemented efforts of the school management and other donors. The teachers are highly committed to provide quality education to the students. The efficiency of the teachers requires attention to enable them to cope up with the current trend and advancements in the education sector. The school levies low fees since most of the students are poor whose families depend on daily or weekly wages, nevertheless they get attention of many donors for the quality education, and hence it is sustainable. However, about 15% of the fees are due every year and hence sustaining the maintenance and the payment to the teaching and non-teaching needs attention. One of the sustainable measures is the installation of solar unit to meet all the requirements (lights, fans, ACs, labs, digital classes etc.). Further, it is noteworthy to mention that the school management is very efficient in mobilising resources from various sources for establishing required infrastructure and facilities for providing modern education to the students and to sustain their efforts.

Impact: The **direct** impact of the project is the strong and beautiful two-storied building with 22 rooms and 4 toilet blocks located in a historical location and majestically facing the Husain Sagar Lake. In addition, the furniture like student desks, teachers' tables and chairs, computer tables and chairs and book shelves were also donated. The **indirect** impact is the leverage of additional resources for granite floor in all 22 rooms and corridors; air conditioners, fans and LED lights for all the rooms, water cooler, 50KW solar unit, plantation and setting up of library, computer lab and science cum maths lab. The project created huge satisfaction among all the key stakeholders – school management, donors, teachers, students and parents. The school management has approached few donors for completing the pending works, the response has been very positive. **APF** will ever be remembered and acknowledged by all the stakeholders for its valuable contribution in supporting educational initiatives as part of its Corporate Social Responsibility.

Overall Observations: The observations made during the interactions with the stakeholders are : i) all the stakeholders are well aware and highly appreciate of the support given by APF; ii) students and the parents are extremely happy that the new building has all the modern facilities; iii) there is now adequate toilet facility for staff, boys and girls; iv) teachers feel more committed to providing quality and value based education without any disruption during rainy seasons; v) old students felt proud that SVMHS is now in par with any corporate school; vi) donors felt committed to support or sponsor fees for the children since the school will now be able to provide quality, modern and value based education; vii) school is closer to the poor colonies around and well connected with bus and local train routes; viii) parents expressed that the school collects nominal fees when compared to other private schools in the vicinity; ix) parents further expressed that their children are blessed with Saraswathi – 'goddess for education'.

Opportunities for further Improvement and Sustainability are; i) Ensure to attend other supplementary works related to labs, libraries, sports, garden, rainwater harvesting, solar panels etc., ii) leverage funds from donors and sponsors for maintenance and bridging any deficit in fee collections; v) capacitating the teachers in upgrading their knowledge and skills in providing digital education and suitably compensating their skills; vi) establish partnership and collaboration with platforms such as Sriram Foundation; Vande Matram Foundation, Teach India etc.; vii) Formulating and strengthening school management committees, grievance cell etc.; viii) explore to get status of an Aided School; ix) Community campaigning for more enrolment rate and x) career counselling and guidance.

Detailed Report

1. Introduction

1.1. Assessment Objectives

APMAS has taken up the assessment to study the impact of the educational projects undertaken by Aurobindo Pharma Foundation as part of its CSR activities. Saraswathi Vidya Mandir is one of the educational projects taken up by APF. The following are the objectives of the impact assessment study of this project.

- 1. Assess and determine the degree of achievement of the project objectives
- 2. Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- 3. Provide recommendations to ensure sustainability

1.2. Research Methodology

The assessment has adopted the following methods to study the above objectives.

- Physically visited the Saraswathi Vidya Mandir High School at Khairatabad (visited each classroom, toilet blocks, and other facilities)
- Held direct interaction with the School Management Committee members (Secretary & Treasurer and 2 non-teaching staff)
- Held virtual interaction with the School Management Committee members (2), teachers (3), students (5) and their parents (3)
- Review of school records on enrolment, academic performance, annual reports, photos, media coverage, fees details etc.

1.3. Data Collection

An interview schedule was prepared covering the objectives and outcomes of APF intervention, implementation of the project, impact of the project and the voices of stakeholders on the construction of the school building, toilet blocks, infrastructure facilities and the requirements. Secondary data on students' strength, 10th results and staff details were collected from the school administrative staff and the records.

1.4. Field Visit

The field visit was made by the APMAS study team on 28 April 2021 and the virtual interactions with various stakeholders were held on 29 and 30 April 2021.

1.5. Data Analysis and Reporting

The data collected from both secondary and primary sources were analysed. The observations made and the analysis of the data formed the basis for the report. The draft report was presented to the APF team on 14 May and based on their feedback, the report was revised and submitted to APF on 24 May 2021.

2. About the Project

2.1. Location of the School

Saraswathi Vidya Mandir High School is located in Indira Nagar Colony, Khairatabad on the banks of the Husain Sagar Lake in midst of Hyderabad city in close proximity to many prestigious institutions. The School has a history, which dates back to the year 1962. The committed and patriotic employees living in and around Khairatabad strongly believed that education is a tool to mould the younger generation and to inculcate Indian values and culture. Hence, they started the night (first) school in Saraswathi Nagar of Indira Nagar Colony in 1962 and named the school as Saraswathi Vidya Mandir (temple of the Goddess Saraswathi). They started providing education ('Vayojana Vidya' – education for the adult) in the evening after their office hours to the young and adults living in and around the Khairatabad area. The school was running in a small hut and later in a room under asbestos roof. Subsequently, they started imparting tailoring skills to the women in collaboration with Lions Club in 1984-85 for almost ten years.



Imgs 1, 2 & 3: Night school in 1962 and Tailoring to women in 1984-85

In 1990, it became a full-fledged Telugu Medium School and got the recognition up to 7th class from the government of erstwhile Andhra Pradesh. The permission for English Medium from 1st to 10th class was tried since 2005, but not able to succeed due to lack of adequate infrastructure for the school. The permission was, however, finally obtained in 2017 after persuasion with concerned authorities.

2.2. School Management, Mission and Aims

The school is managed by Saraswathi Vidhyapeetham and recognised by the Government of Telangana. The School Management Committee consists of 14 members who are dedicated to providing quality and value-based education to the poor and needy children.

Mission of the school is 'to develop students with active and creative minds, a sense of understanding and compassion for others, and courage to act on their beliefs; for the total development of the child: spiritual, moral, intellectual, social, emotional and physical.

Aims of the school

- Provide quality education at affordable cost by the use of modern and progressive educational techniques to achieve excellence in studies and all round development of students to make them good citizens of our country
- Produce disciplined children who are punctual, gentle, truthful and sincere to themselves, society and the country
- Groom students to excel in all walks of life and to become responsible citizens

2.3. Project Details

The school was functioning in an old building since many years prior to APF intervention. The rainwater used to get stagnated resulting in cancellation of classes. The school strength which was about 500 during the years 2005 to 2015 started declining due to un-attracted old building, lack of necessary infrastructure and due to mushrooming of private schools in and around Khairatabad. The school without any modern facilities was not able to attract the students in spite of low fees collected. The school authorities desperately felt that a new building with modern facilities is an imperative and immediate solution in order to achieve the mission and aims of the school. The School Management Committee along with NEMI Foundation approached Aurobindo Pharma Foundation seeking support to complete the construction of the school building and for infrastructure. The proposal was considered favourably by APF after assessing the needs and taking necessary approvals by CSR committee.

2.4. Project Objectives

- Ensure quality education at low cost to the poor and the needy living in and around Khairatabad
- Ensure modern facilities and infrastructure to cope up with the latest trend in the sector such as digital education, computer and science-labs, and facilities for sports and extracurricular activities
- Supplement efforts of school to provide education based on ethics, values and principles of Indian culture in line with the mission and aims of the Saraswathi Vidya Mandir High School

2.5. Project Outcomes

The project outcomes include 22 rooms, 4 toilet blocks, south side compound wall and infrastructure such as dual desks, almirahs, teachers' tables and chairs and computer tables and chairs. The project is also able to leverage for additional infrastructure facilities such as air conditioners, LED lights and fans for all 22 rooms, granite flooring for all 22 rooms and corridors, 50 KW solar unit, water cooler, books and sports materials from other donors. The visibility for the school, APF and NEMI Foundation has enhanced after inauguration of the school. The ownership among the teachers and the students has also enhanced which is visible from their sharing.

2.6. Project Cost

The total estimation of the project was about 4.5 Cr for construction of the building including infrastructure. APF has sanctioned 2.68 Cr towards construction of a school building with 22 rooms and 4 toilet blocks. In addition, the furniture like student desks, teachers' tables and chairs, computer tables and chairs and bookshelves were provided.

2.7. Project Constituencies

The girls and boys from the socially and economically poor and marginalised households and the lower middle class families of employees working in various institutions in and around Khairatabad are the project constituencies. These children are studying from Nursery to Tenth class in the school.

2.8. Project Completion and Visibility

The construction was completely taken care of by NEMI Foundation in terms of finalising the contractors, supervising and monitoring of the construction, obtaining necessary permission for the construction etc. The Foundation ceremony (Bhoomi Puja) was held on 6 February 2019 and the project was inaugurated on 30 January 2020. The inauguration was attended by Sri. *Bandaru Dattatreya*, Sri. Nithyananda Reddy, Sri Ramachandra Reddy, School Management Committee (SMC) members, teachers, students, parents and other stakeholders. The print and electronic media has covered the inauguration event. The school has later come out with the brochure to ensure publicity and more visibility to the school.

The construction was completed in just one year period of time. Since the land was earlier part of the Husain Sagar Lake, Raft construction for foundation was done to ensure a strong base for the building. When construction was happening the classes from 3rd to 10th were held in the lab (building behind the girls' toilet blocks) and the nursery, UKG, LKG, 1st and 2nd classes were shifted to the tuition centre nearby

Before and after Construction: The following pictures give an idea on the school building before, during and after construction.



Imgs 4, 5 & 6: School in 1999, Demolition of School, Bhoomi Puja on 6.2.2019



Raft Foundation is a thick reinforced concrete slab which spreads over a large area of soil and provides support for several columns and load bearing walls. It is used when the soil is weak, as it distributes the weight of the building over the entire area of the building, and not over smaller zones (like individual footings) or at individual points (like pile foundations). This reduces the stress on the soil, if it is loose and weak.

Imgs 7 & 8: Construction work begins and Raft Construction



Imgs 9, 10 & 11: View of New Building and School Inauguration on 30 January 2020

3. Physical Infrastructure Facilities

The school management with the support of NEMI Foundation was able to mobilise additional resources for furniture and infrastructure facilities. The details of class rooms, facilities and infrastructure are given below in the table.

#	Facilities before construction	Facilities after construction	Donors
1	18 rooms for nursery to 10 th class and the building was old and partially damaged. Rain water used to get stagnated since the land was earlier	22 spacious rooms (Nursery, LKG, UKG, 1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th , 7 th , 8 th , 9 th and 10 th classes, computer lab, library room, staff room, office room, hall (3	Aurobindo Pharma Foundation

	part of the Husain Sagar lake.	rooms combined) and 2 extra rooms. Currently furniture is stocked and will be used as classrooms when strength increases	
2	The toilet facilities were poor and not adequate for the boys and girls	Four toilet blocks two each for girls and boys in the ground and first floors – each block has five closed toilets and six open urinals	
3	Old furniture such as desks, tables, chairs and shelves	Double desks 150 for the students, shelves 10, teacher tables 10 and chairs 40, and computer tables 10 & chairs 30 (Trident Chemphar Ltd)	
4	South side compound wall was partially damaged	South side wall constructed about 40 metres	
5	Ordinary flooring for rooms and there was no corridor	Granite flooring for all 22 rooms and corridors	
6	Old fans and no air conditioning in classes	All 22 rooms are sufficiently air conditioned (36 units) & 56 fans	
7	No solar unit	50 KW capacity solar unit installed in April 2021 to generate power for meeting all the requirements	NEMI Foundation
8	No Projector and TV	TV and Projector in the meeting hall in the ground floor	
9	Ordinary tube lights	LED lights and bulbs	
10	150 litres of water purchased every day from the nearby RO water plant @ 25 litres@Rs.10	New Water Cooler established during the last week of April 2021.	Chopra Automobile Finance Private Ltd
11	No sports materials	Sports materials- Carrom Boards 5, Chess Boards 5, Volleyball 5, Shuttle 5 sets , cricket kit 1	Deloitte



Imgs 12, 13 & 14: Play Ground, Toilet blocks and Computer lab

Other Facilities: Though the mid-day meals provision was offered, the school did not opt for it and encouraged the students to bring their own food and water. The public transport facilities are available easily to reach the school since it is located in the heart of the city. For most of the students, it is a walkable distance to the school. The school has two bore wells (heavy 6 inch and normal 1.5 inch) with an overhead tank with a capacity of 1000 litres. The school organises eye camp and health camp every year in the school premises. The 50 KW solar unit installed will start producing electricity very soon and will be able to meet the entire requirement of the school (lights, fans and air conditioners, computers, labs, ground, pumping of bore water to overhead tank etc.). APF support to compliment these facilities further brings a face lift to the school



4. Staff

There are 16 teaching staff members (6 male and 10 female). The non-teaching staff members are 9 (5 male and 4 female). The teachers work with their dedication and commitment to serve the poor. Guru Puja takes place every year on Teachers Day and each teacher is awarded as the best teacher. The improved ambience through construction of class rooms and additional infrastructure surely motivate the teachers.

5. Students and their Performance

The students coming to the school mostly belong to the middle and lower middle class consisting of private employees, municipal workers, waste pickers, sweepers, daily wage labourers and migrant families living in and around Khairtabad. The strength of the school has declined due to reasons mentioned above in the section. The introduction of English medium in 2017 has resulted in an increase of students by 40%. The strength has declined by 29% in 2019-20, due to Covid 19. The following tables give the students strength class wise and sex wise from 2015 to 2020. The percentage of girls (55%) is higher than the boys since the

parents prefer the boys to attend private schools due to prevailing patriarchal mindset and thoughts in the society.

	2015-16		2016-17		2017-18		2018-19		2019-2020	
Class	Fee	Strength	Fee	Strength	Fee	Strength	Fee	Strength	Fee	Strength
Nursery	480	13	500	43	550	57	750	26	750	26
LKG	520	29	540	22	550	53	750	57	750	23
UKG	550	20	570	24	580	29	780	47	780	29
1 st	630	18	650	29	650	34	850	29	850	28
2 nd	660	14	680	21	690	39	890	31	890	35
3 rd	690	14	720	14	740	31	940	36	940	16
4 th	720	7	750	21	760	20	960	30	960	22
5 th	750	17	770	6	780	25	980	20	980	19
6 th	760	9	780	15	800	10	1000	19	1000	19
7 th	770	10	790	12	820	11	1020	17	1020	11
8 th	780	13	810	24	850	17	1050	14	1050	13
9 th	820	11	850	13	900	24	1100	15	1100	9
10 th	900	13	950	13	1000	13	1200	23	1200	13
Stre	ngth	188		257		363		364		263

School Strength Class Wise (2015-2020)

Performance 10th Class

•••••				Voar	Appoared 10 th	Dassod
Year	Boys	Girls	Total	Tear	Appeared 10	r asseu
0045.40			100	2015-16	12	12
2015-16	83 (44%)	105 (56%)	188	2016 17	12	12
2016-17	110 (43%)	147 (57%)	257	2010-17	13	13
2010 11			201	2017-18	23	23
2017-18	167 (46%)	196 (54%)	363	2010 10	00	00
2018-10	174 (48%)	100 (52%)	364	2018-19	09	09
2010-13	17 + (+070)	130 (32 /0)	50-	2019-20	09	09
2019-20	124 (47%)	139 (53%)	263	2010 20		00

The new building, its ambience and the latest and modern facilities shall attract more students in coming years. The capacity of the new building is 520 students. Due to Covid 19, all the students were declared pass in the year 2019-2020. The teachers need to be trained and focused on modern methods of teaching and instituting learning methods. Improved teaching methods and 100 percent results in 10th class also will attract more students to the school.

Sponsorships and donations: There is an additional support to school through scholarships by NRIs and other donors. The school authorities mentioned that every year, the fees collected will be amounting to 85 to 90 percent only and hence the donations are raised to address the gap. The school is not affiliated to the government.

Impact of Covid 19: The functioning of the school has been affected due to Covid pandemic and currently due to the second wave surge. The management has created awareness among the students and their parents and also others such as Municipal workers and police on the safety measures. The school also distributed masks and sanitizers to 200 members of police and municipal workers. The school functioned from 1st February to 15 March 2021 and the classes held only for 6th to 10th classes. About 42 students out of 56 attended the classes. The school does not provide online classes currently due to lack of Smartphone facilities available with the students and the teachers are also not equipped to take online classes. It is essential that the school needs to get internet connectivity and facilities to conduct online classes.

6. Existing Committees at School level

School Management Committee is completely responsible for the maintenance of the Saraswathi Vidya Mandir High School. The School does not have Internal Complaints Committee to address sexual harassment, Child Protection Committee to prevent any child sexual abuse, grievance cell to address any sort of grievances and Career Counselling Cell to provide options for the tenth class students on completion of their studies. The school with the support of Free Masons Club provides career counselling to the students every year. External resource persons are invited for a day to give career counselling and guidance to 10th class students.

7. Visible Changes

The new building with 22 classrooms and 4 toilet blocks has resulted in changes in the functioning of school. The management and the staff have reported the following changes due to APF intervention.

Particulars	Before	After	APF value addition
19.Separate	No	Yes	There were not adequate rooms for all classes from
room for			nursery to 10 th classes and now each class has a
each class			room with all facilities. The rooms are spacious and
00.14	NL-	N _a a	hence there will not be any overcrowding.
20. Meeting	INO	res	Now there is a big meeting hall (three rooms are
room, staff			made into one nail) and at a time 500 can attend the
room etc.			are there for staff admin library and learning
			computers There are two extra rooms which can
			be used when strength increases.
21. Cooking in	No	No	The mid-day meal was not opted by the school and
open place			students bring their own food and water.
& dining			
22 Eurniture in	limited	Yes	There is adequate furniture in all the classrooms
	mintou	100	and desks and few classes are to be received
	No	No	There is no dising hell and students act in the
23. Furniture in	INO	INO	classrooms or in the ground. The wash area with
dining hall			adequate tans will be made available soon
24 Urination in	No	No	As there are a good number of separate toilets for
the open			boys and girls with water connection there is no
fields			open urination and defecation practices, and the
neius			grey water is connected to the septic tank.
25. Compound	Yes	Yes	As there is a security guard, no question of
wall			trespassers allowed into the campus. School has
			compound wall for three sides and no side fencing
			(adjacent to the park)
26. Sanitation	Yes	Yes	The campus is clean and neat. There are adequate
/hygiene			workers to maintain cleanliness and sanitation in
			and good seating space between the students, the
			personal hydiene of the students is good
27 Playaround	Yes	Yes	Levelling is to be done and plantation is to be taken
			up
	1		8

8. Voices of Stakeholders

About 17 people were physically and virtually interviewed (Secretary, Treasurer, Coordinator, non-teaching staff, teachers, students and their parents and their views on the impact of the new school building and facilities are given below.

"Our dream of having a model school with spacious class rooms and latest facilities has come true"

"SVMHS is now positioned itself equivalent to Corporate schools in providing moderi education to the students"

'SVMHS always provides education to the poor and the needy children. The new building and facilities now will enable us to provide dedicated and quality education at low cost to the poor and the needy"

'We feel proud in making the dreams of the poor children come true with this new building and latest facilities, we hope that our strength would grow drastically in the coming years'

"Quality of construction is very good and the ambience is appealing and our school management ensures transparency and accountability in terms of the maintenance and other aspects"

"We immensely thank NEMI Foundation and Aurobindo Pharma Foundation for their contribution and making our dream and children's dream come true'

"We will introduce modern teaching methods and extracurricular activities to make the education holistic, value based and useful for the career and life of the children' "We feel happy and proud in sending our children to the school, which provides education at low cost; at times we are not able to pay fees due to our poor economic conditions and survival"

"Our heartfelt thanks to the school management for ensuring such a beautiful building for our children to study and grow"

"Our children are highly privileged in studying a school like SVMHS, which is student centric - always think of poor children and their studies'

"I feel proud to say that I am studying in SVMHS" and I am indebted to my teachers, management and the donors who supported the construction of such a beautiful building with all facilities which we poor student could never imagine"

"Our school informed that we can study in the school itself after school hours till whatever time we want to study (at no cost)"

"Our teachers are our Guru who teach us not only education but values and principles in life'

"Our school is at a beautiful location on the bank of the Husain Sagar Lake and surrounded by parks. We are lucky to study in such a school"

'Our school is now fully equipped and spacious, and very soon will be equipped with the labs, library and digital facilities"

"Our school premises is always neat and clean with adequate toilet and water facilities"

9. Conclusions and Recommendations

Conclusion: The school construction is strong and the ambience is very appealing. The objective of providing quality and modern education at low cost to the poor and needy students has been fully achieved. With the construction of a new building with spacious class rooms, it became easier for the school management to convince other donors and sponsors to support necessary facilities and infrastructure for the school. This objective has also been fully achieved. With the construction of a new building for the school, the mission and aims of the SVMH will be fully accomplished in coming years. There is a lot of scope for more students to join in coming years since the school facilities are better than private schools. The idea of having such a school for the poor and needy children is materialised due to the efforts taken up by the school management and the timely support rendered by Aurobindo Pharma Foundation and NEMI Foundation respectively.

The **immediate plans** for the school are: i) complete the levelling of the playground and the courts for volleyball, kabaddi, kho-kho game and plantation around; ii) complete the plumbing and finishing works in the toilets; iii) complete the construction of wash area with adequate taps and water connection; iv) setting up of full-fledged library, computer lab, science and maths labs and replacing old computers with new ones and procuring subject and value based teaching books for the library v) arranging digital classroom facilities from Nursery to 10th class;

vi) start generating electricity from the solar unit; vii) mobilise sponsors to address the deficit in fee collections; viii) capacity building to teachers on modern teaching and learning methods; ix) focus on increasing the student strength and their academic performance.

Opportunities for further Improvement and Sustainability are; i) Ensure to attend other supplementary works related to labs, libraries, sports, garden, rainwater harvesting, solar panels etc., ii) leverage funds from donors and sponsors for maintenance and bridging any deficit in fee collections; v) capacitating the teachers in upgrading their knowledge and skills in providing digital education and suitably compensating their skills; vi) establish partnership and collaboration with platforms such as Sriram Foundation; Vande Matram Foundation, Teach India etc.; vii) Formulating and strengthening school management committees, grievance cell etc.; viii) explore to get status of an Aided School; ix) Community campaigning for more enrolment rate and x) career counselling and guidance.

Saraswathi Vidya Mandir High School, with all the efforts mentioned above, will be able to compete with any Corporate School in the Hyderabad city in terms of providing quality education, but at low cost and provide opportunities to the poor and marginalised to excel not only in studies and careers but also to become socially responsible citizens.

The support by **Aurobindo Pharma Foundation** for such educational projects through its CSR activities is contributing in a significant manner towards achieving the goals of our New Education Policy and the goal 4 of the SDGs (Sustainable Development Goals). The investment in ensuring quality education through government and Trust run schools will directly contribute in the poor and the marginalised accessing quality and value based education and indirectly contribute towards alleviating poverty and reducing gender inequality.

Aurobindo Pharma Foundation will ever be remembered and acknowledged by all the stakeholders for its valuable contribution in supporting educational initiatives as part of its Corporate Social Responsibility.

Impact Assessment Study on Government Zilla Parishad High School In Kandi Village & Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u> Impact Assessment Study on Government Zilla Parishad High School In Kandi Village & Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)

Full Report



Mahila Abhivruddhi Society, Andhra Pradesh

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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details			
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,			
	Sangareddy District in 2016-2017			
Project 2	Construction of Government ZP High School, Patancheru Village & Manc			
	Sangareddy District in 2018-2019			
Project 3	Construction of Government ZP High School, Tellapur Village,			
	Ramachandrapuram Mandal, Sangareddy District in 2018			
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,			
	Sangareddy District in 2019-2020			
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairatak			
	Hyderabad in 2019-2020			
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based			
	painting in 16 Government High Schools in Rajanna Sircilla District through			
	Give Foundation in 2018-2019			
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,			
	Duggirala Mandal, Guntur District in 2019-2020			
Project 8	Construction of Skill Development Centre to create employment opportunities			
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,			
	Srikakulam District in 2019-2020			

Objectives of the Assessment Study

- 21. Evaluate the projects for their output, outcome and impact
- 22. Assess the visibility created for the project, local acceptance and ownership
- 23. Assess the perceptions of different stakeholders
- 24. Sustainability for the project

Executive Summary

Title of the Project: Construction of Government Zilla Parishad High School, Kandi Village & Mandal, Sangareddy district, Telangana

Objectives of the Assessment: The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Kandi village. This project is one among the various interventions in the domain of education by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- Determine whether the project has achieved its objectives
- Assess the relevance, efficiency, effectiveness, impact and sustainability of the project

• Provide recommendations for further improvement and sustainability

Assessment Methods: The purpose of the assessment is to determine whether the project has achieved its objectives, and to assess the relevance, efficiency, effectiveness, impact and sustainability of the project. The assessment matrix and corresponding data collection instruments were developed accordingly. The data was collected from both primary and secondary sources through individual interviews with various stakeholders and field visit to the school.

Sample covered:

- Interviews: Held direct interaction with the headmaster, and two teachers, and a semistructured questionnaire was used to capture the responses
- Telephonic interviews: Held virtual interaction with the school management committee members (2), students (5) and their parents (5), and a checklist of indicators was used to capture the responses

Key findings & Impact: The scope of the project was to construct a school building with necessary facilities so that the improved infrastructure will enhance the educational environment. The project also facilitated the construction of a toilet block with separate toilets for girls and boys. The budget for the project was Rs. 1.29 crores. The construction activities were solely funded by APF and the project contributed to 12 classrooms including rooms for virtual classes, staff, Headmaster, laboratory, library and a toilet block. The project also contributed to increased scope to leverage sponsors/support for additional investments.

The scope of the project was mainly determined based on the assessment of the needs of the school. APF intervention as an integrated school program was found very relevant and effective. Due to additional classrooms, there are significant changes in school infrastructure, optimum utilization of infrastructure, adoption of facilities like computer lab, science lab, and library. In the old school building, teachers were forced to cancel classes when it rains due to the poor condition of the school building. With upgraded facilities, English medium was also initiated for classes 6th and 7th to incentivise more students to join the school. Since there is a high preference for English medium education, expanding it to higher classes can help the school in increasing strength. The teachers and school management have actively initiated some awareness generations among communities to address enrolment issues. The Covid pandemic crisis forced them to put such efforts on hold. With the project intervention by APF, the students have access to a secure and improved learning environment. All the consulted stakeholders expressed their satisfaction with the improved conditions in the school. There is good awareness regarding the contribution of APF among the stakeholders.

Opportunities for further Improvement & Sustainability: Based on the findings and observations, the following opportunities for improvement are identified for the school.

- 1. Introduce English medium for all classes as currently English medium is only available for 6th and 7th classes and to recruit qualified teachers for the English medium classes
- 2. As the school has the capacity to accommodate 300 students, the awareness drives need to be planned and executed to increase the enrolment.
- 3. Appoint a librarian and a physical education teacher
- 4. Improve access to materials for sports and games among the students

- 5. Constitute a formal grievance cell and Internal Complaints Committee to address sexual harassment
- 6. Construct rainwater harvesting structures for the school
- 7. Initiate a student volunteering program to develop and maintain school garden/kitchen garden in the campus premise
- 8. Establish a RO water plant for the benefit of the students and teachers
- 9. A crucial factor to improve quality of education through providing needbased training to the teachers
- 10. Explore financial support for effective maintenance of the school building

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

Detailed Report

1. Introduction

1.1. Project Objectives

The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Kandi village, undertaken by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- 7) Determine whether the project has achieved its objectives
- 8) Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- 9) Provide recommendations for further improvement and sustainability

1.2. Research Methodology

The assessment has adopted the following methods to study the above objectives.

- **Physical Visit:** Visited the Government Zilla Parishad High School in Kandi village to verify the available infrastructure facilities
- **Interviews:** Held direct interaction with the headmaster, and two teachers, and a semistructured questionnaire was used to capture the responses
- **Telephonic interviews**: Held virtual interaction with the school management committee members (2), students (5) and their parents (5), and a checklist of indicators was used to capture the responses
- **Review** of school records and reports

1.3. Data Collection

The assessment used both primary and secondary data. Primary data was collected through semi-structured interviews of selected stakeholders. The interviews were conducted in both physical and virtual mode. Secondary data for the assessment was drawn from the reports and records maintained by the school.
1.4. Field Visit

The field visit was made on 27 April 2021 and interacted with the headmaster and two teachers. The virtual interactions of the remaining identified stakeholders were held on 29 and 30 April 2021.

1.5. Data Analysis and Reporting

The data collected from both secondary and primary sources were analyzed. The findings of the assessment are presented as per the objectives.

2. About the Project

2.1. Project Objectives

The main objectives of the project were:

- 4) Construct a school building with all the necessary facilities
- 5) Enhance the educational environment by improving the infrastructure

2.2. **Project Outcomes**

The outcomes of the project are:

- 1) A school building with 6 classrooms, a digital classroom, a library room, a science lab, a computer lab, a staff room and an office room for HM
- 2) A toilet block with separate toilets for girls, boys and staff.



Imgs 1 & 2: Old School Building and New School Building

2.3. Request for Funding

The school was functioning in an old building and there were not enough classrooms. In 2017, Head of the school approached APF with a request and APF has taken up the need assessment, necessary approvals from CSR Committee before project execution.

2.4. Stakeholders

Children, especially from socially and economically disadvantaged communities and the teachers are the primary stakeholders of the project. Majority of the students are from SC and BC communities.

2.5. Project Cost

The budget for the project was Rs. 1.29 crores. The construction activities were solely funded by APF. It took 2 years to complete the construction.

2.6. Other Funding Agencies

After the construction of the school building, the school has received support from other donors like SBI, IIT Hyderabad, and ZPTC (Zilla Parishad Territorial Constituency). The support was to expand the furniture and facilities of the school.

2.7. Project Visibility

The contribution of APF is visibly recognised by the school with a painting of the name and logo on the school building. The furniture contributed by Aurobindo has also been labelled to give recognition. There is a slab placed near the staircase to the second floor. There is also a slab near the old building to mark the initiation of the project.



Imgs 3 & 4: Inauguration Stones

3. Physical Infrastructure Facilities

3.1 Location and accessibility

Government Zilla Parishad High School is located in Kandi Village, Kandi Mandal Sangareddy district. It is located 4 KM towards South from District headquarters Sangareddy and 2 KM from Sangareddy Municipality. The school is located by the side of the main road.

3.2 Classrooms

Currently there are 6 classrooms in the building. The increased number of classrooms has enabled the school to do standard-wise separation of students. They were also able to start English medium for 6^{th} and 7^{th} classes.



Imgs 5, 6 & 7: Classrooms

3.3 Furniture, lights and Fans

All the classrooms have proper ventilation. The classrooms are equipped with adequate furniture, lights and fans. APF has also sponsored furniture for the classrooms.

3.4 Laboratory facilities

The school building has a science laboratory room. The laboratory is equipped with all instruments

3.5 Library

There is a library room which has around 2000 books. The school doesn't have a library facilitator.

3.6 Virtual Classroom

Earlier there was no virtual classroom. With the availability of additional classrooms one room was converted into a virtual classroom. About 80 students can sit comfortably. There is a sound system, digital screen, LCD projector, and desktop.

3.7 Staff Room

The school currently has a staff room for teachers with tables, chairs and cupboards. There is also a separate office room for the HM.

3.8 Toilets

With APF intervention, the school now has a toilet block with separate toilets for girls and boys. There is also a common washing area right outside the toilet block.

Awareness on menstrual hygiene and management was given by the teachers and also by the primary health centre. Sanitary pads were also distributed once. But the programme is not happening on a regular basis.

3.9 Dining Facilities

There is no proper dining area or space for the children. The students use the corridor outside classrooms to sit and have lunch. Akshaya Patra Foundation is providing mid-day meals for the students.

3.10 Playground

There is a ground space available in front of the school building. The school does not have any sports or games equipment for the students.

3.11 Water Facility

There is a water tank with 1000 Its capacity within the school premise. There is no drinking water facility in the school. All the students bring drinking water from their homes in bottles. There is a high need for RO water plant in the campus.

3.12 Gardening and Rain Harvesting Structure

There are some plants maintained in a row right in front of the building. There can be initiatives to develop a garden in the school. Such a program can serve as a student volunteer program so that the students get a chance to contribute their school and thereby take ownership. There is no rain harvesting structure.

3.13 Compound wall

The school has a compound wall with a gate and name board. The school is located within the premises of the Zilla Parishad Office.

Project Outputs

Particular	Before	After	APF value addition	
19. Classrooms	6	12	6 spacious classrooms	
20. Toilet Block	0	1	A toilet block behind the school building,	
			with separate toilets for girls and boys.	
21. Virtual classroom	No	Yes	A room to host 80 students at a time	
22. Staff room	Yes	Yes	A more spacious staffroom; APF has also	
			contributed tables for teachers in the staff	
			room	
23. Office room for HM	No	Yes	Earlier, there was no separate office space	
			for the HM.	
24. Laboratory room	No Yes		Full-fledged laboratory was set up in a	
			separate room. Exclusively used for	
			conducting practical to the students.	
25. Library room	No	Yes	Earlier, there was no library in the school.	
26. Computer Lab	No	Yes	A separate room is allotted as a computer	
			lab. It has 15 desktop systems.	
27. Scope to leverage	No	Yes	New school building gives an increased	
sponsors/support for			scope to leverage additional fund support or	
additional investments			sponsorships. Most of the support received	
			by the school was after the intervention by	
			APF.	

4. Committees

There is a School Management Committee that oversees the functioning of the school. There is no formal grievance cell and sexual harassment cell. They have a career guidance cell, where they invite external resource persons to interact with the students.

5. Staff

The school currently employs 9 teachers; 3 female and 6 male. There are three non-teaching staffs; one male and two females.

Visible Changes					
Particular	Before	After	APF value addition		
28. Classrooms	No	Yes	Each standard has a separate classroom.		
29. Over crowd in class	Yes	No	More classrooms resulted in space availability		
30. Furniture in classrooms	No	Yes	Additional support was received for tables, desks, and cupboards for the classroom after the new building was constructed.		
31. Urination in the open fields	No	No	As there are a good number of separate toilets for boys and girls with water connection there is no open urination and defecation practices, and the grey water connected to the septic tank.		
32. Compound wall	Yes	Yes	The campus is secure with a compound		
33. Sanitation /hygiene	Yes	Yes	The campus is very clean. Owing to furniture in the classrooms and good seating space between the students, the personal hygiene of the students is good.		

6. Visible Changes

7. Student Enrolment and Performance

There are currently 149 students in the school; out of which there are 63 boys and 86 girls. The HM of the school commented that the number of girls is more because parents prefer to send boys to private schools. There is an evident preference to invest more on the education of boys than girls. Students mostly come from Chinnapur, LaxmiNagaram, Kandi and RTA colony. Majority of the students belong to SC and BC communities. But after the project intervention, students from other villages also started to enrol in this school.

Class	Number of Students
VI (English Medium)	26
VII (Telugu)	15
VII (English)	23
VIII (Telugu)	30
IX (Telugu)	34
X (Telugu)	21
Total	149

The school has seen a decrease in enrolment rate over the years, which is a concern for the school management (169 students in 2018-19, 163 students in 2019-20 and 149 students in 2020-21). The school has taken efforts to visit neighbouring communities to create awareness and encourage parents to send their children to government schools. The Covid pandemic has also affected the pupil strength of the school.

After the construction of the new building completed in July 2019, certain measures were taken up to promote English medium in the school. The surrounding villages do not know much about the English medium classes and hence, awareness needs to be created. The Government has also not sanctioned required teachers who can teach in English medium and hence to manage with the existing Telugu medium teachers. As the school has the capacity to accommodate 300 students, the awareness drives need to be planned and executed to increase the enrolment.

The school has a good academic track record. In the last academic year, 100% students passed from 10th class, and three students scored above 9 GPA. 84% of the students who appeared for the 10th class exam (out of a total of 33 students) scored above 80%.

8. Awards and Rewards

Out of the 19 schools under ZPHS Kandi cluster, this school is recognised as the best in Mandal level. One of the teachers, Ms. Latha Rani, has received an award at village level for her efforts and contribution. The school team has won Kho-Kho and Kabbadi at district level.

Particulars	Opinion of students, parents, trustees and VEO		
24. Awareness on	Students and their parents are well aware of the APF contribution		
APF activities	to the school. They notice the prominent painting in their school		
	building and the slab.		
25. Building design	The project intervention has resulted in a significant improvement		
and appearance	in the infrastructure of the school. The stakeholders reported that		
	the local residents' pride in the school was improved after the		
	project intervention.		
26. Secure Learning	Well-constructed school building has improved the learning		
environment	environment for the students. The classrooms are large in size		
	with good ventilation; and adequate furniture. All the		
	stakeholders interviewed expressed their satisfaction with the		
	school building and facilities.		
27. Improvement on	The project intervention has improved access to quality		
access to	education for students from SC and ST communities. Hence, the		
education	intervention can be regarded with high relevance.		

9. Voices of Stakeholders



Img 8: APMAS Interaction with Headmaster at the school

10. Conclusions - Output, Outcome and Impact

The scope of the project was mainly determined based on the assessment of the needs of the school. APF intervention as an integrated school program was found very relevant and effective. Due to additional classrooms, there are significant changes in school infrastructure, optimum utilization of infrastructure, adoption of facilities like computer lab, science lab, and library. In the old school building, teachers were forced to cancel classes when it rains due to the poor condition of the school building. With upgraded facilities, English medium was also initiated for classes 6th and 7th to incentivise more students to join the school. Since there is a high preference for English medium education, expanding it to higher classes can help the school in increasing strength. The teachers and school management have actively initiated some awareness generations among communities to address enrolment issues. The Covid pandemic crisis forced them to put such efforts on hold. With the project intervention by APF, the students have access to a secure and improved learning environment. All the consulted stakeholders expressed their satisfaction with the improved conditions in the school. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

11. Opportunities for further Improvement & Sustainability

The following are the areas to be focused for further improvement of the school

- 1. Introduce English medium classes for all the students as currently English medium is only for 6th and 7th classes and to recruit qualified teachers for the English medium classes
- 2. As the school has the capacity to accommodate 300 students, the awareness drives need to be planned and executed to increase the enrolment.
- 3. Appoint a librarian and a physical education teacher
- 4. Improve facilities and materials for sports and games among the students
- 5. Constitute a formal grievance cell and Internal Complaints Committee to address sexual harassment
- 6. Construct rainwater harvesting structures for the school
- 7. Initiate a student volunteering program to develop and maintain school garden/kitchen garden in the campus premise
- 8. Establish a RO water plant for the benefit of the students and teachers
- 9. A crucial factor to improve the quality of education is capacity of the personnel. Need-based training for teachers can be organised
- 10. Explore periodic financial support for effective maintenance of the school

Impact Assessment Study on Government Zilla Parishad High School In Patancheru Village & Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





Mahila Abhivruddhi Society, Andhra Pradesh

Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

Impact Assessment Study on Government Zilla Parishad High School

In Patancheru Village & Mandal, Sangareddy District, Telangana State

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Full Report





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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details				
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,				
	Sangareddy District in 2016-2017				
Project 2	Construction of Government ZP High School, Patancheru Village & Mandal,				
	Sangareddy District in 2018-2019				
Project 3	Construction of Government ZP High School, Tellapur Village,				
	Ramachandrapuram Mandal, Sangareddy District in 2018				
Project 4	Construction of Government ZP High School at Kandi Village and Mandal,				
	Sangareddy District in 2019-2020				
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairatabad,				
	Hyderabad in 2019-2020				
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based				
	painting in 16 Government High Schools in Rajanna Sircilla District through				
	Give Foundation in 2018-2019				
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,				
	Duggirala Mandal, Guntur District in 2019-2020				
Project 8	Construction of Skill Development Centre to create employment opportunities				
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,				
	Srikakulam District in 2019-2020				

Objectives of the Assessment Study

- 25. Evaluate the projects for their output, outcome and impact
- 26. Assess the visibility created for the project, local acceptance and ownership
- 27. Assess the perceptions of different stakeholders
- 28. Sustainability for the project

Executive Summary

Title of the Project: Construction of Government Zilla Parishad High School, Patancheru Village & Mandal, Sangareddy district

Objectives of the Assessment: The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Patancheru village. This project is one among the various interventions in the domain of education by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- 10)Determine whether the project achieved its objectives
- 11)Assess the relevance, efficiency, effectiveness, impact, and sustainability
- 12)Provide recommendations to ensure sustainability

Assessment Methods: The purpose of the assessment is to determine whether the project of interest achieved its objectives, and to assess the relevance, efficiency, effectiveness, impact and sustainability of the project. The assessment matrix and corresponding data collection instruments were developed accordingly. The data was collected from both primary and secondary sources through individual interviews with various stakeholders and field visit to the school.

Sample Covered: The assessment used both primary and secondary data. Primary data was collected through semi-structured interviews of various selected stakeholders. The interviews were conducted in both physical and virtual mode. Secondary data for the study was drawn from the reports and records maintained by the college. Overall, 14 members were interacted. The direct interaction was with the administration staff and virtual interaction was with the Headmaster, 2 members of the School Management Committee, 5 students and 5 parents.

Key findings & Impact: The scope of the project was to construct a school building with all the facilities so that the improved infrastructure will enhance the educational environment. The budget for the project was Rs. 2.67 crores. The construction activities were solely funded by APF. The project has contributed to construction of 14 classrooms, 120 dual desks and writing boards in all classrooms. The additional value is separate rooms for Staff, Laboratory, office room for HM and a library room.

The scope of the project was mainly determined based on the needs assessment of the school. APF intervention was an integrated program that was relevant and effective. The school is yet to make significant improvement in enrolment rate. English medium was initiated since there is a high preference for English medium education and there was a requirement of additional classrooms. Due to the project intervention by APF, the students have access to a secure and improved learning environment. As the school is exclusively meant for girl children, the upgraded facilities created a secured and comfortable ambience for them and further the school got attention of government and other donors eventually. All the consulted stakeholders are aware of the contribution made by APF and expressed their satisfaction with the improved conditions in the school.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to girl students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education and SDGs- Goal 5 for ensuring gender equality.

Opportunities for further improvement & Sustainability: Based on the assessment findings and observations, the following opportunities for improvement are identified.

- 1. Explore funding to increase the number of classrooms to have separate rooms for both English Medium and Telugu Medium and also to construct a dining facility in the school.
- 2. Having English medium for all classes would further get the attention of surrounding communities.
- 3. Constitute a formal grievance cell to seek suggestions from stakeholders
- 4. Appoint a librarian for effective use of library and related activities
- 5. Ensure dedicated staff for Headmaster, Bioscience, Physical director, Craft teacher, Vocational teacher, Drawing and Music teacher
- 6. Improve access to materials for sports and games for the students

- 7. Initiate a student volunteering program to develop and maintain school garden/kitchen garden in the campus
- 8. A crucial factor to improve the quality of education is capacitating the teachers through organising need-based trainings
- 9. Explore financial support for effective maintenance of the school building

Detailed Report

1. Introduction

1.1. Objectives of the assessment

The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Patancheru village, undertaken by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- Determine whether the project achieved its objectives
- Assess the relevance, efficiency, effectiveness, impact, and sustainability of the project
- Provide recommendations to ensure sustainability

1.2. Research Methodology

The assessment has adopted the following methods to study the above objectives.

- **Physical Visit:** Visited the Government Zilla Parishad High School in Patancheru village to verify the available infrastructure facilities and held direct interaction with the administration staff of the school.
- **Telephonic interviews:** Held virtual interaction with the Headmaster, School Management Committee members (2), students (5) and their parents (5), and a semi-structured questionnaire was used to capture the responses
- **Review** of school records and reports

1.3. Data Collection

The assessment used both primary and secondary data. Primary data was collected through semi-structured interviews of various selected stakeholders. The interviews were conducted in virtual mode. Secondary data for the assessment was drawn from the reports and records maintained by the school.

1.4. Field Visit

The field visit was made on 28 April 2021and the virtual interactions of the identified stakeholders were held on 29 and 30 April 2021.

1.5. Methodology

The data collected from both secondary and primary sources were analyzed. The findings are presented as per the objectives of the assessment.

2. About the Project

2.1. Project Objectives

The main objectives of the project were:

- 6) Construct a school building with all the necessary facilities
- 7) Enhance the educational environment by improving the infrastructure

2.2. Project Outcomes

The outcomes of the project are:

- 1) A school building with 10 classrooms, a science lab, a staff room and an office room for the Headmaster
- 2) 120 dual desks and 14 writing boards



Img 1: New School Building

2.3. Funding Request

The school was functioning in an old building with small classrooms prior to this project intervention. There were also not enough classrooms for the enrolled students. Head of the school approached APF with a request and APF has taken up the need assessment, necessary approvals from CSR Committee before project execution.

2.4. Stakeholders

Children, especially from socially and economically disadvantaged communities are the primary beneficiaries of the project. Further, Patancheru, being an industrial zone, majority of the students enrolled in the school are from migrant families.

2.5. Project Cost

The budget for the project was Rs. 2.67 crores. The construction activities were solely funded by APF and there is no support from donors other than APF.

2.6. Project Visibility

The contribution of Aurobindo Pharma Foundation is recognised by the school with the painting of the name and logo. There is also a stone slab placed near the main entrance of the building.

3. Physical Infrastructure Facilities

3.1. Location and Accessibility

Government Zilla Parishad High School is located in Patancheru village, Patancheru Mandal, Sangareddy district. The school is exclusively for girl students. Patancheru is an industrial zone located about 32 km from the city centre on the Hyderabad-Solapur highway, and around 18 km from HITEC City. The school is located right opposite to the Government Degree College, Patancheru. Both the school and the college share the campus premises.

3.2. Classrooms

Due to project intervention, there are 10 spacious classrooms for effectively conducting teaching sessions.

3.3. Furniture, Lights and Fans

The classrooms are equipped with adequate furniture, lights and fans. The ventilation in the classrooms needs attention. APF has also donated 120 dual desks for the classrooms and writing boards for all the 14 rooms constructed.

3.4. Laboratory Facilities

The school building has a science laboratory room and is equipped with all instruments.

3.5. Library

There is a library room that has around 1000 books and filling a position of a librarian would ensure effective use of library.

3.6. Staff Room

The school currently has a staff room for teachers with tables, chairs and cupboards. There is also a separate office room for the headmaster.

3.7. Toilets

Since the school is all-girls, there is a toilet block for the students with proper water supply in place. Local ANM (Auxiliary Nurse Mid-wife) gives awareness on menstrual hygiene and management once in every three months and at times during morning prayers. ANM also gives awareness on various diseases like malaria and other health issues. Mahita NGO provides sanitary pads to the girls occasionally. The campus is very hygienic and clean.

3.8 Dining facilities

Akshaya Patra Foundation provides mid-day meals for the students. The school needs a proper dining area for the children as the students use the corridor outside classrooms to sit and have lunch now.

3.9. Playground

There is a large ground within the school compound. The students make use of the limited playing materials available.

3.10. Water Facility

In response to a request submitted to local MLA, one RO plant was given as a common unit for the High School, Junior College and Degree College. The school has a bore well too, and the water is used for hand washing and in toilets.

3.11. Gardening and Rain Harvesting Structure

There are some plants maintained in a row right in front of the building. There can be initiatives to develop a garden in the school. Such a program can serve as a student volunteer program so that the students get a chance to contribute their school and thereby take ownership. Rain harvesting structures are present in the main building.

3.12. Compound wall

The school has a compound wall with a gate and name board. As there is a security guard, no guestion of trespassers allowed into the campus.

Particular	Before	After	APF value addition	
28. Classrooms	18	14	14 spacious classrooms in place of 18 earlier smaller	
			class rooms in dilapidated condition	
29. Furniture	-	-	120 desks and writing boards in 14 classrooms	
30. Staff room	Yes	Yes	A more spacious staff room	
31. Laboratory	No	Yes	Full-fledged laboratory was set up in a separate room.	
room			Exclusively used for conducting practical for the	
			students.	
32. Office room	Yes	Yes	There is now a more spacious office room for the	
			headmaster.	
33. Library room	No	Yes	Earlier, there was no library in the school	

3.13. Project Outputs

Committees 4.

There is a School Management Committee that oversees the functioning of the school. The school has an Internal Complaints Committee to address sexual harassment. There is a career guidance cell where external resource persons are invited to speak to the students.

5. Staff

The school currently employs 12 teachers. All the teachers are female. There are 4 nonteaching staff in the school; 2 male and 2 female. Six posts are currently vacant - HM, Bioscience, Physical director, Craft teacher, Vocational teacher, Drawing and Music teacher. No Vidya volunteers were allotted to the school.

6. **Student Enrolment and Performance**

Patancheru is a popular industrial hub. Hence, a good proportion of the students are from migrant families. Though the capacity of the school is 400 students, currently the school has 247 students across classes 6th to 10th. In the last academic year, the school had a 100% pass rate. The Covid lockdown has impacted the enrolment rate in the school during 2020-21. Initiating English medium for all classes will further increase the enrolment in the school and as of now English medium was started for classes VI and VII. Since the building has upgraded facilities due to APF intervention, the school management is expecting to receive the permission to English medium for all the classes soon.

7. Voices of Stakeh	Voices of Stakeholders				
Particulars	Opinion of students, parents, trustees and VEO				
28. Awareness on	Students and their parents are well aware of the Aurobindo Pharma				
APF activities	Foundation contribution to the school. They notice the prominent				
	painting in their school building and the stone slab.				
29. Building	The appearance is good and the intervention has resulted in a				
appearance	significant improvement in the infrastructure of the school.				
30. Secure	Well-constructed school building has improved the learning				
Learning	environment for the students. The campus premises are well				
environment	maintained and clean. All the stakeholders interviewed expressed				
	their satisfaction on the building and facilities.				

T7 •

31. Improvement				
	on	access	to	
	edu	cation		

Patancheru is a fast-growing industrial zone. Such a project intervention has improved access to quality education for the children from the migrant families. Hence, the intervention can be regarded with high relevance.



Imgs 2 & 3: Classrooms in the school

8. Conclusion - Output, Outcome and Impact

The scope of the project was mainly determined based on the needs assessment and the state of the school environment. APF intervention as an integrated school infrastructure program was very relevant and effective. Due to the project intervention by APF, the students and the community have access to a secure and improved learning environment. As the school is exclusively meant for girl children, the upgraded facilities created a secured and comfortable ambience for them and further the school got attention of government and other donors eventually. The school has started its improvement in enrolment rate as they are likely to introduce English medium for all the classes and that would attract more students from local communities especially for migrant families of Patancheru industrial zone. All the consulted stakeholders expressed their satisfaction with the improved conditions in the school. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to girl students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education and SDGs- Goal 5 for ensuring gender equality.

9. Opportunities for further Improvement & Sustainability

The following are the opportunities for improvement

- 1. Source additional funding to increase the number of classrooms More classrooms are required to have separate rooms for both English Medium and Telugu Medium
- 2. Having English medium for all classes would further get the attention of surrounding communities.
- 3. Constitute a formal grievance cell to seek suggestions from stakeholders
- 4. Appoint a librarian to enable the students to make use of the books for enhancing their knowledge and performance
- 5. Ensure dedicated staff for HM, Bioscience, Physical director, Craft teacher, Vocational teacher, Drawing and Music teacher
- 6. Improve facilities and relevant materials for sports & games for the students. There is a lot of scope for developing sports, games and extracurricular activities and the school needs to give equal attention on these aspects.
- 7. Initiate a student volunteering program to develop and maintain school garden/kitchen garden in the campus premise
- 8. A crucial factor to improve the quality of education is the capacity of personnel. Need-based training for teachers can be organised.
- 9. Source additional financial support for effective maintenance of the school building and to install a RO facility and to create dining facility
- 10. Ensure to rectify the leakages and cracks in the walls of the building and close the exposed rods near the staircase to the terrace for safety of children and teachers
- 11. Source additional funds to construct few more classrooms with proper ventilation based on available space for English medium classes and a dining facility in the school.

Impact Assessment Study on Government Zilla Parishad High School In Tellapur Village, Ramachandrapuram Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)





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Plot 11 & 12, HIG, HUDA Colony, Tanesha Nagar, Near Dream Valley, Manikonda, Hyderabad – 500089, Telangana, India. Website: <u>www.apmas.org</u>. Email: <u>info@apmas.org</u>

Impact Assessment Study on Government Zilla Parishad High School

In Tellapur Village, Ramachandrapuram Mandal, Sangareddy District, Telangana State

An initiative of Aurobindo Pharma Foundation through Corporate Social Responsibility (CSR)

Full Report





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2021

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Background of the Assessment Study

Aurobindo, a leading Pharma Company, has established Aurobindo Pharma Foundation (APF) for undertaking CSR activities. The Foundation has undertaken several activities for promoting Education, Preventive Health Care, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking Water, Environment Sustainability, Ecological Balance & Conservation of Natural Resources, Rural sports and setting up Old Age Homes etc. Based on APF request, APMAS has submitted a proposal on 20 April 2021 to undertake an impact assessment of the following eight projects in the states of Telangana and Andhra Pradesh.

Project	Details				
Project 1	Construction of Government Degree College at Patancheru Village & Mandal,				
	Sangareddy District in 2016-2017				
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Project 4	Construction of Government ZP High School at Kandi Village and Mandal,				
	Sangareddy District in 2019-2020				
Project 5	Construction of Saraswathi Vidya Mandir High School in Khairatabad,				
	Hyderabad in 2019-2020				
Project 6	Construction of additional classrooms, compound walls, toilets, theme-based				
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	Give Foundation in 2018-2019				
Project 7	Construction of additional classrooms and dining hall at Chiluvuru Village,				
	Duggirala Mandal, Guntur District in 2019-2020				
Project 8	Construction of Skill Development Centre to create employment opportunities				
	to Rural Pharma Graduates at Varisam Village, Ranasthalam Mandal,				
	Srikakulam District in 2019-2020				

Objectives of the Assessment Study

- 29. Evaluate the projects for their output, outcome and impact
- 30. Assess the visibility created for the project, local acceptance and ownership
- 31. Assess the perceptions of different stakeholders
- 32. Sustainability for the project

Executive Summary

Title of the Project: Construction of Government Zilla Parishad High School, Tellapur Village, Ramachandrapuram Mandal, Sangareddy district

Objectives of the Assessment: The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Tellapur village. This project is one among the various interventions in the domain of education by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

13)Determine whether the project achieved its objectives

14)Assess the relevance, efficiency, effectiveness, impact and sustainability of the project 15)Provide recommendations to ensure sustainability

Assessment Methods: The purpose of the assessment is to determine whether the project has achieved its objectives, and to assess the relevance, efficiency, effectiveness, impact and sustainability. The assessment matrix and corresponding data collection instruments were developed accordingly. The data was collected from both primary and secondary sources through individual interviews with various stakeholders and field visit to the school.

Sample covered:

- Interviews: Held direct interaction with the Headmaster, two teachers, two students and two parents, and a semi-structured questionnaire was used to capture the responses
- Telephonic interviews: Held virtual interaction with the school management committee members (2), students (3) and their parents (3), and a checklist of indicators was used to capture the responses

Key findings & Impact: The scope of the project was to build a school building with all the necessary facilities so that the improved infrastructure will enhance the educational environment. The budget for the project was Rs. 2 crores. The construction activities were solely funded by APF. The construction activities officially commenced on 5 June 2017 and it was completed within a remarkable time frame of 10 months. The direct value addition by the project is 12 classrooms, virtual classroom, staff room, laboratory room, and increased scope to leverage sponsors/support for additional investments.

The scope of the project was mainly determined based on the assessment of the needs of the school. APF intervention as an integrated school program, was very much relevant and effective. The school has seen consistent increase in enrolment and performance over the years. Due to additional classrooms, there are significant changes in school infrastructure, optimum utilization of infrastructure, adoption of digital classroom, and facilitating classrooms as teaching aid. The students now have access to a secure and improved learning environment.

The consistent increase in the enrolment and performance of students indicate the relevance, effectiveness and efficiency of the project. All the consulted stakeholders expressed their satisfaction with the improved conditions in the school. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

Opportunities for further Improvement & Sustainability: Based on the observations and findings, the following opportunities for improvement are identified.

- 1. The school has done one batch of spoken English classes. Similar initiatives can be taken up to enhance the soft skills of the students.
- 2. The school may explore to introduce English medium
- 3. School may develop a strategic plan to achieve the goals as per their vision.

- 4. Constitute a formal grievance cell and internal complaints committee to prevent any sexual harassment issues that might emerge
- 5. Constitute a career guidance cell so that the students get access to regular academic guidance
- 6. Establish a RO water plant for the benefit of students and teachers
- 7. Improve facilities and materials for sports and games among the students
- 8. A crucial factor to improve quality of education is capacitating the teachers with needbased trainings
- 9. Explore funding for effective maintenance of the school building
- 10. Equip with sports materials for the students to get involved in more sports and games and also in extracurricular activities.

Detailed Report

1. Introduction

1.1. Assessment Objectives

The assessment aims to study the impact of the construction of Government Zilla Parishad High School in Tellapur village, undertaken by Aurobindo Pharma Foundation (APF) under its CSR activities. The following are the broad objectives of the assessment:

- Determine whether the project has achieved its objectives
- Assess the relevance, efficiency, effectiveness, impact and sustainability of the project
- Provide recommendations to plan the approach ahead

1.2. Research Methodology

The assessment has adopted the following methods to study the above objectives.

- **Physical Visit:** Visited the Government Zilla Parishad High School in Tellapur village to verify the available infrastructure facilities
- **Interviews:** Held direct interaction with the headmaster, two teachers, two students and two parents, and a semi-structured questionnaire was used to capture the responses
- **Telephonic interviews:** Held virtual interaction with the school management committee members (2), students (3) and their parents (3), and a checklist of indicators was used to capture the responses
- **Review** of school records and reports

1.3. Data Collection

The assessment used both primary and secondary data. Primary data was collected through semistructured interviews of various selected stakeholders. The interviews were conducted in both physical and virtual mode. Secondary data for the assessment was drawn from the reports and records maintained by the school.

1.4. Field Visit

The field visit was made on 27 April and interacted with the headmaster, two teachers, two students and two parents. The virtual interactions of the remaining identified stakeholders were held on 29 and 30 April 2021.

1.5. Data analysis and Reporting

The data collected from both secondary and primary sources were analyzed. The findings of the assessment are presented as per the objectives.

2. About the Project

2.1. Project Objectives

The main objectives of the project were:

- 8) Construct a school building with all the necessary facilities
- 9) Enhance the educational environment by improving the infrastructure

2.2. Project Outcomes

The outcome of the project is a school building with 8 classrooms, a digital classroom, a science lab, a staff room and an office room for the headmaster.



Img 1: New school building on the day of the Inaugural function

2.3. Request for Funding

The school was functioning in an old building, which was constructed in 1952. There were not enough classrooms with respect to the enrolled students. Head of the school approached APF with a request and APF has taken up the need assessment, necessary approvals from CSR Committee before project execution.

2.4. Stakeholders

Children, especially from socially and economically disadvantaged communities are the primary beneficiaries of the project. Tellapur, being an industrial hub, majority of the students enrolled in the school are from migrant families.

2.5. Project Cost and Visibility

The budget for the project was Rs. 2 crores and the construction activities were solely funded by APF. The construction activities officially commenced on 5 June 2017 and completed within 10 months.

2.6. Project Visibility

The contribution of APF is visibly recognised by the school with a painting that states 'Sponsored by Aurobindo,' along with the logo on the school building. There is also a slab placed near the staircase to the second floor.



Img 2: New School Building during Inauguration



Imgs 3 & 4: Inauguration Stones

2.7. Other funding agencies

The school has received support from various donors across the years that reflects collaborative and convergence approach of the school.

#	Name of the Donor	Support Received	Amount	Month & Year
1	C. Prabhakar Reddy,	Revolving chair and table	10,000	August 2014
	Mandal Vice President	for office room		
2	Mallepally Somi Reddy,	Prize distribution to the	10,000	August 2014
2	Sarpanch, Tellapur	winners of sports		
2	2013-14 Batch SSC	Podium	6 500	2016
5	Students	Foulum	0,500	2010
1	M. Hanmanth Rao, SA	Pack for library	7500	Soptombor 2016
4	(ENG), Tellapur	Rack for library	7500	September 2010
5	Principal, Manthan	Library Room Construction		Echruczy 2017
5	International School	LIDIALY ROOM CONStruction		February 2017
6	Aurobindo Pharma	New School Building	2 00 00 000	April 2018
0	Foundation	construction	2,00,00,000	

7	Saifuddin, farmer, Tellapur	Water cooler and pots	12,000	June 2018
8	Disha Charitable Trust of Franklin Templeton Company Employees	Notebooks to students		June 2018
9	Mallepally Somi Reddy, Sarpanch, Tellapur	Study material to 10 th class students, Cycles to 36 students, Sponsored Annual day		March 2019
10	Nielsen India PVT. LTD. Infrastructure for classroom			June 2019
11	Disha Charitable Trust of Franklin Templeton Company Employees	Notebooks to students		July 2019
12	Bondili Prakash Singh Takur	Amplifier	4,000	January 2019
13	Anantha Reddy, Tellapur	Prizes to students	10,000	August 2019
14	M. Somi Reddy, Ex Sarpanch, Tellapur	Prizes to students for sports	10,000	August 2019
15	Y. Rajaiah, Retd. HM	Cash prizes to rank holders in VII, VIII & IX classes	10,000	August 2019
16	M. HanmanthRao, Retd. Engineer,Tellapur	Cash prizes to SSC 2018- 19 I&II Rank students		August 2019
17	SMARAN NGO through Asian Paints PVT. LTD.	Roof water harvesting structures	3,50,000	December 2019
18	HSBC	BC Computers		February 2020
19	Dr.Prakasam, Retd, Professor, EFLU	Reading Tables		September 2020
20	Children of Justice, Dr.Pingle Jagan Mohan Reddy	Reading Tables, Book Shelves, 600 Books for library		September 2020
21	Salesforce	Construction of girls toilet		October 2020
22	School HM and Staff	Saraswati idol		February 2021
23	Youth for Seva	Table for teachers and bookshelves for classrooms		March 2021

3. Physical infrastructure facilities

3.1. Location and accessibility

Government Zilla Parishad High School is located in Tellapur village, Ramachandrapuram Mandal, Sangareddy district. Tellapur is one of the fastest growing locales in Hyderabad Metropolitan Region owing to its close proximity to IT hub and Outer Ring Road. The area is evidently a fast developing region with robust construction activities. The school is located around 8 km from Lingampally and 4

km from ORR. Students mostly come from Indra Nagar, Usman Nagar, MIG, Tellapur, Tanda, and Nallagandla areas. The students mostly avail the public transport facilities to reach the school.

3.2. Classrooms

The old school building had only 6 classrooms. Currently, there are 12 classrooms. It was interesting to see that each room in the school building was named after a famous personality. Students can easily spot the photos and names of the selected personalities near the entrance of each room.



Imgs 5, 6 & 7: Entrance to Classrooms

The teachers have evidently put an effort in making the classrooms as a facilitating aid for the students' learning. All classrooms have age-appropriate charts, both academic and general. There are also inspirational quotes painted on the wall in English and Telugu.



Img 8: Classroom with furniture, charts and inspirational quotes

3.3. Furniture, Lights and Fans

All the classrooms have proper ventilation. The classrooms are equipped with adequate furniture, lights and fans.

3.4. Laboratory facilities

The school building has a science laboratory room. The laboratory is equipped with all instruments

3.5. Library

There is a small library building, adjacent to the main school building. The library has over 2000 books. There are also reading tables in the library room.

3.6. Virtual classroom

The digital classroom in the school can host 70 students at a time. The classroom is used for showing videos and virtual lectures to the students. They also host academic events in this classroom.



Img 9: Digital classroom

3.7. Staff Room

The school currently has a staff room for teachers with tables, chairs and cupboards. There is also a separate office room for the headmaster.

3.8. Toilets

The school has separate toilets for girls and boys with proper water supply in place. There is also a common washing area right outside the toilet block.

Awareness on menstrual hygiene and management is generally given by PT teacher, who is well aware and committed. Also, district team from the Paediatric Academy of Telangana State came to give awareness on menstrual hygiene, and distributed pads as well.

3.9. Dining Facilities

There is no proper dining area or space for the children. The students use the corridor outside classrooms to sit and have lunch. Akshaya Patra Foundation provides mid-day meals to the students.

3.10. Playground

There is a large ground within the school compound. The students do make use of the limited playing materials available.

3.11. Water Facility

There is a water tank with 2000 litres capacity within the school premise. There is no drinking water facility in the school. All the students bring drinking water from their homes in bottles. There is a high need for RO water plant on the campus.

3.12. Gardening and Rain Harvesting Structure

There is a well maintained garden, which gives a warm and pleasant atmosphere. The trees in the campus premises add to the environment. Rain harvesting structures are also exist in the main building.

3.13. Compound Wall

The school has a compound wall with a gate and name board.

Particular	Before	After	APF value addition
34. Classrooms	6	12	12 spacious classrooms
35. Virtual classroom	No	Yes	A room/hall that can host 70 students
36. Staff room	Yes	Yes	A more spacious staff room
37. Laboratory room	No	Yes	Full-fledged laboratory was set up in a separate room. Exclusively used for conducting practicals to the students.
38. Office room for HM	Yes	Yes	There is now a more spacious office room for the headmaster and it has furniture to host teachers' meetings.
39. Scope to leverage sponsors/support for additional investments	Yes	Yes	After the new school building, there is an increased scope to leverage additional funds or sponsorships. Many donors came forward to support the school since 2017.

3.14. Project Outputs and Outcomes

4. Committees

There is a School Management Committee (SMC) that oversees the functioning of the school. There is no formal grievance cell and a committee to prevent sexual harassment. The principal reported that students have a sound space and healthy relationship with the teachers to raise any such complaints. There are number of other committees constituted with the involvement of representatives from both students and teachers. The committees formed to ensure various tasks are; Medical & Sanitation Committee; Mid-day Meal Committee; Clean & Green Committee; Library Committee; Science Lab Committee; and Discipline Committee.

5. Staff

The school currently employs 9 teachers; 8 female and 1 male. There is one non-teaching staff as well. Currently, there is no vacant position in the school. The school currently conducts Spoken English courses for the students. The classes are conducted by external resource persons and the students can also avail one-to-one training. One batch of training was completed and it is currently on hold since regular classes are suspended due to Covid crisis.

6. Visible Changes

Particular	Before	After	APF value addition
34. Separate room for	No	Yes	Each standard has a separate classroom.
each class			
35. Overcrowding in	Yes	No	There is no over crowing in the classrooms now
classrooms			due to spacious classrooms
36. Furniture in	No	Yes	Received tables, desks, and cupboards for
classrooms			classrooms after the new building was
			constructed.
37. Urination in the	No	No	As there is a good number of separate toilets for
open fields			boys and girls with water connection there is no
			open urination and defecation practices. The
			grey water is connected to the septic tank.
38. Compound wall	Yes	Yes	As there is a security guard, there is no question
			of trespassers allowed into the campus
39. Sanitation	Yes	Yes	The campus is very clean and green. Owing to
/hygiene			furniture in the classrooms and good seating
			space, the personal hygiene of the students is
			good.

7. Student Enrolment and Performance

The school has seen a consistent increase in enrolment since 2017.

Academic Year	Number of Boys	Number of Girls	Total
2014-15	87	103	190
2015-16	77	96	173
2016-17	86	104	190
2017-18	95	116	211
2018-19	126	134	260
2019-20	139	155	294
2021-21	140	162	302

There are more number of girl students than boys. This is due to the preference to invest more in boy's education by sending them to a private school. Along with enrolment, there has been a clear positive trend in performance also. In the last academic year, the school achieved a 100% pass rate in 10th standard and from the data it is clear that the performance has been increasing over the years.

Academic Year	No. of students appeared	No. of students passed	Pass %
2015-16	30	21	70
2016-17	27	20	74
2017-18	21	18	86
2018-19	41	37	90
2019-20	42	42	100

8. Awards and Rewards

The teachers actively encourage students to participate in extracurricular activities. The students of the school received many awards in both sports and arts. Even during the lockdown due to covid pandemic, teachers share information and encourage students to participate in virtual competitions.





Imgs 10 & 11: Awards received by students

Painting activity by students

9. Voices of Stakeholders

Particulars	Opinion of students, parents, trustees and VEO		
Awareness on APF	Students and their parents are well aware of the Aurobindo		
activities	Pharma Foundation contribution to the school. They notice the		
	prominent painting in their school building and the stone slab.		
Building design and	The project intervention has resulted in a significant improvement		
appearance	in the infrastructure of the school. The stakeholders reported that		
	the local residents' pride in the school was improved after the		
	project intervention.		
Secure Learning	Well-constructed school building has improved the learning		
environment	environment for the students. The classrooms are large in size		
	with good ventilation; and adequate furniture. The campus		

	premises are well maintained and clean. All the stakeholders interviewed expressed their satisfaction with the school building and facilities.
Promoting	Since each standard has a separate classroom, the room has been effectively used as a learning aid. There are charts and
teaching aid	inspirational quotes according to learning levels in all the
	classrooms.
Improved access to	Tellapur is a fast-growing region with a high inflow of migrant
education	labour to the region. Such a project intervention has improved
	access to quality education for the children from the migrant
	families. Hence, the intervention can be regarded with high
	relevance.



Imgs 12 & 13: APMAS team Interaction with the students

10. Conclusions - Output, Outcome and Impact

The scope of the project was mainly determined based on the assessment of the needs of the school. APF intervention was an integrated school program that was relevant and effective. The school has seen consistent increase in enrolment and performance over the years. Due to additional classrooms, there are significant changes in school infrastructure, optimum utilization of infrastructure, adoption of digital classroom, and facilitating classrooms as teaching aid. The students now have access to a secure and improved learning environment.

The consistent increase in the enrolment and performance of students indicate the relevance, effectiveness and efficiency of the project. All the consulted stakeholders expressed their satisfaction

with the improved conditions in the school. There is good awareness regarding the contribution of APF among the stakeholders.

The study shows that APF intervention has made a significant contribution in enhancing the educational environment by improving the infrastructure thus the increased accessibility to quality education to students from backward communities. Hence, the intervention is also contributing towards achieving the national goals and SDGs – Goal 4 in terms of providing quality education.

11. Opportunities for further Improvement & Sustainability

The following are the areas for further improvement

- 1. The school has done one batch of spoken English classes. Similar initiatives can be taken up to enhance the soft skills of the students.
- 2. The school may explore to introduce English medium
- 3. As the school development plan has a vision statement, they may develop as strategic plan to achieve the goals.
- 4. Constitute a formal grievance cell and internal complaints committee to prevent sexual harassment related issues that might emerge
- 5. Constitute a career guidance cell so that the students get access to regular academic guidance
- 6. Establish a RO water plant for the benefit of students and teachers
- 7. Improve access to materials for sports and games among the students
- 8. A crucial factor to improve the quality of education is the capacity of personnel. Needbased training for teachers can be organised
- 9. Explore periodic financial support for effective maintenance of the school building
- 10. Equip with sports materials for the students to get involved in more sports and games and also in extracurricular activities