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BAIF: HISTORY AND HERITAGE

BAIF DEVELOPMENT RESEARCH FOUNDATION
SEVEN DEADLY SINS

Wealth without work

Pleasure without conscience

Knowledge without character

Business without ethics

Science without humanity

Religion without sacrifice

Politics without principle

Mahatma Gandhi

BAIF: HISTORY AND HERITAGE

**Dedicated to our Founder
Dr. Manibhai Desai**

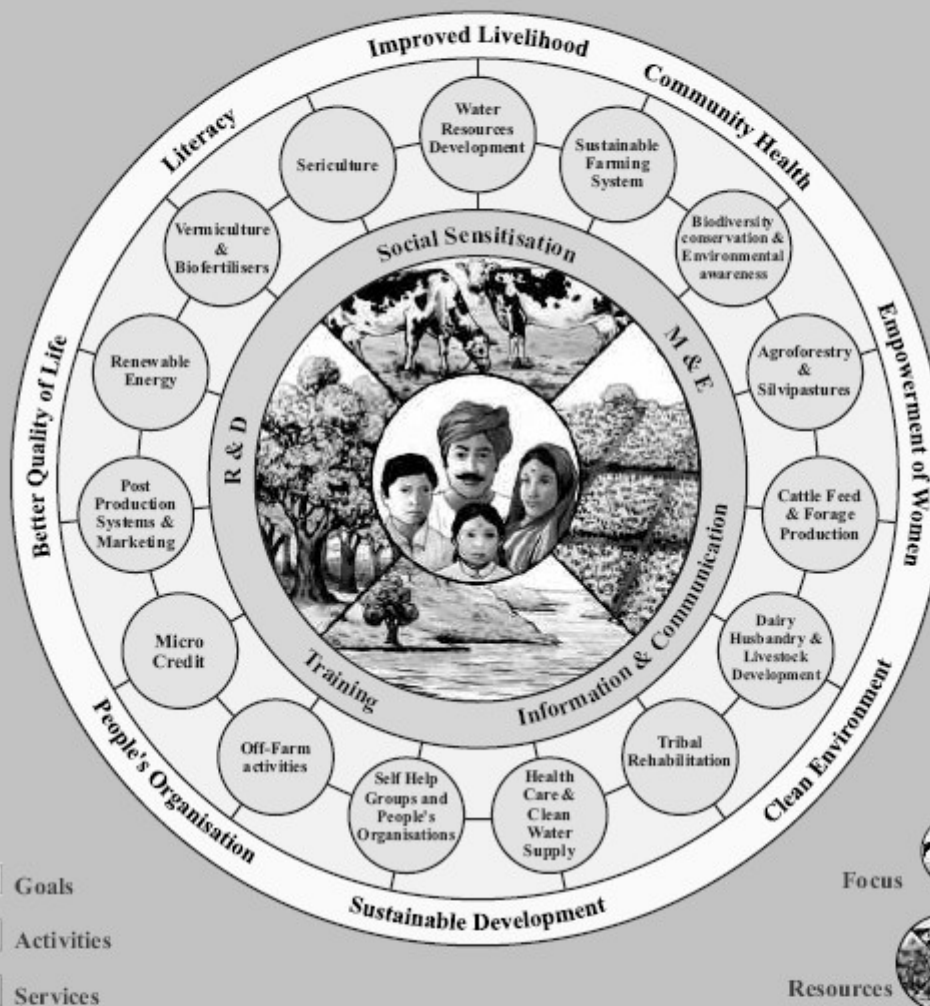
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BAIF'S HOLISTIC PROGRAMME APPROACH



BAIF MISSION

BAIF's Mission is to create opportunities of gainful self-employment for the rural families, especially disadvantaged sections, ensuring sustainable livelihood, enriched environment, improved quality of life and good human values. This is being achieved through development research, effective use of local resources, extension of appropriate technologies and upgradation of skills and capabilities with community participation. BAIF is a non-political, secular and professionally managed organisation.

PREFACE

India has a long history of voluntary action. The freedom struggle was ingeniously dovetailed with various programmes for constructive activities by Mahatma Gandhi. As a result, during the Independence struggle as well as in the post Independence era, various constructive development initiatives were spawned across the country.

One such seed sown by Mahatma Gandhi was the Nature Cure Ashram at Urulikanchan. Manibhai Desai, a young associate of Gandhiji, was entrusted with the responsibility of nurturing this seed. Manibhaiji's own insightful understanding of the rural needs and the social dynamics led him to work on various community development initiatives, many of which were firmly anchored in the application of Science and Technology. This led to very encouraging results in the areas of livestock development, water management, reclamation of saline soils and introduction of horticulture and led him to conceive the idea of a unique bold initiative - the establishment of an organisation called Bharatiya Agro Industries Foundation. Thus BAIF was shaping below the surface during the 20-year work of Manibhaiji at the Ashram.

BAIF which was inaugurated as a concept to provide gainful self-employment and sustainable livelihood for the rural poor on August 24, 1967, at the hands of the-then President of India, Dr. Zakir Hussain, established root and grew from a concept to a programme, and from a programme to a vibrant professional organisation with a large number of inter-sectoral development programmes. Although dairy husbandry through upgradation of local cattle was an entry point, over the years, looking to the needs of the rural communities, BAIF kept on introducing new activities which emerged as a multidisciplinary holistic programme.

While addressing these development issues, BAIF strongly believed in blending Research and innovative technologies to address emerging field problems. This makes BAIF a unique Research Organisation committed to Sustainable Development.

The organisation has now matured further and operates programmes in 15 States of India. It has contributed in novel ways to development action through path-breaking programme ideas with a strong base of Science and Technology and professional action, while yet preserving the Gandhian values of people-centered development, mass-based programmes and humanism. The Organisation is continuing to evolve and looks forward to contributing to emergent future needs of the Society.

We are happy to share with you the saga of BAIF and its Founder, Dr. Manibhai Desai over the last four decades which is a source of inspiration to carry on our Mission.

Girish G. Sohani

President

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Founder: Late Dr. Manibhai Desai

Genesis

In March 1946, Mahatma Gandhi visited a remote village Urulikanchan near Pune to establish the Nature Cure Ashram (Nisargopchar Gram Sudhar Trust), to promote rural upliftment and community health. The administration and farm management of the Ashram were entrusted to his trusted disciple, Manibhai Desai who had joined Gandhiji in the Quit India Movement, while working at the Ashram. Manibhai interacted closely with the local farmers as well, to find solutions for their problems and realised that small farmers need to be guided to manage their agriculture as an enterprise. With the experience gathered in agricultural development for two decades, Manibhai established a Charitable Trust and named it as the Bharatiya Agro Industries Foundation (BAIF), to transform the livelihood of the rural poor.

The foundation stone of BAIF was laid on August 24, 1967 by the-then President of India Dr. Zakir Hussain at Urulikanchan, near Pune. Shri. Y.B. Chavan, the-then Union Defence Minister was the Chairman, Shri. V.P. Naik, the-then Chief Minister of Maharashtra was the Vice Chairman and Shri. Annasaheb Shinde, the-then Union Minister of State for Agriculture was the Trustee and they served till 1977. Since then, Arvind Mafatlal is serving as the Chairman, Dr. M.S. Swaminathan, as the Vice Chairman. There are many eminent persons with rich experience in different fields of socio-economic development, serving as Trustees of BAIF. In 1989, the organisation was renamed as BAIF Development Research Foundation, to emphasise our focus on development research which calls for transfer of appropriate technologies along with efficient systems and strengthening of the field network and grassroots level organisations.

Goal

BAIF's target was small and marginal farmers and socio-economically weaker sections of the society. The goal was to improve their quality of life by promoting gainful self-employment and bringing them out of poverty. The proposed action was to promote sustainable livelihood through agricultural development. Considering the uneven distribution of land and water resources which were critical for increasing agricultural production, priority was given to livestock development particularly dairy husbandry, which would benefit a majority of the small farmers. India had the largest cattle population but the average milk production was low. Every community accepted dairy husbandry. Milk, a staple source of protein was in severe shortage. Hence there was good potential to take up breed improvement using the non-descript, unproductive cattle, to enhance milk production while promoting sustainable livelihood for small farmers. Thus the initial programme was to promote cattle development as illustrated in BAIF's logo. With income generation, promotion of community health, education and good moral values were also considered essential for better quality of life. These are critical to achieve the Millennium Development Goals as well.

Crossbred Cow: The Modern Charkha for Rural Employment

During his conversations on rural development, Manibhai had told Gandhiji that Khadi, which was promoted for generating gainful employment could not provide adequate income to meet both ends of the family inspite of a person working for the whole day. In reply, Gandhiji had said "if you find a better alternative, you can replace the Charkha -Spinning Wheel, with it".

Later, Manibhai had successfully promoted the cultivation of high yielding varieties of food crops, vegetables, and grapes around Urulikanchan. However, his experience in maintaining a Gir herd of cattle for milk production, posed a problem of economic viability. Although the herd of elite Gir cows housed in the Ashram, won many prizes for their outstanding performance in milk production, the dairy unit was in loss. This forced Manibhai to study animal genetics and management. Finally, leading Veterinary Scientists pointed out the genetic drawback. This led Manibhai to launch an experiment of crossbreeding Indian cattle with exotic breeds. The crossbreds born to even poor yielding non-descript cows, produced 2000-3000 litres of milk per lactation. He was then convinced that crossbred cows have the potential to provide gainful self-employment to the poor. So he was ready to replace the old wooden Charkha with a modern Charkha - the crossbred cow, which is considered as Kamdhenu (a divine cow which was believed to be the mother of all cows; one who fulfils desires) by farmers. With this tool, he decided to reach millions of rural poor for promoting gainful self-employment. Thus BAIF was born.

The BAIF Logo which was designed by Dr. Desai, is a symbolic representation of the Mission of BAIF. It is a portrayal of the four important natural resources - land, livestock, water and vegetation. Annam Bahu Kurveet Tad Vratam as inscribed in the epitaph, signifies BAIF's commitment to the conservation of these precious natural resources and to promote abundant agricultural production from land. The crossbred cow located strategically in the centre depicts the efficient conversion of coarse fibre from straws of sorghum, millet, bajra and wheat into milk which is a major source of protein in our diet, without suppressing the production of foodgrains.

The two milk bottles embedded in the soil signify milk being a product of earth. The microscope highlights the role of research in rural development. The wheel symbolises the blend of science, technology and industrial approach towards agriculture practiced by small farmers. The petals of the lotus form a bell, and are synonymous with rural prosperity.

The original name Bharatiya Agro Industries Foundation (BAIF) also reflects the need for treating agriculture and rural development as an industry, requiring sound back up of management and motivation to turn the farmers into entrepreneurs to manage their resources, while generating gainful self-employment in their own environs. BAIF was renamed as BAIF Development Research Foundation to emphasis the need to blend development programmes with research and appropriate technologies, as development without research becomes outdated and research without development becomes academic.

Accordingly, the following Mission Statement was adopted to set direction for our development programme.

BAIF's Mission is to create opportunities of gainful self-employment for the rural families, especially disadvantaged sections, ensuring sustainable livelihood, enriched environment, improved quality of life and good human values.

This is being achieved through development research, effective use of local resources, extension of appropriate technologies and upgradation of skills and capabilities with community participation. BAIF is a non-political, secular and professionally managed organisation.

PROGRAMMES

Dairy Husbandry

BAIF's strategy was to build on what the poor already had, after carefully studying their problems and capabilities to take up new initiatives. The programmes had to be labour intensive with low capital investment for employment generation by rural masses. Hence BAIF decided to promote genetic improvement of the non-descript low yielding cattle and buffaloes by providing breeding service at the doorsteps of farmers, using frozen semen technology. Hence an exotic bull mother farm and bull station were established at Urulikanchan with the support of the Danish International Development Agency (DANIDA) under bilateral assistance, in 1970-71. Later in 1974, the Canadian International Development Agency and Canadian Hunger Foundation provided support to strengthen the exotic herd. The Frozen Semen Production Laboratory was established in 1975. Several Cooperative Sugar Factories in Western Maharashtra came forward to support BAIF to sponsor cattle development centres for the benefit of their farmer members. Convinced of the benefits of this programme, the Government of India extended support to expand the programme across the country under the Integrated Rural Development Programme in 1979.

Health care and nutrition management being important factors affecting the profitability of dairy farming, various support services were introduced. The Animal Health Laboratory was established at Wagholi near Pune with the support of the Government of Maharashtra and DANIDA to produce various vaccines required for protecting the livestock. National Institute for Agricultural Research (INRA), France provided additional technical support.

The modern lab was inaugurated by the-then Prime Minister, Shri. Morarji Desai and the-then Chief Minister of Maharashtra, Shri. Sharad Pawar in 1979. BAIF's vaccines were able to reach the interior hamlets at substantially low prices inspite of severe competition from the multinationals! Mr. Michel Rocard, the-then Agriculture Minister, France, visited the vaccine laboratory in 1983. Later, in 1989, when he became the Prime Minister of France, Madame Rocard hosted a lunch in honour of Dr. Manibhai Desai in Paris. Fortunately, we continue to receive support from INRA for research in livestock development even today. By 1996, there were many players, both Indian and Multinationals engaged in production of vaccines and biologicals and thus BAIF decided to withdraw from the activity and concentrate on development in the field.

Technologies were developed for improving the nutritional quality of agri byproducts and to establish decentralised complete feed units to ease the supply of feeds. Under the Coordinated Forage Research Programme of ICAR, drought tolerant fodder crops were developed and seed production of superior forage varieties was undertaken for distributing to farmers. The farmers were encouraged to cultivate drought tolerant non-traditional forage crops such as subabul on wastelands. Silvipasture development was promoted on community pastures through active involvement of the local communities. The programme demonstrated the economic viability, conservation of soil and water and promotion of biodiversity. This motivated the Government of Rajasthan and other donor agencies to take up wider replication of the programme.

While promoting community pasture development, a concern was expressed about the eroding income of goat keepers. As goats had replaced large livestock in many drought prone areas, goats were branded as anti-environment and goat development was ignored. Realising the plight of goat keepers, BAIF developed an innovative programme in Rajasthan and West Bengal to improve the breed and productivity, while involving the community to control the

population, depending on the carrying capacity of the pastures. Further efforts in health care and feed management through self help groups demonstrated the feasibility of enhancing the income by three folds without denuding the ecosystem. This programme is now being replicated in other states.

Natural Resources Management

Water being the critical input for enhancing agricultural production and alleviating poverty, several innovative approaches were adopted to promote watershed development and conserve soil and moisture while converging with livestock development and agri-horti-forestry. Farm pond networking in watershed area in Karnataka demonstrated a decentralised approach for effective recharging of ground water and revival of rivulets. Watershed development approach for ravine land development in Uttar Pradesh demonstrated the benefits of involving community organisations in conserving the natural resources owned by the community. These programmes have helped in increasing the cropping intensity by 15-20% and crop yield by 30-40%, while ensuring clean potable water and plenty of fodder all round the year. Judicious use of water through promotion of group wells and low energy drip irrigation systems generated year-round gainful self-employment and ensured food security.

Promotion of different farming systems, based on the land productivity, particularly agroforestry, production and supply of eco-friendly inputs such as vermicompost, biofertilisers and biopesticides, further enabled the farmers to improve their agricultural production. People's organisations were promoted to establish backward and forward linkages to improve the profitability of agriculture.

Promotion of sericulture on marginal lands, making best use of the available water by the families having surplus unemployed labour was an innovative programme. In the absence of market support, BAIF established a spinning and weaving unit to offer remunerative price for cocoon, which attracted small farmers, including tribals engaged in collection of tassar silk.

Afforestation and Environment

BAIF introduced Salvador type leucaena (subabul) in India from Hawaii in 1976, primarily for fodder development, which opened a new opportunity to promote afforestation and wastelands development, while addressing the problems of fuel and timber as well. BAIF took the lead in promoting subabul cultivation as a source of raw material for paper and pulp industries and demonstrated its superiority over eucalyptus species. The lessons learnt in wastelands development were extended to establish industrial greenbelt development in urban areas using treated effluent and biodegradable wastes. As children have tremendous potential to protect the environment, special programmes were designed to motivate children through school-based projects, environmental awareness activities, nature books, drawing and essay writing competitions and documentary films. Ms. Gro Harlem Brundtland, Prime Minister of Norway visited Urulikanchan in 1987 to see these activities.

Tribal Rehabilitation and Women Empowerment

In tribal areas it was necessary to take an approach which was more open-ended, based on local resources and suitable to the social and cultural strengths of the tribal communities. A more holistic programme approach evolved as a result of this exploration. Realising the drought tolerance of woody perennials, tree-based farming was promoted for rehabilitation of tribals on their denuded lands along with integration of activities for soil and water conservation as well as agricultural development. This programme popularly known as the Wadi programme demanded assured supply of moisture and intensive care. Hence, appropriate water resources development activities were initiated. Women being the major work force in agriculture, the success of the agro-based activity was dependent on the active involvement of women. Thus women empowerment was initiated as an integral part of wadi through hardship reduction, promotion of health care, gender sensitisation, capacity building, micro-finance and development of micro-enterprises. Formation of Self Help Groups not only helped to build confidence among the participant families but also to develop strong grassroot level people's organisations to organise backward and forward linkages.

The learnings from the wadi programme motivated BAIF to promote women empowerment, health care and literacy on a wider scale and to incorporate these components in all the development programmes to ensure better quality of life. Indeed, it is almost impossible to improve the quality of rural life without addressing these issues. Thus, the concept of a multidisciplinary holistic programme was evolved to address the problems of livelihood, health education and strong moral values. IDRC, Canada provided support to develop the staff capabilities to turn this concept into a ground reality through various innovative projects. CAPART provided support for a pilot project in Gujarat and Maharashtra. The German Development Bank (KfW) provided support under the bilateral assistance through NABARD to replicate the wadi programme on a larger scale under different socio-economic conditions. The positive impacts of this programme motivated the Ministry of Tribal Affairs, Government of India to expand the programme through State Governments as well as local voluntary agencies. The Government of Maharashtra invited BAIF to expand the wadi programme in 15 districts where tribal population is concentrated. The programme has provided sustainable livelihood, prevented migration, particularly of women which had a positive impact on health, education of children and their quality of life. Revival of the traditional health care system of mid wives (dais) and herbal healers (vaidus) provided basic health care. The programme has subsequently spread to other States with the support from the respective State Governments and Government of India.

NABARD set up a special Tribal Development Fund and BAIF was involved as a Resource Organisation, for capacity building of the implementation agencies. The Government of India has recognised BAIF as a Centre of Excellence in Tribal Development.

Holistic Cluster Development Approach

While implementing various development programmes, it was realised that instead of approaching the community with any pre-conceived programme, we should go with an open mind to identify their needs, problems, skills and resources possessed by them, and identify suitable interventions to solve their problems. Based on their socio-economic status, the members of the communities are formed into homogeneous groups to take up various development enterprises. This is like a doctor examining the patient to diagnose the problem and prescribing the

appropriate medicine for effective cure. With the support of the European Union under the bilateral assistance, this concept was converted into a ground reality and over 85% of the 35,000 BPL families participating in the multi-disciplinary development project could come out of poverty. Based on the success, the Ministry of Rural Development has been supporting BAIF to implement this programme in several states. The methodology popularly known as the Village Cluster Development Approach is the thrust area of BAIF for the future.

Capacity Building

Dr. Manibhai Desai had a strong desire to impart management skills to rural development workers at the grassroots level. As there are no organised courses to train less educated professionals, the Dr. Manibhai Desai Management Training Centre has been established in Pune. Special tailor-made courses are designed to impart capacity building by sharing the experiences of BAIF. BAIF has also established campuses for organising research, training and demonstration at Urulikanchan (Maharashtra), Lakkihalli (Karnataka), Vansda and Nanodra (Gujarat) and a Krishi Vigyan Kendra at Chaswad in Bharuch district of Gujarat to develop appropriate technology and impart training to field technicians and farmers.

Establishment of people's organisations at the village level has been the key to empowering local communities while ensuring sustainability of the programme. These organisations are in the form of self help groups of women and men, block level federations and user groups engaged in various income generation activities. Presently, out of the 10,000 self help groups, 80% are represented by women who are engaged in micro-finance, micro-enterprises and programmes of the Panchayati Raj Institutions.

Gandhian Values: Our Heritage

- During his close association with Mahatma Gandhi, the Founder of BAIF, late Dr. Manibhai Desai carefully captured the thoughts of Mahatma Gandhi and adopted Gandhian values in the mission of BAIF, which are our heritage.
- Mahatma Gandhi spent 8 days at Urulikanchan to establish the Nature Cure Ashram in March 1946. During his interaction with the villagers, he said “My work in Delhi is as important as my work at Urulikanchan. If you don't build up Urulikanchan, you cannot maintain Delhi”.
- The programme should be on developing the poorest person with bottom-to-top approach, to achieve Gram Swarajya (village self rule) through Antyodaya (development of weaker sections) and Sarvodaya (upliftment of all).
- Unemployment and under employment, are the causes of rural poverty. Therefore, we need to build self sufficient villages by creating gainful self-employment for poor families, who produce the commodities which can be processed and marketed to meet the local needs.
- The Community Development Programme should be labour intensive using locally available skills, needing low capital investment. The aim should be to include weaker sections of the society in the development and every family should have an opportunity to participate in the programme.
- 'Mass production is important, but production by masses is more important'.
- As poor health and illiteracy are the major problems of rural people, the development programmes should focus on these aspects as well. Emphasis should be given on truth, non-violence and freedom from vices to build a society of high moral values.
- Women are the custodians of our culture and so they should be empowered to take lead in community development.
- Special efforts should be made to bring weaker sections of the society, particularly tribals and scheduled caste families (Harijans), to the forefront of development.
- Development should be sustainable. This should cover conservation of natural resources, curbing of excessive consumption, recycling of wastes and protection of our environment. The earth has enough to meet the needs but not the greed!
- Before initiating any programme, we should be convinced that this will benefit the poor.

PROGRAMME IMPACT

Over the last four decades, BAIF's programmes have spread over Maharashtra, Karnataka, Gujarat, Rajasthan, Punjab, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Andhra Pradesh, Bihar, West Bengal, Orissa, Jharkhand, Chhattisgarh and Tripura States and made a significant impact in promoting sustainable development in rural India. The Programme has reached 4.5 million Below Poverty Line families across 15 states in 67,000 villages. 0.75 million crossbred cows born under the programme, each cow worth Rs.25,000-35,000 are producing milk worth Rs.2500

crores (USD 520 million). The programme has been promoting nutritional security, organic farming and ecosystem improvement. Over 70% of the farmers associated with this programme for over 5 years, are able to earn an annual income of Rs.45,000-55,000. 0.4 million ha lands under watershed development, is benefitting 97,000 families in 961 villages. 56,000 ha low productive lands covered under agri-horti-forestry popularly known as wadi programme, is benefitting 0.2 million tribal families spread over 4686 villages who earlier earned a meagre income of Rs. 6,000, and are now able to earn more than Rs. 30,000-40,000 after their orchards start bearing fruits. Over 10,000 SHGs with 110,000 women have mobilised a saving of Rs. 100 million (US \$2 million) of whom, 2000 SHGs are linked with banks. 2,000 voluntary health guides are directly mentoring the poor in the field. 85% of the participating families in the cluster development programme have come out of poverty, while enjoying improved quality of life through women's empowerment and community health initiatives. Environmental protection through sustainable agriculture, water and soil conservation, genetic improvement of livestock, industrial greenbelt and environmental awareness are the indirect benefits of the multidisciplinary programme. The sustainability of operations is being ensured through linkages with Financial Institutions and Markets, Panchayati Raj Institutions, Development Departments of the Government and other Organisations.

H.E. Dr. A.P.J. Abdul Kalam, during his tenure as the President of India, visited our Central Research Station at Urulikanchan and various development programmes at Vandsa (Gujarat), Asha Kiran wadi, Igatpuri (Maharashtra), Munger (Bihar), Manjunathpura (Karnataka) and Raniganj (Uttar Pradesh). He also appreciated the work of BAIF in various public speeches and during his address to the nation on the occasion of Republic Day in 2006:

"I would like to commend the work of BAIF which has promoted dairy husbandry through upgradation of low, unproductive, non-descript cattle owned by the small farmers. The programme 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. I understand that Wadi model has now been replicated by many State Governments. The prosperity has spread to millions of families. Self-employment has been created for over one million unemployed youth".

- Dr. A.P.J. Abdul Kalam

After 42 years, a strong team of 3800 dedicated youth is the strength of BAIF. Flexibility of the programme to reach the poorest of the poor and willingness to accept new challenges, a strong sense of economics and our ability to demystify complex technologies into user-friendly activities, has been the key to success. A gradual shift from free service to self-managed service by the community is our withdrawal strategy. Development of strong grassroot level organisations particularly through empowerment of women, is the secret of sustainability.

The Gandhian Way: Manibhai Desai

“Rural man is a wise man. He has acquired wisdom over centuries of experience of living a difficult life. It is this wisdom that has enabled him to survive all oppression, exploitation and difficulties. His experience, moreover, has made him look at anything new with suspicion because everything new to him has so far been used against him. He is also very possessive in regard to his land and livestock, and is not prepared to part with either even if neither is remunerative; he cannot forget that these have been the only instruments which have enabled him to survive against all odds.”

Manibhai Bhimbhai Desai speaks from forty years of experience working for and with the Indian villager. But he knows from this experience that with faith in those who are working to create change, the villager is willing to experiment if he is convinced that his needs are being addressed.

Youngest of four sons of a well-to-do Brahmin family, Desai was born on April 27, 1920, in the village of Kosmada, Surat District, Gujarat, India. His father, Bhimbhai Fakhirbhai Desai, as owner of 27 hectares of ancestral lands, was the leader among the farmers of the area. From him, Desai inherited his excellent managerial talents; from his mother, Ramibahen, his strong common sense.

At the time of his father's death in 1927, young Desai was in first grade at the elementary school in his native village, where he ranked first in his class (1927-1931). He also excelled in sports and was a leader in the Boy Scouts.

India, during his childhood and youth, was being shaken by Mahatma Gandhi's hartals (abstention from work) and satyagrahas (“insistence on truth,” but in fact calls for civil disobedience). Desai vividly recalls an incident that occurred when he was ten and influenced his life. Patel, a young man of the village, joined Gandhi's famous march from Ahmedabad to Dandi, where the marchers raided the salt stocks as a protest against the government's tax on salt. Instructed to return to the village and ensure that a pinch of salt - which had become a symbol of the struggle for independence - was distributed to each household - Patel chose Desai to help him carry out his task. The latter was deeply moved when the villagers bowed low as they ate the salt, and at that tender age he felt the call of Gandhi in his own life- the call to service and self-reliance.

Desai's middle and high school years were spent away from home. He lived first with a relative who did not hesitate to assign him a wide variety of household and garden chores. Far from finding work degrading, Desai enjoyed most of the tasks, including tasks usually assigned to women such as fetching water from the village well and feeding, milking and taking the cow to the village pond. His mother, however, was shocked and in the following year placed him in the hostel of the Anavil Ashram, the philosophic centre of the Gandhian movement. There, he came under the influence of the ashram's founder, Dayalji bhai Desai, a close friend of Gandhi, and Brahmanand Swami, a philosopher who visited the ashram and instructed the boys in mental and physical self discipline. The disciplines he imparted included, early rising and celibacy, both practices Desai was to adopt.

In 1938, the young high school graduate enrolled in Sarvajanic College, Surat, an affiliate of Bombay University. Although he studied engineering as his family desired, he was emotionally caught up in Gandhi's “Quit India” movement. On August 9, 1942 all the leaders of the movement were arrested. In defiance and without informing his family - Desai left college and joined the underground; he spent the next 19 months derailing freight trains and

blowing up bridges in an effort to disrupt British communications. The clandestine and violent tactics engaged in by the underground, however, disturbed Gandhi, who sent the young men a brief message from prison;

“Why behave like cowards? Come out in the open and do whatever you want to do and if necessary die.”

The group obeyed. Desai stopped blowing up bridges and instead openly addressed political rallies and demanded independence. He was promptly arrested. Confined in the main jail in Sabarmati with common criminals, rather than with political prisoners, he refused to have his spirit broken. He made friends with his fellow inmates, many of whom, he learned, had become bandits as a result of the injustices they had suffered at the hands of the wealthy. During the year in prison, Desai also read radical political literature, including the works of Karl Marx and Mao Tse-Tung. The views of Mao impressed him but his ideas were modified by discussions with a fellow inmate, Ravishankar Maharaj. Maharaj pointed out that Mao was not disturbed by the fact that the people for whom he was fighting were often not willing participants in the fight; Gandhi, in contrast, insisted that the willing participation of the people was essential. The goal of both men was maximum employment of people in a non-mechanised society; Gandhi believed this goal could and should be achieved without violence, through love and good organisation.

By the time he left prison (April 1944), Desai had decided to devote himself to the cause of rural development. However, since Gandhi had directed that no political prisoner should make a major decision while in the abnormal atmosphere of jail, Desai returned to the university to complete his final year. At the same time, he began organising students for social action.

Despite his extracurricular activities, Desai was a merit scholar and in April 1945 completed his B.Sc. with a First in Physics and Mathematics. His resolve to devote himself to rural development, however, had never weakened, and scant hours after finishing his last paper, he was on the night train for Bombay to meet with Gandhi. As part of his decision, he renounced any claim to ancestral lands, realising, as he said, that people place greater confidence in you if you have nothing of your own - no distractions, no private interest - and that in India, if you have sacrificed, “you can penetrate the minds and hearts of the people very easily.”

Gandhi accepted Desai as a disciple in principle, but insisted he must first return to his village and forget everything he had learned. “Bapuji,” cried the new graduate, using the affectionate term for father, “are you against education?” Gandhi replied it was not Mathematics and Physics he had in mind, but the elitist attitude, taught at the university, which assigned to the exploiter, the highest status in society, and to the man who toils, the lowest.

Desai obediently returned home to Kosmada where he began organising the village for social change, but four months later he received a letter from Gandhi calling him to Sevagram Ashram (Wardha District, Maharashtra State), the headquarters for the Mahatma's activities.

Shortly after his arrival at Sevagram, a virulent outbreak of cholera hit the district. Gandhi ordered the ashram to control the epidemic, but its residents were understandably reluctant to venture into the infected area. Desai volunteered. Accompanied by two doctors and a group of 50 boys, he treated the ill with a saline solution to prevent dehydration, carried the dead to the funeral ground, and vaccinated those still well. The volunteers also taught the people to clean the village, boil their water, and cook their food thoroughly. These techniques stopped the epidemic.

Gandhi, recognising he had in Desai one who could be entrusted with important tasks, nevertheless tested him further by assigning the young Brahmin university graduate the task of cleaning the ashram latrines and making compost

from excrement and trash. After a month and a half, when Gandhi was sure of his disciple's willingness to carry out even these tasks of the untouchables, he invited Desai to join his personal staff.

On January 26, 1946, the day Jawaharlal Nehru declared the premature independence of India, Desai took a vow of celibacy so that he could devote himself entirely to the development of his country through service to the rural poor.

During the following year, he became very close to Gandhi - a man fifty years his senior - and Gandhi recognised that Desai was one of the very few persons willing to undertake the programme of rural development which he, Gandhi, considered essential to the success of an independent India. Gandhi therefore chose Desai to establish the nature cure ashram and development programme in Urulikanchan, Maharashtra, that he considered central to his plan. Although anxious to begin a rural development programme in his native Gujarat, Desai agreed, and undertook the development of Ashram Goshala on 10 ha of land acquired by the Gandhian movement through donations in cash and kind.

Gandhi gave Desai two general guidelines. First, the programme should be labour intensive; a capital intensive programme, he believed, would produce development but at the cost of increased disparities in income. Second, he must make use of all possible resources, even those that at first appear to be liabilities. Under or un-utilised manpower is a resource, Gandhi reminded his young disciple, and year-round gainful employment for the farmer and his family should be his goal.

Desai last saw Gandhi in April 1947 when they met to discuss progress at the Ashram Goshala. Desai, who still hoped to work in his home state of Gujarat, informed Gandhi that he had said to "take an oath" to remain at Urulikanchan for 12 years. Unimpressed, Gandhi responded: "I want your life-committed perspiration." Therefore on April 13, a day regarded by many Indian in the independence movement as a day of sacrifice, Desai bowed his head and vowed to "lay my ashes [die] in Urulikanchan." Although his programmes spread far beyond the confines of that village, the Ashram Goshala remained his headquarters.

Desai returned from his visit with Gandhi with Rs.100,000 to continue his work with the nature cure hospital he had begun and the youth programmes that were underway. One of his priorities was to organise the young people not yet spoiled by indolence or anti-social activities. A youth culture centre which encouraged sports and dramatic performances was one effort; a secondary school was another. He began the latter in 1950, teaching 30 boys in his own cottage. Meanwhile, he had started a cooperative society to wean the villagers away from the usual usurious moneylender.

Desai also undertook to discover what the villagers considered their most pressing need. By sitting hidden near the village well and eavesdropping on the conversations of women as they did their laundry, he learned that the villagers were united in a desire to rebuild their temple. Accordingly, he called a meeting and organized a committee to raise money for a new structure. When the committee was preparing to go to Bombay to solicit funds, Desai convinced them that by adding a school (his project) to the temple proposal, they would be more likely to obtain donations. His advice proved sound.

By 1954, the new temple and school had been built. Rated nationally as one of the best rural schools, Mahatma Gandhi Vidyalaya today has some 90 well-qualified teachers to instruct 3,000 students in its three categories of study-academic, agricultural and industrial. A hostel accommodates boys from distant villages. From the beginning, the

school was recognised by the Central Government and therefore has always enjoyed financial support; in 1980 it received a grant from the state in recognition of its performance and efficiency.

Gandhi always expected Desai to be resourceful. He had suggested, for example, that Desai take up cattle development to ensure good supply of milk for the patients at the hospital. When Desai protested that his forte was mathematics, not veterinary science, Gandhi responded: learn the latter by studying a book on the subject - and by dismembering dead cows! The Brahmin Desai did both. He dissected over 400 carcasses and in the process became an authority on cattle physiology.

Although India had the largest cattle population in the world, it had one of the lowest milk yields; from an economic point of view the average Indian cow was a liability to its owner. But cattle, Desai came to believe, were a better choice of livestock for local farmers than pigs, sheep or goats. Pigs eat what humans eat, and in a land of scarcity, compete with man for food. Goats and sheep, who like cattle can eat agricultural wastes which man finds inedible, graze closer to the ground than cattle, pulling up roots when hungry, and are therefore more damaging to pasture land. Good milk cows, he reasoned, could increase both the nutrition and the income of the local farmers. In 1948, he started a herd using the local Gir breed. The herd made such excellent progress that in 1953, the State of Gujarat donated eight top quality heifers, one bull calf and one adult bull, for the herd's further improvement. From 1957 through 1962, the Ashram Goshala's cows captured first and second prizes for highest milk yield in the country.

With the herd growing, Desai sought new pasture land, a scarce commodity in a region receiving only 8 to 10 inches of rain a year. He discovered Bhavarapur, an area three km away on the bank of the Mula Mutha river, where thin grass was growing under a sparse cover of acacia. The 25 families who owned the land charged him a mere Rs. 280 for its use during the two to three month grazing season.

As Desai became better acquainted with these families, he suggested the trees be cut down and the land made more productive by plowing. The villagers were adamant: since the trees had been planted by their ancestors, they must never be felled. The matter was not raised again for 10 years when, with subtle prodding, a young man from the area who worked on the ashram's farm agreed to fell his trees. When the other farmers saw how much money he made from selling the wood for fuel, they too began removing Acacias, thereby allowing the grasslands to increase.

By 1965, the entire plot of about 36 ha was cleared. Desai then suggested that the families form a Joint Farming Society; they refused unless Desai himself joined. Since he owned none of the land, he was not legally eligible, but the Chief Minister of Maharashtra pointed out that the law provided for 10 percent membership in such an association by landless labourers. Thus, as a landless labourer, this former landowner became a member of the Joint Farming Society and was elected its Chairman.

As Chairman, Desai arranged for the area to be ploughed by tractor and irrigated by water from the river using a jack well (holding tank). He could persuade the villagers to dig the well only by starting to dig it himself. Having lived in extreme poverty for generations, these farmers had lost their motivation to work, or even better their lives; they had to be shown, personally, what could be done before they would do it. As the soil was found to be extremely alkaline, with a pH factor of 9.4, the society obtained a loan from the cooperative bank to buy gypsum for soil application. For the initial planting, Desai chose brinjal (egg plant) which could grow in the still alkaline soil. After the salt content

was brought down, other remunerative crops were introduced. Today, the land produces sugarcane, wheat and grapes.

During this period, Desai continued his experiments on the ashram's own land - which had now increased to 33 ha. Since agriculture per se was generally uneconomical because of the scant rainfall, Desai experimented with horticulture as a means of making the ashram self-sufficient and for cash crops for farmers in the adjacent villages. Research indicated that the dry climate and light soil offered prospects for grape cultivation. In 1960, he began planting local varieties, in particular Selection 7 and Bangalore Purple, and an imported variety which seemed well suited for raisins, Thompson's Seedless known in India as Madras Kismis.

Desai obtained 10,000 cuttings of Madras Kismis from a small group of families in Tamil Nadu who had themselves been given cuttings by Christian missionaries and established on one ha at Urulikanchan. Desai spent 14 to 15 hours a day overseeing the proper manuring, cutting and training of the vines, trellising them to let sunlight through to the ground and thus prevent downy and powdery mildew from developing. Irrigated with the minimum amount of water for good fruiting, the plants yielded 38,765 kg. per ha, more than the record California yield for the same variety. Local farmers speculated that the vines had exhausted themselves with the first crop, but the following year the yield was even higher. Today, Madras Kismis is the most popular cash crop in the area, with average yields running about 22,500 kg per ha.

At the same time that he was experimenting with grapes, Desai was asked by local entrepreneurs if he would persuade some of the wealthy landowners in the region to invest in a sugar cooperative. He agreed on the condition that smallholders would also be allowed to join. With his help, some 500 smallholders applied for a loan of Rs. 5.3 million to invest in the Yeshwant Cooperative Sugar Factory, which proved a success from the beginning. It soon developed numerous branches and began engaging in other community socio-economic projects, e.g. schools, hospitals and water resources.

It had become apparent to Desai by now that if the fruits of his 20-years of labour were to have a national impact, a sophisticated professional organisation utilising top-level managerial skills was required. Accordingly, he founded the Bharatiya Agro Industries Foundation (BAIF), which was registered as a Public Trust on August 22, 1967. Two days later it was formally inaugurated by the President of India in Pune, where central finance and administrative offices would be located and from which field programmes would be coordinated. However, for the next two years, BAIF existed only in concept.

In 1969, Tristram Beresford, Chairman of Britain's Agricultural Society, visited Urulikanchan and unknowingly became the catalyst to project BAIF onto the national and international scene. Although he had come for a brief look at the dairy herd, Beresford found time to visit the rehabilitated farmland at Bhavarapur and the rest of the ashram's projects. Deeply impressed with what he saw, he offered to help raise funds for the ashram. More importantly he produced, through the British Milk Marketing Board, a consignment of 7,000 doses of frozen semen from top quality Jersey and Holstein-Friesian bulls for the cattle project. With the acquisition of frozen semen, BAIF ceased being merely a concept and became a functioning organisation.

Six veterinarians were hired and assigned to local centres that were established and supported by the Sugar Cooperative. Local cows belonging to individual farmers were inseminated in order to produce high quality

crossbred animals. From cows which gave less than 200 litres of milk in a lactation, were bred cows that produced 2,500 litres: poor cows which had been a liability to farmers were converted into economic assets. The new crossbreeds are known as Kamdhenu, "cows that bring what is desired." Insemination and crossbreeding with superior heifers was founded over the next few years by the Church of Scotland and the Danish International Development Agency (DANIDA).

The veterinarians at the local centres also trained farmers in the care of these improved animals. The concept of bringing modern technology to the door of the farmer, instead of having the farmer go to a regional centre, was an essential component of Desai's development philosophy. His concern was always to simplify and humanise the developmental process. As he began soliciting money from major industrialists to finance BAIF's dairy cattle programme, Desai realised that contributions would be limited unless BAIF qualified as a tax-deductible research institute. When he approached the Indian Council for Agricultural Research (ICAR) for certification, he was informed that to qualify, BAIF must handle at least 6,000 head of cattle. Frustrated, he was returning home to Urulikanchan when he met with an accident and broke his legs. During his three-months in bed, Desai devised a way to meet the ICAR requirements: he would request permission of the thousands of farmers in the region to use their cows for research purposes, promising the owners any benefits that might accrue from the project. A few months after his recovery, and armed with a list of 11,000 promised cows, Desai obtained recognition of BAIF as a tax-exempt research institute.

Two subsidiary research centres were established under the BAIF umbrella in 1971. The Research Institute for Cattle and Agricultural Development was started in Maharashtra on 40 ha of land donated by the Government; it now has 120 ha. Supporting the development institute is the Research Institute for Animal Health. With a donation of equipment from DANIDA, the latter began producing vaccine for foot and mouth disease in 1977.

Three years later, the Indian Ministry of Agriculture approved a recommendation by the Planning Commission to entrust BAIF with the production of 100,000 crossbred cows in areas under the Government's Drought Prone Area Programme. National and State Governments shared the operating expenditure of the centres. Although the annual cost of operating each centre was Rs. 60,000, the expense was covered by the guaranteed output in terms of pregnant cows. The income generated by the milk produced by the new cows was more than 10 times the expense incurred by farmer for the foundation's services.

Following his strategy of optimising resources, Desai next looked for a plant that could be used for fodder that would not only grow with scant water in extremely poor soil, but could, as a legume, enrich that soil by drawing nitrogen from the air. In 1974, he received an ounce of seeds of the Hawaiian Giant (K-8) variety of *Leucaena leucocephala* from the University of Hawaii. This tree had all the desired characteristics including rapid growth (Desai had learned that a programme to eradicate poverty must show quick results or those targeted by the programme lose confidence in it). Subabul, as it is known in India, has proven to be quick growing and easily renewable source of fuel, building materials and animal fodder.

For its valuable nitrogen-fixing action in the soil to take place, a certain rhizobia (bacteria) must be active in the nodules of the plant's roots. BAIF's Laboratories have produced very effective rhizobia cultures for use in both acidic

and alkaline soils which are supplied to farmers with the leucaena seeds. In addition, BAIF researchers have found that sulfa phosphate is a critical requirement of subabul and it too is supplied when seedlings are sold.

In 1980, BAIF started experimenting with sericulture as a complement to the established dairy programme. Mulberry trees, to provide food for the silkworms, were interplanted with leucaena. The two projects provide employment for the farmer's entire family. Cooperative units for processing the silkworm cocoons have been developed.

Also in 1980, Prime Minister Indira Gandhi combined all rural development programmes into the Integrated Rural Development Programme (IRDP) on a nationwide basis. This meant that BAIF was no longer confined to Drought Prone Areas. Its expansion was rapid. By 1988, it was operating in six states, with 500 centres and a massive extension network.

A recent BAIF programme is with the backward tribal peoples of South Gujarat, where families have been given support to establish fruit orchards on a 0.4 ha plot of wasteland. The programme is fast expanding. The innovative agroforestry efforts have resulted in increased food, fodder, fuel and timber for the people of the tribal area, and equally importantly in year-round employment.

Despite the size and ever-increasing sophistication of BAIF, Desai never ceased to remind his highly educated staff that the focus of their work is not research, but the man who benefits from it.

“We in BAIF,” he wrote in the BAIF Journal several years ago, “have never looked down on the rural people as either pitiable or contemptible creatures, India's rural people represent perhaps the finest specimen of hardy manhood. They have withstood generations of exploitation and tyranny and yet retain love of the land, love of the animals and, above all, zest for life and the capacity to adapt to changing times. As such, we recognise the rural people as men, richly worthy and deserving of being given an opportunity, as their right, to work for their own betterment. The realisation that we have the opportunity to work as partners, nay brothers, with the rural people, can certainly be our richest and most satisfying reward.”

The President of India recognised his services in 1968 by honouring him with the Padma Shree Award. In 1977, Mahatma Phule Krishi Agricultural University, Rahuri, Maharashtra awarded him an honorary doctorate. In 1982, he received the Ramon Magsaysay Public Service Award “for practical fulfillment of a vow made to Mahatma Gandhi 36 years ago to uplift, socially and economically, the poorest villagers.” In 1983, Desai was awarded the prestigious Jammalal Bajaj Award for pioneering research on the application of Science and Technology for rural development.

Manibhai Desai was very active till his last breath and he passed away in his sleep on November 14, 1993. On his sudden demise, thousands of prominent leaders and social workers expressed their shock and condolences, including the-then Prime Minister of India Shri. P.V. Narasimha Rao.

The Chief Minister of Maharashtra, Shri. Sharad Pawar mentioned “He has left an indelible mark on the rural development programme by his own research in the field to alleviate problems of rural poor. A true Gandhian who adhered to Gandhian principles until death, and made Himalayan efforts to realise his dream of fitting rural life into modern society”.

The Times of India, Ahmedabad edition mentioned “Manibhai promised Gandhiji that he would devote his entire life to the upliftment of the rural poor. What set Manibhai apart from other followers of Gandhiji, was his commitment to

serve the poor by creating employment opportunities at their doorstep for sustainable livelihood through application of science and technology in the field”.

Dr. S. Ganguly, Executive Vice Chairman and Managing Director, ACC, mentioned “All his life, he represented the best of India's spiritual values with a totally selfless spirit of service for the needy and the poor”. Chief Secretary, Shri. T.S.R. Subramaniam, Government of Uttar Pradesh said “I was greatly inspired by his noble ideals, his deep wisdom and experience in the service of the rural people of India”.

World renowned Plant Breeder and promoter of Subabul, Dr. James L. Brewbaker, University of Hawaii, said “Few people have so perfectly exemplified to me the term, “sainthood”. I treasure the few times we shared. It is not a pretty world that awaits what we must do, but Manibhai has helped provide the vision and motivation that makes our work worthwhile”.

As one observer has noted, in his person, Desai represents the finest expression of Gandhian principles and scientific practicality.

The Author of the biography “Manibhai Desai An Ascetic Incarnate”, Shri. Chandrakant Upadhyaya, concluded the book by quoting the meaning of a verse from the Bhagavad Gita, Chapter 8, “One who relinquishes his body, while performing his duties, keeps his wits sharp unto the last, keeps his mind full of pious feelings, keeps his sky-like heart free from the slightest attachments, gets a divine place in heaven”.

Indeed, his colleagues in BAIF feel that Manibhai Desai is guiding them in fulfilling his mission. Thus no day passes without remembering him.

AWARDS RECEIVED BY BAIF

- India NGO Award 2008 for demonstrating sustainable development, efficient and transparent management
- Indira Priyadarshini Paryavaran Puraskar 2007 to BIRD-K for sustainable management of natural resources
- Indian Innovation Award 2005 for innovative approaches in poverty alleviation
- Vasantao Naik Jala Samvardhan Award 2005 for innovative approach in watershed development
- Doreen Mashler Award for outstanding contribution to integrated watershed management 2004 to BAIF, RRIDMA and SPESD
- 12th Red and White Social Bravery Award 2003 to Dhruva
- Award for Excellence in Rural Development 2003 to Dhruva by the Federation of Gujarat Industries, Vadodara
- Award for Excellence in Rural Development 1999 to GRISERV-BAIF by the Federation of Gujarat Industries, Vadodara
- Adivasi Seva Sanstha Award 1997 for tribal development in Ahmednagar, Thane and Raigad districts of Maharashtra
- Indira Priyadarshini Vrikshamitra Puraskar 1996 to GRISERV-BAIF
- Rajat Kamal Award for the film “Building from Below” 1994
- Green Film Award, Berlin Festival for the film “Golden Earth” 1991
- Rajat Kamal Award for the film “Golden Earth” 1991
- NCERT - Best Children's Literature Award for “Mother Nature” 1991
- Seth Baldeodas Shah Award for improved silkworm mountages 1991-92
- Indira Priyadarshini Vrikshamitra Award 1986 for afforestation and wastelands development
- FICCI Award for Rural Development 1978

RECOGNITIONS RECEIVED BY BAIF

- Centre of Excellence in Tribal Development by the Ministry of Tribal Affairs, Government of India
- Ministry of Finance, Government of India under section 35 (1) (ii) of the Income Tax Act, 1961 for carrying out Scientific Research
- SILK MARK Certification for promotion of sericulture
- Regional Resource Agency of the Ministry of Environment and Forests, Government of India for coordinating the National Environmental Awareness Campaign in Maharashtra, Goa and Dadra Nagar Haveli

AWARDS RECEIVED BY DR. MANIBHAI DESAI

- Padmashree for rural upliftment and community development (1968)
- Ramon Magsaysay Award for public service (1982)
- G.J. Watumull Memorial Award for dedicated devotion to Gandhian principles in rural development (1982)
- Jammalal Bajaj Award for application of science and technology (1983)
- Vasantao Naik Award for rural development (1988)
- Vishwa Gurjari National Award for rural upliftment (1989)
- National Citizen Award for rural development (1991)
- Pune's Pride - Lifetime Achievement (posthumously) Award by Residency Club, Pune (1995)