



PGS – enabling organic production system for small holders

Introduction

Participatory Guarantee Systems (PGS) have been implemented in India for the last decade to promote Organic Farming systems. They were introduced since India has over 400 million small holder farmers who are unable to afford complex third party certifications on their own. It was initially lead by various NGOs and today has become a major mechanism to guarantee organic produce even by the Government of India.

More groups across the length of the country are recognizing the value of the system and adopting it. It is estimated that by the end of 2020 400,000 smallholders and 600,000 hectares of total farming in India shall be under PGS. The system is being given wide recognition by various stakeholder in the country such as farmers, consumers, NGOs and the government too. The system has helped small holders access a fair and transparent market system as a collective. It has also given consumers access to the transparent access to sources of produce as well as direct stake holding in supply chain of safe and clean food. In this profile we describe cases where it has helped all the stakeholders in the organic supply chain as well.

Description of the Agroecology system

PGS is simply a system of trust, based on known consequences. The farmers access the system knowing that the entire supply chain of trust, which, if broken, leads to consequence akin to those of a Guarantee. In this case the Guarantee is applied to the production and processing of organic agriculture. It allows for consumers, farmers and all other stakeholders in the value chain to create a system of transparency and trust. The system allows for small holders to use this trust with little or no cost accrued to them and continue to produce organically, the consumers have access to safe produce and be connected to the process of agriculture.



Figure 1. Bountiful Organic Millets from PGS Certified farmers

Timbuktu Collective

The district of Ananthapuramu in the state of Andhra Pradesh is today one of the most impoverished and drought affected locations of India. It has a large rural population of over 71% of whom over 60% depend directly on agriculture for livelihoods. It is a location where not just families but whole villages have migrated out in the past. It is in these conditions that the Timbaktu cooperative operates. Traditionally food security was ensured by cultivation of mixed cropping system including millets which were replaced by cash crops mono cultured to groundnuts using toxic agro-chemicals.

It is in this context, the Timbaktu Collective initiated its organic agriculture program in 2006 in an attempt to address the issues of rural livelihoods, food and nutritional security, ecosystem rehabilitation, improving crop production and revitalising rural agrarian economies. The programme was started with 350 farmers from 8 villages. Since then the program has completed three phases and now works with 1632 farmers in three mandals (blocks) – C.K. Palli, Ramagiri and Roddam of



Ananthapuramu district. It has brought an area of 8700 acres under agro-ecological farming practices, of which about 7000 acres are rain-fed.

The process started by forming farmers groups at village level (sanghas) and training them in organic farming methods besides providing them with critical inputs such as biomass, building soil-moisture conservation structures, seeds for millets and pulses and most important of all, indigenous cattle. The provision of cattle supported the farming families with availability of cow-dung and urine, basic elements in organic manure preparations as well as using the animals for draught purposes. The Collective also set up PGS systems for organic certification for the farmer produce under the guidance of PGSOC, India. Slowly agroecology in the area increased and surpluses of produce were to be marketed. This created the need for an institutional set-up to procure, process, value add and market the surplus produce. Also an institutional set-up creates the collective strength for the farmers who can in turn engage with the market from the position of strength. Thus happened the *Dharani* Farming and Marketing Mutually Aided Cooperative Society (*Dharani*), a farmer owned business enterprise. This improved the livelihood incomes of the small holders through the following interventions:

- Correct weighing practices add 25% to farmer's income – before this farmers were being short changed on the purchase weighing of the produce at farm gate.
- Price fixed before season especially for millets to prevent price shocks.
- No ceiling on produce that would be procured by the cooperative (as per crop plan) – this helps farmers liquidate all their stocks in the current season.
- Providing 20-50% premium prices over market prices to ensure fair market access
- Additional patronage incentive of 3% to 7% as incentive at the end of the year.

Dharani services over 30,000 consumers in southern India through the PGS mechanism and also helps raise internal credit for its members.

Political Space

The success of PGS initiatives in India encouraged the central government to implement the system across India in 2011. It initiated an online database which could be access by farmers and NGOs anywhere in the country to update information about organic farming and access to PGS. As of July 2016 the government system has over 36,000 small holders and about 35,000 hectares under PGS. The goal is to have over 500,000 hectares under PGS organic cultivation all over India, in the next 3 years. The scheme also provides monetary incentives for farmers to convert to agroecological practices by switching from agro-chemicals to organic inputs. It also provides the farmers with capacity building mechanisms such as access to machines, branding labeling and packaging their produce for the markets. Hence it not only enhances their capacity to produce but also provides suitable methods



Figure 2. PGS product

for market access. This is provided by a central government scheme called *Paramparagat Krishi Vikas Yojana* (PKVY-PGS) or Traditional Farming Progressive Scheme.

In this system two cases are examined here. The first is the *Chetna Vikas Swarajya* Trust based out of Northern Indian state of Uttar Pradesh. The group currently has 70 farming families and a land bank of about 58 hectares under PGS being managed. The trust has successfully converted produce to branded products for market ready access. Currently the group trades in spices, flours, oils, fruits and sweeteners. In keeping with the diversity at the farm the products are varied and of superior quality at affordable prices.



Figure 3. Multicropping Sugarcane, Turmeric, Collocasia and Mangoes

However, importantly is the fact that the agronomy of the farms producing organically is highly productive and profitable. On visiting the fields of Mr. Tyagi's farm it is clear that the diversity and productivity quotient is high. Per hectare at least 4 types of varied crops are grown, including fodder. Also the revenue generated is potentially about 9lacs per hectare which is at least 25% higher than regional average on conventional farmers. The farm is an integrated system starting from the indigenous breed of cows and bulls such as *Haryana Desi and Rathi*. The farm geometry has worked well agronomically considering that the average

cumulative yield per hectare of the farm is 30-40 tons. Let us consider an example how this farm is organized – cropping patterns are in two columns of 21' each. The first column has annual crops whereas the second column has seasonal crops. After two such blocks i.e. 42' the farm has silviculture such as Burmese teak intercropped. Each column has the option of sugarcane sown in 9'x9' blocks, intercropped with garlic or a root crop such as potato, radish or carrot followed by a 12' sub-column with turmeric. On the next column during the winter sowing season, wheat is sown intercropped with fenugreek or lentils or Linseed. In addition seasonally the intercrop can be changed to millets and other vegetables such as peppers as well. Since the farm has animals, fodder is also optimally managed on the bunds and column boundaries or irrigation channels. Various kind of single and multi-cut fodder crops such as sorghum, alfalfa, perennial Napier and local grasses are grown. Interestingly the farm sees little or no tillage at all, and if required in any case one round of power tilling is used. The overall goal is to get 7-9 lakh Indian rupees per hectare as the average yield which is sufficient to rival any farm which uses conventional chemical inputs for cultivation. In terms of inputs used, the combined use of mulching, composts (such as vermicompost), Manure gas slurry, microorganisms such as VAM and Trichoderma are used across the farm to improve productivity.

Seeing this it is not difficult to see how a sustainable agricultural system can be productive as well as profitable. Organic farms such as this are typical across India, they do however lack proper research support from institutions for mapping productivity. At the minimum proper crop cutting experiments (CCE) done at the farm will be able to better establish formal research on various such small holder organic farms across the country.

Another such small group of farmers exist in the mountain region of Himachal Pradesh. While the farmers are small and marginal, with average holdings less than 1 hectare. The farmers of *Muskaan Jaivik Kheti* Self Help Group (SHG) (of which the author is also a member) have no external support from the government or organization but have the distinction of being the first group of farming families covered under PGS in the state. While the farmers are registered within the framework, they have been left out of the PKVY scheme for cluster implementation. The farmers nevertheless, produce staples such as maize, rice and wheat and also vegetables and fruits such as apples, pears and almonds and connect in a small way to the direct markets locally as well as in far off places such as New Delhi.

The group is also experimenting with new price discovery and marketing models e.g. price discovery is both input and market driven for the farmers, either the front end marketing organization provides the farmers 60-70% of the discovered (or realized) market price to the end customer or the farmers discover their own prices by base pricing as per input cost (labour and material) to produce the harvest



and a profit premium rationalized for competitive market prices for similar products. In both the scenarios farmers are offered end-to-end transparency on prices and provide a method to determine fair market share for the goods.

In the past, increasing seed rate, erratic rainfall and lack of suitable irrigation alternatives a number of farmers were abandoning Rice farming, thus putting their own nutritional security at risk. The PGS group organized a training program on folk rice varieties and practices such as System of Rice Intensification (SRI) modified to the local conditions in the hills. The innovation the farmers discovered that reduced seed rates in SRI work however while transplanting Single Plant Transplant may not work due to high incidence of rainfall in season.



Figure 4. Rice Transplanting Workshop on SRI techniques

The farmers also attempted to integrate innovative hand held tools to reduce drudgery and increase productivity in low rainfall conditions. With these improved practices and innovation a few farmers of the PGS group have started experimenting with traditional rice cultivation and seed multiplication. This was made possible by bringing the farmers together through the PGS system.

Outcomes of the practices



Figure 5. Women Farmers practicing Raised bed rice nursery

PGS has enabled farmers across India to create organic farming collectives and access markets. Simultaneously it provides consumers with the opportunity to access the farms and farmers directly. It also provides opportunity for all intermediate stakeholders to partake in the transparent supply chain connecting small holders to markets.

The national government has further catalyzed the system for implementation at a larger scale and across various regions in the country. Since the system has a built in transparency mechanism it tends to ensure

that fair market access is provided to both ends of the value chain.

Gandhi once mentioned that the true meaning of *Swaraj* or self-governance is the freedom to make mistakes and learn from them. By trying out new mechanisms of operations in areas such as price discovery, perhaps new ideas are being generated for the future socio-economic setup.

It is envisioned that by the end of 2020, the PGS system in India shall be one of the largest implementations in the world with both the civil society and Governments working in tandem to make the program successful. Eventually it should have a positive impact on the agroecology and livelihood profile for small holders in the country.

Message from farmer to farmers

“Farming as a profession is uniquely distinct from others. Access to services of various professions is required with a lesser frequencies e.g. the services of a doctor or a lawyer, whereas the services of the farmers are required for every meal we have, every day of our lives.”

— Message from Ashish Gupta