



Book Review

Commercial Agriculture by Indian Smallholders – From Farm Prospects to Firm Realities

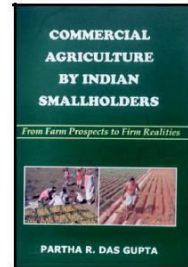
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When technology-driven agriculture is planted in the innovative minds of Indian smallholder farmers (from the states of Maharashtra, Odisha and West Bengal) innovation for local adoption and it would bring huge change in their existing farm economics. *Commercial Agriculture by Indian Smallholders*

– *From Farm Prospects to Firm Realities* is the lucid narration by Prof. Partha R. Das Gupta of Syngenta Foundation for Sustainable Agriculture (SFSA), Basel, Switzerland (the Indian arm being not-for-profit institution Syngenta Foundation India (SFI) – established in 2005) about the potential to transform the livelihood prospects of smallholding farms in four locations of threes states into commercial farming for richer harvest.

There is the fast-fragmenting agricultural land holding of 1.16 ha as in 2010-11 NSSO data against 1.33 ha of 2006 census data, far below the cut off of 2 ha that is actually the small farm norm. The fragmentation of farm land limits farm families to secure income from farming alone. The challenge to revitalise the rainfed agriculture of small farm holdings was taken up by SFI. It prepared road map in which pilot scale projects were designed. The recent government policy announcement on ‘doubling farmers’ income matches well with the experiences provided in this book by the author.

The book narrates in the efforts of the SFI, in association with local civil society organisations to practice self-sustaining farming in Indian small holding farms. Through the pioneering pilot and subsequent full scale involvement at Anandwan / Somnath, Chandrapur (Vidarbha region of Maharashtra) as given in chapter 1; resurgence of agriculture in Jawhar

(Konkan, Maharashtra) in chapter 2; emergence of new Kalahandi (Odisha) in chapter 3 and small farmers make it big in Bankura (West Bengal) in in chapter 4, Prof. Das Gupta successfully brings out vividly the saga of the mission-oriented programme to revive the smallholding farm economy in the four agroclimatic situations. The concept of profitability from farming has been pursued by SFI through the high-tech and knowledge-driven farming practices.

Dr M.S. Swaminathan in his Foreward to the book states, “small farmers can take big steps forward” and this is exemplified in the book by Prof. Partha R. Das Gupta. As much as the villagers have mastered the technology of high speed motorbikes or cell phones in recent decades, their preparedness to imbibe high-tech farm technologies is epitomized in this book. The significant imagery on facilitation of the most essential agri-inputs, micro-finance and access to market is the pillar of success to such projects. The ecosystem that is woven out of the local resources has sustained the local partnerships between various actors who patronized the increased productivity of the farm commodities. The book narrates vividly the flow of money into farming families of the project villages across the country through the SFI initiative on intensive agriculture.

The selection of farm enterprises such as market-driven vegetable production, high quality hybrid seed production of rice and vegetables for making available local farmers, integration of livestock and fisheries in accordance with the resources of the villages have been masterly entwined in the plans and programmes for each of the four locations. Interesting hand-holding with organisations such as BAIF-SEDP could strengthen the goal of transformational paradigms in order to shift the present approach with futuristic innovative farming practices. Creditable SFI initiative was to organize farmers these technologies to imbibe the farm technology and knowledge along crop seasons. The farmers could absorb technologies and skills to build up confidence for plunging into the risk-bearing entrepreneurship such as for commercial hybrid seed production, high value vegetable production or pushing the high yielding vegetable production for small towns and urban markets. The vivid detailing of experimentation in the four locations to introduce concepts such as market-led extension of fruit-bearing technical knowledge and build-up of farmers’ confidence to become entrepreneurial are the highlight of the narrative that signify the success

of the SFI initiatives. The idea to move with the locally influential social organisations such as Late *Padma Vibhushan* Baba (Muralidhar Devidas) Amte's *Maharoga Sewa Samiti* at Warora (Maharashtra) and similar ones in the locations to get to the hearts of farming families along with carefully chosen project partners is professionally ingenious.

Chapter 1 provides lucid narrative about the agriculture at the Dr. Baba Amte's Anandwan in Warora, Chandrapur district (Maharashtra) became an impetus gaining economic strength of the farmers of Anandwan and Somnath. The author gives anecdotal narrative to illustrate the catalytic efforts of technology interventions in reforming the prevailing practices to bring about the change in the profitability of farmers. Appropriate Technology interventions in rainfed farming of black alluvial soils of Vidarbha region is a tell-tale narrative in this book. The planned programmes that Baba Amte steers through with the help of SFI initiatives make Somnath village more prosperous. Technology driver in the ridge-furrow cultivation of Soyabean in Trupti Sadan, rice cultivation in Shanti Sadan, and hybrid brinjal cultivation at Phaal village made the smallholding farmers to achieve greater benefits and prospects. The trigger for the establishment of Agritech School at Anandwan in 2010 and its growth into the Agricultural Polytechnique under the Panjabrao Deshmukh Krish Vidya Peeth (PDKV), Akola is the best example that the SFI could initiate to enhance skill in the farming families of the region. Agri-business, seed production, animal husbandry and livestock management, fisheries and aquaculture, home science and post-harvest processing are part of its curriculum to make the farm youth independent and enterprising. Skilling of youth and developing women entrepreneurship in villages of the Chandrapur District is commendably achieved by this institution in the last seven years.

The Chapter 2 illustrates the hand holding with Pragati Pratishtan (Sunanda Patwardhan ji) to reform the farming practices of the tribal villages to make the farmers reap higher profit from the farm land. Introduction of technology transfer for 'System of Rice Intensification (SRI)', vegetable cultivation, intercropping vegetables in orchards, certified rice seed production and agro-forestry with cashew/mango fruit trees were undertaken in three phases. Hand holding with Bharat Agro-industries Foundation (BAIF) got a fillip to the tribal village programmes in vegetable cultivation. The author provides vivid and illustrative narrative about organising farmers

for collective marketing through BAIF-affiliates such as Amrai Tribal MITTRA, Fruit Processing and Marketing Cooperative Society ('Amrai Coop'). 'From Thane to Thames' is anecdotal punchline in the narrative on pilot plan of export of vegetables from the SFI project area at Mokhada (vegetable valley) village in 2010 through the hand holding with a private exporter through contract farming on global GAP norms. From 35.6 ha in 2011-12, the vegetable area grew to 157.4 ha in 2014-15, mainly lured by the market linkage to produce over 2576 mt vegetables in that year's *kharif* season; all within the average holding size of 0.12 ha tribal area farms. This vegetable production hub emerged as major supplier to Mumbai and its suburbs. The critical mass for commercial vegetable production could be created in the Mokhada-Vikramgad project area. The average net income of the tribal farmers of the region in each *kharif* season from 0.12 ha land shot up to Rs 21000 that is 45% more than the labour wages earned by 100 days of work under 'Mahatma Gandhi National Rural Employment Guarantee Act'. Such incentives and smart options could make many tribal farms to produce vegetables in *rabi* season too using support irrigation. Ultimately migration of farm families to neighbourhood towns and Mumbai could be much restricted due to steady income from the land.

Chapter 3 is the SFI experience in the eastern India at Kalahandi district in Odisha. The extensive description in this chapter on programmes with the integration of organizations such as Kalahandi Association for Rural reconstruction and Total Awareness Benefit of Youth Action (KARTABYA) is a treatise to the emerging 'Start-Ups' in agricultural sector of the country. Good quality (genetically pure with high vigour) crop seeds being the primary input in farming, and farmers struggle to access this during each cropping season, SFI took up the mission on developing Seed hubs for hybrids of rice and vegetable crops. Alongside the mission on crop intensification for higher productivity and profitability from unit land, the technological interventions for SRI production and vegetable cultivation enhanced the scope to make smallholding farmers to be aspirants of profitability from a situation of bare livelihood from their agricultural land. Market-led extension as a strategy to transfer technology and knowledge worked well in Kalahandi, with its good natural resource potential. It shot into hybrid seed hub for rice and high value vegetables. The transformation of the project area into amazingly profit oriented agriculture is elaborated. Farmer to farmer seed movement

was visualized when the high yield variety development programme in crops through ICAR-All India Coordinated Crop Improvement Projects were commenced. The SFI took on this mission earnestly and could succeed to convert ordinary farmers into vegetable growers and seed producers through smart networking as well as handholding of the farmers groups with knowledge-bearing team of extension workers of SFI. Ultimately, the seed companies found congenial system for organizing contract seed production of crops such as rice, maize and vegetables through the experienced seed producer farmers. The author's picturisation of the seed enterprise in 252 ha of 343 farmers with estimated value of seeds produced for about Rs 180 million is fascinating. Odisha government declared Rs 25000 per ha as subsidy for hybrid rice production farmers. Prosperity through smart agriculture could be enjoyed by Kalahandi farmers under SFI smallholder farmers' extension programme. The World Bank funded project: ICAR-National Agricultural Innovation project (NAIP) under Component 3 (Sustainable Rural Livelihood and Food security to rainfed farms in Orissa) had KARTABYA as consortium partner, as recommended by SFI. Similarly the partnership of SFI with 'Youth Council for Development Alternative (YCDA) for microfinancing for vegetable cultivation, 'PRADAN' for livelihood security and women self-help groups and Association for human rights education and development (AHEAD) for growing pulses, maize and cotton in Naupada district (villages of the old Kalahandi district). The narrative in Chapter 4 is about the disadvantaged Bankura (West Bengal) district having drought in spite of 1340 mm rainfall and the SFI designing farm technology-loaded package of hybrid vegetables, hybrid rice and SRI, homestead goat farming, duck farming and fish farming. The strong association with the local organization, Shamyita Math became catalytic for developing agricultural advisory programme for the local farmers. The initiative to harvest rain water in the village- tanks to irrigate high value vegetables enhanced irrigation coverage to over 40%. Desilting and deepening of village tanks was fruitful to accelerate the adoption of vegetable cultivation in many villages. Participatory seed production plans were drawn for hybrid rice and branded as 'Sree Rohi seeds' could enhance the esteem and self- confidence of farmers of Bankura. With the handholding of local agricultural experts, the *Shyamita Krishi Kendra* (SKK) could become the farmers' resource centre for technical knowledge, farm

implements such as *kono* weeders and high yielding crop seeds and other farm inputs. SKK became a two-way track for farmers to access technology and knowledge and SFI vehicle to ply through farming families offering various strategies to make their farm income improve steadily. Examples such as ‘hub and spoke’ market-linked intensive commercial vegetable cultivation, potato production linked to processing factories, SRI based hybrid rice cultivation, servicing of village water tanks for farming and homestead livestock / fisheries and goat rearing / piggery enterprises are described in the book as excellent success stories that got spread over to adjoining Purulia district too.

The author has successfully captured and encapsulated in this book the professional SFI programmes that were executed between 2004 and 2014. The goal of enhancing small farmers’ income through situation-specific appropriate farm technology for bettering crop yields, cropping intensity, commercial seed production, integrated farming system with homestead livestock and poultry, market-driven crop production, micro-finance set up and committed participation of local organizations for deep participation and facilitation. The spinoff from these four enduring examples of attempt to double farmers’ income in tune with government mission is the intense vocational training for farm youth and improving women power for timely farm-centric management decisions. The perceived risks in undertaking high value agriculture that became accepted practice in these projects were imaginatively mitigated through astute micro-finance institutions. Probably agricultural insurance could become a risk-proofing farm input for undertaking high-tech farming. The lucid reading of the book to get the feel of the ups and downs of every project significantly etches into the reader is the testimony to the author’s pain to make this book a free-flowing text with number of anecdotes. The book brings out the saga of bringing changes in farming through location-specific technology recipes in the phase I to phase III journey of the SIF programmes in all locations. The author has provided the panorama of the extension mechanisms and techniques adopted in each of the location where SFI took up knowledge intensive farming practices for changing livelihood pattern of the deprived smallholders.

The author may consider the analysis of nutritional satiation of the region through the introduction of dairy, fruits and vegetables in the cropping system in the course of the mission on crop intensification. Protein and

mineral nutrition is best achieved to all members of families and could be to be valued and assessed while providing project achievements of locations. Economic valuation of satiated food, nutrition and health of farm families can be the indicators for such hard effort to make smallholding farms commercially viable. The sustenance of Indian agri-biodiversity is one of the key achievements of such projects. The effort to maintain and utilize these crop bioresources is indeed the hidden success to achieve the economic benefits of communities of the region. A value chains that are created through such projects need elaborate studies in terms of employment and income generation, social value chains, and *ex-ante / ex-post* socio-economic impact over decades. The project managers may have the opportunity to subject such project areas for follow up of the sustainability of these enterprise created. These could be good subjects for the local educational institutions to involve their students for training on dissertations. The silent transformation from 'livelihood farming' of the villagers in these states where the projects operated to 'commercial agriculture' has elements of emotions of people that keeps generations to remember the SFI programmes and continue them effectively through similar mentoring organisations.

One can deeply sense after reading this book that the systems pursued by SFI can be replicated through robust hand holding with small farmers in any state by similar goal-bearing individuals or institutions.

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