

Agricultural Extension in South Asia

COMMERCIAL AGRICULTURE BY INDIAN SMALLHOLDERS – FROM FARM PROSPECTS TO FIRM REALITIES

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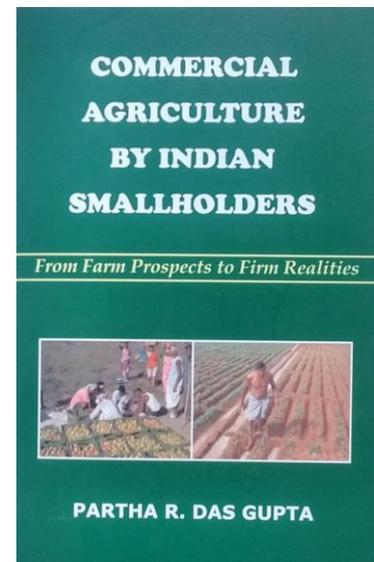


“We do not learn from experience... we learn from reflecting on experience.”
John Dewey

Successful managers know the importance of learning lessons from project implementation and they often do so. Reflection is one of the most important processes of learning and involves documentation and analysis. This book under review is about learning lessons from implementation through reflection which is important not only for the project implementers but also for others who are trying to address a similar set of problems elsewhere.

The Syngenta Foundation India (SF) experimented with the hypothesis: ‘Whether the income of the smallholder farmers could be improved through the application of advanced crop production technologies’. This was tested in four different difficult areas of the country. The approach adopted by the Foundation was selecting the most backward districts, choosing local partners, conducting surveys to assess the farming situation, identifying suitable crops (especially high-value vegetables), trying on a pilot scale to assess the feasibility of the crops and replicating the successful interventions and scaling up to extend the area of the crops and increase the number of farmers. Once production of the crops went up substantially, the Foundation facilitated the producers’ access to markets to enhance their profit margins. In the process, the Foundation has employed several extension methods such as workshops, training programmes for farmers, on-farm testing of the technologies, and tours to successful farmers’ fields, farmers’ fairs, exhibitions etc.

The Foundation has adopted a typical programme planning model involving the steps i) analysis of situation ii) problem identification iii) prioritisation iv) identification of appropriate solutions v) implementation vi) evaluation and vii) reconsideration. This book is all about the way the programmes were planned, implemented, progress made and lessons learnt; the programmes were revised as per the Foundation’s experiences in working with resource-poor farmers.



The book has four chapters and an epilogue. The four chapters deal with the experiments conducted in four economically disadvantaged and backward areas in the country. The author Dr. Partha R Das Gupta, was involved in these experiments and he describes his experiences of working in these areas. It goes to the author’s credit in vividly narrating both successes and failures in implementing the projects. It is worth reading this book to know the way the projects were planned, implemented with varying degrees of

success, constraints experienced and lessons learnt in the process of improving the livelihoods of smallholder farmers. After reading this, one will understand how difficult it is to work with resource-poor farmers in improving their incomes through improved technologies. It is also equally difficult for an external agency like SF to withdraw from the project after a decade of hard work and sustain the programme, that too when the projects are under “high-input and high-output” technology system.

When the Foundation started working in the four selected areas, it realised that each project area is unique and needs tailor-made solutions to address the region-specific problems. It also realised the necessity of forging collaboration with one or more local partners in the entire process of experimentation.



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The first chapter is about Anandwan project which ultimately turned out to be the Foundation’s biggest project in India. The project team in 2004 established a strong collaboration with the local partner – The Maharogi Sewa Samiti (MSS), a grassroots organisation established by the visionary (Late) Baba Amte in a village Anandwan near Warora in Maharashtra with a primary objective of rehabilitating people afflicted with leprosy, a disease which has serious social consequences, including the ostracisation. In the process of rehabilitating the cured people, the MSS diversified into various activities which included setting up of handlooms, production units for various utility goods and managing an agricultural college.

The Foundation, in collaboration with MSS, initiated a pilot project at Anandwan by holding field demonstrations on hybrid vegetables. The success achieved through this pilot project encouraged the project team to train farmers on growing high-value vegetable crops, which was later extended to selected farmers who could earn a total net income of Rs. 90,000/- from 1.4 ha of land. The SF supplied quality seeds, drip lines and technical guidance. The SF later moved into Somnath, another area of MSS, where the SF built a reservoir to provide irrigation to about 25 ha of land. The farmers of this area were trained in advanced agronomic practices of rice, the main crop in the area and vegetables. Despite the failure of crops – sweet corn damaged by wild animals, wheat crop by parrots – farmers could raise their income substantially by selling their produce in the nearby Chandrapur market. Later, one more reservoir was constructed to increase the area under irrigation. Project activities were also diversified to include seed multiplication of improved varieties of rice and other crops. The SF took the nearby KVK’s help (Sindewahi) for obtaining quality seeds. The Foundation also established Anandwan Agricultural Technology School in 2010 to develop the skills of youth and to meet the short-term needs of the agribusiness employees. Later it was upgraded to an Agriculture Polytechnic which achieved financial stability in 2014-15.

The project succeeded in improving the productivity of crops through the application of advanced agronomic, crop protection and post-harvest technologies but also facilitating collective marketing of their produce. This market-led extension was functioning in six clusters of villages which benefitted more than 1000 farmers. Although the SF withdrew its support for the Chandrapur extension programme in 2011-12, the MSS continued its efforts for substantial increase in the area under irrigation, levelling and consolidation of fields and leaving the management to professionals. As a sequel, the Somnath project turned out to be a profitable venture. MSS, an institution of international repute, was an important factor that has contributed to the success of this Anandwan project.

What is important to learn from this experiment is that an external organisation like SF cannot and should not continuously provide assistance to the farmers in a particular geographical area. It needs to collaborate

with a local organisation and work for few years as a catalyst; after achieving a particular level of progress, it should pass on the mantle to the local organisation to continue its efforts for a sustainable agricultural development.

The second project was initiated in 2005 in Jawhar, a tribal area in Konkan region of Maharashtra. An initial survey showed that the farmers here were following primitive agricultural practices, resulting in lower crop yields, that too in only one season (Kharif) due to low rainfall, which has been one of the reasons for the migration of the farmers. The project team laid demonstration plots to encourage farmers to grow vegetables to help them improve their cash income through sale of vegetables. It forged a collaboration with a social service organisation *Pragati Pratishthan*, and trained a few interested farmers, distributed certified seeds, demonstrated good nursery practices, organised field trials of new crop varieties and use of techniques like SRI (System of Rice Intensification). Later workshops were organised to promote SRI among the farmers by involving experts in rice cultivation.

In Palghar area, about 70 km away from Jawhar, the team observed that farmers were progressive and a few were adopting advanced technology, producing large volumes of vegetables and fruits and improving their economic status. The team organised a conducted tour for Jawhar farmers to visit the progressive farmers' fields and interact with them. All these extension efforts encouraged the Jawhar farmers to adopt advanced methods of crop cultivation which finally resulted in higher yields and income. The team also organised



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Harvest Hangama wherein the fields of hybrid rice (Sahyadri) and popular hybrid rice (Swarna) were harvested, threshed and weighed in presence of more than 100 farmers. This result demonstration helped the farmers realise that the recommended Sahyadri yielded two-and-a-half times more rice than Swarna. The Foundation set up an Agriculture Technology information Centre (ATIC) with kiosks, posters, magazines and books in Marathi to improve the knowledge of the farmers.

The project team also joined hands with Bharatiya Agro Industries Foundation (BAIF), a well-known NGO which was implementing a programme, *wadi orchards* – to enable smallholder farmers to earn a reasonable income by growing agro-forestry trees, cashew and mangoes on their rainfed lands. The SF tried to ensure assured income through intercropping vegetables in wadi orchards. With this successful beginning the SF and BAIF expanded the area of operation to help the smallholders. When the production of crops improved, the Foundation focused its attention on providing market access through forging linkages with BAIF partner Amrai Tribal MITTRA Fruit Processing and Marketing Cooperative Society. After working in this area for three years, the project team realised that it was very expensive to provide extension services to 73 vegetable growers spread in several villages. Many farmers sold their produce to middlemen to get easy cash. Despite these setbacks, the Foundation with its partners did organise a '*Krishi Mahotsav*' to widen the farmers' network. Several new initiatives were also taken up to horizontally expand the area of operation with diverse activities.

When the joint venture with BAIF – Amrai coop society – was not moving as per expectations, the Foundation adopted a new approach of organising the farmers into independent producer organisations. Although 700 farmers jointly produced huge quantities of vegetables, especially tomatoes, their incomes did not go up mainly because of glut of tomatoes in the market during 2009-10.

The Foundation was keen on achieving its ultimate objective of progressively withdrawing external assistance and empower the producers' groups to manage their operations independently as well as

profitably. The project team tried different initiatives and later realised that it was losing focus on its main objective of turning agriculture into a sustainable livelihood activity for its farmers. In a nearby area, Mokhada, the team approached a private company engaged in export of vegetables to sell the vegetables produced in the adopted villages. Accordingly a new cooperative venture, nicknamed 'vegetable valley' was implemented by growing lady's fingers and chillies. Although, the idea of finding these vegetables in the supermarkets of UK appear exciting, the project faced some unforeseen problems in the initial phase. These include i) pest attack on lady's finger crop, ii) inability of the team to provide continuous monitoring due to vast and distantly located areas and iii) Rejections of vegetables which could not meet the export standards (pesticide residues). It was decided to discontinue lady's finger and concentrate on chillies.



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In the next season, chillies were grown but the yields were not good as this crop was also affected with pests and only about 40% of the yield was fit for export. The rejected produce was sold in the open market at a price higher than offered by the partner private company. Based on its experience, the team incorporated changes in the programme (variety of chillies); it could achieve some satisfactory progress in the next season. The other challenges the team faced included i) lack of control over pesticide residues ii) poor sorting and grading of chillies and iii) high overheads to the Foundation. Despite all these constraints, by the end of sixth year of the project, Jawhar turned out to be a commercial vegetable-growing belt and the same was extended to the nearby areas.

Although the project achieved several milestones in vegetable cultivation, in terms of increase in area and production of vegetables (especially bitter gourd) and rise in farmers' income, the project was not self sustaining. The Foundation still carried some overheads and need to provide technical guidance to the farmers. The increase in the demand of vegetables also lead to a spurt in farm input dealers operating in the area. The author was of the opinion that through its extension efforts, more than 10,000 small farmers were benefitted by growing vegetables on a commercial scale.

The third chapter is about another interesting project implemented in 2005 in Kalahandi (Odisha), one of the most backward districts in the country. The programme was based on its success in the previous projects. Here too, the Foundation partnered with several local organisations which included Kalahandi Association for Rural Reconstruction and Total Awareness Benefit of Youth Action (KARRTABYA), State Department of Agriculture, Central Rice Research Institute (CRRRI), Orissa University of Agriculture & Technology (OUAT), World Bank-aided National Agriculture Innovation Project (NAIP), KVKs, SHGs and several NGOs to implement its projects. In Kalahandi also the project team encountered several hurdles in the process of implementation. The project team, in consultation with its partners, changed its programme and its approach in order to surmount these hurdles and continued to move forward.

The Foundation organised a workshop by inviting experts from the ICAR institutions and the State Department of Agriculture to expose the farmers to improved methods of cultivation including certified seeds and management of pests and diseases. This was followed by organising result demonstrations in farmers' fields (on-farm trials) in various locations on the SRI method of rice cultivation and use of hybrid seeds of rice and vegetables. The results of this phase were very impressive and many participating farmers succeeded in achieving record production of red chillies through cultivation of hybrid chillies (Roshini, Flame Hot) and rice varieties (Naveen, released by CRRRI). The Department of Agriculture was so impressed that it sought the cooperation of the Foundation in organising field demonstrations under the National

Food Security Mission. KARRTABYA, under the guidance of the Foundation, established poly-nurseries to supply quality seeds to the farmers. The Foundation organised conducted tours to the successful farmers' fields in the area as well as the nearby Raipur district of Chhattisgarh. With the increase in the demand, KARRTABYA has doubled its capacity of poly-nurseries. The Foundation and its partners, focusing on transfer of technology, were successful in increasing the yields of rice and vegetables of several farmers spread in the poverty-ridden villages of Kalahandi.

With increase in yields, the project shifted its focus on marketing of produce by establishing commercial vegetable hubs to be managed by the farmers on a profit-sharing basis. The Foundation also established centres for seed production to meet the increasing demand for hybrid seeds, and organised training programmes for the farmers in techniques of seed production and handling of seeds. This activity lent credence to the Foundation's assumption that this area was suitable for seed production.

Meanwhile, the Foundation was also involved in a flood relief programme when the area was affected by Mahanadi river floods. As an extension of this programme, small agricultural development programmes were initiated to increase the area under operation as well as to bring in more and more farmers into their fold of development.

KARRTABYA had promoted the formation of an Agro Service Extension Self-Help Cooperative Society (AESHCS) to sell farm inputs through the hubs but it could not serve its purpose for several reasons. The success of this project could be gauged by the increase in the number of vegetable growers comprising of 49 producer groups, and area under vegetable cultivation (106 ha). The total production of vegetables reached 2,982 MT, yielding an average net income of Rs. 27,576 to a vegetable grower. There was a substantial increase in hybrid rice seed production and the Foundation organised a Farmer-Scientist Meet in one of the villages with the involvement of scientists of ICAR.



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The scientists appreciated the Foundation's efforts and were convinced about Kalahandi's potential as a viable seed production centre. The Foundation and its partners had ultimately succeeded in putting Kalahandi on the path to prosperity.

The next chapter is about the Foundation's experience in working for the upliftment of small farmers in another backward district, Bankura in West Bengal. This district receives excess rainfall but suffers from drought due to rapid runoff of water over an uneven surface and poor water-holding capacity of the soil. The Foundation started working in this area in 2006 by partnering with *Shamayita Math*, a local organisation working for improving the quality of life of rural people. The Math had a team consisting of an agronomist and a few field workers working to improve the crop production in the area. During the pilot phase, the Foundation decided to carry further the work already being done by the Math with the objective of increasing the farmers' income through increased production. It followed a similar approach as was adopted in the previous projects. The results were encouraging, with an increase in the number of adopter farmers, area under new crops and yields higher than the state average, bringing in more income to the participating farmers. The Foundation established an information and facilitation centre, *Shamayita Krishi Kendra (SKK)*, to educate the farmers.

In the next phase, the Foundation attempted to replicate its successful practices to encourage more and more farmers in several villages to derive the benefits of advanced agricultural technology. Notable among the crops was rice cultivation promoted with the use of certified hybrid seeds under SRI technique. But the

promotion of hybrid varieties received a setback as the cost of cultivation was high and they were not suitable for the project area.

However, vegetable cultivation picked up quite well with more and more farmers entering the field, and the Foundation met the increased demand for the certified seeds through local production under seed multiplication programme. This programme was so successful that the SKK got the paddy seeds certified and branded as *Sree Rohi Seeds*; it has become a popular brand of seeds.

The Foundation also invested in other means of livelihood, such as goat rearing through distribution of Black Bengal Bucks, duck rearing through the supply of Kaki Campbell, and pisciculture. To improve the availability of water for irrigation to the high-yielding vegetable crops, the Foundation was involved in desilting and deepening of the rainwater tanks. A need-based approach was followed in helping the farmers through supply of various inputs mostly on a cost basis.

Efforts were also made to rope in microfinance institutions, including public sector banks, for promoting commercial vegetable cultivation which needs high inputs. Similarly, potato growers were linked to the processing industry but some of the contract producers sold the produce in the open market as the price was more attractive than what the industry offered; the Foundation had no option but to leave the decision of whom to sell to the producers. Though the project established market hubs to enable producers to sell their produce, out of an estimated production of 1100 MT of vegetables only 20 % was sold through the hubs. The reasons for the low usage of hubs were identified as lack of close networking between the growers and field staff, and the farmers' perception that they get better price if they sell to the agents rather than to the hubs. The project tried the idea of selling vegetables under the brand name *Bankura Fresh* to sell graded and packed vegetables in nearby Durgapur. While this helped to some extent in increasing the sale of vegetables through hubs, the hubs were not becoming self-sustaining mainly because of insufficient volume of vegetables handled, and the Foundation continued to bear the operational costs.

The Foundation and the farmers were also disappointed with the attack of pests such as Bacterial wilt of tomato and blossom-end rot disease which has damaged several production units, resulting in heavy losses. The silver lining for the Foundation was that *Sree Rohi Seeds* became a successful venture, as over 500 smallholders were involved in the seed multiplication venture which fetched them more profits than from growing grains.

In the last chapter, the author highlights the importance of appropriate technology, improving farmers' access to markets, seed production and vocational training for the rural youth in improving the income of the small farmers. However, it is not clear why the Foundation tried high-value vegetable cultivation knowing fully well that it is a 'high-input and high-output technology' fraught with heavy investments and high risks especially when the target group is resource-poor farmers in all the four selected districts.

The lessons learnt by the project team in implementing various projects will serve a very good purpose for all those involved in agriculture and rural development projects. It is very difficult to narrate the entire experimentation process of almost a decade of working in these four districts, but the author needs to be complimented on showcasing his vast experience in a book of about 100 pages with beautiful colour plates. As indicated rightly by Prof. M. S. Swaminathan in the preface, this kind of books based on field achievements and experiences are badly needed today. This book is helpful for all those involved in agricultural development, especially extension professionals who wish to learn from the experiences of others without wasting their time and other resources in learning through self experience.

I am sure that institutions like KVKs, ATMAS, SAUs, NGOs etc. will have similar experiences while implementing their own projects. However, one hesitates to document and publish such experiences, resulting in loss of valuable information. The enthusiasm we show in publishing and publicising success stories is rarely seen in case of failures, mainly because "Success has many parents and failure none". We

hesitate to own the failures as if it reflects on our competence. Success is not possible without surmounting hardships. It is high time that we extension personnel realise the value of such experiences and show the same diligence in reflecting our failures in project implementation which serve as a treasure house of information for others. Conducting a post mortem analysis of failure projects does not serve any purpose unless the report is documented and communicated in time to the concerned parties.

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