

The Brewing of Araku Coffee: Regenerating the Economy and Ecology

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*'Wealth is ... having a forest around you, a forest that is biodiverse. For such a forest nurtures good soil and that is real wealth, sustained wealth.'*¹

NAANDI FOUNDATION² WAS ESTABLISHED IN 1998 with the objective of attracting professionals from diverse fields to design and deliver large scale programmes under the guidance of a board of trustees representing captains of Indian industry. In its first decade, Naandi went from being a one-state (in its operations), one-crore (its annual budget) non-governmental organization (NGO) to a multi-state, multi-crore, multi-sectoral development organization, working in partnership with state governments, municipal corporations, investors, and philanthropists worldwide. Today, two decades later, Naandi Foundation works in twenty-two states, has over 300 full-time employees and 6,500 part-timers, with an annual budget of Rs 150 crores. Naandi has impacted over 75 lakh people through channelizing over Rs 100 crore to underserved communities across India.

The second decade of Naandi's work focused on improving young lives by setting up 2,200 skilling and employment centres for youth and 6,300 education and empowerment centres for girls. The skills centres have helped youth transform from day-long loiterers to smart young professionals, with official vehicles transporting them to work and back, within a few months.

The centres for girls reached out to the most unreached children in low-income families—from rural hamlets in Shravasti, Uttar Pradesh, on the Nepal border, to the salt flats of the gulf of Khambhat in Bharuch, Gujarat; from tribal settlements perched on the Araku hills on the Andhra–Odisha border to the mustard fields of Moga, Punjab.

This period also saw pioneering entrepreneurial work in reversing climate change in the mountainous Araku region in southeastern India. Over 3 lakh Adivasi farmers in this region have emerged from poverty through coffee farming. The produce from this area is marketed as ‘world-class gourmet coffee’ in India and in France under the brand name ‘Araku Coffee’.³ This once eco-fragile region is becoming the world’s largest regenerative agriculture hub, now stretching across 2,000 square kilometres with the planting of over 3 crore fruit trees and forest. Coffee, shade trees and pepper was followed by fruit and timber plantations and then cereals and food crops. This led to the creation of a new economic framework called ‘Arakonomics’.

Why Araku?

The Araku region is nestled in the Eastern Ghats on the border of Andhra Pradesh and Odisha. The lush hill forests of the region used to be inhabited by over 5 lakh indigenous people living in harmony with nature. However, by 2001 Araku had become an eco-fragile region characterized by the loss of biodiversity, rapid erosion of soil and deforestation. There was also the growing influence of armed insurgents called the Naxals. The forest-dwelling people had been pushed out of their habitat and ‘mainstreamed’ into acute poverty.

In addition, the growing threat of carbon depletion from the soil had made this region increasingly vulnerable to climate change. Decades of indiscriminate mining and tree-felling by traders and corporations from other regions had ‘desertified’ their habitat, with the hillsides denuded and the soil depleted. Basic amenities to which the rest of the country had increasingly received access—such as health services, schools, motorable roads and phone connectivity—had not reached the people here, resulting in abject poverty.

Naandi's Intervention in Araku

Naandi's efforts to reverse the poverty of the indigenous people of Araku started with a deep dive into understanding their lives, psyche and aspirations by living with them. The next steps were setting up small village schools with labour contributed by the villagers, and bringing in trained nurses. This latter step was particularly important for the care of pregnant women as there was a high prevalence of maternal mortality in the community. As a relationship of trust with the villagers developed, the Naandi team began to have conversations with community members, village meetings and brainstorming sessions to discuss how the people in the Araku region could build a pathway out of poverty. The team worked systematically through social, economic, cultural and environmental challenges and other complexities of the region to establish livelihood models that—through regenerative agriculture and high-quality produce—would enrich the ecology and increase biodiversity, help lift the community out of poverty and bring back acres of functional forests. The impact of Naandi's work in the Araku region can be measured not just by the increased annual income of the indigenous farmers but also by the improving agricultural yield, the number of trees planted and the volume of carbon sequestered.

Now, produce from this region is sold in niche markets across the world. Impoverished gun-toting peasants have become dynamic, enterprising estate owners. The journey of reversing climate change has begun. Various state governments have been showing an interest in replicating this template of poverty eradication.

A quantitative summary of the impact of Naandi's work in the Araku region would list 3 crore trees of nineteen different species planted (with a survival rate of close to 90 per cent) as well as 3 lakh people lifted out of poverty. In addition, soil organic carbon percentages improved from 0.4 to 1.4 per cent (in some cases as high as 2.1 per cent), which is a powerful way of mitigating climate change. For perspective, the national average soil carbon percentage for arable land in the plains is less than 0.3 per cent. In many conventionally and intensively cultivated areas such as the Moga district of Punjab, it is as low as 0.1 per cent.

This model of having a positive impact on both the economy and the ecology of a region simultaneously has been named 'Arakunomics'. In 2020, the Rockefeller Foundation of the US recognized Arakunomics as one of the world's top ten strategies for a better food system for the future.

Naandi Foundation's work in the region has led to the provision of safe maternal care to tackle maternal mortality, and has also guaranteed ten years of basic schooling for nearly 10,000 girls from tribal families. Small landholdings across 900 villages have been made agriculturally viable through knowledge transfer on scientific, organic and regenerative agriculture practices, with additional help provided on tree planting and monitoring of tree growth. Peer training in these scientific and organic cultivation practices are provided for farmers and their families at 'farmer field schools'.

Nearly 50,000 acres of land has been brought under organic regenerative agriculture over the last decade. This has prevented and reversed environmental damage and strengthened crops to withstand extreme weather conditions while enriching soil quality. The planting of functional forests has revived the tradition of a vibrant, biodiverse environment that provides sustenance to indigenous farming families in the form of food, nutrition, fodder, fuelwood and cash. These families have been given support to build coffee estates and fruit orchards and transform them into profit-making family enterprises.

The organization's work has also led to the formation of the world's largest organic farmers' cooperative. The 12,000 members of the cooperative not only bring the community closer but also empowers it. Half of the cooperative's board, selected unanimously, based on members' service, are women. In addition, a local grassroots sports movement has been started, which has seen 500 volleyball teams being formed. Thirty-five of these are all-girls teams. They actively practise throughout the year and participate in a local league. These sporting activities have kept the local youth—about 5,000 in number—active, keenly engaged and connected to their homeland.

In the process of bringing about these changes, semi-wasteland was converted to nutrient-dense, carbon-rich topsoil, and denuded forests were transformed into functional ones. Apart from coffee, half a dozen varieties of spices, cereals and fruit flourish in thousands of estates and orchards owned

by small and marginal farmers. The region has become a haven for millions of beneficial microbes and insects as part of an ecosystem that is now climate-change resilient. Araku now serves as an example for showcasing the prowess and potential of regenerative agriculture.

Understanding Arakunomics

Arakunomics is unique in a world of economic models that are either built around trade-offs or perpetuate inequalities. India requires a new system for producing food, one that regenerates the environment and assures sustained profits to farmers while providing nutritious food to all. Arakunomics can serve as this system, as it places food at the centre around which challenges of poverty, disease and environmental degradation are addressed. The innovation sees farmers negotiating profits rather than prices with buyers. All their costs are borne by Naandi, which serves as the buyer. The price fixed for the produce reflects actual profits. This way every farmer is assured of sustained profits and is insured against declines in global market prices. It allows them to focus on quality. This is enabled by some key process elements:

Deep listening and trust-building

In its initial years of operation, Naandi Foundation had to spend most of its time learning about life in the Araku valley, a place that seemed to have fallen off the map and been written off by the rest of the world. The volunteers took every opportunity to join in discussions with villagers and farmers to understand how their travails were exacerbated during certain seasons and how their families coped with poverty-stricken conditions. They observed what the locals ate, how they celebrated and how closely bonded they were with their land and trees.

The president of the tribal farmers' cooperative, Kondal Rao, said that Naandi had restored his faith in the idea of trust. According to him, once the organization had made a promise, it went to great lengths to keep it. He was referring in particular to the price assured by Naandi to the Small and Marginal Tribal Farmers Mutually Aided Cooperative Society for coffee each year. Irrespective of whether Naandi can locate buyers at that price later in

the year, it always paid the promised amount upfront to the farmers. For the farmers, this served as a sign of Naandi's moral courage and its commitment to the area and its development.

Leveraging the caring and sharing culture to build a successful cooperative

The Araku tribes used to be forest-dwelling people who hunted for food. However, they were forced to adapt to settled agriculture from the 1950s due to increasing pressure on forest land. Culturally, they are a people with strong values of sharing and caring. These values meant that they never built boundary walls or sent out invitations for family events—simply because everyone was invited, no one was shut out. There were over thirty-five different tribes in the area sharing a common value system of living in harmony with nature. These indigenous communities are custodians of a rich collective memory of forest produce being a source of sustenance.

Coffee has been cultivated here since the 1920s, when the British found the climate and terrain suitable for the enterprise and introduced it to the region. However, the locals had never tasted coffee and most still do not drink it. This meant that they were unaware of the importance of ensuring the correct ripeness of the cherries at the time of harvest. Neither did they have any idea of the best drying and processing practices. As a result, they were able to get only very poor returns for their produce.

Naandi saw an opportunity here, especially as the Adivasi farmers had never used chemicals in their coffee plots. Work began on building capacities on best practices of organic regenerative agriculture with the aim of improving the quality and yield of the coffee that the farmers were growing. Work also began on getting land parcels of the farmers organic certified. Fair Trade certification followed. Soon, the idea of forming a cooperative came into being.

By definition, a cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned enterprise. This seemed the best way forward to ensure the growth of farmers' livelihoods in a way that was sustainable and self-determined. This led to the formation of the Small and Marginal Tribal Farmers Mutually Aided Cooperative Society in 2007. The

caring and sharing culture of the people lent itself seamlessly to the working style of a cooperative, in which it was not the individual farmer but the entire village that was rewarded for success. It was a quest for excellence and not a sense of competition that drove their efforts.

The cooperative that started with 1,000 members in 2007 has today grown to a membership of 12,000 because of its effectiveness in helping farmers get better prices for their produce. Membership gives the farmers access to high-quality training organized by Naandi as well as organic inputs such as compost, bioinoculants, seeds and saplings. Very importantly, it enables small farmers to avoid exploitative local moneylenders. The cooperative is run as per state laws, with free and fair elections every five years.

Discovering sustainable solutions for addressing poverty

Naandi wanted to find other employment opportunities for the locals that would leverage the traditional skills and knowledge of the community without requiring them to leave their homes and go to distant cities. Such solutions could not only lift their families out of poverty but also reverse the environmental degradation in the region. Populist welfare economic models proposed in the Five-Year Plans and other government initiatives not only provided education and health services but also attempted to promote livelihoods—however, these schemes did not initially reach regions like Araku.

Even when they began to reach the Adivasis, they found that the initiatives were jeopardizing their connection with the forest. The indigenous people in Araku were closely linked to their forest ecosystem—they lived off it, with it and in it. The new poverty alleviation programmes took them away from the forest and nudged them to align with a rootless, mono-diet, mono-behaviour, monoculture that was being labelled or even celebrated as being ‘modern’ and ‘global’.

The Naandi theory of change was to find local solutions that would not involve imposing a mainstream development model. The forest dwellers were still using barter practices and did not understand concepts such as surplus and profits. The organization wanted to base its solution on the native wisdom of the tribal societies to ensuring self-reliance instead of reducing them to

passive receivers of largesse, whether in the form of subsidies and freebies or loan waivers.

A 'shade' of self-interest

Fighting climate change and bringing back biodiversity are lofty goals and they take a lot of selfless hard work with no immediate tangible gain. There had to be some additional motivation if the inhabitants of Araku were going to join the fight and stay in it. This led to the creation of the template for 'one-acre models', which would bring in sizable cash incomes regularly. The Naandi team became 'portfolio managers', helping to decide what to plant in the small landholdings.

It was best to grow a judicious mix of crops such as millet, paddy and fruits for food, along with coffee, pepper and timber for cash income. This would be done using regenerative agriculture practices and optimal market linkages would be established for increasing cash incomes. Winemaking's 'terroir' approach—usually associated with the fine wines of Bourgogne—was adopted in Araku to enable customized crop and cultivation planning. It guaranteed higher quality products and increased yields.

Most Araku farmers were in the clutches of traders and middlemen from whom they would borrow money at high interest. This was because making a livelihood from agriculture meant receiving payments only once or twice a year. The farmers had to turn to these middlemen to meet their recurring, immediate needs for food and healthcare. They would commit shares of their harvest to the moneylenders in return for an immediate cash loan. This often meant that Naandi would not receive the harvest at competitive prices for processing and sale.

The organization decided to make part payments at regular intervals of two months to the farmers in anticipation of the expected harvest. The assured source of cash at fixed intervals allowed the farmer to meet their urgent cash flow requirements and helped them to escape the clutches of the middlemen. It was a leap of faith by Naandi that stands vindicated because of the relationship of trust and respect that grew from it. Today, every farmer makes a profit as their input costs are met by Naandi and they make sizeable earnings from the coffee produced by them and sold to niche global markets

through the cooperative. The farmers also grow black pepper as an inter-crop, from which they make further profits.

Various innovative methods have been adopted for ensuring sustained, high-quality agri-produce that would fetch good prices. In the case of coffee, unless the produce was in the top 1 per cent of the global quality benchmark, the Araku farmers would not get a premium. To achieve this high standard, each coffee farm, bush and cherry had to be carefully kept under the most optimal conditions. At harvest time, only those coffee cherries that had attained a deep crimson red colour would be harvested. It was a challenge to ensure that every farmer in Araku across 900 villages did this labour-intensive work correctly.

Even on the same bush, coffee cherries ripen at different times. So, the farmer has to make repeated visits to one coffee bush to pluck the cherries at their ripest. Naandi applied principles of behavioural economics to 'nudge' farmers into doing the right thing. A red truck would come by each farm and procure the cherries only if the farmer had his entire harvest for the day in the optimal shade of red. If he did, he got a premium that was four times the market price and twice the price offered by the blue truck, which procured all other shades of coffee cherries.

Deep investment in building local capacity as a means to self-reliance

Building the capacities of tribal farmers to adopt and own the different practices in organic regenerative agriculture has been one of the key components of Naandi's work in the Araku region. A regular feature is the input of knowledge specific to the current stage in the cycle of a particular crop that happens throughout the year. Every village nominates a farmer as the village trainer.

Every month, this trainer attends a two-day workshop conducted by Naandi. He uses this knowledge not only to tend to his own plot of land but also shares it with all the other farmers in his village. Trainings comprise group instruction sessions held on an agricultural plot. Different types of documentation are given to the farmers for reference. They have simple text in the local language as well as exhaustive illustrations for easier comprehension.

Naandi Foundation's experience and learnings over the years have been documented and collated in an agriculture almanac. It draws from key aspects of permaculture, regenerative agriculture and even ancient agri systems, such as traditional wisdom about the impact of the moon's waxing and waning on growing plants. This diffusion of know-how contributes towards a higher sapling survival rate. The almanac is like a standard operating manual that provides guidance on the correct time for sowing and appropriate level of moisture. Care has been taken to ensure that most of the information in the almanac is accompanied by illustrations so that non-literate farmers and their families can also benefit from it. The almanac is updated by Naandi every year. It can be seen displayed in every farmer's home and serves as a ready reference for him.

Naandi has also worked to promote micro-nursery entrepreneurs to prepare fruit and forestry sapling nurseries locally at the village level. This generates additional income for farmers and encourages local entrepreneurship. It also ensures permanence of technical skills in raising saplings among the farmer community, makes the project budget and operations cost-effective and prevents the logistical nightmare of transporting planting materials to field sites dispersed over a wide area with poor motorable roads.

External Factors

The last two decades have seen several factors external to Naandi's systems, strategies and activities that helped it implement Arakunomics.

India's agrarian crisis

The plight of the small and marginal farmers in India lay at the heart of the acute agrarian crisis in the country. It was an important external stimulus for Naandi's work in agriculture. These small farmers comprise 70 per cent of India's population and despite growing food for the whole country, they are struggling to make ends meet. Reasons for this struggle include excessive dependence on cash crops, increasingly depleted soil, volatile markets, indebtedness and uncertain monsoons with almost no form of irrigation. For

Naandi, this situation meant that it was imperative for it to come up with a solution that would see small and marginal farmers make profits.

Climate change

Over the past two decades, the climate crisis has become an increasingly bigger global issue. With an ever-growing number of countries ratifying the United Nations Framework Convention on Climate Change and Kyoto Protocol, commitments to reduce carbon emissions and increase carbon sequestration are increasing. In this context, multinational manufacturing companies have started to look for opportunities to invest in the developing world in exchange for carbon credits. This new funding mechanism ensures livelihoods for the poor and a rejuvenated ecosystem on the one hand, and carbon sequestration and related carbon-target realization for big companies on the other.

This seemingly win-win model is gaining in popularity and Naandi has been able to take advantage of it to fund its work in the Araku region. This carbon-financing model is advantageous to organizations like Naandi because it represents a long-term commitment, and the size of its grants is far larger than those from traditional donors and funding agencies.

India's changing economy

The economic liberalization that took place in India in 1991–92 could be seen as another major external factor that aided the success of Naandi's work in the Araku region. The globalization processes that followed have enabled Adivasi farmers from remote places to reach global markets and make large profits.

Success Was Not a Given ...

The impact/successes enumerated above, needless to say, did not happen overnight. The early years were slow, sometimes frustrating, as we tried to find our way through the complexities of age-old cultural traditions of the forest dwellers and their way of life, current market trends, attempts to reach remote villages, short-term interests of small traders and businessmen, visibly deteriorating natural resources, and the constant underlying menace of

armed insurgency. Identifying effective levers, understanding what ‘drives’ an Adivasi farmer family in a remote village—all these gradually unfolded over time, and our interpretations were not always correct or useful; we returned to the drawing board many times, the learning curve is still rising.

Lessons from Hindsight

Looking back at the past two decades of Naandi’s work in Araku provides some satisfaction and perhaps even a sense of achievement to the organization, but that soon gives way to thoughts of ‘what-if’. Thoughts about what we could have done differently, about things we should have done but did not.

Looking back, it would have been better to involve the village youth right from the beginning. The younger villagers would participate in all the discussions and night-long meetings Naandi held in the villages in its efforts to work out action plans to tackle poverty in the region. They would volunteer to lead the livelihoods initiatives and the cooperative, and would train to become experts in different aspects of the value chains for coffee and pepper.

Seeing the abject poverty amidst which Araku’s Adivasi people survived compelled the Naandi team to explore opportunities for generating cash income for these farmers from their small land holdings. Coffee was the obvious first choice for a crop, followed by pepper. The farmers worked with the Naandi team to keep improving the quality of these crops in order to get higher prices. After a couple of years, the planting of fruit trees was begun. They became a reliable source of food for the farmers.

In recent years, consumption of processed and packaged fast food started to increase in the area. In response, Naandi further diversified the crop portfolio to include different kinds of pulses and millets. If we could start over again, we would invest our efforts and resources in a highly diverse crop portfolio right from the beginning, as it would have ensured a sustained source of nutritious food while leading to cash income sooner. That was another lesson from hindsight.

Araku as a Template for Development

Naandi’s work in Araku has demonstrated that it is possible to positively transform a marginalized and geographically isolated region riven with

conflict. People from around the world now visit Araku to study how climate change can be combated and biodiversity preserved. Apart from the soil and microbial activity in the region, indigenous varieties of trees and plants have also been revived, contributing to a sustainable and healthy ecosystem. The Araku model can be replicated in all similar terrains in India.

Across the country, there are pockets of land inhabited by indigenous people struggling to eke out a living from a rapidly degrading ecosystem. Actions like the ones taken by the tribal farmers' cooperative in the Araku region will help farmers to emerge from poverty while restoring the forests and transforming the soil. Rejuvenating the soil through organic regenerative agriculture would reduce costs and bring back nutritious food crops in combination with cash crops. Another strategy is to create market linkages with minimal involvement by middlemen.

These are all strategies that can be applied in other places and lead to nutritional and income security, disposable incomes, informed choices, savings for the future, investment in children's health and education and overall improvement in quality of life.

It was necessary to innovate anthropological iconography to convert a group of hunters and food gatherers into gourmet agriculturalists producing high-quality produce by investing time, patience and hard work. It was made possible by combining their values of sharing and caring with a rewarding individual enterprise. Essentially, the spirit of Araku, while it recognized the need for economic self-reliance, never allowed it to happen at the cost of ecology and culture.

Perhaps the body of work by Naandi Foundation in the Araku region could be thought of as a new paradigm in the agriculture narrative that created a whole new economic model with innovative financing mechanisms. The basis for this new paradigm is the equal and balanced focus on economic security on the one hand and ecological security on the other.