

# A Review on Organic Farming as a Potential Sector of Agripreneurship Development among the Tribal Youth of India

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## ABSTRACT

The agrarian system of our country is in state of transition from subsistence oriented to commercialization. The modern farming system is gradually becoming unsustainable and the increasing problems of chemical agriculture, cost of cultivation and upsetting environmental as well as health impacts have many negative impacts over agrarian society. Unemployment and underemployment are two major constraints in generating livelihood options for young farmers. Agripreneurship has been recognized as an effective means for economic transformation and poverty reduction. More than sixty per cent of India's arable land is under traditional agriculture where use of synthetic inputs are strictly avoided. Young farmers are active stake holders in the agripreneurship design and are able to transform rural communities in a sustainable basis. Tribal youth form a considerable part of country's tribal population and they lag behind their urban and rural counterparts with respect to education and training as they reside in hilly and undulating forest areas. High and rising levels of unemployment among the tribal youth force them to choose unorganized sectors. Despite having ample scope in several agricultural enterprises, unmatched skill sets of tribal youth force them to undertake labour operations. Tribal youth are tomorrow's entrepreneurs, innovators and indeed leaders. Thus, this review focusses on agripreneurship development among tribal young farmers in organic farming, challenges of tribal youth in undertaking organic farming as agribusiness and solutions to eradicate the same along with a potential case of Odisha supporting the context.

## Highlights

- ① Tribal youth are tomorrow's entrepreneurs, responsible citizen, innovators, contributors and indeed leaders
- ② Tribal young farmers are more associated with natural and conventional farming and hence modern organic agriculture can be a suitable option of agripreneurship development.
- ③ Organic farming improves efficiency and effectiveness of crop growth, ecological and economic sustainability, environment protection and suitable vocation for tribal youth to generate self-employment

**Keywords:** Tribal Youth, Organic Farming, Agripreneurship and Entrepreneurs

The youth in any nation is responsible for steady economic development and demographic evolution. India is an agrarian country and is having the largest democratic dividend as compared to other developing nations. In most of the developing countries, the future of small scale farming lies in the hands of youth as they are considered as potential future farmers. Tribal youth is such a

segment of youth population who face a number of problems related to educational, technological and vocational development in agriculture. It is because of lack of education, limited vocational guidance and ineffective training facilities. Rising levels of unemployment among the tribal youth is a matter of urgent concern. Inadequate opportunities in agricultural sector force them to enter into



many unorganized sectors. Tribal youth are in close association with nature and they harness their livelihood opportunities from hunting and gathering from forests. Several studies mentioned about the prime preference of choosing agriculture as livelihood (Pawar 1983; Banchare 1989; Deshmukh 2000; Gavit 2012). Dwelling amidst hills, forests, coastal areas and deserts, tribals over the centuries have gained precious and vast experience in combating environmental hardships and leading sustainable livelihoods. Their wisdom is reflected in their water harvesting techniques, indigenously developed irrigation channels, construction of cane bridges in hills, adaptation to desert life, utilization of forest species like herbs, shrubs for medicinal purposes, meteorological assessment etc. Such invaluable knowledge of theirs needs to be properly documented and preserved lest it should get lost in the wake of modernization and passage of time. For this reason, the National Policy on Tribals wants to train tribal youth in areas of traditional wisdom and help in preserving and documenting the same.

The modern farming system is gradually becoming unsustainable and the increasing problems of chemical agriculture, cost of cultivation and upsetting environmental as well as health impacts led organic farming to gain momentum as a new paradigm for ecological and economic sustainability in farming. Environmental concerns in India have enforced several NGOs and government agencies to promote organic farming (Sharma 2011). Organic farming truly came into practice after the clear picture of negative effects of modern agriculture was realized in the late 1990's. The British botanist, Sir Albert Howard, referred to as the father of modern organic agriculture, regarded it as a collection of traditional Indian farming practices being superior to conventional agricultural science. Bhattacharya and Chakraborty (2005) stated that the practice of organic farming is one of the oldest agricultural practice dating back to 10000 years old i.e., Neolithic age, where it was practiced by the ancient civilizations of Mesopotamia etc. Organic farming follows the principles of care, ecology, health and fairness for the interest of human, environment and soil welfare. Organic agriculture includes holistic production and it enhances agro-ecosystem health, including agro-biodiversity management, biological cycles, and soil biological activity (Argyropoulos

*et al.* 2013). It also emphasizes use of management practices, particularly the off-farm inputs, capital and intensive experiential scientific knowledge in the form of diversified agricultural systems (Maghirang *et al.* 2011).

India blessed with rich natural heritage of soil, climate and biodiversity has a vast potential for organic farming, particularly in following avenues: (a) rainfed areas which have little or no scope for agrochemical usage, (b) north-eastern region of India which have least utilization of chemical inputs, (c) Tribal dominated areas (d) Export oriented basmati rice, tea, coffee, ginger, turmeric, black pepper, coconut, areca nut, cashew, sugar, wheat used for bakery, mango, banana, (e) Organic potato in hill and mountain ecosystem, (f) Organic off-season vegetables, (g) Sorghum, cotton, soybean, groundnut, millets, pulses grown in Semi-Arid Tropics, (h) Agro-forestry system, (i) Crops in cold desert under traditional farming, (j) Medicinal and aromatic plants, (k) Organic based farming systems (Garnayak 2017). The GOI started National Project on Organic Farming (NPOF), National Horticulture Mission, technology Mission for North-East and Paramparagat Krishi Vikas Yojana (PKVY) for promoting organic farming in India. Garibay and Jyoti (2003) in a study about the status of organic products in India found that production of fruits, vegetables, rice and wheat has immense potential in domestic market. The hilly and interior Indian districts have demonstrated a vast scope for organic farming as the default cultivation is mostly organic and with increasing scientific approach to build organic agriculture a successful strategy for increasing farmers' income along with environmental sustainability. Besides the efforts of the central government, many states like Kerala, Karnataka, Maharashtra, Andhra Pradesh, Madhya Pradesh, Nagaland, Sikkim, Mizoram and Uttarakhand have already drafted policies for organic farming promotion. Some of the tribal dominated states like Nagaland, Sikkim, Mizoram and Uttarakhand have decided to go for full organic production in the future.

### **Agripreneurship Development of Tribal Young Farmers of India**

An agri-entrepreneur is a person who recognizes an opportunity in agricultural sector and takes risks



to pursue it. Agripreneurs possess the qualities like open-mindedness (Hanf and Muller 1997), ambitious, creative, problem solving skills (Man *et al.* 2002), practical and goal oriented (Kallio and Kola 1999). It is also being found that personal characteristics of an agri-entrepreneur significantly affect the agri-business (Brockhaus and Horwitz 1986). The qualities and skills of agripreneurs can be utilized for the establishment of various agricultural enterprises like dairying, sericulture, apiculture, floriculture, fisheries, poultry, piggery etc. along with crops grown in the field.

Tribal youth constitute a numerically dominant, potentially resourceful and also adventurous segment of the population belonging to the age group of 15-35 years and have a commonality in terms of name, culture, dialect, territory and taboos. They follow their own method of living through hunting, fishing and practicing subsistence farming. A tribal youth comes from an egalitarian society bounded by traditional norms and technological level with less urban impact (Narayan 1986). In his book "Races and Cultures of India" Majumdar (1961) described tribe as collection of families or group of families bearing a common name members of which occupy the same territory, speak the same language and observe certain taboos regarding marriage, profession or occupation and have developed a well assessed system of reciprocity and mutuality of obligations. Hence, tribal youth share a common name and share closer relations with nature. They are the caretakers of those indigenous knowledge in agriculture which were cumulatively passed through generations providing basis of livelihood. Studies have shown that most of the tribal communities are well aware of the value of conserving biological resources, and had devised effective methods to conserve them (Gadgil and Berkes, cited from Singh *et al.* 1996). Burman (1993) noted that the tribal managed their affairs and resources on a sustainable basis. It is also mentioned by Sterens (1997) that Indigenous peoples' knowledge, conservation beliefs and values, environmentally adaptive and sensitive land use, resource management practices, and determined defense of territory and natural resources have enabled many of them to inhabit in the natural habitats for centuries without destroying their ecosystems and biodiversity.

Though tribal youth have different fields of activities, they have not been involved and motivated to convert their might in the social contribution. This is due to several reasons, such as lack of nation-wide youth programmes of training and guidance, lack of interdependence, lack of an appropriate network for youth organizations, lack of adequate youth organizations and efficient programme in tribal sectors. High and rising levels of unemployment among the tribal youth are a matter of urgent concern. Inadequate employment opportunities force them to choose unorganized sectors. Despite having ample scope in agricultural enterprises, unmatched skill sets of tribal youth force them to undertake labour operations. Tribal youth are tomorrow's entrepreneurs, responsible citizen, innovator, contributor and indeed leaders. Thus, there is now a growing awareness through the world about the role of youth in economic development. Several micro-enterprises are the keys to generate employment and income earning avenues to both landless and land holding people including women and youth. Agriculture and allied activities enhance tribal livelihood system with locally available technological innovations. Tribal young farmers are more associated with natural and conventional farming and hence modern organic agriculture can be a suitable option of agripreneurship development.

### **Organic Farming: A Potential Sector in Tribal Areas of India**

Organic agriculture and entrepreneurship are two different concepts with distinctive characteristics and are yet interrelated (Larsson 2012; Rahmawati and Triyono 2016). Organic farming is not a new phenomenon and is being practiced from ancient time. It is a harmonious interaction between land and man where crops are grown in a sustainable manner under a pollution free environment. Organic food developed from organic agriculture is believed to be more secure (Canavari *et al.* 2002) that maintains the health of soils, ecosystem and people. The Indian Agriculture was traditionally organic and farmers followed organic cultivation till the middle of the last century (1950) when the entire agricultural scenario was revolutionalized with the introduction of Green Revolution in 1960s. Indiscriminate use of these agrochemicals put forth



the concern of sustainability of present agriculture over the long run shifting the focus for sustainable eco-friendly system of production which can address soil, human and environmental health for which Organic farming appears to be a viable option for sustainability. Hence the reorientation back to origin started. The current perception of organic farming is a combination the tradition, innovation and science. At present, most optimistic estimates show that about 25-30 percent of nutrient needs of Indian agriculture can be met by various organic sources (Gill *et al.* 2015). Continuous practice of organic farming reduces application of inputs and it ultimately reduces cost of production. Organic farming ensures supply of food to the future generations and thus, a profitable and attractive enterprise for the younger generations. This type of farming may have complications of establishment but it is an alternative for both policy makers and farmers at the farm level and national level (Cacek and Langner 1986).

India has the largest number of organic producers in the world most with small holdings. Organic farming is growing rapidly among Indian farmers and entrepreneurs, especially in low productivity areas, rain-fed zones, hilly areas, tribal mountains and the northeastern states, where fertilizer consumption is less than 25 kg/ha/year (Mitra and Devi, 2015). Institutional support for organic production was created by the launch of the National Programme for Organic Production (NPOP) by the Agriculture and Processed Food Export Development Authority (APEDA), Ministry of Commerce. The NPOP supports promotional initiatives, accreditation of inspection and certification agencies, and offers support to agri-business enterprises to facilitate export. APEDA has been interacting with several national and international departments for recognition of equivalence of the Indian quality assurance system. A nationwide initiative named as National Project on Organic Farming (NPOF) was initiated in 2004 to facilitate access to organic inputs, to facilitate certification, to streamline production and to develop domestic markets for organic communities. The National Horticulture Mission launched by India's Department of Agriculture and Cooperation in 2005 offers assistance for transitioning to organic farming of horticultural crops.

## Agripreneurship Development Among Tribal Young Farmers: Challenges and Solutions

The tribal agriculture is primitive and backward resulting in low productivity. Numerous development plans like Tribal sub-plan and Tribal block development have been in operation for tribal agricultural development. However, most of these plans were directed towards resourceful areas and less resourceful areas were not covered. The young people belonging to tribal communities are finding themselves at cross-road of life. Tribal youth are yet to be distinguished from their rural and urban counterparts. Poor educational, communicational and transport facilities deprive them from assessing modern agricultural know how and improved inputs. Tribal youth lag behind their urban and rural counterparts with respect to education and training as they reside in hilly and undulating forest areas. Opportunities for vocational guidance is limited to a large extent due to which they are forced to enter many unorganized sectors or practice manual labour in agricultural field. Agriculture in India has enough potential to create jobs and the government of those states having maximum tribal population has stressed on increasing employment opportunities and eventually eradicating unemployment. The large cohort of tribal youth can still reap the benefits of agricultural enterprises through appropriate education and training.

Several micro-enterprises like medicinal and aromatic extracts, apiculture, livestock, vermiculture, poultry, horticulture, forestry etc. have aesthetic livelihood potential in tribal areas of India. These areas are entirely based on potential available resources and technologies in the locality. Agriculture and allied sectors should run hand in hand in order to ensure better livelihood of tribal young farmers. Despite organic farming, they can also practice these allied areas organically ensuring sustainable development. In Agrotech Interventions (2010), there has been a list of several trainings given to the tribal farmers regarding several enterprises is a step forward to integration of organic farming. Training regarding adoption of red kernel Revati rice in Goa, increased farmers income by 55.8%, introduction of maize cultivation in the tribal regions of Bastar, Chhattisgarh, training on no cost quail brooding technology paved the path for additional enterprise among women of Port Blair,



Andaman Islands, backyard poultry rearing training for the tribal youth in Rudraprayag, Uttarakhand, training to tribal youth for rearing of broiler birds in Papum Pore, Arunachal Pradesh, multilayered horticulture based cropping system for sustainable livelihoods in Bastar, Chhattisgarh increased the profits to the farmers by 60-73% and productivity by almost 84%. In a study on "Contribution for Rural Development through Training in Organic farming", Guine *et al.* (2015) suggested areas of training in organic farming viz. organic farming principles, organic fertilization, conversion from conventional to organic production, certification, crop protection, conservation, food safety, marketing and commercialization, management, tourism, husbandry, bee keeping or multifunctionality.

Most of the tribal youth in the villages are associated with some form of organizations like youth clubs, Self-help Groups etc. Most of them are needed to be trained in the process of organic certification. Most of the tribal farmers do not seek to get certification because of its high cost. The certification cost becomes less for a group rather than individual farmers. Documentation procedure plays a crucial role and a trained young farmer of the same village must maintain the records. It should be made in such a manner that it becomes comfortable for illiterate farmers too. There are several alternative ways of certification and the farmers' must chose the alternative according to their social, economic and cultural perspective. They must have market intelligence besides technical know-how and hence, they can harness information regarding organic products and their marketing trend. Apart from these, the tenant young farmers should be well acquainted with the testing facilities and processing facilities as offered by government (for example; agri-clinics and agri-business centers).

### **Agripreneurship Development in Organic Farming: A Case of Odisha State**

Agriculture is the primary occupation of 60% of Odisha's population with 15% share in State's GDP. Out of the total agricultural area around 60% is rainfed whose contribution to production is less than 40% (Organic Farming Policy Draft 2017). The vagaries of monsoon coupled with poor soil fertility along with majority of farmers belonging to small and marginal category with poor economic

status is the major reason for the increasing gap between the expected and actual yield. The hilly and inland districts of Odisha have demonstrated a vast scope for organic farming as the default cultivation is mostly organic and with increasing scientific approach to build organic agriculture here will be a successful strategy for increasing farmers' income along with environmental sustainability. The National Missions on sustainable agriculture and horticulture development along with the Govt. of Odisha is developing the Organic Farming Policy for 15 districts, which can strengthen the production systems, supply chain and marketing systems by creating an enabling environment, required infrastructure, regulations and providing necessary incentives and support (Singha 2017). Organic farming makes agriculture more respectable and rewarding. Apart from proving environment safety, it protects and enhances traditional knowledge in farming.

As per the report of Organic Farming Policy draft, 2017 the default organic farming districts in Odisha are Kandhmal, Boudh, Koraput, Mayurbhanja, Keonjhar, Nuapada, Kalahandi, Balangir, Rayagada and Gajapati and would be declared as organic under the Organic Farming Policy. The state has full potential for organic agriculture with careful exploitation of existing opportunities. Odisha has large area under spices *viz.*, Turmeric, Ginger, Black pepper, Chillies cultivation, which have high export value. The fruit crops *viz.*, mango has highest export potential. The Jeypore tracts of Odisha are known for being Centre of origin and Diversity for rice where even now traditional varieties are cultivated, which provide a rich source of biodiversity. Further in several districts, particularly the tribal districts of Mayurbhanj, Koraput, Keonjhar, Malkangiri, Balangir *etc.*, where paddy, millets, mango and turmeric are being grown organically. The tribal forest areas of Odisha also have a huge potential for collection and marketing of naturally grown Non Timber Forest Produce (NTFP), which are grown without use of any chemicals.

Under the Organic Farming Policy the government plans to promote the following crops of fruits (mango, banana and citrus), spices (turmeric, ginger, chilly), food grains (rice, millets, oilseeds and pulses), medicinal and aromatic plants, plantation crops (cashew and coconut), cash crops (cotton



and jute) and vegetables. According to the business standard reports Odisha Govt. in collaboration with United Nations Environmental Programme introduced organic millet cultivation in 14, 000 farming households and further planned to promote organic maize cultivation which, has a net worth of ₹ 1000 crores annually (Solheim 2017).

Organic dairy farming has been taken up by the Koraput Dairy in Koraput district of Odisha because of the increasing demand for 100% pure hygienic and organic cow milk both in the state as well as district with a new scheme of “own a cow and get returns” (Bhubaneswar buzz 2015). Under this a MOU is signed between the farmer and Koraput dairy for 5 years period within which the high yielding Holstein Friesian cow is owned by the farmer but the responsibility of the cow *i.e.* providing high class accommodation, organic fodder, concentrated feed, herd management and proper hygienic upbringing of the calves along with veterinary care is taken up by the dairy farm. Koraput dairy is an example of integrated dairy unit that also focuses on organic compost, vermicompost, biofertilizer, urea and green fodder enterprises.

## CONCLUSION

The drastic changing agro-ecosystem has created confusion over increasing food production and productivity without damaging resources and environment. The sustainability is still in question. Agripreneurship is the need of hour to make agriculture a more profitable enterprise. This can effectively be tapped by the judicious utilization of land, water, soil and environment. Many researches also concluded that organic farming is a viable component of integrated farming system. There are several models of IFS but many of them are still not disseminated among the members of social system. Organic farming provides a viable option along with other allied organic enterprises in maintaining soil fertility and in decreasing water and air pollution. Organic farming relies on crop rotation, crop residues, off-farm organic waste, animal manures, green manuring and several biological pest control methods. Indian organic markets are expected to expand in the coming years with commendable support from government, private institutions and NGOs working together. Agriculture as an enterprise can provide unique

solutions to the problems of tribal youth. In order to appeal tribal youth, good job opportunities must also be provided. Policy interventions should focus on these aspects at the center as well as in the state to improve the efficiency and effectiveness of organic farming in the long run. Involvement of tribal youth in agriculture can be facilitated through livelihood generation programmes, entrusting more and more integrated farming system to combine agriculture with other enterprises like horticulture, fisheries, animal resources, sericulture etc. organically. As the education of tribal youths (apart from few) is very poor, vocational education on agriculture can be a better option for them to aware about the better agricultural practices during schooling. The problem lies in selection of vocations regarding their livelihood option. Choosing the agricultural vocation needs skill upliftment to a larger extent. Hence, it is necessary to identify the training institutions providing trainings in agricultural sector (particularly KVKs) and whether the competency of the trainers motivate the tribal youth to adopt the same can also be studied. In order to improve the status of tribal youth in agriculture related activities, investment and encouragement in agricultural extension services targeting these young farmers should be initiated. Agripreneurs may be entrepreneurial in spirit but lack security to take risks. They need access to land, labour, capital, information and knowledge to be successful. Setting up several organic agricultural credit schemes, encouraging food production using modern techniques in organic agriculture, enhancing incentives for providing need based leadership skills and vocational trainings can be a boon for agripreneurship development among tribal young farmers. The problems related to tribal youth are on the rise, and likely to increase in the coming years. Thus, there is a necessity to develop good and qualitative programmes for the welfare of the tribal youth in India. Extension workers can play a crucial role in helping agripreneurs in identifying, investigating and evaluating opportunities. Respect for organic farming should be built and more awareness should be created for recognizing the role of tribal youth in agriculture. Tribal youth will be attracted towards making organic farming as their source of employment if they see meaning and pride in it. They can also facilitate linkages with these opportunities in a sustainable way. Tribal



youth therefore need effective mentors and skilled trainers in the concerned field for desirable results in the offing.

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