Organic Farming Initiatives in Dantewada:
From Subsistence to Sustainability

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Skirting the hazards of chemical farming by a whisker, the tribal farmers in Dantewada district, with the help of a strong and supportive District Collector, set an example to other villages by using traditional seeds cultivated the SRI way, to find that their produce, both in terms of quantity and quality, is comparable to any crop produced with newer techniques. Age-old wisdom prevailing over modern quick-fixes!

Dantewada, situated in southern Chhattisgarh, is among the most backward and remote districts of India. Surrounded by hillocks covered with semi-tropical forest (60 per cent of the area of the district is covered by forests), it is the home of the tribal community of Madiya Gond (71 per cent of the population is tribal) and the population density of the district is merely 83 per sq km.

Like all other tribal communities, the Madiya Gonds of Dantewada are dependent on natural resources for a living, the most prominent sources being agriculture and forest produce. The forest provides them with wood, fodder and minor forest produce and acts as a source of food and medicine in the form of roots, tubers, fruits, wild vegetables and mushrooms. Agriculture, on the other hand, is mainly practised as a means of subsistence. A century back, these sources of livelihood were abundant and the population was very sparse. The tribal way of life—simple, free and in harmonious coexistence with nature—had little interference from the outside world. The description of such tribal life comes in the ethnographic writings of Haimendorf when he travelled through Bastar in the late 70s (Haimendorf 1982, p.202). He writes:

“In the Muria villages I visited, there was a relaxed atmosphere indicative of well-being and prosperity...I found the same spirit in a remote village of the Abujhmar Hills, where all the people, men, women, and children, had gathered to thrash the newly reaped grain, a task which the setting of the sun and the rise of the full moon did not interrupt. This work, too, was done in a festive mood, with singing and laughing and the inspiration of ample quantities of home-brewed beer.”
Such was the life back in those days. However, the excerpt is not presented here to paint a romantic picture of tribal life; it is to help see its contrast to the present situation of tribal communities across Central India.

Much has changed over the past century. Resources, once abundant, have now shrunk. Population has boomed. The extent of poverty and hunger is high. The situation of health and malnutrition is grim. For decades, tribal communities have faced exploitation from various sections of society and alienation from resources that are rightfully theirs. Mining has ruined the habitat and displacement has disrupted their lives.

Addiction and idleness have increased due to the prevalence of alcohol and free government hand-outs in the name of development. In such a fertile ground, Naxalism has found its roots, and this has pushed the tribal communities further into a cycle of violence and a level of marginalization never seen before.

Various reasons can be attributed to this predicament. A close look at the issue, some analysis and dissection through the layers, however, reveals that the core causes of this crisis are: alienation of the tribal communities from their natural resources over the years, degradation of these resources and the resulting degradation of the livelihoods of tribal communities, dependent on these resources.

**CHANGING LIVELIHOOD PATTERNS: FORESTS**

One of the prominent themes in this process of transition is the gradual erosion of forest-based livelihoods. A major reason for this was the loss of the rights of tribal communities over the forests they live in or near. The Indian Forest Act, introduced in 1878, disturbed the harmonious relationship of tribal communities with the forest. It treated them as intruders in the same forest they had been preserving for generations.

The Forest Act, and the Forest Department subsequently formed, has had a great impact on the livelihoods and well-being of the tribes all over the country. Accessing wood from the forest for daily cooking, shelter and other needs has become difficult. The community is harassed by the Forest Department officials. Cattle can no longer be grazed in the Reserve Forest Land.

The Forest Department focussed more on commercial species such as teak and eucalyptus, which have limited use and significance in tribal culture. Block plantations of such species have eroded the diversity of the forest, which has gradually decreased the availability of various minor forest products, medicines, wild fruits, roots and vegetables, important from the perspective of the people (Haimendorf 1982, p. 81).

The increasing population has put more pressure on forest-based livelihoods. Over a period of time, the forest has shrunk due to mining, smuggling of wood or clearing for cultivation. On the other hand, the increasing population has to share this shrinking base of forest for its various needs. And forest-based livelihoods are gradually proving to be insufficient for the increasing population. There is, therefore, a need for diversification and the strengthening of other sources of livelihood.
CHANGING LIVELIHOOD PATTERNS: AGRICULTURE

Similar to the changes in forest-based livelihoods are the changes in agricultural practices in Dantewada. The policies of the state and the Forest Department have greatly impacted the cultivation practices of tribal communities. Slash and burn was traditionally followed in many regions of the district as a primary method of cultivation. Although it was believed to be an ecologically viable method of cultivation by many anthropologists, it was banned under the Forest Act (Guha 2010, p. 128).

Unlike mainstream agrarian societies, tribal communities shifted their place of cultivation every few years. They would leave the fields barren for the forest to rejuvenate, and move to the next patch of forest to clear and burn, and cultivate there, returning to the previous fields after a few years, thus completing the cycle. These practices had to be abandoned after the Forest Act came into being. The land on which cultivation was going on when forest boundaries were being marked was considered to be agricultural land. The land demarcated as forest was that on which cultivation had been going on for generations in rotation, making it inaccessible to the people.

REPERCUSSIONS

Incidentally, the transition of tribal communities of Dantewada and the regions around it, from the forest-dwelling way of living towards an agrarian way of living was already in process, due to the interaction with other communities and the policies of the Gond Kings (Pallavi, 2014, 'Impacts on Resources and Economy', para. 1). Those who lived in the hills largely continued their original method of cultivation; those who came in contact with other communities, however, gradually started using ploughs, bullocks (Haimendorf 1982, p. 15).

This transition was greatly accelerated and practically forced upon the people by the imposition of the Indian Forest Act, the subsequent activities of the Forest Department and other policies of the State. As a result, instead of evolving with time, this transition has taken place in a very short period and, therefore, has had many long-lasting repercussions on tribal society and has worsened their poverty and marginalization.

Unlike other agrarian societies, the methods of cultivation followed by tribal farmers and the geographical conditions in which farming is done are quite different. The use of ploughs and bullocks is very limited in the tribal way of farming and has been adopted by them only very recently. The bullocks lack training and are small and fragile, perhaps because, historically, they were never selectively bred for intensive cultivation. Apart from the plough, few advanced tools are in use in this region. Sowing is primarily done by broadcasting seeds. Most of the agriculture is rain-fed. There are very few intricate community driven systems of irrigation. Because only a single crop is cultivated during the year, the cattle are released to roam free after the kharif season is over.

Traditional methods of cultivation are still practised in Dantewada, demonstrating that even though the tribals have been made to abandon their slash-and-burn agriculture and have begun to practice farming at one place, they are yet to fully adopt the practices of intensive cultivation. Whereas forest-based livelihoods have weakened over time, agriculture or other sources of livelihoods have
Agricultural productivity in the area is very low. The grains produced barely cover a family’s needs. Dependence on a money-based economy has increased but the earning from minor forest produce (MFP) is shrinking and the earning from agriculture is very low. The changes in the patterns of livelihoods have also had an impact on the nutrition of the people. Traditionally, the forest provided a wide variety of vegetables, roots and mushrooms, the availability of which is now shrinking. The availability of game from the forest has also gone down. On the other hand, the cultivation of vegetables and pulses is very minimal, resulting in serious gaps in the nutritional profile of the daily diet.

The diversity of crops in agriculture is also decreasing because people prefer the cultivation of paddy over minor millets such as finger millet, kosra and kodo millet. These millets had an important place in the traditional tribal diet, which is now dominated by rice because it is cheap and easily available in the public distribution system (PDS) shops.

**AT THE CROSSROADS**

The tribal communities of Dantewada are now at a crossroad. Their traditional, forest-dwelling way of life, their harmonious relationship with the forest and their self-sufficiency based on the surrounding natural resources have been disrupted. They have not yet been able to fully embrace the modern agrarian way of life. The realities around them have changed so fast, giving them little time to adapt to the change culturally. Their plight poses several questions. Is this transition inevitable, triggered by the forces of modern world? Should the people embrace it in order to survive? What are the aspirations of the people? which direction do they want to move in as a society? What is the government doing to address these livelihoods crises that tribal communities are facing? How have the interventions helped people to deal with the crisis? What choices has the government given to the people?

**GOVERNMENT POLICIES**

“The old order must change rapidly. Traditional methods must give way to superior technology. Man must harness nature in order to create a better life for himself,” narrates a 1971 government documentary *A Village Smiles* about the Nagarjuna Sagar Dam (Dharu & Patwardhan, 1995). Quite similar was the approach of government policies successful in bringing about the Green Revolution in India in the 1970s when the country was facing a serious shortage of grains. People were persuaded to abandon traditional practices of farming and encouraged to adopt the use of high yielding varieties (HYVs) of seeds, chemical fertilizers, pesticides and mono-cropping, resulting in an increase in the production of wheat and paddy in India substantially.

Similar policies, which were started during the Green Revolution, are being implemented in Dantewada by the government, in an attempt to improve agricultural production. Some major schemes driving these policies are National Food Security Mission (NFSM) and Rajya Poshit Yojana.
One of the reasons, it is believed, for the low productivity in agriculture is the use of traditional seeds. Farmers have been persuaded to adopt improved varieties and hybrid seeds by having these distributed to them free and by organizing demonstrations on how to use these seeds on some plots. The use of chemical fertilizers, pesticides and herbicides is also promoted through these schemes. Wanting to provide a good income to the farmers, the cultivation of hybrid maize has been widely promoted. In order to increase irrigation coverage, farmers have been given subsidies to dig bore-wells and buy electric or diesel pumps.

With the efforts of the Agriculture Department, people have gradually started using improved and hybrid seeds, chemical fertilizers and pesticides. The cultivation of hybrid maize is picking up and it provides a good cash income. The production of paddy has been increasing in the district lately. Earlier, the grains produced were hardly sufficient for the needs of a single family. Now many farmers have started selling their produce in the government procurement system.

**IMPACT OF GOVERNMENT POLICIES**

Government policies, based on the promotion of chemical-intensive farming, have been, as of now, showing positive results in Dantewada. But are these results sustainable? If the tribal farmers of Dantewada adopt the chemical intensive-cash crop and mono-cropping-based farming on a wide scale, will it strengthen their livelihoods in the true sense? What is the long-term experience of the policies of the Green Revolution in other parts of the country, where it saw great success?

A look at the national experience of the Green Revolution and the plight of the farmers in the surrounding regions like Maharashtra, Telangana and the plains of Chhattisgarh will, perhaps, help us understand this. Today, though the production of cereals such as wheat and paddy has increased manifold, and the country has achieved self-sufficiency, it has come at many social and environmental costs. The impact is evident in regions such as the Punjab, Haryana, Tamil Nadu, Maharashtra and Andhra Pradesh in the form of loss of soil fertility, salinity due to excessive irrigation, health hazards due to pesticides and suicides of debt-ridden farmers.

Fortunately, such effects have not yet been observed in regions such as Dantewada because, so far, the use of chemicals has been quite low. However, as the practices of chemical-intensive farming are picking up, various subtle changes can certainly be observed such as the loss of the rich diversity of traditional varieties and crops, compromised seed sovereignty of farmers, increased debt, dependence on the government system and market, impact on soil fertility and the loss of nutrition in the diet.

Famously called the 'Rice Bowl of India', Chhattisgarh is known for its diversity in rice. There were around 19,000 varieties of rice cultivated by the farmers of Chhattisgarh, which are now preserved at the Indira Gandhi Agriculture University (IGAU), Raipur (Singh, 2013, p.17). Many of these varieties are unique in terms of aroma, taste, medicinal properties, nutritional value and climate resistance. Quite contrary to conventional beliefs, many of these traditional varieties have been found to be as productive as HYVs, according to the research of Dr. Richharia (Singh, 2013, p.17).
These traditional varieties of rice were available for free to the people and were exchanged among the farmers through intricate social institutions. Today, not only are these institutions being destroyed but the diversity of seeds also is in danger because people are no longer preserving them. With the promotion of improved seeds and HYVs, and extension work of the Agriculture Department in promoting modern seed varieties, people have gradually started abandoning the traditional varieties. Hybrid seeds are more susceptible to pests, diseases and adverse climatic conditions and need chemical fertilizers to provide a better yield. These costly seeds have to be bought from the market every year because they cannot be reused.

The adoption of chemical farming, although limited, is already showing its impact in the field. The elders of the community have apprehensions about the use of chemicals in farming. Wherever chemical fertilizers have been adopted, farmers have complained about hardening of the soil and creatures like earthworms and small fish vanishing from the fields. With the hardening of the soil, ploughing with animals becomes difficult, and tractors have to be used. Farmers also complain about reduction in the yield if they are not able to add fertilizers, which was not the case earlier, with traditional farming.

The area under the cultivation of millets such as kodo, kosra and finger millet is decreasing in Dantewada. These millets are crucial for food security of the people. Millets are climate-resistant; the crops can grow in arid land with minimum water; and millets are nutritionally superior compared to rice or wheat. Funnily enough, these crops were termed to be ‘unbeneficial’ by the Agriculture Department of Chhattisgarh government and farmers were persuaded to abandon them for alternative crops. Although such a replacement programme does not exist anymore, there is dearth of a programme that systematically promotes the cultivation and consumption of millets.

A critical look at the impact of these government policies shows that whereas they may have been able to increase the agricultural production of the farmers in Dantewada, their long-term sustainability and potential to provide a net economic earning for farmers and truly strengthen their livelihood are questionable. Self-reliance, diversity, minimum dependence on money, minimum needs and harmony with nature—these were the key components of the survival strategy of the tribal community.

However, today with government-backed interventions, these values are gradually being eroded. Farmers are losing their seed sovereignty; the diversity of the cultivation is decreasing; and there is increased dependence on a money-based economy and market. Also, traditional tribal institutions and systems of agriculture are getting destroyed in the process.

AN ALTERNATIVE APPROACH

Amid these government policies and schemes, three years ago, the District Administration of Dantewada decided to follow an alternative route, with the support of the then Collector, Mr K. C. Devasenapathi. Aimed at harnessing the surrounding natural resources and the traditional knowledge of the community about strengthening their livelihoods, the route was based on the principles of

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environmental, economic and social sustainability.

Tribal communities have a great wealth of traditional knowledge about farming, about the strategies crucial for survival and about genetic treasure, in the form of diversity of traditional seeds. Not only is this knowledge important for battling climate change and ensuring food security and nutrition, but it also has great economic potential. This traditional knowledge, therefore, needs to be understood, preserved and taken forward. It should also be augmented with modern techniques and practices that are sustainable and appropriate.

With this thought process, the Administration took up various initiatives to promote the practices of ‘Sustainable Agriculture’ in the district. Various departments joined hands in these efforts and took up activities, mainly in three categories: resource management and infrastructure development; training and capacity building; and building institutions of farmers.

Even though the district has an annual rainfall of around 1500 mm, irrigation coverage is merely five per cent. A comprehensive policy for the development of irrigation was thus followed, ensuring that all possible options are tapped.

Many irrigation schemes, either under-utilized or dysfunctional, were revived with minimum investment. Repair of the distribution network was carried out so that the water actually reached the fields. Perennial streams and rivers were identified and electricity connections were given to farmers in groups so that they could lift water for irrigation.

Many farmers, however, were not in a financial condition to buy irrigation pumps, in spite of the costs being partially subsidized through schemes of the Agriculture Department. Financial linkages through the Kisan Credit Card (KCC) were provided to such farmers so that they can buy pumps.

The ground-water profile of the district is also under-utilized currently. The Agriculture Department, therefore, has helped farmers to dig bore-wells in limited numbers with a partial subsidy and a bank linkage for two years, initially. In order to ensure water conservation, efforts are being made to dig farm ponds for every farmer, who has joined these efforts.

A Comprehensive Approach to Irrigation Development

- Rejuvenation of old irrigation structures
- New small-scale irrigation structures
- Lift Irrigation from rivers and natural streams
- Using untapped ground-water potential
- Watershed development
Farm ponds will provide distress irrigation as well as recharge the ground water.

The Administration has also launched a programme called the Mochobaadi, aimed at promoting organic cultivation of vegetables, pulses and millets among community members. As yet, cultivation of these crops is very minimal in the district. Multi-cropping is very rarely followed by farmers because of the lack of irrigation, spaces for open grazing, and know-how, and various other reasons.

The intake of vegetables and pulses in the diet of the poor of the community is very low. This results in serious gaps in the nutrition, especially of the women and children. Mochobaadi aims at improving the food security and nutrition of the farmers, and provides them with a source of income through a sustainable way of cultivation. Under this programme, a comprehensive package, including wire fencing, irrigation facility, land development, drip irrigation and facilities for organic farming such as NADEP, vermi-compost pits and a urine tank, are provided to farmers through the convergence of various government schemes and with Corporate Social Responsibility (CSR) funds. It is ensured that the farmer also contributes his share for this package. Today, Mochobaadis have been established in 127 villages of Dantewada, involving more than 1,300 farmers.

Paddy is the most widely cultivated crop in Dantewada. Most farmers follow the broadcasting technique and use traditional seeds. Although this technique is relatively more resistant to the unfavourable climatic conditions, its productivity is low. Besides, it creates an opinion that traditional varieties, in general, are low in productivity.
Attempts have been made to introduce the technique of System of Rice Intensification (SRI) among farmers. This simple technique of paddy cultivation can substantially increase productivity, even with the use of traditional seeds and organic inputs. Similar experiments with SRI have also been carried out to improve the productivity of the finger millet.

In the three years of implementation, these interventions have shown results that are quite promising. The official government data show that whereas the average productivity of paddy is 11 quintals/ha in the district, the average productivity of organic SRI is estimated to be 34 quintals/ha. After the first year of the intervention, due to these results and the benefits in terms of reduced input costs and labour requirement, farmers came forward in large numbers to adopt SRI. As a result, in the second year, organic SRI was adopted by 775 farmers on 640 acres of land—a 260 per cent rise in the area under SRI cultivation in one year. The year, 2015–16, however, drought in all four blocks of the district has resulted in setbacks.

Most farmers in Dantewada are traditional farmers who do not use much chemical inputs in farming. In 2012, the average consumption of fertilizers in Dantewada was 5.8 kg per ha as compared to the state average of 74.2 kg per ha. It, therefore, made much more sense to promote organic farming among farmers rather than push them to the unsustainable path of chemical-intensive farming.

Organic farming will not only safeguard the environment and the health of the people, but will also minimize the expenditure of the farmers in the long term. Extensive training and capacity-building were carried out to introduce organic farming to farmers of the district. They were taught how to prepare organic inputs such as NADEP compost, green manure, jeevamrit, fish tonic and bio-pest repellents. Because cattle urine is a very important ingredient of organic manure, concrete floors and urine tanks have been constructed for more than 1,200 farmers.

NADEP compost, being promoted in Dantewada, is a very easy and effective method of composting. For this, NADEP compost pits have been built in large numbers across the district. Visits to successful organic farms and organizations across the nation doing effective work in organic farming are also arranged regularly for the farmers and staff.

However, the promotion of organic farming has not been free of hurdles. Usually, one can expect some unwillingness on the part of the farmers to adopt organic farming because of the fear of loss of productivity. In Dantewada, the experience was the opposite. The farmers showed a great amount of willingness, perhaps, because their way of living and culture are closely linked to nature; they were able to understand the ill-effects of chemicals in farming quickly.

The challenges, however, were from government programmes and the attitude of government officials. Many Agriculture Department schemes distribute chemical fertilizers and pesticides for free. There is also a pressure from the state to increase the use of the chemicals every year. The field staff of the Agriculture Department, therefore, faced an internal contradiction. Whereas, as part of the district administration, they were supposed to promote organic farming, the departmental schemes required them to distribute chemicals in the villages. This inconsistency confused the
staff, undermined their image in the field, and also hampered the entire programme.

The commitment and unstinting support of Mr K. C. Devasenapathi, the then Collector of Dantewada, for organic farming helped resolve this inconsistency. He advocated the policies of organic farming at various platforms and meetings at the state level strongly and also aligned the staff of various departments in the district to the cause of organic farming.

Permissions were sought and modifications in the rules were made and ways were found to avoid the promotion of chemicals through government schemes. As Dantewada became known for the efforts in organic farming, the pressure from the state to promote chemicals gradually fizzled away. Mr Devasenapathi also showed remarkable openness and willingness to learn and accept suggestions from experts in organic farming such as V. S. Arunachalam and Jacob Nellithanam; this ensured that the efforts were headed in the right direction.

Due to these efforts, in 2015, the consumption of chemical fertilizers in Dantewada dropped to 0.52 kg per ha. Quite strikingly, in the same year, the average consumption of fertilizers of Chhattisgarh rose to 96 kg per ha, a whopping 30 per cent growth in three years from 2012.

FROM SEEDS TO MARKET: DEVELOPING THE ECO SYSTEM

These efforts started with the simple idea of promoting SRI among farmers. Gradually, this has developed and evolved into a comprehensive approach to develop natural resources-based sustainable livelihood for the rural communities of Dantewada. For this, it was not sufficient to make interventions in bits and pieces. It is essential to understand the nature of livelihoods and the various factors involved, and to then make well-coordinated interventions to develop an entire eco-system for the development of sustainable agriculture.

The important first step is to organize the farmers. As long as they are alone, farmers will always remain at the whims of the market. It is, therefore, important to organize them into groups so that they speak in a collective voice and, thereby, take strength from each other. At Dantewada, the organic farmers have been organized into around 100 groups. These groups are serving as the most basic blocks of the organic movement, playing a crucial role in community mobilization, collective decision-making, mutual sharing and learning.

With these groups becoming strong and vibrant, work to identify and develop traditional seeds in the community has started recently. The idea is that select groups will adopt these varieties and carry out the task of seed production of traditional seeds, to be made available to other groups. Work is also going on to provide storage godowns for each group so that they can collectively store their produce in a cool and dry place.

As a next step, these groups are being further organized into a farmers’ producer company. Named Bhoomgaadi, after a post-harvest festival celebrated in Dantewada, the producer company will be owned collectively by the farmers. It will collect the organic produce,
process it and market it under the brand name of ‘Aadim’, distributing back the profits among the shareholder farmers. A processing unit is also being set up in the district and eventually an organic store and cafeteria will be started by the producer company in Dantewada. The idea is to ensure that the intervention is made at every step of the value chain, from seeds to market, to comprehensively develop the ecosystem for the farmers.

In order to carry out this work effectively on the ground, Community Resource Persons (CRPs) have been identified from Cluster locations across the district. These CRPs are young and educated youth of the village, who will be given extensive training on various aspects of livelihoods. The CRPs will, in turn, work with farmers for their mobilization, training and forward linkage.

Looking at these efforts of the last three years, the Government of Chhattisgarh has finally decided to extend its support. Efforts such as these, in the field of organic farming, need a favourable policy environment. A paradigm shift needs to take place in attitude, approach, policies and programmes so that the interventions happen in a holistic and comprehensive manner. The Government of Chhattisgarh has declared that efforts will be made to make Dantewada, along with two more adjacent districts, one hundred per cent organic in the coming five years. This announcement has been followed by a special budgetary allocation for the promotion of organic farming. Apart from monetary support, we hope that this decision will ensure consistent policy-level support for initiatives in sustainable agriculture, moving beyond the individual-driven nature.

Whereas these efforts are being facilitated by government officials and other professionals, these will not be sustainable in the long run, unless these initiatives are converted into a mass movement. Farmers need to have a sense of ownership and a feeling of belonging that makes them proud that the change has happened because of their collective efforts.

Conscious efforts have been made in this direction to identify community leadership and engage the early adopters to help in propagating the movement. A set of group-leaders and expert farmers have evolved in this process and they are actively trying to organize more farmers and engage them in organic farming. How far these leaders from the community will succeed in creating a positive and constructive movement of farmers, time alone will tell?

Meanwhile, in the heart of the most affected, remote and backward district, on 6 October 2015, around 2,000 farmers gathered together, hiring vehicles at their own expense, to attend an Organic Farmer’s Mela, organized and crowd-funded by the farmers themselves. Farmers from villages across Dantewada gathered and participated in cooking food, making arrangements and taking sessions on organic farming. Seeing their enthusiasm, one can’t help but feel very optimistic about the future!

The references for this article are available on request from newsreach@pradan.net