

Building on the Positive: Diffusion of Technological Innovations for Providing Sustainable Rural Livelihood

Smitarini Chamuah

P.G. Department of Law, Gauhati University
E-mail: smitarini65@gmail.com

Abstract—The accomplishment of the Millennium Development Goals is at the focal point of sustainable development. Sustainable rural development is indispensable to the economic, social and environmental viability of nations. It is essential for poverty eradication since worldwide poverty is overwhelmingly rural. A sound and dynamic agricultural part is a significant establishment of rural development producing solid linkages to other economic sectors. Rural employments are upgraded through effective participation of rural individuals and rural communities in the administration of their own social, economic and environmental targets by enabling individuals in rural zones, especially women and youth, including through organizations, for example, local cooperatives and by applying the bottom-up approach. This paper has been developed to find out the economic incorporation of rural zones with neighboring urban territories and the making of rural off-farm employment that limit rural-urban incongruities, grow openings and energize the maintenance of gifted individuals, including youth, in rural regions. In this paper an attempt is made to bring innovations to solve the problems associated with the extensive potential for rural occupation creation not just in cultivating, agro-handling, and rural industry yet in addition in structure rural foundation, in the practical administration of characteristic assets, waste, and deposits.

Keywords: Human resource development, Infrastructure for Rural Prosperity, Poverty Alleviation, Technology, Challenges, Opportunities.

Introduction

India is an agrarian country and the economic development should come through rural prosperity. However, inspite of efforts made by the government to promote various development programmes, over 50% of the rural people in India are still living in poverty. The reasons for poverty can be attributed to lack of resources, confidence among the poor and management for implementing the development programmes. India is confronting immense difficulties being a youth country and in making valuable occupation for the increasingly educated young population. Farm productivity is low supply chain misfortunes are amongst the most

noteworthy on the world, salary from agriculture for the family unit is descending, enthusiasm for horticulture is going down and farmers are moving for better work openings in quickly developing urban cities. While policymakers have recognized that horticulture extension framework has collapsed in India today, new difficulties have additionally developed for the part, particularly atmosphere, changeability, diminishing soil fertilities, globalized showcase, reducing grounds water table other than numerous others.

Objectives

- The relevant outcome indicators to achieves a sustainable livelihood
- The livelihood resources, institutional processes and livelihood strategies which are important in enabling or constraining the achievement of sustainable livelihoods for different groups of people.
- The practical, operational and policy implications of adopting a sustainable livelihood approach.

Research Methodology

For the purpose of the present study data has been collected from secondary sources. It is collected from Journals, Magazines etc. and various other publications.

Technologies for providing Sustainable Rural Livelihood

Rural population in India has been facing series of problems which affect their progress and quality of life. Most significant among these problems are lack of gainful employment leading to food insecurity, illiteracy and poor health. Although agriculture contributes only 30% of the Gross National Product (GNP) of the country, the rural economy is heavily dependent on agro-based activities. This is primarily due to lack of industrial infrastructure and limited opportunities for providing jobs in the service sector. It has been observed that over 85% of the rural people are dependent on agriculture and most of them are engaged in the struggle for food security.

Therefore, it is necessary to promote suitable rural technologies which can enable the local communities to enhance their efficiency and earnings. With the improvement in agricultural production, various opportunities can emerge in the agri-business and non-farm sectors in the future. There are many Government and Non-Government Agencies engaged in providing sustainable livelihood to the rural poor. Over the years, a large number of activities have been identified both in On-Farm and Non-Farm sectors.

Replicable Technologies for Sustainable Livelihood

The other relevant technologies for the rural poor are water resource management, wastelands development, sericulture, agri-horti-forestry, eco-friendly agriculture, mushroom cultivation, vermicomposting, etc. All these technologies can help the farmers to earn adequate income to come out of poverty. Important technologies for providing sustainable livelihood in rural areas are presented below:¹

Livestock Development: Dairy husbandry was considered as the most powerful tool, as most of the cattle and buffaloes in the country in spite of being low productive, could still be used as breeding stock to produce superior quality progeny. Most of the poor own such low productive animals. A family with 3 crossbred cows, each producing 2200–3000 litres of milk/lactation, can generate a net income of Rs.30,000–Rs.40,000 annually. Goat rearing with strict control on open grazing, also has good potential. There are a large number of small farmers, landless and women-headed families, who are dependent on small species of livestock such as goat, sheep, pigs, poultry, etc. for their livelihood.

Wastelands Development: Large areas mostly owned by the communities, are presently underutilized due to low productivity. Such lands which were sources of fodder, fuel and timber in the past, have now turned into wastelands, posing a serious threat to the water table, eco-system and environment. The wastelands provide an excellent opportunity for generating income for the local communities, particularly the landless and the small farmers.

Water Resource Development: As only 35–40% rain water is effectively used and over 70% of the agriculture is dependent on rainfall, there is good scope to promote water resources development particularly in arid and semi-arid regions in the country. Efficient rainwater harvesting along with promotion of sustainable agricultural practices, can improve the cropping intensity by 25–30 % and increase the crop yield by 40–70% while generating employment throughout the year.

Tree-based Farming: In rainfed areas, where there are many constraints for increasing the crop yields, tree-based farming

can be a boon as trees have better ability to tolerate erratic weather conditions. Depending on the soil fertility and water availability, different tree species can be grown. While horticulture is most payable, timber and round wood plantations are also profitable compared to rainfed farming. Horticulture is ideal for small holders as they can effectively utilize their idle labour while round wood and pulp wood plantations will be good for large holders where most of the operations can be mechanized.

Fruit Nurseries: In the regions where fruit production is popular, local Self Help Groups and even individual families can raise grafted fruit plants as an important income generation activity. The tribal families in Gujarat owning fruit orchards are able to maintain 1000–2000 grafted mango plants for 6–8 months and earn a net income of Rs.12–15 per plants. Availability of assured source of water and easy marketability are the pre-requisites for raising fruit nurseries on a large scale.

Non-Farm Activities: There is good scope for promotion of various income generating activities in the rural non-farm sector. Such as,

- Training of youth in masonry, carpentry, smithy, repairs of cycles and motor cycles, tractors, pump sets, electrification and winding of motors, etc. Subsequent to training, entrepreneurs need working capital and critical equipment to start their services;
- Rope making and mat making by using locally available agricultural by-products and grass;
- Bamboo crafts and utility articles ;
- Production of housing materials;
- Embroidery and tailoring;
- Flour mills and oil seed expellers;
- Establishment of grocery shops and food stalls.

For the success of these non-farm enterprises, there is a need for careful planning, back up support for supply of inputs and marketing. Dedicated voluntary agencies can promote such activities by providing technical training, business planning and linkages with various institutions. It is through various technologies and supporting infrastructure that rural employment can be generated for providing livelihood to millions of poor families.

Strategy for Sustainable Development

The development programme should identify the problems and options to solve these problems, based on the available resources and technologies. The agricultural development programme should identify the availability of resources such as quality of the land, quantity of water, weather conditions and select suitable crops which are most productive. The project should ensure timely supply of inputs, finance and identify a suitable market where price recovery for the

¹S.V. Prabhath and P. Ch. Sia Devi, Technologies for providing Sustainable Rural Livelihoods. Technology and Rural India, National Council of Rural Institutes, Ed 2011 Hyderabad. P.p 253–260.

produce will be maximum. In this process, it is also necessary to develop the capacity of the target groups through establishment of local organisations that can organise procurement and distribution of necessary inputs and marketing of the produce.

Development of Infrastructure

To sort out the above problems, we need to develop a strong infrastructure at various levels. Apart from mobilising people, infrastructure is also necessary to organise input supply, finance, post production processing and marketing of the produce. Inadequate marketing network is another major bottleneck in agriculture. The farmers should be oriented to make a swift forecast of the demand for various commodities and exploit the opportunities. There is good scope for setting up market outlets to reach the customers without involving too many middlemen. Marketing services are presently provided by the Agricultural Marketing Boards, Milk Cooperatives and Federations which are inefficient and politically oriented. Very often they end up in losses because of mis-management and ignorance. In this process, the innocent farmers suffer heavily. Presently, only a few Farmers' Organisations, Sugar Cooperatives, Milk Unions, Grape Growers Cooperatives, Apple Growers Cooperatives and Tea Growers' Association, etc. are fairly successful because of their professional approach in operating the business. The strength of these organisations can be extended to other crops in different regions. An ideal linkage of various organisations at various levels of agricultural development is presented as Self Help Group (SHG) of 10-20 farmers can be an effective non-formal organisation to provide necessary services and facilities to the members.

Empowerment of Local People

With the 73rd Amendment of the Indian Constitution, the role of the Gram Panchayat is predominant in implementing almost all the development programmes launched by the Government. The intention of the Government is to empower the local bodies at the grassroot level to promote micro-level planning, initiate need based development programmes and ensure transparency. The Gram Panchayats are expected to develop their plans through a participatory approach and discuss such plans in the Gram Sabha. The Gram Sabha is expected to act as the watch dog and monitor the programmes implemented by the Gram Panchayat and other organizations. The realization of this concept is totally dependent on a change in the attitude of the local people, who are the members of the Gram Sabha. This is an ideal method to empower the women and disadvantaged sections of the society. Active involvement of the Gram Sabha in various development programmes is a noble objective. However, the difficulty lies in motivating the villagers to attend the Gram Sabha meetings. With good team work at the village level in the form of Gram Sabha, the community will be able to monitor the services provided by the Government.

Conclusion

The agriculture sector has been proven uneconomical due to increased input costs and the benefits of food inflation do not pass on to the producers, perpetuating to debt and hence migration. Indian cities are in throngs of development. Much of the labour supplied for this rapid development is by the rural 'seasonal' migrants looking gainful employment from uneconomical agriculture in the villages. While development for these cities is desirable, clusters of slums and unplanned development becomes a hindrance in the process, as most of these migrants are unable to afford the living costs, they seek settlements which are illegal and do not have basic amenities. Market-based alternatives for their quality and healthier life are needed to bring about the change needed for rural livelihoods to improve, for which ecosystems needs to be invested in. The need is to bring about systematic changes, unleash entrepreneur and believe in the power of youth to bring about the changes we seek to see in our villages and it can change.

References

- [1] Hegde, N.G. 1998. *Strategy for Rural Development*. In Integrated Rural Development for Sustainable Livelihood. BAIF. 11-22.
- [2] Hegde, N.G. 1998. *Human Resource Development for Empowerment of Local Communities*. In Integrated Rural Development for Sustainable Livelihood. BAIF. 24-29
- [3] Sabharwal Desh Raj. *New Agro-Technology and Change*. *Man in India*. 2001;81(1-2):179-196.
- [4] Joshi YG, Verma DK. *Social Environment for Sustainable Development*. India: Rawat Publications; 1998.
- [5] Sachchidanand. *Social Dimensions of Agricultural Development*. India: New Delhi, National Publishing House; 1972.
- [6] Rajvanshi AK, Anil K. Roadmap for Rural India, *Current Science*. 2014;111(1):19.
- [7] Pellissery, Sony. *Rural Development*. *Encyclopedia of Sustainability*. 2012;7:222-225.
- [8] Joshi NC. *Technology the route to Rural Uplift*. Kurukshetra. 2006;53(5):4-7.
- [9] Raina Sunita, Chanchal Hardeep. *Bridging Transfer of Technology from Farmers perspective*. *Journal of Rural Development*. 2006;25(2):257-286.
- [10] GoyariPhanindra. *Flood Damages and Sustainability of Agriculture in Assam*. *EPW*. 2005;40(26):2733-2739.
- [11] Satyanarayana A. *A paradigm of Peasant and Farmer: The study of Meerut Commissary*. In: Yogesh Atal, Rajesh Mishra, editors. *Understanding The Social Sphere: The Village and Beyond*, Rawat Publications; 2004.