

Traditional Tribal Farming Systems in India: Governance, Livelihoods and Food Security Challenges

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ABSTRACT

The Indian tribal farming systems refer to an ancient relationship that has existed over several generations between the indigenous people and the forests along with their traditional understanding of agriculture. Such farming systems have evolved over time by allowing the tribal people to learn how they can cultivate their fields in various kinds of environments, specifically those which are hilly or forested in nature where the application of modern agricultural techniques becomes very tough. The tribal farmers engage themselves more in subsistence agriculture, instead of producing marketable surpluses. Different kinds of crops are grown together, and the tribal people largely depend upon the forests to fulfill their needs including food, fuel, and other necessities. Rather than chemical fertilizers, organic manure from the forest is widely used. But at the same time, these agricultural systems have several challenges that arise due to changes in development policies, insecure land tenure, environmental issues, and limited institutional aid. In this chapter, the socio-economic and environmental challenges that face the tribal farmers have been described, as well as how the traditional methods of farming can contribute towards the sustenance of their life. Additionally, it explored how government initiatives such as land development and forestry policies can impact farming activities amongst indigenous people. While it is true that the government is making efforts in order to bring about modern agriculture among tribal groups, they are still largely dependent on traditional methods of farming in order to fulfill their basic necessities.

Keywords: Tribal Farming, Shifting (Podu) Cultivation, Food Security, Rural Livelihoods, Indigenous Farming Systems, Governance

INTRODUCTION

Indian agriculture is highly diversified due to its diverse geographical features like varied landforms, climate, soil, and precipitation in the nation. All these factors impact the agricultural practices employed by farmers in different parts of the country. Due to the above factors, farmers employ different techniques for practicing agriculture in the nation. In areas characterized by good landforms, climatic conditions, and irrigational services, large scale and commercial farming is widely undertaken. Conversely, in remote and rural areas, small scale subsistence farming is mostly done to cater to domestic requirements (Singh & Dhillon, 2004).

In India, even agricultural practices differ depending on the environmental situation, availability of resources, and economic status of the farmers. Agricultural modernization practices are used where there is good availability of irrigation facilities, market opportunities, and better infrastructure. But where resources are scarce, traditional agricultural practices are resorted to, which have been practiced by generations (Bhalla & Singh, 2009). Where there is dense forest and hilly areas, agriculture can be carried out through traditional means, which are quite connected to the environment and local communities. Such agricultural practices evolve over the period of time and adapt themselves to the environment prevailing in those places. There are many tribal communities that depend on such traditional agricultural practices as they suit their environment (Saxena, 2014)

In Indian tribal groups, agriculture continues to be one of the main means of survival. Scheduled Tribes are an essential component of the rural population in India and mainly inhabit forests and hill regions with inadequate modern agricultural facilities. As a result, several tribes rely on the application of traditional farming techniques that are best suited to their environment. The farming methods adopted by these tribes are usually subsistence-based and rely on a variety of crops, collective labor, and indigenous understanding of soil fertility, climatic conditions, and forests. The adoption of these methods not only ensures self-sufficiency but also assists in balancing ecosystems within the tribe's environs (Altieri, 2004; Poffenberger, 2000).

The subsistence practices of tribes are intimately tied to forests, land, and resources. The agricultural practices of the tribes are intertwined with activities involving gathering of produce from the forest such as fruits, tubers, medicinal herbs, among others. This integration of agriculture and forest activities forms the basis for the sustenance and economic survival of tribal societies (Sundar, 2000). More specifically, where there are no irrigation sources and unpredictable climatic conditions, the practice of farming helps maintain biodiversity and reduce associated environmental risks (Saxena, 2014).

Traditional agricultural systems thus hold great significance for securing the livelihoods of the tribal population as well as providing food security at a household level. Along with being highly nutritious, traditional crops such as millets, legumes, and tubers are also well-adapted to the prevailing environmental conditions. Unlike modern commercial crops, these crops tend to

be more adaptive and resilient to droughts and other weather changes and need less external support (Padulosi et al., 2013; Singh, 2015). Thus, livelihood and nutrition security of the tribal population is significantly strengthened through traditional agriculture.

However, shifts in the structure of land tenure systems, developmental strategies, and environmental dynamics have been creating a significant challenge to the agriculture practices followed by tribes. Expansion in commercial agriculture, transformation in forest environments, and a lack of any supportive institutions from the government have been increasingly affecting the agriculture systems followed by many tribes (Shah, 2010; Baviskar, 2005). It is important to understand the connection between tribal agriculture systems, governance, and food security.

In light of the foregoing, the role of indigenous tribal agricultural systems in supporting livelihood and food security in Indian villages has been studied in the current chapter. The indigenous agricultural systems have been described in terms of their distinctive features, and the policies and governance systems related to tribal agricultural systems have also been explored in the current chapter. In addition, the issues facing tribal farmers in the era of development have been discussed. Finally, the necessity of incorporating sustainable farming practices with traditional knowledge has been highlighted.

Population Composition and Tribal Communities in India

India is widely acknowledged as a socially and culturally diverse nation whose population has traditionally been classified into caste and tribal groups. These social groups have had a considerable impact on the social development and structure of the country. STs include a population of about 104 million individuals or 8.6% of the total population as per the Census of India 2011. SCs represent about 16.6% of the population (Office of the Registrar General & Census Commissioner, India, 2011). The share of the OBCs in the population is considerably larger. As per different estimates, OBCs account for 41%-52% of the total population despite the lack of exact figures in the Census (Mandal Commission, 1980; Government of India, 2007). The remainder of the population can be considered general or forward castes.

As a result of the fact that various welfare schemes and government policy decisions have been specifically devised to take into account the past discriminations suffered by these social categories, it becomes extremely important to understand them to gain a better understanding of inequalities, representations, and resource access issues in India (Deshpande, 2011). Though the percentage of tribals in the total population of India is lower as compared to other caste categories, the tribals are usually concentrated in forests, hills, and isolated locations in India. Many tribals live in Madhya Pradesh, Odisha, Chhattisgarh, Jharkhand, and other northeastern parts of India. Some common problems faced by these areas include poor infrastructural development, weak market linkage, and inadequate economic opportunities (Planning Commission, 2008; Xaxa, 2014).

As a result of the structural factors mentioned above, agriculture and livelihoods based on the forest still constitute an essential part of the socioeconomic existence of tribals. A large number of tribal families survive and earn money through cultivation and the use of the forest resources. Some research shows that tribals depend more on natural resources and traditional methods of cultivation than any other groups, which is primarily attributed to their connection with the forest (Mohanty, 2011; Government of India, 2014).

Unlike numerous farming communities that belong to castes and slowly turn towards commercial agriculture, a large number of tribes remain reliant on subsistence agriculture. Such agriculture is usually associated with the use of forests as well as traditional ecological knowledge accumulated over the years. Due to this reliance on land and ecosystems of forests, tribes are relatively more vulnerable to changes in the environment, land tenure insecurity, and development policies which transform traditional ways of farming (Béteille, 1991; Padel & Das, 2010). As a result, it becomes important to discuss demographic characteristics of such communities compared to other population groups in order to analyse difficulties faced by traditional ways of farming among tribes in India.

TRIBAL FARMING SYSTEMS IN INDIA

Indian tribal farming has developed over time in forests and hilly regions. Both the environment as well as the culture of native tribes affect tribal farming. While commercial farming focuses on production, tribal agriculture concentrates mainly on subsistence. Tribes have passed on their agricultural skills, natural resources, and environmental wisdom from one generation to another (Malhotra et al., 2021). Tribes have learned these techniques after spending many years working in coordination with forests, soil, and climate conditions. Through experience, tribes have managed to learn how to produce crops in adverse conditions that might require modern methods of agriculture. For this reason, tribal farms are typically small plots of land, grow multiple crops at once, make little use of artificial chemicals, and depend upon labour within the community (Saxena, 2019).

One of the salient characteristics of tribal agriculture is its intimate relationship with nature. Instead of using artificial methods like chemical fertilizers and pesticides, tribal cultivators rely on the usage of organic materials like natural manure and ash made by burning plants for improving soil fertility. Agriculture among tribes is predominantly practiced in order to meet the needs of their families and not for the sake of making huge gains through sales (Ranganatha, 2002). Due to this reason, crops diversity is maintained, ensuring that there is an adequate food supply throughout the year. Moreover, many tribal families combine agricultural activities with the utilization of forest produce like wild fruits, tubers, mushrooms, and green leaves in order to make their diet more diverse (TERI, 2022).

The agricultural practices of the tribes have been based on traditional knowledge. The tribe has been highly experienced about various types of agriculture, forests, rain cycles, fertility of the soil, and water systems. They could employ

such traditional knowledge to decide what type of crop to be sown. This kind of knowledge has been developed over a long period of time based on observations and practical experiences, and has always been inherited from generation to generation through their cultural values (Praveenkumar, Saravanan, & Pradeep, 2025).

Many traditional agricultural practices depict the heterogeneity of tribal agriculture in India. The practice of shifting cultivation is one of the traditional agricultural practices common in many hilly and forest regions. Under this agricultural practice, small pieces of land are prepared by burning the vegetation to enrich the soil nutrients. The land is used for a couple of years, after which it is left fallow. Farmers plant several crops like millet, pulses, maize, and vegetables that provide the family with its food needs. Mixed cropping is another traditional agricultural practice that involves planting several crops at once within a single piece of land (Biswal & Kumar, 2013).

In hilly regions, terracing is adopted by tribes wherein step-shaped plots are made on hills to prevent erosion and save water. This technique enables farming of slopes without causing soil instability. Tribes also adopt relay cropping whereby various crops are planted one after another on the same plot of land. As a result, soil fertility is preserved, and efficient use of soil is made. Additionally, tribes in certain regions of the world have also evolved an integrated water management system wherein rainwater is harvested from hilly or forested regions and used for irrigating farms below (TERI, 2022).

A variety of crops constitutes a unique characteristic of farming practices followed by tribals. Tribals normally cultivate varied kinds of crops such as millets, pulses, maize, tubers, and vegetables that are suited to climatic conditions prevailing in the particular regions. Cultivation of millets assumes significance for tribals due to their nutritive value and ability to grow in drought-affected areas. Pulses supply them with protein, whereas tubers form their food stock for adverse times. Variety of crops ensures food security among tribes and makes them less dependent on external markets (Anju & Kumar, 2024).

Agriculture practiced by tribes usually shows a perfect synergy between the local ecosystem, forests, and agriculture. Though traditional agriculture practiced by the tribe does not yield significant amounts of surplus for marketing, as opposed to commercial agriculture, it is highly relevant for subsistence purposes and for the conservation of biodiversity. Hence, the need to take it into account while making policies regarding rural development within the tribal regions cannot be overlooked (Sharma et al., 2026).

TRADITIONAL FARMING SYSTEMS IMPACT ON TRIBAL LIVELIHOODS.

Conventional agriculture forms a significant part of the survival of indigenous populations in India. Most indigenous families depend on agriculture for their sustenance. Due to the fact that they live in remote and inaccessible regions, they are more engaged in subsistence agriculture that is suited to the prevailing environment (Reddy & Naik, 2025; Saxena, 2019). Agricultural practices of indigenous populations are closely associated with forest ecosystems and minor forest production (MFP) or non-timber forest products (NTFP). Most of

the indigenous families engage in agricultural practices along with collection of forest products like fruits, tubers, honey, medicinal herbs, bamboo, and leaves used for consumption and other household purposes. Such practices help in diversifying food and income sources and reduce the risks of crop failures and environmental hazards to some extent. In this manner, forests contribute towards agriculture in indigenous populations (TERI, 2022).

Traditional farming practices also contribute to income generation and financial stability among tribes. Traditional farming practices in these regions are challenging because of a lack of irrigation facilities, as well as rugged terrains. Yet, traditional farmers cultivate different varieties of crops to ensure that they do not face problems of food security in future months. Farmers cultivate a wide variety of crops for their own consumption, which includes millets, pulses, maize, and vegetables. However, whatever produce is left after their consumption, they try to sell the same at local markets for extra income (Ramana et al., 2025).

A traditional agricultural system can also be said to be crucial in maintaining food and nutritional security. In the case of the tribals, farmers will grow various types of crops at a particular time to provide themselves with a balanced diet. Millet crops are particularly important since they have various vital minerals, including iron, calcium, and fiber. The tubers, which are harvested from the forests, can contribute to providing a balanced diet, especially when there is a scarcity of food. Pulses are also important because they provide proteins for the tribals. Such cultivation of various crops by the tribals will assist them to meet their food and nutritional requirements despite unfavorable weather conditions (Biswal & Kumar, 2013).

The conventional agricultural systems are highly associated with the culture of the tribal people. The agricultural activities are usually associated with the various festivals observed during certain seasons, thus indicating the strong cultural connection of the tribal groups with nature. The management of the land and other natural resources takes place based on the knowledge and beliefs that exist within the society. Apart from preserving the traditional agricultural practices and ecological knowledge, the cultural activities contribute to social cohesion (Sahoo & Lenka, 2026).

Tribal farming systems are further bolstered by community-based practices of labor cooperation and information exchange. In a community, the labor system is often practiced wherein labor exchange among members takes place for the purposes of planting, harvesting, and land preparation. Other than fostering social relations among community members, the labor system also helps overcome any shortage of labor (Bhanage, Nangare, & Barale, 2025). Besides this, information pertaining to farming is exchanged from one generation to the next via oral information exchanges and practical experiences. The information exchange encompasses information regarding crop selection, soil preparation, and rainfall patterns.

This integration involves combining agriculture, forest resources, and culture for income generation, ensuring food security, and maintaining harmonious relations within the community. It is important to understand the importance of such systems to be able to formulate appropriate policies for sustainable livelihood creation in tribal areas (Maharana et al., 2025).

FOOD SECURITY AND INDIGENOUS AGRICULTURAL PRACTICES.

Indigenous farming practices and traditional food systems contribute significantly towards the security of food among tribal groups. Traditional food systems involve both farming practices and foraging, which together provide various kinds of food items through the entire year. Unlike modern monoculture farming, which involves growing a single type of crop, traditional farming systems promote cultivation of multiple varieties of crops along with utilizing the seasonal forest foods while conserving natural resources (Alam, 2015). The tribal groups cultivate various traditional crops, and at the same time, gather different types of food products from forests including wild fruits, greens, tubers, mushrooms, and honey.

The traditional crops cultivated by the tribal community are very nutritious and contribute towards maintaining a well-balanced diet. Some of the important nutrients present in these crops include iron, calcium, fibre, and protein. These crops include millets, pulses, maize, and tubers. Due to the presence of many essential micro nutrients, the millets are considered to be highly nutritive and are also known as nutri cereals. Energy is supplied to the body through the consumption of carbohydrates, which can be obtained from the tubers, while proteins are obtained from the pulses (Kothapalli et al., 2024).

Indigenous agricultural systems aid in sustaining dietary diversity that contributes to food security. Diversified farming not only reduces dependency on one particular crop but also builds resilience against various environmental factors such as droughts, pest attacks, and crop failures. Even without proper infrastructure and unpredictable weather patterns, tribal communities can ensure a steady food source by growing an assortment of grains, pulses, vegetables, and root crops (Biswal & Kumar, 2013). One other benefit of the indigenous agricultural systems is their ability to cope with climatic changes. Unlike commercially produced crops, traditional crops produced in tribal communities are perfectly adapted to the climate conditions and require less outside input. Various traditional crops, particularly millets and pulses, can be produced in poor soils and withstand drought conditions.

GOVERNANCE AND POLICY INTERVENTIONS IN TRIBAL AGRICULTURE

There have been several governance and policy measures adopted which have influenced agricultural activities and livelihoods in the tribal regions. Previously, most of the tribes used the practice of agriculture through customary utilisation of lands that was linked very much to the forestry practices. However, since the period of independence in India, there have been several development schemes adopted by the government for better socio-economic status of the tribes (Saxena, 2019).

The Recognition of Forest Rights of Scheduled Tribes and other Traditional Forest Dwellers Act, 2006, known as the Forest Rights Act (FRA) is a very significant piece of legislation of contemporary times. FRA is meant to correct the injustice that had been meted out to the forest-dwelling people for many decades by recognizing their rights over the land and its resources (Workshop on Forest Rights Act, 2016). FRA ensures livelihood security as well as sustainable land

use by giving indigenous people individual as well as community rights over production and utilization of forest resources. Moreover, FRA acknowledges the importance of the local bodies such as Gram Sabhas in verification of claims over forest rights.

Along with legislation, the government has also launched different development plans to promote development in agriculture among the tribal population. One such plan is the Tribal Sub-Plan (TSP), which was introduced during the Fifth Five-Year Plan period. The purpose of introducing the Tribal Sub-Plan is to ensure that funds are used appropriately for the development of the tribals, which will be done using a number of sectors including agriculture, irrigation, education, and healthcare.

It is necessary to develop an institutional structure for the growth of tribes, and one of those important institutions is that of Integrated Tribal Development Agencies (ITDAs). These agencies serve as agencies that manage the development activities within those areas where tribes dominate. ITDAs are mainly concerned with increasing agricultural efficiency, creating job options, and increasing access to infrastructure. Regarding the agricultural sector, there are various development activities launched by ITDAs such as the development of land, irrigation systems, watersheds, and horticultural crops among others (Kishore & Babu, 2023).

Land development programs have also been implemented in several tribal regions to improve agricultural conditions. Check dams, irrigation systems, watershed development programs, and soil conservation methods are common components of these projects. These projects seek to lessen reliance on traditional shifting farming while increasing agricultural yield through the promotion of permanent agriculture. According to research, land development initiatives in certain tribal groups have increased cropping intensity and agricultural productivity, particularly when irrigation infrastructure is updated (Kishore & Babu, 2023).

The success of such initiatives, however, depends on the level of community involvement, institutional competence, and the environment prevailing within the locality. Decentralisation and local governance institutions are other strategies used to encourage the participation of tribes in the management of their resources and development plans. The Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA) is one initiative designed to ensure tribal empowerment by entrusting Gram Sabhas within Scheduled Areas with powers relating to the management of resources and development in their areas. Through PESA, the importance of community institutions in governance and development has been recognized, making local governance institutions key players in the process of implementing development interventions.

Despite all the efforts taken by the government, several issues keep cropping up in connection with tribal agricultural governance. Administrative delays, ignorance among the tribal community regarding their rights, and conflicts between the forest department authorities and other concerned local organizations lead to ineffective implementation of development schemes. The need for improving governance mechanisms, effective cooperation between the institutions, and participation of the local community is very important in this context.

CHALLENGES FACING TRADITIONAL TRIBAL FARMING SYSTEMS

Despite the inherent integration of traditional farming by tribes into nature and cultural practices, these systems encounter several challenges, putting their existence and viability as well as the survival of the families involved in peril. The biggest problem faced by tribal farms is the loss of land and lack of tenancy. Land alienation is the most prominent challenge affecting traditional tribal agriculture. Historically, the tribal population engaged in traditional land use practices that had a close relation with forests and other natural resources. But due to the forest laws and policies established in colonial times and thereafter, the traditional land utilization system has been hindered by lack of land access for tribes. The farmers from these communities do not have land ownership and are thus unable to make any advancements in agriculture practices in the long run. They also face the risk of eviction because of various construction projects, mining ventures, and commercial agricultural activities (Saxena, 2019).

Another significant constraint for traditional agriculture is environmental issues. Most agricultural practices of tribals depend upon natural ecological processes such as fallow, whereby soil gets enough time to replenish its nutrients. However, due to increasing population pressure, deforestation, and limited use of forest lands, shorter fallow periods become the norm in several places. The other significant constraint for tribals is the lack of proper irrigation, technology, and agricultural markets. Tribals often lack proper infrastructural facilities and live in remote regions, thus being hard to reach out to. Thus, most tribes rely upon dryland agriculture, which is adversely affected by climatic changes (Santhosh, 2025). Dry cultivation poses a serious challenge for the growth of crops because of an inadequate supply of irrigation during the dry season. Productivity is adversely affected due to a lack of access to improved seed varieties, fertilizers, and financial assistance from institutions. The tribal farmers face great difficulties in selling their products due to lack of proper facilities and transport services (Kishore & Babu, 2023).

Ineffective policy and governance issues also constitute additional challenges for traditional tribal agriculture. There have been development programs by both the central government and state governments. However, poor implementation of such programs results from inadequate knowledge among administrators, poor collaboration between organizations, and minimal participation by local populations (Gual & Das, 2025). In some cases, development programs intended to modernize agriculture do not take into account the environmental and cultural value of traditional practices. Such disconnects can potentially lead to ineffective implementation of development programs and limit the impact of such programs on the lives of tribes (Saxena, 2019).

The farmers in tribal society can encounter many challenges such as poor economic conditions, low literacy rate, and limited access to the institutions that could help them. Therefore, it will become tough for them to either enhance their farming practices or explore some alternative sources of income (Mishra et al., 2023). Many families have been dependent on migrating periodically, earning wages, or gathering forest resources as part of their economic activity. Moreover, poverty and environmental challenges further make their situation

worse. Traditional farming practices among the tribal society can be related to various other challenges that include land ownership, environment, lack of infrastructure, and weak governance, among others.

SUSTAINABLE PATHWAYS FOR TRIBAL AGRICULTURE

For the sustainability of agriculture practiced by tribes in India, it is crucial that while emphasizing the significance of traditional agriculture, structural barriers in the form of issues faced by tribal cultivators be addressed. The traditional practices that have been employed by the tribe for cultivation contain immense amounts of knowledge about nature, which has been acquired through several years of association with nature. When this is coupled with modern agricultural methods, it helps promote a sustainable agriculture system, which will be resilient towards the challenges of climate change (Bhanage et al., 2025). Traditional methods, such as inter-cropping, diversification of crops, and use of natural fertilizers improve soil quality, ensure biodiversity, and reduce the dependency on pesticides. Thus, any development effort must concentrate on improving indigenous knowledge along with adopting relevant technologies for increased production without harming the environment (Melash et al., 2023).

As the climate patterns get uncertain, there is much to learn from the traditional tribal cultivation systems on how to design farming systems resilient to such uncertainty. The crops grown in the tribal region, such as millets and pulses, are drought resistant and thrive in poor soils. Such crops consume less water and input compared to the commercialized crops, thus are appropriate in dryland agriculture. Encouraging farmers to cultivate crops that have adaptive features in changing climatic patterns together with implementing different agricultural methods could aid them in coping with unpredictable rainfall and other environmental issues.

Natural resource management on the basis of the community is also vital for achieving sustainability in tribal agriculture. The tribal people have a tradition of managing their lands, forests, and water bodies collectively. Community participation in the process of resource management is crucial in regulating the usage of the land, maintaining fallow periods, and preventing overexploitation of the natural resources. Building up the local governance systems, like the Gram Sabha, will ensure that the tribal communities are involved in the decision-making processes regarding the usage of land and agriculture.

Yet another important strategy towards ensuring sustainable agriculture among indigenous tribes involves enhancing governance and policy making frameworks. Despite the existence of various development initiatives aimed at improving agriculture in the indigenous communities, their success largely depends on how much they embrace local knowledge and needs of the people. The rights of the communities should be protected, while efforts are made to enhance access to irrigation facilities and other infrastructure required in farming. Moreover, there is a need to provide services to the particular environments inhabited by indigenous populations (Melash et al., 2023). Also, there should be better coordination between different agencies in order to ensure the success of the development initiatives in meeting the needs of the tribes (Binswanger-Mkhize et al., 2010; FAO, 2017).

For bettering tribal agriculture, it is essential to take a holistic view that incorporates both indigenous knowledge, climate-resilient practices, participation from the community, and supportive policies. This would contribute greatly towards ensuring sustainability in terms of livelihoods, food supply, and the environment within India's tribal areas.

CONCLUSION AND SUGGESTIONS

In the Indian subcontinent, the traditional agriculture practiced by the tribals is distinctive from other practices. It is close to nature and is based on indigenous knowledge; it serves more for subsistence than for commercial purposes. Such practices evolved through many generations since the tribals coexisted with their immediate natural environment. In the course of time, farmers were able to adapt their practices to suit the harsh environment of hills, forests, and even rainfall-dependent practices. As the above presentation in this chapter clearly shows, such practices still hold an important place in sustaining the rural economy in terms of food security and diversity of crops in the tribal areas of India. However, such practices are encountering increasing problems related to land tenure, climate change, inadequate infrastructure, and policies favoring commercial agriculture.

From the discussion above, it is clear that tribal traditional farming methods cannot be labeled as archaic or inefficient; rather, they are efficient techniques that incorporate crop diversification, ecological equilibrium, and community support systems. It is evident that crops grown by traditional farmers such as tribal millets, pulses, and tubers contribute immensely to improving the nutritional status of the local communities, as well as assisting farmers in coping with climatic variations. Furthermore, linking agriculture with forestry is critical in supporting the economic survival of numerous indigenous communities. Appreciating these vital agricultural practices is essential to formulating viable agricultural policies.

In terms of policy measures that could be adopted in order to support traditional tribal agriculture, there are some things that could be done. Firstly, granting ownership rights to tribal communities in relation to their lands and forests could prove beneficial. This would result in an increased investment in agriculture by the tribes for sustainable development. Secondly, the provisions of the Forest Rights Act of 2006 could prove helpful in achieving sustainable development by providing legal status to land use practices of the tribes and thereby improving their natural resource management capabilities. Additionally, policies related to sustainable development could provide incentives to the tribes for cultivating climate resilient crops.

Further, the establishment of effective institutions of decentralized governance, such as Gram Sabhas and resource management organizations, may aid in enhancing the effectiveness of development initiatives among tribes. It is important that local participation is ensured so that agricultural policies and development initiatives meet their actual requirements. In addition, the integration of traditional practices with scientific research in agriculture could be useful in creating viable solutions for the localities.

In conclusion, it is crucial to adopt development approaches that will help in dealing with socio-economic risks associated with tribals. The link between agriculture, forests, and tribals' way of life should be recognized in the process. Sustainable land use along with food security should be promoted. Tribals' agriculture practices could be improved through blending of indigenous knowledge with appropriate government policies and sustainable agricultural methods.⁹

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