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Agricultural Best Practices and Challenges in Farming

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ABSTRACT

The greatest challenge for agriculture is to reduce the trade-offs between productivity and long-term sustainability. Therefore, it is interesting to analyse organic agriculture which is a given set of farm practices that emphasise ecological sustainability. Organic agriculture can be characterised as being less driven by off-farm inputs and being better embedded in ecosystem functions. The literature on public goods and non-commodity outputs of organic farms is overwhelming. Most publications address the positive effects of organic farming on soil fertility, biodiversity maintenance and protection of the natural resources of soil, water and air. As a consequence of focusing on public goods, organic agriculture is less productive. Meta-analyses show that organic agriculture yields range between 0•75 and 0•8 of conventional agriculture. Best practice examples from disadvantaged sites and climate conditions show equal or, in the case of subsistence farming in Sub-Saharan Africa, higher productivity of organic agriculture. Hence, organic agriculture is likely to be a good model for productive and sustainable food production. Underfunding in R&D addressing specific bottlenecks of organic agriculture are the main cause for both crop and livestock yield gaps. Therefore, the potential for improving the performance of organic agriculture through agricultural research is huge. Although organic farming is a niche in most countries, it is at the verge of becoming mainstream in leading European countries. Consumer demand has grown over the past two decades and does not seem to be a limiting factor for the future development of organic agriculture.

1. Introduction

In January 2005, the Government of Karnataka and the Varanashi Re**sea**rch Foundation (henceforth VRF) came to an agreement, whereby VRF became the service provider for introducing Organic farming project in Dakshina Kannada.

1. In the organic farming policy document, the project implementing agency is referred to as “service provider”, and I am using the same terminology while referring to VRF in my thesis.
2. VRF is a charitable trust, run by an agriculture farming family in Bettadka village. From 1995 onwards, VRF has been working in the area of organic farming, by introducing farmers to organic farming, by introducing farmers to organic farming practices and technologies, as well as through initiatives to create awareness among farmers to shift towards sustainable farm practices. With the formation of VRF, the agency is now working in a number of villages to promote and encourage organic farming in the region. In 1997, it received the “organic farm” certificate from an International Federation of Organic Agriculture Movement (IFOAM).
3. Today VRF is recognised for organically grown commercial crops, agriculture commodities, research and extension activities in the state.

In Dakshina Kannada, the village organic farming project was carried out in eight uppa gramas from Moodanahalli and Bettadka villages. The service provider referred to the project area as “Moodanahalli Organic Village” (henceforth to be referred to as project village). Both Moodanahalli and Bettadka are revenue villages from two different gram panchayats of Bantwal taluk, Dakshina Kannada district. VRF selected Moodanahalli village as per the criteria and rationale mentioned in the State policy document for introducing the village level organic farming initiative. Moodanahalli village had been the site for the watershed development project had benefited through the construction of “Community Katta(barrage)” for irrigation. VRF has its office and organic farmland in Bettadka village. Within the project village, VRF needed a “model organic farmland”, for which it used its farm land, where they could demonstrate different innovations and where farmers could visit, consult, observe and discuss about organic farming as part of the project.

2. Agriculture Practices in the Project Village: Prior to the Project

Prior to the implementation of Karnataka Organic Farming Project, the farmers were practicing different types of agriculture. In the quest to increase yields, farmers have adopted new agricultural technologies available in the market, which is also supplied by the state agriculture department in its various district level outlets. Commonly all farmers believe that “start new approaches and new crops provide quick profits and fetch a good price in the agriculture market”(field notes, 2008). However, despite the concern of profits in agriculture, there are many farmers who continue to debate and practice non-commercial or traditional farming, there are variations in terms of quantity of chemicals that farmers use given their financial position, as well as access to organic seeds and manures. Clearly, in various ways in which farmers explain their choices in farming which is also relevant in the context of the organic

farming policy, as it demonstrates the practical dimension of farming that as not been unrecognised in policy level deliberations. Presented in these sections is an array of perspectives on the practice of both kinds of farming in the project village, and how farmers seek to optimise on the best of both forms of farming to continue to make a living from agriculture.

In the village, traditional farming is associated with the agriculture practised by their forefathers and which was common place till the changes wrought by the green revolution. This approach of farming especially can be seen in paddy fields. In the village, a majority of the farmers do not have paddy fields, and so this agriculture practice is in the process of vanishing from mainstream agriculture. Not more than 10% of the farmers are paddy cultivators. The region specific agriculture knowledge, traditional seeds, and practice are in the state of extinction.

3. Villagers Perspectives on Existing Farming Approaches

While farmers differ in the way they look upon organic farming, in terms of its practice and efficacy as a system in contemporary times, there is a general agreement among farmers that organic farming is the "absence of chemical inputs". In this sense, for many it is akin to the traditional farming or the farming as practiced by their forefathers, while for some it is an experiment to redefine the not just the purpose of farming but also exploring an alternative ways of life.

Prior to the implementation of village project, a few progressive farmers were already exploring the potential of practicing organic farming in their agricultural land. Farmers expressed different reasons for adopting organic farming. In paddy land, the environmental and food security issues have been the main concerns, given that farmers produce paddy for self consumption and therefore desist using chemicals as that would contaminate the crop. Another reason for more number of farmers being conscious or aware of organic farming is the experience of Padre Village in Kerala with the use of Endosulfan. The village Padre situated at the of the Kerala and Dakshina Kannada faced acute health problems for having sprayed the Endosulfan on cashew plantations. This has dissuaded many farmers from using chemicals in their fields if not reduce or minimize the use of chemicals. Farmers have also opted out of chemical farming in plantation farms due to other economic concern in order to achieve the goal of financial stability in agriculture. It was believed that organic farming is less labour intensive and farmers can attain economic profit through organic commodities which have high demand in the national and international market. In market, over the years, consumers have become more health conscious and concerned over the heavy use of chemicals in the food production. Many consumers are now supporting organic products and the organic products market is gradually developing in niche areas. Given the potential of the organic products market, many farmers are now interested in converting their land to organic and certify them from the national and international certifying agencies.

4. Strategies for Implementation of the Village Organic Project

For effective implementation of organic farming project at the village level, the service provider used different strategies suggested by the project committees and experts from the field, depending on the local needs of the beneficiaries.

5. Project Management through Committees

For effective management of projects at the village level, development agencies require guidelines, support and motivations to realise the project objective. In reaching its goal, the organizations had to collaborate with experts to provide maximum benefits to project stakeholders at the village level. The village has a "District Level Advisory Committee" that was formed with the approval from the State Advisory Committee. The committee had progressive organic farmers, assistance of Director of Agriculture, officials from Nagarika Seva Trust (mainly working in the areas of environment) and representatives from agriculture, horticulture and sericulture departments and nodal officers of the organic village as the members in the district.

The committee had the responsibility of providing guidelines in the preparation of action plans, and identifying the agriculture needs of the organic village project. It was functioning until the project termination, and annual meeting took place once a year for evaluating the progress of the project. For active and smooth functioning, a local site specific committee had been formed and regional action plans were prepared in consultation with actors and site officers. The committee had four local farmers, a nodal officer of horticultural department, managing trustee of VRF, a project officer, and three field officers. Site level committee contributed towards improving the action plans and bringing farmers felt needs into action. They had monthly evaluation meetings to supervise project progress that provided an opportunity for service provider to fulfil the project plans more effectively in the field. Monthly progress report of village organic farming project was prepared and communicated with the district nodal office.

6. Raytha Samparka Kendra(Farmers communication Centres)

Existed until the project termination in Moodanahalli to provide information on different farm related quieres, project related queries, applications for different agriculture and organic farming benefit in the village. The centre existed in the middle of the project site, away from the project office to create a communication channel between farmers, project, and field officials in the village. Through this Kendra field officers provided services and built a direct contact with the farmers. For gathering information about the centre and its activities during the project implementation time, I randomly visited nearby houses to get a glimpse of their perspective about the centre and its contribution to project implementation. I met Kariyapa Naik whose family as less than acre of land and agriculture labour is the main source of live wood for the farmer and his family. His income from agriculture is not sufficient for sustenance; therefore, family members have to work as agriculture workers in the village.

Agriculture extension with farmers was essential in the village to rebuild the community network, access and participation, and market channels for the project. The farmers viewed their association with the service provider as a channel

to increase productivity by taking advises on farm related issues and market linkage to accesses the organic market in the region. Raytha Samparka Kendra worked towards developing a linkage between farmers and service provider through the extension activity and provided scope for farmers' participatation in the organic farming project. Baseline survey and farmers intention in the Raytha Samparka Kendra were significant for the service provider to understand the condition of agriculture in the village. The data showed that, farmers are unaware about many aspects of agriculture and there is confusion over the concept and practice of organic farming. Understanding the farmers' ignorance in the organic concepts, service provider gave preference for sharing the knowledge of organic farming among the farmers.

7. Programmes of the Village Organic Farming Projects

Organic farming Knowledge through training; Knowledge is a precondition for adopting innovations in agriculture and farmers acceptance of innovation depends on their awareness about the subject. Knowledge of organic farming will provide assistance to farmers in following a particular farming method provide a different outlook towards agriculture (Naik, Srivastava, Godara & Yada, 2009). State organic mission provided financial support (Rs 21000) annually for different capacity development training programmes in the region. More than 20 different training and capacity development workshops have been conducted in the organic village to develop a strong base among farmers on the sustainable agriculture practice in farming. The trainings were conducted throughout the village in the farmers' field, project office, Raytha Samparka Kendra, and schools depending on the subjects and the interest of the farmers. Other than the experts from VRF, local progressive farmers, agriculture and allied experts were the key speakers in these training workshops. Three important approaches were adopted by the service provider for the effective implementation of the programme.

8. Farmers Field School (FFS)

FFS approach was adopted to provide the theoretical and practical understanding of the organic farming. For knowledge dissemination, innovative techniques were adopted in the training workshops as such lecture method, field visits, farm walks, group discussions, and interactive sessions in the field area. Collective participation of the farmers in these trainings was the greatest challenge for the service provider in the village. These workshops had variations in farmers participation was subjective and personal, but on many occasions, it was the topic of discussion, and key speakers had their influence in farmers participation.

During fieldwork, I was able to attend training workshops conducted by service provider through the National Horticulture Mission, which has introduced the organic farming project in the region. The trainings conducted were on organic farming, pest management, and farmyard manure, vermin-compost and bio-fertiliser, bookkeeping and certification, post harvesting the crop, value addition, and marketing of the crops. For farmers, it was difficult to participate in all training sessions, as they had their personal, social commitments, day-to-day farm activities, and distance between home and training venues made it all the more difficult for participation.

Farmer to Farmer approach was used to create a deeper knowledge associated with organic farming as well as to built inter personal communication among the indusial farmers in the region. In this approach, one farmer shares his knowledge and expertise with another farmer, for which farm walks were organised in a farmer's field. Lastly, study tours were organised; they visited several farm fields' processing units within and outside the district to provide firsthand knowledge on farmers' initiatives in organic farming in the state. Extension activity through tours and training provided an opportunity to broaden farmers' horizon, and it helped in fight off the sceptical thoughts about this practice and many readily accepted organic farming. Project period observed wider transformation and knowledge innovations in the farmers' field areas, as training conducted in the allied areas of farming has boosted the production capacity and farm income. Farmers expressed that training is a way of "acquiring new skills and knowledge about farming and it helped in addressing many doubts and problems related farming"(Field Notes, 2009).

9. Soil and Water Preservation Approaches

The service provider gave maximum emphasis on soil and water preservation. Soil and land fertility decides agriculture production in quality and quantity and depletion in soil fertility affects crop production leading to less production profit and it affects the farmers' financial situation. In agriculture, from a socio-economic prospective, an imbalance is seen in investment, production and actual returns the farmers receive from the market for their commodities. At the end, farmers receive economic returns depending on the existing market conditions for the commodity. On many occasions, production costs offshoot agriculture returns and farmers find it difficult to sustain financially through agriculture. The increased cost of agriculture inputs, labour and technology, reduction in land productivity, environmental concerns, soil health, farming approaches, post harvest management, and supervision are to be blamed for this depleting condition of agriculture.

The different state developmental projects have neglected the traditional water conservation knowledge and such practices have vanished from agriculture. Conventional farming does not have scope for conservation, preservation and protection of existing water; dearth of traditional knowledge and practice is responsible for water depletion in many parts the state. Farmers have not experienced drought conditions; however, compared to rest of the district, this area which is situated in rain shadow area making it 'prone to drought kind of situation for irrigation' during summer. During summer months, people suffer from water scarcity to meet the household and agriculture needs of the community. The area receives less rainfall than other parts of the district. The service provider understood that the need of the rainwater harvesting was to increase the water table of the area. Hence, the project promoted the methods of rainwater harvesting like growing forest, catching pits in the tree basin, check dams, providing a curved path for flowing water, roof water harvesting, and percolation pond.

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