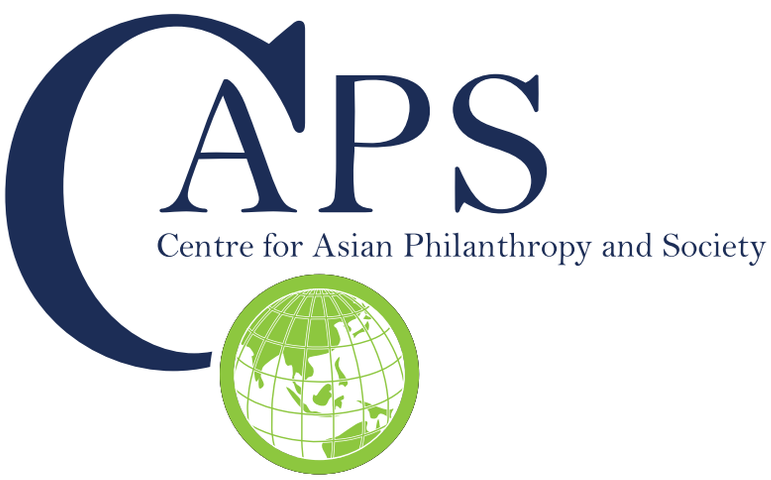

Frugal Innovation

BAIF Development Research Foundation: Transforming Lives in Rural India

Neha Mahavar, Karuna P. Salve and Bhaskar Mittra
Tata-Cornell Agriculture and Nutrition Initiative, Tata Institute of Social Sciences (TISS)

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BAIF DEVELOPMENT RESEARCH FOUNDATION: TRANSFORMING LIVES IN RURAL INDIA

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Through 50 years of innovation in agricultural technology, BAIF has helped millions of Indian farmers to upgrade their animal husbandry practices, cultivate productive homestead orchards, and better manage natural resources.

Though its industrialization proceeds at a dizzying pace, India remains primarily an agrarian economy with almost 90 million households dependent upon agriculture as their main source of income. The majority of these are farming families with landholdings of less than 2 hectares, who practice rain-fed agriculture. Further, India is home to the largest cattle population in the world (more than 500 million) that contributes to the economy through milk, meat, and draught power.

It is in this setting that the BAIF Development Research Foundation (BAIF in short) has touched and transformed millions of lives. Sunil Kamli is from Kopergaon in the Ahmednagar district of Maharashtra State, and expressed in the Marathi language how his life

Shashikant Raut and family in his jasmine orchard.

has been changed through BAIF interventions. "We did not have any means of income in the family," said Kamli. "It would have continued had BAIF not shown us the way." From its early days, BAIF has focused on driving rural prosperity. Initially, it empowered farming communities to improve productivity of animal husbandry through technology and training — it had supported 5,892,045 families in this way by 2014. The organization went on to help 201,144 rural families roll out innovative homestead agri-horti-forestry, or "*Wadi*," orchards, that combine techniques and resources to allow farmers to rear fruit trees, flowers and vegetables. BAIF has also applied its technical expertise to help farmers find better ways of managing their land, soil, and water resources. Over the years, it has expanded its focus to undertake health, women's empowerment, and resilience programs in conjunction with its agrarian interventions to drive holistic development in rural communities.

A FOOTSTEP IN THE RIGHT DIRECTION

A personal promise made to independence leader and later "Father of the Nation" Mahatma Gandhi to dedicate his life to developing the rural communities of Urulikanchan Village in Maharashtra was what drove Manibhai Desai to set up BAIF. Gandhi's philosophy of bringing rural prosperity by empowering communities, using their natural resources and focusing on technologies and processes that are more labor-intensive would guide Manibhai, as he was widely known, to optimize existing resources to enhance the lives of the rural poor.

Though its work in the region started in 1946, BAIF was formally registered in 1967 with the purpose of creating opportunities for gainful self-employment for rural families. During these two decades, Manibhai dedicated much of his time in learning about rural development, and honing the technical and managerial skills that would serve BAIF in the years to come. On August 24, 1967, Dr. Zakir Hussain — India's president at the time — laid the foundation stone of Bharatiya Agro Industries Foundation (as BAIF was known then) at Urulikanchan. It was renamed as BAIF Development Research Foundation in 1989, though the organization's core values and purpose has remained the same.

In the last half-century, BAIF has expanded through various programs undertaken in 16 states across India. As it grew, it restructured and set up state-level societies functioning under the over-

A farming family with a cashew plant grown in their *Wadi*.

sight of BAIF's central hub in Pune. Today BAIF comprises the main organization (called BAIF) with nine independently registered state-level societies operating across the country covering Andhra Pradesh, Uttar Pradesh, Jharkhand, Karnataka, Gujarat, Gujarat's tribal areas, Maharashtra, Rajasthan and Madhya Pradesh. All state societies can raise funds on their own, and they have their own mandates. BAIF in Pune, however, is the only organization in the network that has permission under India's Foreign Contribution Regulations Act to receive foreign money, as a result of which all internationally-funded projects are routed through that office. Apart from state societies, BAIF has also set up theme-based centers to develop solutions for specific contexts such as desert and arid regions, fragile hill ecosystems, and tribal areas among others.

FROM ANIMAL BREEDING TO HUSBANDRY: *KAMDHENU*

Manibhai's stay at the Anavil Ashram in Surat early in his life exposed him to India's pro-independence movement. It was around this time that he met Gandhi, popularly known as Gandhiji, who invited him to serve at the Sevagram Ashram at Wardha. Later on, when Gandhiji had set up the *Nisargopchar* (nature cure) Ashram at Urulikanchan, he invited Manibhai to oversee the animal husbandry and agriculture interventions in the nearby villages that could supply milk and food for the Ashram's inhabitants. Manohar Kanchan, a supporter of Gandiji's work in the village and a one-time confidante of Manibhai, describes this as the "watershed event for Urulikanchan."

At Urulikanchan, livestock was the first intervention taken up by Manibhai. He was not a trained veterinarian, so when Gandhiji asked him to manage the *goshala* (dairy herd) at the Ashram, he began to study the animals. Manibhai had observed that Gir cattle brought from Saurashtra in Gujarat State, known for its high milk yield, were not producing much milk. So, he started talking to veterinarians and conducting his own research to get to the core of the problem. He adopted various scientific trials, including cross breeding and improved management practices to improve the milk yield of Gir crossbreds. Cross-bred cows born from such trials began producing 2-3,000 liters of milk per lactation cycle — almost 30-40 percent more than their previous production. The milk yields were even higher when he crossed the Gir with frozen semen samples of Dutch Holstein-Friesian and British Jersey cows gifted to him by teachers from Nobel College in the city of Pune.

Manibhai soon realized that cross-breeding local cows with high milk yielders could transform the rural economy in unimaginable ways. This small intervention was a symbolic manifestation of *Kamdhenu*, a divine cow believed by many Indians to fulfill their desires. Thus began Manibhai's rural sojourn with his Kamdhenu, the application of animal husbandry to help farming communities become prosperous. Though he also worked on other issues of rural development, animal husbandry became the core of Manibhai's work over the next two decades. From the early 1960s, the government of India had been promoting the crossbreeding of cattle for improving dairy production. Artificial insemination of local breeds was done by using liquid semen from "exotic" foreign or crossbred animals. However, the lack of a centralized processing facility, good quality semen, and delivery mechanisms for liquid nitrogen containers hampered use of frozen semen, and the impact of the program.

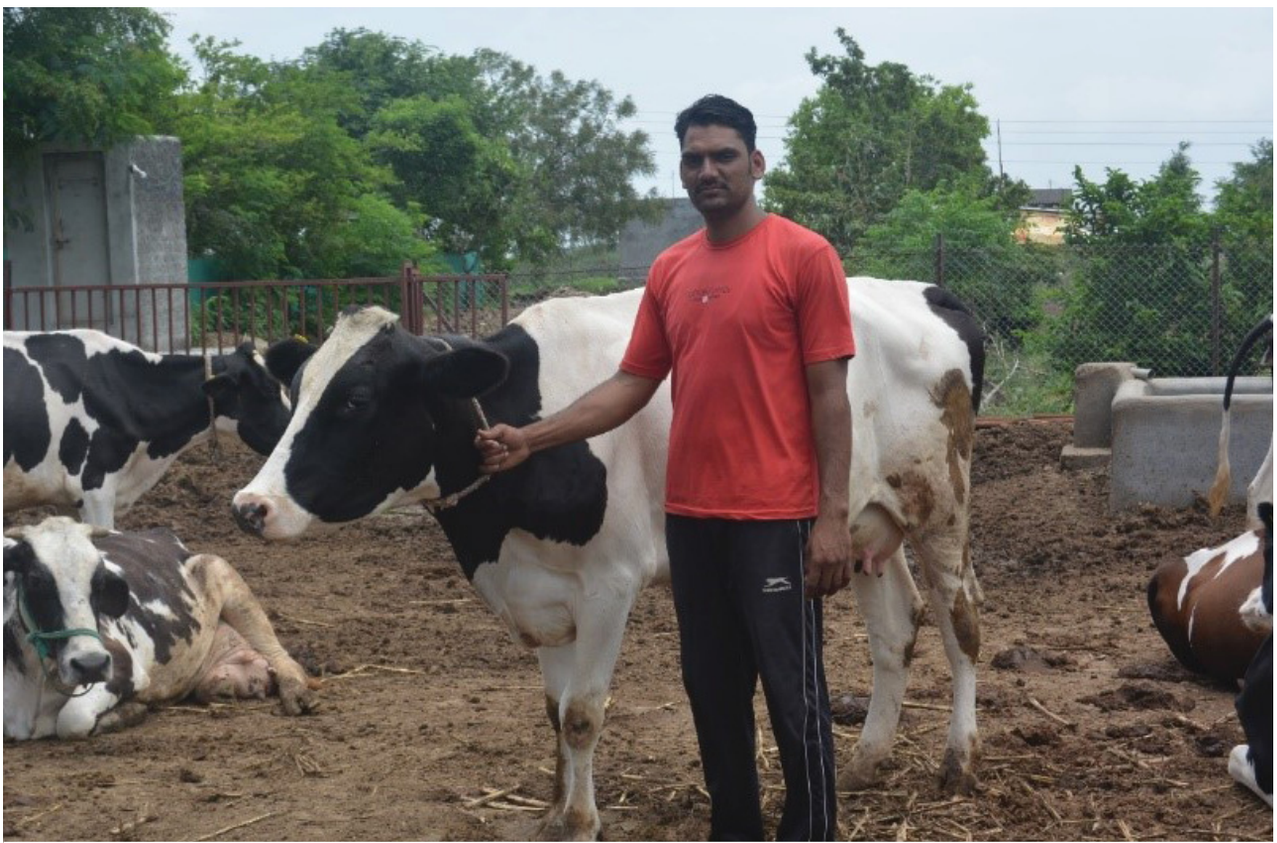
As BAIF learned its early lessons, it realized that to scale up, government support in the form of considerable infrastructure and a strong field network was necessary. Its staff submitted a comprehensive proposal to the Indian government's Department of Animal Husbandry at the Ministry of Agriculture to this effect. This marked the first phase of the dairy cattle development program (1969–75) at BAIF, with the support of the Danish International Development Agency (DANIDA), which helped to establish the bull mother farm, semen freezing machinery, laboratories, and train-

ing facilities at BAIF's Central Research Station (CRS) at Urulikanchan. The Canadian Hunger Foundation and Canadian International Development Agency helped procure Canadian Holstein and Jersey heifers to improve the genetic base of the bull mother farm. Thus BAIF began freezing the semen of the crossbreds born in the bull mother farm to counter the dependency on imported semen, and for rapid scaling-up of its animal husbandry program.

Today semen freezing takes place at the CRS at Urulikanchan, where samples are packed in straws and supplied to states (under cryogenic conditions in containers of liquid nitrogen) where BAIFs' livestock program is being implemented. These semen straws are then delivered to Livestock Development Centers (LDCs) in each state, which cover approximately 10 villages and about 1,000 households in the vicinity, each manned by a technician who provides artificial insemination (AI) services at the village level. AI technicians are drawn mostly from the local community, and then trained in providing AI and other livestock support services to the villagers. Ashok Lokhande and Tukaram Kolhe from Maharashtra, and Amli Soren from Jharkhand are three such AI technicians. Once identified by BAIF, they all went through a three-month theoretical and practical training course. Today each performs 12-20 AI procedures per day at the rate of INR100.26–150.39 (US$1.50–2.25) each, providing a much-needed service to farmers in rural areas while making a living for themselves.

For Lokhande, the job has also improved his self-confidence. "This opportunity has given a boost to my social status in the community," he said. Soren saw her job as a chance to help her local community. "BAIF has given me the opportunity to work for the development of my village," she said.

A beneficiary in her nursery of grafted mango samplings.



Sachin Sopan Kunjir at his dairy farm of crossbred cattle.

Today, apart from adding a substantial amount of money to her family income as AI technicians, Soren and Kolhe are a source on inspiration and motivation for women in their villages. "My fiancé agreed to marry me only after I got my job as an AI technician," quipped Kolhe in a hushed voice.

The beneficiaries of BAIF's animal husbandry programs were equally enthusiastic. Sachin Sopan Kunjir and Dnyandev Gudhaghe are progressive farmers from the state of Maharashtra. Both were unhappy with their agriculture incomes and wanted to enhance them further. A chance encounter with BAIF staff encouraged them to take up animal husbandry operations. Under the guidance of the staff, they first increased their crossbred herd size, took up fodder cultivation, and then linked up with dairy supply chains to sell the surplus milk. Today Kunjir earns about INR100,260 (US$1,500) from milk sales annually, while Gudhaghe makes approximately INR53,472–60,156 (US$800–900) per year. Seeing their success, their efforts are being emulated by many others in their villages. Farmers became increasingly engaged with BAIF's interventions as they saw that livestock generated an immediate and regular cash flow to households. "Seeing is believing," observed Dr RL Bhagat, thematic expert at BAIF's CRS.

During implementation of the animal husbandry program, BAIF identified new areas for support. Its staff realized that increases in milk production would also require high-quality feed fodder services at the farmers' doorstep. Thus, BAIF established BAIF Agro and Biotechnology (BABTPL) in November 2009 for production and supply of mineral mixture, feed supplements, deformers, and other farm inputs, along with the development and promotion of hybrid varieties of maize and pearl millet for use as fodder. And to support farmers' competitiveness on the market, BAIF also started organizing farmers to collectively market their milk produce, improving returns. Keeping in mind the sustainability of the program, BAIF eventually moved from providing free AI services to a cost-based system, with the money that farmers were charged being reinvested back into regional centers.

On being asked why BAIFs' cattle development program was so successful, Vijay Deshpande, chief program coordinator from BAIF's Pune office, said that engagement with the beneficiaries was a key factor, citing doorstep delivery services, the follow up of inseminated animals, and the inclusion of farmers organizations. Dr. Sheikh, BAIF veterinarian in Kopergaon, saw the application of technology and development of market infrastructure as being critical. "Introduction of liquid nitrogen containers for storage of semen; development of fodder resources through improved production; linkages to dairy co-operatives, and maintaining appropriate records, played a key role in its success, he said. But Deshpande observed that success was not forthcoming in all cases. "The success of the animal husbandry program depends on context, and has seen limited success in tribal areas," he said. According to Deshpande, BAIF later redesigned its animal husbandry program into a modular format to provide more customized services for different sections of its target population based on their needs. Ultimately, AI was not recommended for everyone in this model.

Over time, BAIF's animal husbandry program has diversified to cover other animals and has become more technology oriented. BAIF has expanded its work on small ruminants such as goats, which has seen reasonable success in the eastern Indian states. Starting from exotic cattle breeds, BAIF's work today covers indigenous *desi* cattle breeds as well as exotic ones. BAIF has developed a mobile application used by farmers to reach out to AI technicians, and with support

States	Districts	Centres	Beneficiary Families	Total Animals Inseminated
Maharashtra	19	252	61,214	242,122
Gujarat	23	229	264,666	154,092
Karnataka	15	160	111,174	178,079
Rajasthan	19	434	237,728	407,616
Uttar Pradesh	75	1,236	3,215,668	1,664,265
Uttarakhand	9	108	269,639	88,728
Bihar	14	246	393,243	299,454
Jharkhand	24	1,010	914,998	480,496
Madhya Pradesh	21	174	86,177	92,822
Chhattisgarh	1	1	619	565
Telangana	7	98	79,390	92,060
Andhra Pradesh	4	47	43,058	40,014
Odisha	10	100	85,764	64,045
Punjab	8	100	128,707	168,625
Total	**249**	**4,195**	**5,892,045**	**3,972,983**

Geographical Reach of the Animal Husbandry Program

Source: BAIF Annual Report, 2014-15.

from the Bill and Melinda Gates Foundation, it is also engaging in cutting-edge programs such as a sorted-semen program which ensures that only female calves are birthed.

INTEGRATED HORTICULTURE, THE *WADI* WAY

BAIF's second flagship program is one that has literally helped tribal farming families to flourish. Translating as "small homestead orchard" in the Gujarati language, thousands of families planted *Wadis* under this scheme to help diversify their income sources.

Of all of BAIF's interventions, this program perhaps has had the largest positive impact in tribal areas across India. BAIF adopted the *Wadi* concept in the late 1970s and early 1980s, redesigning it to incorporate agri-horti-forestry elements. As the program ramped up, it included aspects of soil and water conservation, water resource development, and agri-business development, benefiting 201,144 families in 5,634 villages across nine states. It would catch the eye of India's National Bank for Agriculture and Rural Development (NABARD), which supported the program under its Tribal Development Fund (TDF). BAIF became the Resource Support Organization (RSO) for the *Wadi* program in nine states, helping local organizations to build capacity for implementation in states such as Odisha, West Bengal, Jharkhand, Chhattisgarh, Rajasthan, and Karnataka.

States	Villages	Beneficiary Families
Maharashtra	3,296	96,534
Gujarat	796	38,904
Karnataka	493	20,085
Rajasthan	623	32,933
Madhya Pradesh	263	6,818
Bihar	23	574
Chhattisgarh	33	1,026
Uttarakhand	3	55
Uttar Pradesh	104	4,215
Total	5,634	201,144
Telangana	7	98
Andhra Pradesh	4	47
Odisha	10	100
Punjab	8	100
Total	**249**	**4,195**

State Coverage of the Wadi Program

Source: Annual Report, 2014-15.

A typical *Wadi* consists of 40-60 fruit trees (usually 20 mango and 40 cashew) which are planted on 1 acre (0.4 hectares) of underutilized land alongside other fodder and forestry species on the periphery of the plot. Vegetable cultivation along with nursery and floriculture was an integral part of the *Wadi* model, and through diversification of produce income can range from INR16,710–20,052 (US$250–300) in the initial years, fetching about INR50,130–100,260 (US$750–1,500) annually after around ten years of the orchard being up and running. BAIF provides all technical support, including training, demonstration, and guidance on preparation and plantation. The *Wadi* program has proven particularly successful in the tribal areas, as observed by V.B. Dyasa, chief program executive from the Maharashtra Institute of Technology Transfer for Rural Areas (MITTRA). "Despite a wonderful response, the *Wadi* program has worked better in tribal areas with small and sloppy lands than the non-tribal irrigated pockets," he said. "The developed and irrigated regions prefer to go for three crops [per] year, instead of tree-based farming."

Implementing a *Wadi* program requires a supply line of quality planting material, the absence of which was affecting scale-up. BAIF converted this into an opportunity by providing women with training on developing nurseries for fruit, vegetable, flower, and forestry species. This led to income-generation

options not only from the *Wadi* but also from the plant nurseries that supplied orchards. Mori from the Vansda campus of BAIF noted the economic gains that this had for families in his areas. "In the Kaprada *taluka* [estate] alone, 900 families from eighteen villages are involved in nursery raising," he observed. The economic impact has been significant: each family develops around 4-5,000 mango grafts annually for sale at INR20.05–33.43 (US$0.3–0.5) per graft. Similarly, bamboo saplings are sold for INR2.01 (US$0.03) each, while drumsticks sell for INR16.71 (US$0.25) each. Each household engaging in nursery operations earn around INR60,156–100,260 (US$900-1,500) per year.

Floriculture was initially planted as an "intercrop," which was introduced in response to seasonal migration by tribal families in the Jawhar Block of Maharashtra State because of delayed returns from the trees planted in their *Wadi*. Over the years, floriculture has evolved to become a major agricultural output of the *Wadi* program, with 200 samplings of jasmine typically planted in 500 square meters (0.05 hectare) of land. "The intercrop has become an intervention, as it is now generating higher and more regular income than the main *Wadi* crops," said Kailash Andhale, a thematic expert at BAIF-MITTRA. The potential impact of horticulture is exemplified through the rags-to-riches story of Shashikant Raut. Starting with just 135 jasmine plants, today he owns 1,600 of them. Jasmine sales have become his main source of income, generating around INR601,560 (US$9,000) in 2015. Raut has purchased a car from his earnings and today, he takes his own produce to the market in Mumbai.

An unintended but welcomed consequence of the *Wadi* program has been a greater degree of cohesion among community members who are increasingly cooperating to process and sell *Wadi* produce. In 2004 BAIF set up Vasundhara Agri-Horti-Producer Co. Ltd. (VAPCOL), a multi-state farmer's organization that helps them to aggregate their efforts. The VAPCOL facility within the BAIF campus at Vansda (in Gujarat) processes a range of items, such as mango pulp, mango pickles, mango juice, mango and strawberry jam, and tomato puree. It packages, labels, and markets the product under the brand Vrindavan, which was previously sold on the e-commerce site Snapdeal.com. Cooperative members receive a markup of 20-25 percent. VAPCOL, with support from NABARD, began operations in 2009 and

States	Villages	W/sheds	Area (ha)	Beneficiary Families
Maharashtra	406	178	61,354	35,093
Gujarat	354	317	157,565	113,260
Karnataka	76	48	21,776	8,820
Rajasthan	43	15	7,617	4,027
Uttar Pradesh	18	11	8,402	2,933
Madhya Pradesh	362	197	110,550	37,061
Andhra Pradesh	48	11	16,172	10,093
Bihar	45	6	6,823	8,316
Total	**1,352**	**783**	**390,259**	**219,603**

Coverage of Watershed Development Programs

Source: Annual Report, 2014-15.

today has a membership base of 55 producer organizations representing 41,000 farmers across India.

NATURAL RESOURCE MANAGEMENT

As BAIF realized the importance of natural resources to the lives of the rural poor, it began to work with communities on the management of soil and water resources. Drawing upon low-cost techniques, BAIF's staff was able to help farmers develop a range of watershed treatments in 1,352 villages, benefitting 219,603 families in Maharashtra, Gujarat, Karnataka, Rajasthan, Uttar Pradesh, Madhya Pradesh, Andhra Pradesh, and Bihar. These projects, supported by the government, NABARD, and other donors, have enhanced the crop yields of farmers by 35 percent — or an estimated INR7.02 billion (US$105 million) per year.

A major focus for BAIF has been ensuring the inclusion of village communities at all stages of work, from planning and designing of watershed infrastructure to implementation and post crop-production stages. It did so by emphasizing the benefits to local communities such as the the development of drinking-water resources, new school buildings, and washing facilities. In some cases, BAIF worked through self-help groups by supporting the purchase of pressure cookers and wooden stoves to enhance women's interest and participation in watershed development. Communities were encouraged to contribute in kind, in the form of labor or otherwise, and those efforts were incorporated into all of its watershed programs to ensure community ownership.

In Randullabad, a rain shadow region (a dry area on the leeward side of a mountainous area) around 80 kilometers from the Maharashtrian city of Pune, there was a mandate of 20 percent *shramdaan* (donated labor) for watershed programs to ensure village participation and create a sense of ownership. Randullabad Village had been struggling with an acute shortage of water for irrigation and drinking, requiring water tankers for its needs. This changed when the Indo-German Watershed Development Project (IGWDP) was implemented by BAIF, beginning in 2008. A ban on bore wells and soil and water conservation structures erected on 732 hectares of land increased water availability by about 50 percent, allowing farmers to intensify and diversify their crops. Over time, this helped Randullabad to reduce its dependency on water tankers.

BEYOND THE HOUSEHOLD

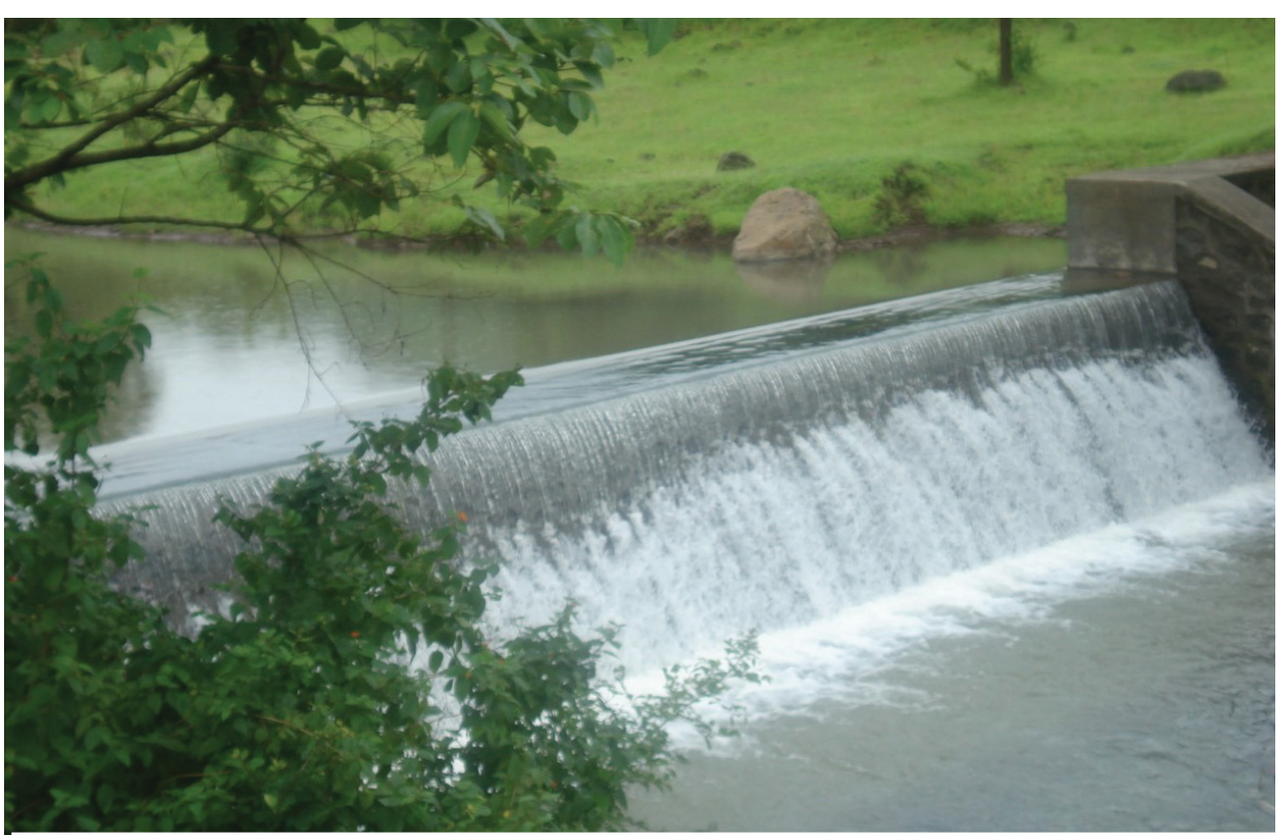
Though BAIF began life very much focused on the needs of individual households, it has since expanded its focus to take an area-based approach in many of its activities. This has meant reconfiguring operations down the value chain; for example, investing in feed and fodder on one hand, and setting up dairy facilities on the other in its animal husbandry programs. This broader vision has meant that BAIF has become more responsive to the general development needs of the communities in which they operate, now incorporating climate change, women's empowerment, health, and other livelihoods issues into its remit. Beyond the household, BAIF has widened its beneficiary base to the most vulnerable members of communities, reaching out to the landless, asset-less, and other marginalized sections of the society who were previously excluded from BAIF's programs, under the household approach.

As part of this evolution, BAIF also begun integrating tools such as microfinance and women's empowerment into its interventions. In a strategic shift, BAIF introduced community health as an integral aspect of all of its programs, particularly in those focused on water resource development, women's empowerment, and *Wadi* in Gujarat, Rajasthan, and Maharashtra states. It has paid special attention to providing primary healthcare services, reducing child mortality, improving maternal health care, addressing malnutrition, increasing sanitation practices, and promoting safe drinking water. BAIF has also aspired to improve community linkages with private, public, and non-governmental health actors, and through improving traditional healthcare services. It also

promotes alternative health therapies by training first-line traditional health practitioners in tribal regions in herbal medicines and naturopathy.

Over the last two decades, India's farmers have increasingly been subjected to climactic events and unpredictable weather. Realizing that farmers in climate-sensitive areas were struggling to cope, BAIF has initiated efforts on building resilience in rural communities. These include the building of networked-farm ponds in Karnataka, group wells in ravines of Uttar Pradesh, tank rehabilitation programs in Andhra Pradesh, along with practices such as aquifer management, water budgeting, micro-irrigation and crop water management systems to help communities to cope better with unpredictable weather patterns. BAIF has become increasingly green over the years — for example, advocating a "nutrient-smart" agricultural approach that includes soil testing to ensure appropriate doses of fertilizer inputs. According to BAIF vice president Bharat Kakade, some of the organization's flagship programs have inadvertently been helpful to reducing greenhouse gas emissions: for example, the *Wadi* model helps carbon sequestration and prevents soil erosion, while the livestock development program is resulting in more productive cattle, and fewer animals being reared, thus reducing methane emissions.

Women play an important role in the rural economy, and their impact could be seen in BAIF's *Wadi* program, in which their involvement is significant. BAIF quickly realized that the empowerment of the women in the family was critical to the holistic development of households and communities. As well as running health and literacy camps, BAIF set up self-help groups encouraging women to form their own savings and loans groups. At the same time, such groups conducted training for women on livelihood activities such as agriculture, livestock, and local enterprises that could help enhance family income. D. Prajakta Jagtap, a former elected village representative (*sarpanch*) of Randullabad near Pune, has seen the benefits to women first-hand. "The economic benefits gained through BAIF's intervention



A check dam in the drought-prone region of Randullabad.

has empowered the women of the village to take decisions independently, especially related to health and education of the family," she said. Today, there are 2,657 BAIF groups comprising 27,464 members spread across six states. These groups have saved INR300.8 million (US$4.5 million) and accessed cumulative credit of INR969.2 million (US$14.5 million) from mainstream financial institutions.

LESSONS AND CHALLENGES

Through its animal husbandry, *Wadi*, and natural resource management programs, BAIF has filled an important gap where government or civil society organizations were either not working or had achieved a limited impact. In fact, its core programs such its animal breeding initiatives are now fully supported and scaled up by the government. Having piloted these, BAIF took on the upfront risk and showed proof of concept, following which the government was able to step in to scale up efforts. Innovation in agrarian technology remains under-financed, giving cause for BAIF to continue to conduct R&D and provide services to rural communities across the country.

Pursuing Relevance

Dr. Girish Sohani, president of BAIF, attributes the organization's ongoing struggle to remain relevant as the single defining element of its work. When BAIF began working on animal husbandry in the 1960s, the effort was to target the family or the households. BAIF soon realized that animal husbandry did not work in many regions, driving BAIF to develop the *Wadi* program to address the specific problems faced by tribal farming households. When BAIF realized that a broader, area-based approach benefitted more families, watershed programs targeting soil and water conservation were undertaken. It is as if BAIF has widened the lens of its camera, panning out to address the bigger issues that have implications for farmers, without losing their focus on rural households. It continues to expand its scope — for example, through work on climate change initiatives that have the ability to affect much larger geographies and bigger communities.

Adaptation has taken place not only in terms of programming but also across BAIF's operational protocols. During the initial years of the animal husbandry program, AI work was carried out only by highly-trained veterinarians, and staff attrition rates were very high. To address this problem, BAIF demystified the technology and trained rural AI para-vets to perform this role, allowing for the scaling up of the program. Dr. Sanjiv Phansalkar, director at Sir Dorabji Tata Trust and a long-term donor, has been struck by the ability of the organization to adapt and evolve. "What strikes me is their professionalism, openness, and willingness to learn from their own work and improve on it all the time," he said. "The way they kept looking closely at their *Wadi* interventions, improving on them and taking lessons to the new places is quite reminiscent of [the prolific American engineer and management consultant] W. Edward Deming's 'Plan, Do, Study, Act' cycle of continuous quality improvement."

Investing in People

Former president Manibhai, trustee Dr. N.G Hegde, current president Girish Sohani, and other members of senior leadership have played a critical role in the evolution of BAIF. More than two decades have passed since the death of Manibhai, but the organization has continued to pursue its founder's vision as it prepares to celebrate its Golden Jubilee in 2017. Along the way, BAIF invested heavily in developing its human resources: today it has a staff of 3,716 people from diverse disciplines across the development sector. This culture of investing in its people has been attractive to many of its staff. Arvind Kulkarni, a mid-career professional at BAIF, observed how the organization has always taken a keen interest in building staff capacity through in-house and outsourced training programs. BAIF encouraged Kulkarni, who has spent almost eleven years with the organization, to pursue his post-graduate

certificate in development management from the SP Jain Institute of Management and Research in Mumbai. In addition, the Dr. Manibhai Desai Management Training Centre was set up to design and deliver innovative training programs, workshops, and seminars to its staff, to be conducted by a multi-disciplinary team of trainers and professionals. Around 80 training programs have been delivered by the center to train 1,122 participants in areas such as watershed management and development, bio-fertilizers, and improved agricultural and horticultural practices, among others.

Many have been attracted to BAIF because of the nature of the work, which straddles both scientific discipline and societal development. "While pursuing my masters from the Indian Institute of Technology, Bombay, I visited BAIF for one of my immersion programs," said Rakesh Warrier, assistant chief program coordinator at Dharampur Utthan Vahini (DHRUVA), a Gujarat-based state-level society handling operations in the state's tribal areas. "What pulled me toward BAIF to join is that it is a system-driven organization that looks to use technology for betterment of rural people."

Manibhai once wrote, "Any research without development is academic, and any development without research is outdated." Indeed, innovation and R&D lie at the heart of BAIF's philosophy, and its leadership team has placed an emphasis on developing its research capacity as a "thinking organization." But this has not always been an easy task. "As BAIF grew as an organization, the pressure to continuously raise more funds only increased," said current BAIF president Sohani, who saw how donors' were often driven by their own thematic interests. Investing in actionable research has become increasingly difficult, said Sohani, as most donors have preferred to invest into "visible" and "immediately measurable" projects and programs.

OUTLOOK

Over the years, BAIF has also received a large number of awards, both national and international. Recognizing its role and contributions to tribal development, the Ministry of Tribal Affairs designated BAIF as a "Centre of Excellence" for developing and disseminating ideas, approaches, and technologies that would enhance livelihood opportunities for tribal communities across India. BAIF has deliberately avoided an international footprint, but it has provided technical support for development efforts in African and South Asian countries.

When India's president, Zakir Hussain, attended the inauguration of BAIF in 1967, he called the organization and its work "a revolutionary concept." The eleventh president of India, Dr. A.P.J. Abdul Kalam, also noted the capacity of BAIF to change lives when he visited the organization in 2004. "The program has provided livelihood to unemployed youth while ensuring food security. The door-to-door service has helped the small farmers to develop confidence in technology adaptation," he said. Both Hegde and Sohani believe that BAIF has been fortunate to have been led by Manibhai for the first 25 years of its life. Following its founder's sudden passing in 1993, BAIF overcame succession issues under the leadership of Hegde, who took over as president, even though he was unsure if he could sustain all of the activities that they had taken up over the years. He stuck with Manibhai's vision and steered BAIF through a period of uncertainty. Hegde and later Sohani's leadership would help BAIF grow as a non-sectarian, non-political organization that has changed lives in millions of households, now managing a budget of almost INR1.3 billion (US$20 million) for BAIF and all of its state societies together.

Though Manibhai is not around anymore, through BAIF he continues to meet — and go far and beyond — the promise he made long ago to Gandhiji.

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QUANTITATIVE INDICATORS

Financial

Planned budget or income versus actual expenditure for the fiscal year*	Income: INR1,230.63 million (US$18.41 million) Expenditure: INR1,111.38 million (US$16.63 million)
Income composition by source: individuals, corporations, events, trusts, others (please specify)	Individual /community: 8.81% CSR/corporate: 15.99% Trust/philanthrophic: 4.44% Cooperative: 0.39% International: 11.22% Government: 59.14%
Income composition: domestic versus international	Domestic funding: INR712.69 million (US$10.66 million) International funding: INR90.11 million (US$1.35 million) BAIF's own income: INR 427.84 million (US$ 6.40)

Personnel

Staff retention rate	96%
Turnover rate	4%
What is the board composition?	Total members:14 • Ex-officio: Current president and ex-vice president of BAIF • Advisor and trustee: Ex-president • Members: Three BAIF staff; retired government officials, corporate representatives, academics, development experts, and executive trustees
How many meetings does the board hold per year?	2
How many staff members are there?	3,716

Quantitative Indicators Continued

Organizational

Do you publish an annual report?	Yes
How many sites/locations do you currently operate in?	16 states in India
Do you measure results?	Yes, including reach and number of beneficiaries
What types of outreach?	Door-to-door visits, awareness meetings, publications
Do you regularly meet with government representatives? If yes, on a scale of 1-3, how close is the relationship with government? 1 = not close; 2 = somewhat close; 3 = very close	3

* Exchange rate of INR66.84 = US$1