

Community Managed Sustainable Agriculture : Initiatives in Andhra Pradesh



Agriculture

KEYWORDS : Sustainable Agriculture, Self Help Group, Non Pesticide Management, Federations

N. V. Madhuri

Faculty Member, National Institute Of Rural Development, Rajendranagar, Hyderabad.

ABSTRACT

Sustainable agriculture conserves our soil and water resources, protects our climate, enhances agro-diversity, ensures biodiversity, meets the demand for food and safeguards livelihoods. In short, it ensures that the environment thrives, the farm is productive, the farmer makes a net profit and society has enough nutritious food. Community Managed Sustainable Agriculture(CMSA) is one such initiative which is implemented in the state of Andhra Pradesh through the women SHGs and their federations. This paper highlights the major initiatives taken up under the project and their impact on the farmers.

Introduction

Since the dawn of civilizations, agriculture is one sector that impacts and in turn is impacted the most by environment. Hence sustainability of the human race and this world depends a lot on the environmental friendliness of our agriculture. India has a long history of agriculture. Over centuries, farmers in this country devised practices to keep our farms sustainable. Practices like mixed cropping, crop rotation, using organic manure and pest management kept our agriculture sustainable. Of late, India is facing a food crisis due to the destruction of farmlands and food production systems over the last five decades through uncontrolled use of chemical fertilizers, pesticides, mono-cropping and other intensive agricultural practices. Ecological farming is the answer to the problems being faced by agriculture in our country today. It will also keep agriculture sustainable. This form of agriculture conserves our soil and water resources, protects our climate, enhances agro-diversity, ensures biodiversity, meets the demand for food and safeguards livelihoods. (www.greenpeace.org)

Andhra Pradesh is one of the India's largest states with about 60-70 percent of population engaged in agriculture comprising of 80 percent small and marginal farmers. Society for Elimination of Rural Poverty (SERP) an autonomous organization under Department of Rural Development (DRDA), Govt. of Andhra Pradesh has developed a vision to promote the Non Pesticide Management (NPM) approach in a wider range of farming community over a large area. This initiative aims to address the major causes of agriculture distress such as extensive use of chemical inputs, high costs of agriculture, displacement of local knowledge, unsustainable agricultural practices like mono-cropping, imperfect markets etc.

SERP initiated Community Managed Sustainable Agriculture (CMSA) project in 2004 as part of its mandate to eradicate poverty and to improve livelihoods of the rural poor. CMSA supports the poor farmers to adopt sustainable agriculture practices, reducing the costs of cultivation and increasing net incomes. The project is implemented by SERP through DRDA, Government of Andhra Pradesh assisted by district project officer, cluster activists, village activists and sasyamitra groups(farmers groups). The project is being implemented in 22 districts of Andhra Pradesh covering 653 Mandals and 14191 villages.

CMSA is a paradigm shift in moving from input centric model to knowledge and skill based model. It involves making use of locally available natural resources and takes advantage of the natural processes. The main objective of CMSA is to bring sustainability to agricultural based livelihoods, with special focus on small and marginal farmers, tenants, agriculture labour and women. Its major objective is to make small farming viable by using non-chemical pest management and low or zero chemical fertilizers and thereby improve net incomes from farming and create farm based multiple livelihoods to women farmers.(aajeevika.gov.in)

Implementation Arrangements

The project is implemented by SERP through DRDA, Government of Andhra Pradesh at district Level. In each district there is District Project Manager (DPM). The village organization of women Self Help Groups(SHG) and the Federation of Women Self Help Groups is the main implementation platform of the program at the village level. The Mandala Mahila Samakya (MMS), the federation of women SHGs at mandal (Block) level anchors the program. The program management is in the hands of the women organizations represented by 4024 village level sub committees, 304 sub district level (mandal) sub committees and 21 district level sub committees.

Support To Women SHGs

CMSA provides support to women SHGs implementing the program in the areas of capacity building, extension support ,building human resources, marketing and infrastructure building at village level.

- Capacity building:** Capacity building is the key component in CMSA. Components of capacity building include life cycles of pests and on enabling climatic condition for disease prevalence and spreading, farming systems, sustainable use of resources, maximizing output from a unit land area, effective utilization of inputs like seed, organic fertilizers, sun light, water, land etc.
- Extension support & transfer of technology:** The core investment is on supporting community managed extension system than on material inputs. CMSA is essentially a farmer centered movement. The transfer of technology is through community based local best practicing farmers. Farmers field school (FFS) is the key activity for transfer of technology and sharing of best practices. Farmers upgrade knowledge by sharing, observations and experiments. 20-25 farm families are formed into a group known as "Sasyamithra Sanghas" and these sanghas are assisted by a village activist (VA-a practicing farmer) and a cluster activist (CA) for a group of five villages, who is also a practicing farmer who facilitates the knowledge sharing processes. They are paid by the S.H.G federations.
- Support for building Human Resources:** CMSA focuses on building community best practitioners in technology transfer. They are known as "Community Resource Persons (CRPs)". These CRPs provide extension support to farmers. These practicing farmers are role models, who have adopted CMSA practices successfully in their fields and improved their net incomes. They are extensively trained in all aspects of sustainable agriculture.
- Marketing:** The basic objective of CMSA is providing food security at household level. However support systems are provided to marketing marketable surplus of the products. Marketing outlets are established at DRDA offices, Zilla Samakhya offices, collectorate etc. Further awareness is created among consumers on availability of pesticide free produce with the SHG members.

- e) Infrastructure building at village level: C.M.S.A is not confined to provision of extension services. Since it is anchored in the S.H.G network, members are able to get credit for agriculture, credit for expanding their asset base, etc from the federations. The setting up of NPM enterprises and custom hiring centers by the Village Organization is another service to the farmer.

Interventions

Methods promoted under Community Managed Sustainable Agriculture (CMSA) are blend of scientifically proven technology, local wisdom, and, farmers innovations. Over a period of time the objective is to see that these methods are leading to reducing the costs on pest management to 'zero'. Further, the focus is on building life into the soil by adopting various recommended practices, such as non pesticide management, comprehensive soil fertility management, rain fed sustainable agriculture (RFSA), household nutritional security models (36x36 models), system of rice intensification (SRI), monocot-dicot crop combinations, multilayered poly crop system to harvest maximum sun light, mulching, creating enabling environment for local deep borrowing earth worms, efficient composting techniques and by using dung based inoculants paving way to reduce chemical fertilizers.

Impact

Studies show that due to implementation of NPM practices, the cost of cultivation has reduced. The range of savings varied from crop to crop ranging from Rs.3,000/ha in case of Paddy to Rs.12,500/ha in case of cotton and Rs.37,500/ha for chillies. Total savings under CMSA across 21 districts is estimated at Rs.213 crores. There has also been an increase in the area under sustainable agriculture. SERP initiated this program in 2004 with about 250 farmers and 400 acres and by the end of 2013-14 it has reached to 25 lakh farmers and 35 lakh acres. (Season end reports, CMSA,SERP). Third party evaluation done by Acharya NG Ranga Agricultural University (ANGRAU) shows that CMSA methods enabled the farmers to increase their yields. Increase in yields ranges between 1-2 qtls for various crops such as Paddy, Jowar, Cotton & Maize. ANGRAU study in 300 villages in 18 districts of AP reveals that CMSA methods increased net additional incomes to farmers. The net additional incomes range between Rs.3000 to Rs.7000 per acre based on the crop.

Women who have traditionally performed the task of spraying the crops and suffered numerous health problems due to the resultant high exposure to pesticides are now strong advocates of the NPM/CMSA movement. A quick survey of three districts by SERP has shown that the number of cases of hospitalization due to pesticide poisoning has reduced from 242 cases per year before adoption of NPM to 146 cases per year—a 40 percent drop. Farmers who have adopted non-pesticide management agriculture have been totally free of pesticide related hospitalization. (Season end reports, SERP). Achieving self-reliance and self sufficiency in food production at community level are very important aspects of CMSA. Crop diversity and multistoried cropping systems ensure nutritional security to farm families. Perennial species such as red gram, moringa, guava and papaya take care of very critical nutritional requirements for the family throughout the year. Pesticide free produce is integrated into the existing food security scheme.

Case Studies: Some of the case studies of the farmers who have practiced the CMSA are presented below:

Case Study I: In Ulavalli village of Nellore district, G. Kondamma, aged 39 years with three children has become a member in sasyamitra group. The non pesticide management Cluster Activist(CA) and Village Activist(VA) approached the group and explained about the benefits of NPM principles and practices. The group members are very active and shown interest in new technology which yield better results to them. First Kondamma came forward and tried the NPM practices. Mrs. Kondamma tried in 10 cents SRI paddy and followed all the NPM practices of alleys, spraying of Neemastram, azola, compost fertilizer, ganajeevamrutham and dravajeevamrutham. She said that for ¼ acre she spent Rs.1200/- and got returns of Rs. 8000/-. Impressed by the NPM principles, she also adopted phaleka model (multiple crops) wherein she has cultivated leafy vegetables such as palak, amaranthus, vegetables like okra, beans, chilly, cucumber, bottle guard etc. She also bought a cow for milk and utilized dung for preparation of compost. She said she is very happy with the practices apart from nutritional security she is also earning Rs. 6000/- to Rs.8000/- from that small piece of land. (Ratnakar & Mani,2010)

Case Study II: Rangu Swaroopa, from Mangapet village of Karimnagar district attracted towards NPM through the sensitization programmes of NPM. She cultivated two acres of cotton plus red gram in 5:1 ratio, taking of beans crop on the borders. Before harvest of the cotton crop she has sown bobbara and green gram in the cotton field and harvested a good crop of pulses using available soil moisture. She became an NPM farmer without the use of chemical pesticide. She used neem oil and other bio pesticides to control pest and disease on her field. (Ratnakar & Mani,2010)

Conclusion

The key to sustainable agriculture is organic farming. The integrated agriculture with different farming systems meets the demands of organic farming system. It also promotes nutritional and food security. C.M.S.A is a very powerful poverty eradication measure for the poorest of poor. This model is owned by community and managed by community itself. The platform of women SHGs and their federations are effectively used to implement the CMSA program. To conclude, a small farm management through organic farming to improve productivity, profitability and sustainability of the farming system will go a long way to ensure the all round sustainability which is demonstrated by CMSA.

REFERENCE

- Ratnakar,R & M. Surya Mani 2010 in Third Party Evaluation of Rashtriya Krishi Vikas Yojana (RKVY) : Community Managed Organic Farming implemented by SERP | | Season end reports 2013, Society For Elimination Of Rural Poverty(SERP), Andhra Pradesh | <http://www.aaajeevika.gov.in/studies/MoRD-AP> | <http://www.greenpeace.com> | http://www.65.19.149.140/pilots/cmsanew/ab_us/aboutus_modify.html | <http://www.rd.ap.gov.in>