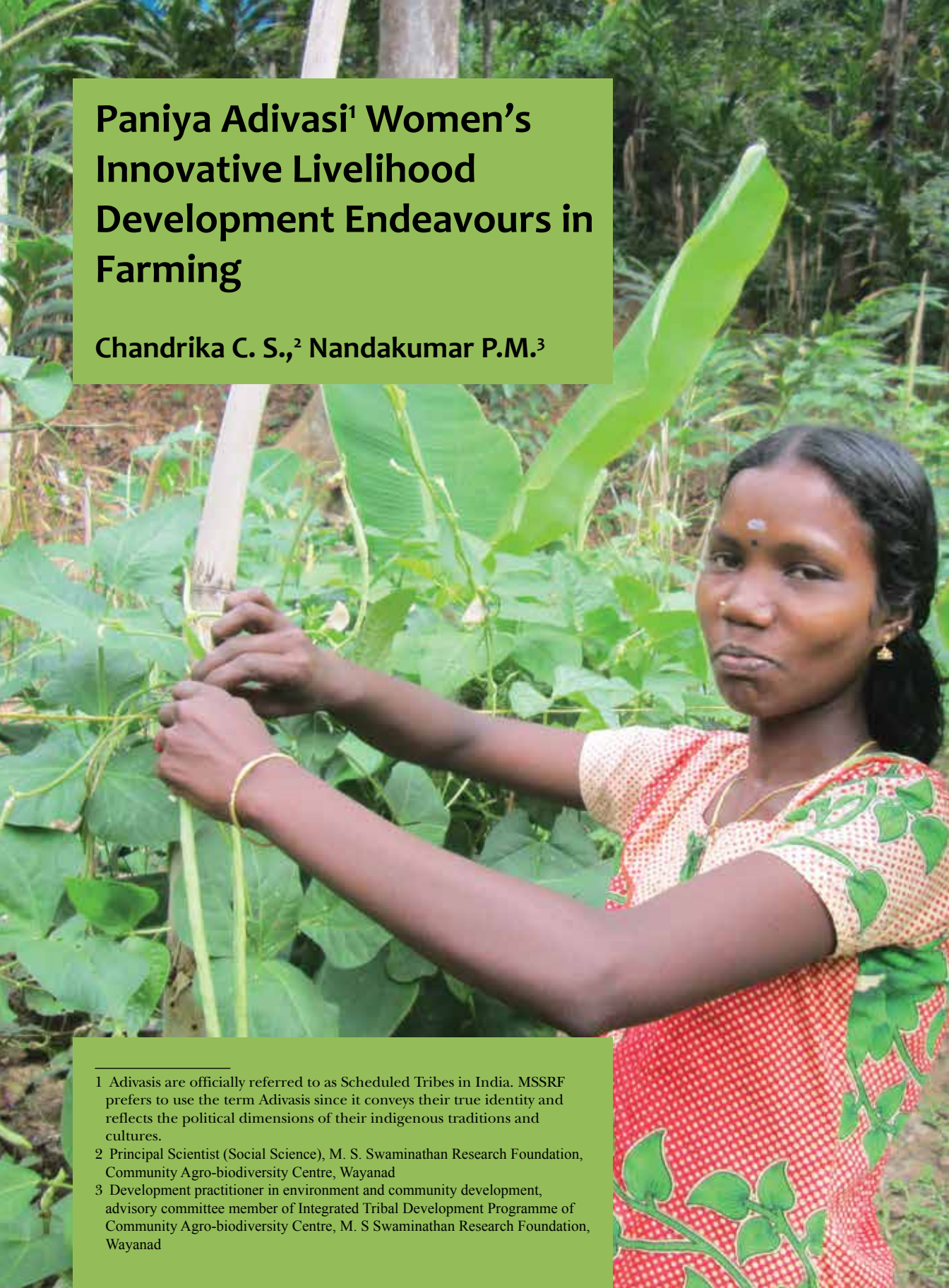




Paniya Adivasi¹ Women's Innovative Livelihood Development Endeavours in Farming

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¹ Adivasis are officially referred to as Scheduled Tribes in India. MSSRF prefers to use the term Adivasis since it conveys their true identity and reflects the political dimensions of their indigenous traditions and cultures.

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The state of Kerala is globally acclaimed for its social development, especially its male to female sex ratio, high literacy rate, low birth rate, low maternal mortality, low infant mortality, high life expectancy and average age at marriage. According to Franke and Chasin (1994), the indicators of Kerala are close to those of the United States, despite the low gross state domestic product. However, this rosy picture of progress has been challenged by scholars, development practitioners and members of civil society organizations who have been working with the women, dalits, tribals and fishermen in the state, besides addressing environmental concerns. The concerns emerged during the mid-1980s, when it was found that in this glorified 'Kerala model' of development, there was clear evidence of oppression along the lines of class, caste, ethnicity (tribe) and gender. There were associated manifestations of violence against the marginalized people. Economic and social development are interrelated, and in any development discourse, it is of prime importance to consider the distribution of economic growth and equitable access and control over resources.

Crisis in Kerala

The Kerala model is in crisis, as evidenced by the high rates of alcoholism and suicide, violence against women, morbidity, diseases due to unhealthy lifestyles, economic deprivation, as well as change in the patterns of land use and depletion of natural resources. Adivasis are the worst affected victims of the crisis since almost none of the developmental programmes and projects really address their needs and the complex issues related to their lives. It is a fact that some of the vulnerable sections of society that ought to have benefited more from the various reforms have ultimately become victims of the reforms.

Brief Demographic Profile of Tribal Communities In Kerala

According to the 2011 Census, the total tribal population of Kerala was 426,204. This constitutes only 12.7% of the total population of the state. The tribal population is comprised of 39 different communities. Among these, the most marginalized and economically and socially backward is the Paniya community. The population of the Paniya community is 92,787 (21.77% of the total tribal population) and the number of Paniya families, 21,604 (20.01%).

The major problems being faced by the tribal population are land alienation, displacement from traditional avenues of employment, malnutrition, ill health, erosion of traditional knowledge and culture, dwindling bio-diversity, denial of or restricted access to common property resources (CPRs), lack of educational opportunities gender inequity, sexual exploitation of and violence against women, alcoholism, and vulnerability due to socio-economic and political powerlessness.

Wayanad: The Adivasi Hotspot, Dispossession and Quest for Remedies

The district of Wayanad has the highest tribal population in the state, accounting for 36% of the total Adivasi population. The Adivasis of Wayanad account for 17.4% of the total population of the district, with the Paniyas numbering the highest among them. The differences in socio-economic conditions between the Adivasi population and that of the rest of the population are manifested in terms of social hierarchy, cultural practices, economic conditions, linguistic affinities, lineage systems, gender relations etc. The major Adivasi communities in Wayanad are Paniya (45.12%), Kurichya (16.49), Adiya (7.31), Mullu Kuruma (13.70), Kattunaikka (11.13), Vetta

kuruma (4.23), Thachanadan mooppan (1.07), Wayanad Kadar (0.44), Mala Arayar (0.11), Ulladar (0.06), and Karimpalan (0.10). The non-Adivasi farmers who migrated from the plains to Wayanad during the first six decades of the 20th century took the Adivasis' land on lease or encroached on it on a large scale, offering them nominal amounts of money or liquor and tobacco in return. Physical threats, too, were used while making the encroachments. The Adivasis had been practising shifting cultivation till then. Ultimately, all the fertile areas of the valley and the gentle slopes came into the possession of the non-tribal immigrants, and the Adivasis had to move to the steep hill slopes and the interior recesses of the forests.

A slew of laws were passed to protect the rights of Adivasis once this issue began to receive attention and also, as a consequence of the land struggle movement. These included the Land Alienation Prevention Act (Restriction of Transfer of Lands and Restoration of Alienated Lands) of 1975 (amended in 1996 in favour of non-tribal immigrants), and the Forest Rights Act 2006, which has not been implemented effectively so far. The Adivasis, who were illiterate and unaware of the need to maintain land records, were naturally unable to produce these documents to claim their alienated land. They thus remained landless, vulnerable and dependent on the immigrant landlords and farmers,

working as wage labourers. A great breakthrough was made with the autonomous Adivasi movement which emerged in the 1990s, and which has played a significant role in helping many landless Adivasis to acquire some amount of land. Following the lead provided by this movement, all major political parties tried to mobilize the Adivasis under their banners and help them acquire land elsewhere in Wayanad.

Development Intervention Mandate of M. S. Swaminathan Research Foundation

The M. S. Swaminathan Research Foundation (MSSRF) is a non-profit research organization established in 1988. Its constant endeavour has been to develop pro-nature, pro-poor, pro-women and sustainable on-farm and non-farm livelihoods through appropriate eco-technology and empowerment of the community with knowledge.

The Community Agro-biodiversity Centre (CAbC) was established by the MSSRF in 1997 to cater to the livelihood and food security needs of the poor families of Wayanad in a gender-sensitive manner, through sustainable management of the population's bio-resources. According to Prof. M.S. Swaminathan, the founder of

the CAbC, the centre was “born to serve as a temple of knowledge” in the area of conservation, and for the sustainable and equitable use of biodiversity, specifically agro-biodiversity. The mission of the MSSRF is to adopt economically viable, ecologically sensitive and socially inclusive approaches in research and development, as well as approaches geared to ensuring gender equity, so that the CAbC can work towards providing sustainable livelihoods and food security to the communities in the hilly areas of the Malabar eco-region of the Western Ghats.

Intervention for the Development of Livelihoods and Food and Nutritional Security

This case study is about an intervention by MSSRF for the development of livelihoods, as well as food and nutritional security, to address the issues of poverty and malnutrition among the women and children belonging to the most vulnerable Adivasi community in Wayanad. The case study covers the profile of the target group and sample size, location and period, components of the intervention, information and data, methodology and strategies adopted, analysis, lessons learnt, suggestions and policy recommendations.

Profile of Target Groups

The major Adivasi communities in the district are characterized as agrarian communities (Kurichya, Kuruma), freed bonded wage labourers (Paniya, Adiya), artisan communities (Oorali Kuruma), and forest dwellers (Kattunaikka). The Adivasi people, who were once self-reliant in all respects, have ended up depending on others completely for their subsistence and existence. As a result of land alienation and landlessness, they have become the most vulnerable and powerless section of society. Further, land alienation has led to the disintegration of the traditional commune system and damaged the cohesion of the community. The people's traditional self-governance system with respect to the pattern of land use, cropping pattern employed by them, their practices relating to the conservation of natural resources, their cultural, dietary and health-seeking practices, lineage system, and gender relations have also suffered. The damage has affected each community differently.

Introducing development interventions among the Paniya community is a most challenging task. In addition to the ills mentioned earlier, the life expectancy of males is decreasing, and the community has no access to new technology and no avenues for acquiring skills for new livelihoods. Though the primary focus of the case study was on the women of

the most vulnerable community—the Paniya Adivasis—women of the Adiya, Kattunaikka, Kuruma, Kurichya and Thachanadan Mooppan communities also formed a part of the development endeavors initiated.

Location and Sample Size

The intervention spanned 13 Adivasi villages falling under four gram panchayats of three taluks and one ward of the Kalpetta municipality in the district of Wayanad. The villages were: Kairali in Mukkilpeedika, five villages in Pannikkal (Kollivayal, Aloorkunnu, Kurichiapatta, Kalapurakkal, Chennampatty), three in Puthoorvayal (Chengutty, Mangavayal, Thannikkuni), three in Thirunelly (Gundikaparambu, Nettara, Eruvakki), and one in Muthanga (Ponkuzhi). Among these villages, Kairali and Ponkuzhi are in forested areas. The problems common to all the intervention sites were the absence of livelihood options, proper housing and sanitation facilities, a lack /scarcity of drinking water, remoteness, health problems, inadequate food and nutrition, alcoholism among men, gender-based violence, an increasing school dropout rate, politics of vote banks, raiding of crops by wild animals and associated man-versus-animal conflicts, poor participation and involvement in decision-making bodies, such as the oorukoottam and gram sabha, and poor governmental outreach.



Harvesting salad cucumber from the polyhouse precision farming unit.

Interventions for food and nutrition security, covering 470 families, were initiated in 2011 with the support of the Department of Science and Technology (DST). Beginning in 2012, multidimensional endeavours were undertaken in the sphere of farming with the support of the Kerala State Tribes Development Department (KSTDD), with an aim of developing livelihoods. These focused specifically on 80 Adivasi families of the village of Kairali. Altogether, 550 families benefited from the MSSRF-spearheaded intervention on livelihood, and food and nutrition security.

Integrated Home Nutrition Gardens for Food and Nutrition Security

Food and nutrition insecurity is a persistent problem in almost all the tribal villages of Wayanad, especially among vulnerable communities such as the Paniyas, Adiyas and Kattunaikkas, making the population vulnerable to a number of health risks. One of the major reasons for food insecurity was the elimination of traditional food crops from the homesteads. The deprivation of access to traditional and wild foods exacerbated the vulnerability of the landless communities. They were not allowed to gather, or could gather only to a limited extent, cultivated and wild edibles, such as tubers, leafy greens, fruits, roots mushrooms and honey. The same held good for fish, crabs and animals. As a result, their nutrition security was severely

affected, and hunger, anaemia, stunted growth and low birth weight of 600-800 gms. were common problems.

To combat these maladies, integrated home nutrition gardens were introduced in all the intervention sites. These allow for cultivation of vegetables, mushrooms and herbs in the homestead. Another component is that of poultry farming in the backyard. The main focus was on women and children suffering from malnutrition.

In the home nutrition gardens, the farmers were to grow traditional varieties of vegetables rich in nutrition. These consisted of cultivated and wild tubers and legumes, seasonal vegetables and leafy vegetables, besides fruits. Often, the Adivasis dealt with seasonal poverty by consuming tubers, both cultivated and wild, in bulk. To ensure and enhance the availability of cultivated and wild varieties of tubers and legumes, 10 community germplasm plots of tubers and legumes were established in the intervention sites. A common nursery of primary vegetables, such as tomato, brinjal, papaya, chilli, curry leaves, drumstick, okra, spinach, beans and vegetables grown in the cool season, was also established to ensure the availability of quality seedlings.

This intervention helped not only to resolve the problems related to nutritional deficiency among the women and children, but also gave the Adivasis the opportunity to acquire nutritional knowledge in the changed context and the skills to manage their resources accordingly. The activities were designed in such a way that the male members of the community and children are now able to participate in home nutrition gardening along with the women.

Poultry units were set up in the farmers' backyards and household-level mushroom cultivation was introduced to enrich the food basket and diet of the household. Unstructured herb gardens were set up in the homesteads of the community members. These were meant for cultivation of 10 varieties of primary plants that serve as home remedies, the idea being to revive traditional health-seeking practices. In addition, eight medical camps were held to identify and address the prevalent health problems. These camps helped to engender awareness of the importance of a nutritious diet and the components of such a diet.

Health issues diagnosed in the health camps

Men	Women	Children	Preventive measures taken
Diseases related to malnutrition	Addiction to betel chewing	Undernourishment, malnutrition	Introduced integrated home nutrition gardens with vegetable cultivation, backyard poultry farming and oyster mushroom cultivation, for which farming skills were imparted
Diseases related to substance abuse	Pallor and symptoms of anaemia	Symptoms of calcium and vitamin deficiency in 70%	
Gastric disorders due to alcohol abuse and abuse of other stimulants	Thyroid abnormalities and goitre	Upper respiratory infections	
Leukoplakia	Pelvic inflammatory symptoms	Cervical lymph adenopathy	
Chronic cough	Menstrual disorders (e.g. dysmenorrhoea)	Scabies	Classes and counseling to make the women, men and adolescents aware of issues related to health and hygiene
Tuberculosis	Leukoplakia and keratosis	Symptoms of rickets and beriberi	
Trauma-related pains	Multiple joint pains and trauma-related pain due to falls on the slopes		
Renal calculus			

Model Germplasm Plots of Tubers and Legumes

The conservation of species and genetic diversity of traditional cultivars are of paramount importance in ensuring food and nutrition security. Modern agriculture has accelerated the pace of shrinkage of traditional varieties. This has also resulted in the erosion of cultural diversity that had a direct bearing on the conservation of biodiversity. There has been a substantial reduction in the formerly

widespread occurrence of several varieties of traditional food crops in the homesteads. Many food crops are no longer grown in the immediate vicinity of the tribal communities. As mentioned earlier, the shrinkage of the traditional food crops has direly affected their nutritional status, resulting in malnutrition and the associated health risks. In order to minimize the health risks by reviving the traditional food crops in their homesteads and backyards, 10 field germplasms of traditional cultivars were raised. They consisted of tubers (19 varieties of dioscorea, 4 of

cassava, 2 of elephant foot yam, 10 of taros), legumes (25 varieties) and vegetable crops. The community has

welcomed this initiative with open arms, which bodes well for the health of the people.

Details of the preferred and nutrition-rich items in integrated home nutrition gardens

Items	Varieties
Vegetables (traditional and wild varieties)	Tomato, cucumber, ridge gourd, leafy greens, brinjal, okra, bitter gourd, drum stick, papaya
Tubers (traditional and wild varieties)	Yam, taro, kasava, sweet potato, little known tubers
Legumes (traditional and wild varieties)	<i>Chenappayar, valan payar, machakkotta, chandanappully, manju payar, cheriya kuruthola, kuttippayar, wayanadan, soya bean, chatura payar</i>
Mushroom	Oyster mushroom
Backyard poultry	4 hens and 1 cock

Need for Agricultural Initiatives for Livelihood Development For Paniya Women

Income plays a cardinal role in the economic security of the family. It increases the family's purchasing power and also enhances its well-being. Owing to the lack of a

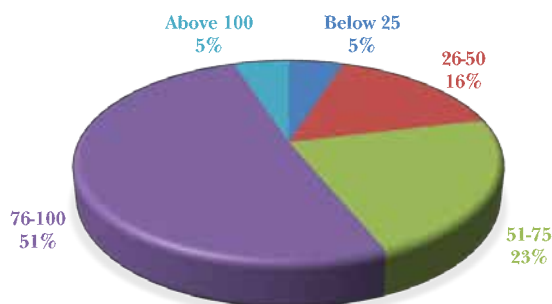
consistent income and the absence of sources of income, the Adivasis are among the most economically backward and vulnerable communities. Extreme economic deprivation has landed them in a state of perpetual penury and distress. During lean periods, they often resort to starving for days.

The MSSRF's activities for generation of income focused mainly on Paniya women in Kairali, an Adivasi village. These activities were undertaken with the support of the KSTDD. The Paniya women had been earning

a living by working as casual wage labourers in others' agricultural land since they had no agricultural land of their own. Thus, they plunged into abject poverty when there was no opportunity for wage labour. The skills of the Paniya women were related mainly to only paddy cultivation and associated activities. It was in this context that the initiative for the comprehensive development of livelihood activities was introduced.

Kairali is located in Mukkilpeedika in the Vythiri taluk of Wayanad. The village falls under the Muppainad gram panchayat and has a land area of 32 ha. This is forest land, which was assigned to Adivasi families in 2008 under the Forest Rights Act 2006. The families occupied the land under the aegis of a political party as part of the Adivasi land struggle movement. The Paniya community constitutes 75% of the population of the entire settlement and the remaining 25% belongs to the Thachanadan Mooppan community. The village is inhabited by 80 families, which live in makeshift houses and dismal conditions. The livelihood of 96% of the population is seasonal agricultural labour. The deplorable living conditions, such as the absence of proper pathways, drinking water, sanitary latrines and power connectivity, in addition to the remoteness of the area, are taking an especially heavy toll on the women, who perform both productive and reproductive roles.

Patterns of Landholding and Land Distribution (in cents)



Polyhouse Precision Farming: A giant Leap in transfer of technology

The implementation of polyhouse precision farming in the Adivasi village disproved the popular perception that only educated and progressive farmers can use such advanced technology. The 'uneducated' Adivasi women scripted a new saga of success in high-technology farming in Kerala. Though the village of Kairali had still not been touched by modern civilization and development, the women and their families took to precision farming and imbibed the state-of-the-art technology in a short span of time. (Report in *The Hindu*: Vegetable farming goes hi-tech in tribal hamlet, May 10, 2014; see the URL: <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/vegetable-farming-goes-hitech-in-tribal-hamlet/article5995271.ece>). The construction of a polyhouse was a formidable task as Kairali is

far from any road and, therefore, the villagers had to carry the construction materials to the village on their heads. They overcame all kinds of adversities to construct the 400 sq m polyhouse. The attempt to introduce such high-technology farming to a community lying on the lowest rung of development was quite new. Training was imparted to the entrepreneurs by experts in the field. To instill confidence in the farmers, exposure visits were arranged to those initiatives which had been successful.

The significant achievement of this initiative was that it kept the intermediaries at bay by finding a regular market for the produce. A tie-up was established with the Wayanad Institute of Medical Science (WIMS), a private medical college in the area of the same gram panchayat. WIMS provided the farmers with a free market slot at a prominent place in the campus as their products were pesticide-free and reliable. This simplified the formidable task of marketing.

Direct marketing enabled the farmers to fetch full price for their produce. In three months, the four women farmers engaged in the salad cucumber had harvested 2000 kg of salad cucumber. The cucumber was sold at Rs 35 per kg and a single crop fetched the farmers a total of Rs 70,000 over a period of three months. Thus, the women engaged in the cultivation of salad cucumber earned an amount of Rs 5,800 per

Manju, one of the women involved in the venture, said, “A total of 20–60 kg of salad cucumber is harvested every two days and sold through the WIMS outlet located not so far from our village. We sell our produce directly to the end users. The outlet, which we have been able to use due to the support of the MSSRF, is a source of great relief to us. We can easily sell 50–60 kg of salad cucumber in a matter of 2–3 hours. Actually, we are not able to cater to the high demand of the buyers. We are selling the cucumber at Rs 35 per kg.”

month. Since this venture did not require full-time involvement, they could engage in other activities too.

Animal Husbandry as a Means of Livelihood

Dairy farming is a familiar livelihood option for the Adivasi communities. In order to promote income generation activities, 12 women were provided with two milch cows each. As a result, their families were able to earn enough to lead a decent life and no longer needed to work as wage labourers in others' fields. On an average, they were able to earn



Rs 450 every day by selling 15 litres of milk. Thus, their monthly income from dairy farming was Rs 13,500. Further, being an avenue of self-employment, dairy farming boosted their self-esteem substantially.

The other livelihood option which formed a part of the income generation activities was goat-rearing. Fourteen women were provided with five goats each. The goateries were promoted as a supplementary source of income that would help the women's families meet expenses such as the children's school fees, and so on. As goats multiply rapidly, the women started earning a good income by selling additional goats.

Mushroom Cultivation

Another means of livelihood to which the tribals were introduced was mushroom cultivation.

Although Adivasis are very familiar with harvesting wild edibles and mushrooms, cultivating mushrooms was a totally new experience for them. They participated eagerly in the training and imbibed the skills they were being taught. One large-scale unit and nine household-level units for the production of mushrooms were set up. These were functioning smoothly and brought in a good income. Those running the household-level units earned

an average of Rs 400 a day. Four women were working in the large-scale production unit. They sold the

mushrooms at a rate of Rs 200 per kilogram and earned Rs 500–600 a day.

Details of income generation activities

Sl no	Activity	No. of families benefited	No. of animals/ plant varieties / equipments	Results
1	Dairy farming	16	24 cows and 21 calves	Another 18 cows and 10 calves were added within 6 months with financial assistance from the milk society. Nutrition and health improved due to the consumption of milk. The biogas plants provided to 2 group and 8 single beneficiaries improved the women's living conditions.
2	Goatery	14	70	The consumption of milk improved nutrition.
3	Poultry farming	8	96	This provided a source of income and improved nutrition
4	Vermi-composting	4		Besides providing a source of income, this gave the farmers a bio-input for their own farms.
6	Mushroom cultivation	11	Cultivating oyster mushroom	This increased the women's income. Eleven Adivasi women were trained in cultivating and marketing of mushrooms.
7	Apiary	15	50 boxes	Well-trained in a new livelihood option
8	Polyhouse precision farming	4	400 sqm	The tribal women were successfully trained in practising modern agricultural techniques.
9	Promotion of agro-biodiversity	80	700 saplings of trees, including 5 species of medicinal trees 2580 seedlings of various horticulture crops	60% of the seedlings survived. This component ensured a long-term means of livelihood from their own land.
10	Agricultural implements	80	Tool kit with 5 items	Availed access and ownership on essential agricultural tools

Promotion of Agro-Biodiversity

In keeping with the 4C approach (conservation, cultivation, consumption and commercialization) adopted by the MSSRF, one of the activities taken up was crop diversification in the farmers' homesteads. This consisted of the integration of dioscorea, taros and other little known tubers, plantains, fruit trees, medicinal plants, coffee, pepper and cardamom. The notable feature of this component was that women spearheaded the conservation efforts.

Replicability and Sustainability

The interventions related to food and nutrition security have made the project replicable in several ways. Even after the duration of the project had been completed, the community took its own initiative to increase the number of community germplasm plots of tubers, legumes and vegetables. This indicates that there is scope to integrate this demand-driven component into the micro-plans of gram panchayats. Line departments like the agriculture department, have now started supplying inputs for homestead gardens.

To bring about further improvements and make periodic assessments of the sustainability of measures to enhance the population's

nutritional status, MSSRF has built partnerships with medical institutions, line departments, and experts and counselors in the field of nutrition. In addition, for making primary health services available to the villagers in their own vicinity, two girls from the village who had studied up to the 12th standard were sent to the 'Aswsini Tribal Hospital' in Gudallur for a two-year nursing course. Both students did very well, securing distinction. Now they are working under their community health programme so that they can gain experience and serve their village later on.

In order to make the women capable of sustaining the interventions, they were trained in multiple skills. In addition, a sensitization programme was conducted to raise awareness on various aspects on the programme.

Challenges

The intervention related to the development of livelihoods was supported by the state government and was time-bound, but it was difficult to complete the work in the short span of time available. Moreover, the funding was not requisite. Another major obstacle to the smooth implementation of the interventions was political interference. Unless all concerned stakeholders cooperate and make concerted efforts to further the development of the vulnerable Adivasi communities, the successful implementation of the Adivasi

development project will remain a mirage.

Lessons Learnt and Policy Recommendations

Pro-active policies must be adopted to promote socio-economic development, keeping in mind the heterogeneity of the Adivasis and the diverse developmental issues affecting this marginalized and vulnerable group. Policies and programmes should focus on addressing the gender concerns, especially to address nutritional maladies and empower women through equitable redistribution and transfer of resources, to ensure that they have access to and control over tangible and intangible resources. The designing of programmes/projects for the sustainable development of the Adivasis should always be participatory, taking into consideration their preferences, traditional knowledge and regional peculiarities. The allocation of funds for and implementation mechanisms of projects/ programmes aimed at Adivasi populations living on the fringes of forests and in remote areas require special attention.

It is extremely important for programmes concerned with food and nutrition security as well as those concerned with livelihood development to address both the practical and strategic needs of the women of the Paniya tribe and other vulnerable communities. The tools of participatory gender analysis must be used for planning and implementing similar development initiatives for different categories of women to ensure equitable access to and ownership of resources. Also, infrastructural facilities, such as safe housing, sanitation, clean drinking water, and roads and transportation amenities, should be developed to enhance and sustain the results of any livelihood development activity.

In the MSSRF initiative, a common facility centre (CFC) was established as part of the livelihood development intervention in order to organize the people of the village. It was intended to serve as a platform for them to air and share

their views on developmental issues pertaining to them. Before the CFC was established, there was not a single venue where the community members could interact or training could be imparted. The CFC and the mushroom cultivation centre

The most important lesson learnt is that long-term hand-holding and support services are required to empower the vulnerable Adivasi communities, and the development stakeholders must have a clear strategy regarding withdrawal.

were built with green architecture technology: mud was used as the medium of construction for the superstructure, while no cement, sand and stone chips were used. Training in green architecture technology was imparted to five women, resulting in the formation of a bank of novice skilled labourers in the hamlet. The direct involvement of the primary stakeholders in the construction of the CFC helped to instill confidence in them and paved the way for their opting for green architecture technology for their homes later on. The MSSRF has conveyed its opinion to the high-level decision-makers in the state and convinced them of the desirability of introducing green architecture technology. This

innovative intervention for livelihood development has been instrumental in bringing about a paradigm shift in decision-making on infrastructure development for the Adivasis in the state, which has sanctioned the construction of 10 houses in the village, using green architecture technology, on a pilot basis.

Conclusion

Extensive land alienation has plunged the Adivasis into abject poverty. The existing laws restrict their access to forests and have made it difficult for them to collect non-timber forest produce (NTFP) and wild food. The collection and sale of NTFP and wild food used to contribute significantly to their



Women with mushroom harvested under the project.

economic and their food and health security, respectively. The consumption of wild foods helped them battle malnourishment to a large extent. The scenario today is very different. It is shocking that in 2013, 52 Adivasi children and women died of malnutrition in Attappadi, Kerala, a state acclaimed throughout the country for its social development model. Since the district of Wayanad has the highest Adivasi population and number of landless families, the problem of malnutrition among Adivasi women here has to be tackled by the government in partnership with other development stakeholders concerned if such a disaster is to be avoided. As for the Paniyas, one of the vulnerable Adivasi communities in Wayanad, both open and hidden hunger exist among the population, and studies have shown that the people suffer from numerous malnutrition-related health problems.

As elsewhere in the world, the pace at which biodiversity is dwindling in the district is reaching a dangerous level. Cultivated varieties are similarly endangered. As Wayanad is a biodiversity and climate hotspot, a major focus of MSSRF

has been the area of community agro-biodiversity. The Foundation employs the 4C approach, and the Adivasis have been recognized as the primary stakeholders of the related development programmes. Many of the food crops grown in the kitchen gardens and homesteads have been relegated to the category of orphan crops.

The fact that the Adivasi women involved in this project were able to learn the methods of innovative farming proved beyond doubt that they are capable of successfully going beyond conventional development perspectives. If they are given access to and control over cultivable land and agricultural implements, and equipped with new skills,

knowledge and technological knowhow, they will script a success story in their area.

The project included some components to reduce the load on the women and to improve their

life situation. The women who had been provided with cows had a heavy burden on them as they had rear the cattle now, in addition to their domestic chores and routine jobs to earn their livelihood. The biogas (gobar gas) units set up for the

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dairy beneficiaries helped reduce the burden of collecting fuelwood. Another advantage of the biogas units was that they did away with the need to use firewood for cooking and minimized smoke-induced health hazards. The dairy beneficiaries were also provided with fodder grass slips, to be cultivated in their homesteads, in order to reduce the burden of collecting fodder from faraway places.

Seven hundred saplings of trees, including those of five species of medicinal trees and fruit trees, were planted to promote agro-forestry. In order to increase the productivity of the existing cultivated area and diversify crops, 2580 seedlings of various horticrops were planted in the homesteads of 80 families. It was planned that the Adivasis would use these for the development of a long-term means of livelihood in their own land.

The specific initiatives for the Paniya women have yielded quantitative and qualitative results as far as the six pillars of livelihood development—physical, social, natural, human, financial and cultural capital—are concerned.

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