

SUSTAINABLE DEVELOPMENT BY SUSTAINABLE METHODS IN MODEL VILLAGE-A PRACTICAL APPROACH IN IBRAHIMPUR VILLAGE FROM SIDDIPET DISTRICT OF TELANGANA STATE(INDIA)

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Abstract : Sustainable Development is an approach to growth and human development that aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. The aim is to have a society where living conditions and resources meet human needs without undermining planetary integrity. The success of implementing Sustainable Development in villages is the hope of the government to accelerate the achievement of sustainable development goals at the National level. The key to success in changing the development order in the village lies in adaptive village institutions. Ibrahimpur is model village from Siddipet District of Telangana State (India) where the villager adopted sustainable practices which are resulting in Sustainable Development. These practices like waste to wealth, renewable energy practices like using solar energy, maintaining soak pits in each house for water conservation, supply of clean drinking water to every house hold, education in village, open Gym ,village parks , tree plantation, having infrastructure like warehouse and maintaining operational toilets which avoids open defecation. Development activities in the development plan have supported the achievement of sustainable village development.

INTRODUCTION

Sustainable Development is an approach to growth and human development that aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. The aim is to have a society where living conditions and resources meet human needs without undermining planetary integrity.

The 2030 agenda for sustainable development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and integrity for people and planet, now and into the future. There 17 sustainable development goals, which are an urgent call for action by all countries developed and developing in a global partnership. They recognize that ending poverty and other deprivations go hand in hand with strategies that improve health and education, reduce inequality and encourage economic growth all while taking climate change and working to preserve our oceans and forests.

Ibrahimpur is model village from Siddipet District of Telangana State (India) where the villager adopted sustainable practices which are resulting in Sustainable Development. The village consists of 265 houses with 1051 population(2011 Census). These practices like waste to wealth, renewable energy practices like using solar energy, maintaining soak pits in each house for water conservation, supply of clean drinking water to every house hold, education in village, open Gym ,village parks , tree plantation, having infrastructure like warehouse and maintaining operational toilets which avoids open defecation. Development activities in the development plan have supported the achievement of sustainable village development.

These sustainable activities are followed through by implementing scheme like PURA(providing Urban Amenities in Rural Areas), MGNAREGA , Swatcha Bharat Aayan and Haritha Haram Schemes. These Schemes are sponsored by Central and State Governments.

2. Literature Review

2.1 Theoretical Framework

The concept of sustainable development formed the basis of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The summit marked the first international attempt to draw up action plans and strategies for moving towards a more sustainable pattern of development. The summit was also attended by representatives from a range of other organisations representing civil society. Sustainable development was the solution to problems of environmental degradation discussed by the Brundtland Commission in the 1987 report Our Common Future.

2.2 Historical Context

Traditional village systems historically incorporated sustainable practices through indigenous knowledge systems, crop rotation, community resource management, and traditional governance structures. However, modernization processes often disrupted these

systems, leading to environmental degradation and social fragmentation. Contemporary sustainable development efforts seek to integrate traditional wisdom with modern technologies and approaches.

2.3 Contemporary Approaches

Sustainable Development suggests making the world a better place for everybody to live now, while not destroying the chances for a consecutive generation. The three things for sustainable development thought to be illustrious are social progress, economic development, and climate and surroundings. India has more than 6 lakhs villages in its 28 states. Each state government launches specific programs to uplift the economic status of rural sectors. According to 2011 census data, 68.84 percent of the country's people lives in rural areas.

3. Methodology

This research employs a mixed-methods approach combining systematic literature review with case study analysis. Village development projects focusing on interventions implemented between 2010-2024.

Selection criteria for case studies included:

- Implementation of integrated sustainable development approaches
- Documented outcomes and impact assessments
- Community participation in project design and implementation
- Environmental sustainability components
- Economic viability and social equity considerations.

4. Sustainable Practices In Ibrahimpur Village

4.1 Grey water management through Soak Pits

A soak pit is a porous chamber constructed underground to manage excess water. It allows water seep through its walls and into the ground. Where natural filtration process remove contaminants. Typically soak pits are filled with gravels, stones, or bricks to enhance percolation. The soak pits allows water to percolate into the surrounding soil, prevent water logging and reduce environmental contamination. It is cost effective that it requires minimal construction material and labour. It is eco-friendly which reduces surface water pollution by allowing natural filtration. It enhances ground water level by percolating waste water into soil. It takes up little land area compared to drainage fields. In the view of all these considerations each house in village has built its own soak pit. This also fulfills Sustainable development Goal 6 and 12.



1. Soak pit in Ibrahimpur village

4.2 Renewable Energy

Energy is prerequisite condition for development. We must highlight the need for societies to use energy in sustainable way. This study examines social behavior and energy practices of model village. House hold income also influenced the behavior of house holders with regard to energy saving. The village embraced renewable energy much ahead of even cities. Solar electricity is supplied to each household in the village and also to the gram panchayat building. Every house is using led blubs to save the energy. This will provide interrupted power supply and also reduces power bill. The village street lights also powered with solar energy. Which fulfills Sustainable Development Goal 7.



2. Solar panel which generates renewable energy.

4.3 Plantation in Village

Ibrahimpur has given top priority for environment protection and sustainability. The village has created a record by planting on lakh plants in one day as part of Telangana Government flagship programme “Haritha Haram”. The entire village covered under the green shade. So far 2,50,000 plants have been planted in the village during last five years. All the open spaces in the village are converted in to mini parks by planting almost 30 thousand plants. One Lakh plants have been planted in block plantation. 20 thousand plants are in ‘avenue plantation’. Every household is provided with a neem plant and five other plants. All the villagers were educated to safeguard the plants. As result 70% of plants are surviving till today. One Lakh plants were planted in ‘bund plantation’. During the summer the average temperature in the village is observed to be 2 degrees less compared to the surrounding villages. Its fulfills the Sustainable Development Goals 13, 15 and 17.



4.4 Water Storage and Management

The village has 21 farms ponds, which collect excess water during the rainy season and water can be stored for summer as well. Stored water can be used for supplemental irrigation to crops and its is useful as drinking water for cattle during drought situations. A black plastic cover with lining ensured no leakage of water. All the farm lands strategically located so that they can collect running water from the rain and the inlet and outlet were also provided so that any excess water can overflow from the pond. Free flow of water was ensured by collecting slit at inlet points. The farmers of Ibrahimpur are successfully utilising the facilities being created and from then development in the village is clearly visible. Five check dams have been constructed in Ibrahimpur village. The water from the dam is sufficient to irrigate crops for the entire year. The farmers, who could basically grow one crop a year, are now able to grow even three crops in a year. This fulfills Sustainable Development Goal 12 and 13.



4. Ponds for the storage of water.

4.5 Drinking Water Supply

The Government of Telangana Launched a revolutionary water supply scheme called “Mission Bhagiratha” with an objective to provide clean drinking water to every household. Today every household is supplied with clean drinking water through taps under the mission Bhagiratha. The Gram Pachayat ensures that every tap has an on/off system to check wastage of water. It is helpful to fulfill the Sustainable Development Goal 6.



Mission Bhagiratha - For Providing Safe Drinking Water

5. Water Supply to every Household

4.6 Making The Best Out Of Waste

Moving towards a circular economy from linear system represents our best strategy to handle global issues which include declining resources and environmental destruction and excessive consumption. Ibrahimpur is a sustainable village with zero waste. All the garbage generated in the village is either recycled or converted into manure. Every household in the village segregates the waste into dry waste and the wet waste and collected into separate bins provided by the Gram Pachayat. A battery operated electrical vehicle collects all the dry waste and wet waste from each and every house hold and transports it into the garbage treatment plant. Dry waste goes for recycling and wet waste is converted into organic manure i.e. compost manure. The Gram Pachayat sells this compost to the required farmers on subsidized price. It is helping to fulfill sustainable development goals Responsible production and Consumption and Climate Action.



6. Waste Management

4.7 Education

Amidst greenery the Government upper primary school in the village has achieved many accolades for its performance in ensuring education. The Gram Pachayat and School management committee provided quality infrastructure and facilities to the children. The number of classrooms and teachers are allocated as per the right education norms. There is a separate digital classroom and classes VI, VII, VIII have access to digital classes through T-Sat Network of the Telangana Government. Children have access to safe and clean drinking water. There are separate toilets for girls and boys which are maintained well. The school has a dining hall where children have their lunch in a clean environment. Every child is taught about discipline and hygiene. Student volunteers water plants on the school premises and keep the campus clean. All these initiatives have created interest among the students to the school. As result the students of this village have achieved 100% enrollment and 0% dropout. Also, there is a 100% transfer ratio from Elementary school to High School. The school has received National Level recognition as Swatch Patashala. It is helping to fulfill Sustainable Development Goal Quality Education.



7. School in Ibrahimpur Village.

4.8 Sheep Hostel

Ibrahimpur village has been making stride in utilizing material component funds available under the MNREGS(Mahatma Gandhi National Rural Employment Guarantee Scheme) , outshining other communities. Under the scheme a cattle shed was built on the

outskirts of the village. Before the establishment of the community shed, the formers reared their animals at their homesteads. Substandard care and hygiene in the previous conditions allowed the rapid spread of diseases with limited awareness, rising animal to human transmission livestock mortality rates and wild animal attacks, farmer felt helpless. The newly made cattle shelters is respite to cattle owner where animals are well cared for, kept in a safe and hygienic surroundings thus controlling seasonal diseases and promoting a healthy rearing environment for enterprising farmers.



8. Sheep Hostel in Ibrahimpur

Animal husbandry plays an important role in rural economy so, to promote alternative livelihoods, villagers of Ibrahimpur have been encouraged to take up buffalo rearing. Under a government scheme, each farmer was provided with two buffaloes, some 110 cattle sheds were built under the MGNREGS. Similarly, poultry, sheep rearing, pisciculture and horticulture were encouraged as alternative sources of income for farmers. . It is helping to fulfill Sustainable Development Goals 6, 15 and 17.

4.9 Toilets in Every House

Every single house has its own Toilet which prevented open defecation. The toilets have brought about a lot of change in the quality of life in the village and its environment. Open defecation is fined 500 Rupees. Behavioral change is happened in villagers to use toilets. It is helping to fulfill Sustainable Development Goals 3 and 17.



9. Toilets in Every House and School has separate Toilet for Boys and Girls

4.10 Agriculture Development

A mini soil test lab is setup at Gram Panchayat. Soil test conducted is conducted before cultivation. The optimum utilization of fertilizer is done through this process. Drip irrigation is provided on subsidy basis which help more cultivation with less water. Warehouse has built to store the food grain.



10. Drip irrigation in Ibrahimpur Village

5. Conclusion

A long with above practices women are trained in cottage industries like stitching of cloths and men trained in mixing also encourages the employment in village. Internet connectivity is provided with free wifi which make that to connect world easily. Sustainable development practices in villages demonstrate significant potential for addressing rural development challenges while promoting environmental conservation and social equity. Successful initiatives combine traditional knowledge with modern sustainable technologies, emphasize community participation and ownership, and adopt integrated approaches addressing multiple development challenges simultaneously.

The evidence from diverse case studies indicates that villages can serve as effective units for sustainable development implementation, generating environmental, economic, and social benefits that contribute to broader sustainable development goals.

However, successful implementation requires supportive policy environments, adequate financing mechanisms, capacity building programs, and long-term commitment from all stakeholders.

Moving forward, sustainable village development will require continued innovation, knowledge sharing, and adaptive management approaches that respond to evolving challenges including climate change, technological advancement, and changing socioeconomic conditions. Villages that successfully implement sustainable development practices can serve as models and catalysts for broader rural transformation while contributing to global sustainability objectives.

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