



# Annual Report 2024–2025



## BAIF Institute for Sustainable Livelihoods and Development – Odisha and Chhattisgarh



**BAIF Institute for Sustainable Livelihoods and Development (BISLD)**

*Committed to sustainable development since 1967*

## BAIF and its Associate Organisations

- BAIF Development Research Foundation (BAIF) – Public Trust under Bombay Public Trust Act, 1950. Founded in 1967 by Dr. Manibhai Desai.
- BAIF Institute for Sustainable Livelihoods and Development-Not for profit Company under Section 25 of Companies Act, 1956 (Section 8 of the Companies Act, 2013). Established on April 16, 2012.
- BAIF Agro and Biotechnology Pvt. Ltd. (BAIF Agro).
- Vasundhara Agri-Horti Producer Company Ltd. (VAPCOL).



Our inspiration...

Dr. Manibhai Desai  
Founder, BAIF

To know more about our Founder and BAIF programmes, please visit [www.baif.org.in](http://www.baif.org.in)

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**Cover Page** (Clockwise from top – North, East, South, West): Shri. Basant Majhi, Wadi participant from Angul district; Smt. Nirmala Das engaged in trellis farming; Smt. Basanti Kispotta of Sundargarh district selling vegetables; Shri. Sudarshan Majhi with his female calf under the livestock development programme.



# CONTENTS

*Message from Regional Director*

*Overview by State Head*

*2024-2025 at a Glance*

*Programme Coverage*

❖ 1. Livelihood Programmes.....	1
A. Livestock-based Livelihoods.....	1-7
B. Water-centric Livelihoods.....	7-11
C. Farm-based Livelihoods.....	11-12
D. Rural Non-Farm Sector Livelihoods.....	13
E. <i>Samruddha Gram</i> (Holistic Village Development).....	14-15
❖ 2. Climate Action Programmes.....	15
A. Climate Change Adaptation and Mitigation Strategies.....	15-16
B. Climate-Smart Agriculture.....	16-17
C. Agrobiodiversity Conservation.....	17-18
D. Renewable Energy.....	18
❖ 3. Cross Cutting Programmes.....	19
A. Health and Nutrition.....	19-20
B. Women in Development.....	20
C. Capacity Building.....	20-21
D. Educational Initiatives.....	21
E. ICT for Development.....	22
❖ 4. Development Research.....	22-23
❖ 5. Human Resources.....	24
❖ 6. Partnerships .....	26

## MESSAGE FROM REGIONAL DIRECTOR



I take the privilege of presenting the progress and highlights of BAIF's Odisha and Chhattisgarh programmes during the year 2024 – 25.

In Odisha, the programme is being implemented across 23 districts, reaching out to over one lakh families, including in the aspirational districts of Balangir, Kalahandi, Koraput, Nabrangpur and Nuapada. In Chhattisgarh, BAIF continued to expand its presence across 06 districts, with an outreach of nearly 3,000 families. The year witnessed both the consolidation of existing engagements and the introduction of new, context-specific initiatives.

We sincerely acknowledge the generous support extended by our project sponsors during the year – Government of Odisha, NABARD, Mahanadi Coalfields Ltd., Gates Foundation, Adani Foundation, JSW Foundation, HDFC Bank, Charity for Goodness Foundation, Jindal India Power Ltd., Bioversity International, District Mineral Foundation (DMF) – Keonjhar, Arcelor Mittal Nippon Steel (AMNS), Vedanta Group and Hindalco – whose contributions align closely with the twin goals of societal transformation and holistic development. These partnerships have strengthened our efforts in significantly augmenting rural .

It is commendable that Shri. Bhaskar Padhan, BAIF Cattle Development Centre In-Charge from Subarnapur district, was awarded the prestigious National Gopal Ratna Award 2024 (1st position) of the Government of India for outstanding contributions to cattle development. It is heartening to note that BAIF AI Technicians from the State have been recognised with the Award for the 3rd consecutive time. The impact of development initiatives was also showcased at various events and exhibitions, enabling adoption and replication.

The programmes remain aligned with the Sustainable Development Goals (SDGs), contributing meaningfully to poverty alleviation, health, food security, sanitation, renewable energy, inclusive growth, empowerment and climate action. BAIF's commitment to uplift rural communities and enhance household incomes continues to drive the integrated development efforts in line with the Nation's vision of Viksit Bharat.

We deeply value the continued support and cooperation received from all the stakeholders – sponsors, partners, participants, BAIF team, senior management, advisory board and our well-wishers, which have been instrumental in our progress and remain vital as we move forward in building resilient and prosperous rural communities.

Jai Hind!

**Rakesh Warriar**  
**Regional Director**  
**BAIF East Region**



## OVERVIEW BY STATE HEAD



The Annual Report 2024–25 of BAIF Odisha and Chhattisgarh, reflects our collective journey of impact, innovation, and resilience. This year's efforts reaffirm our commitment to sustainable livelihoods, climate action, and inclusive rural transformation.

In 2024–25, BAIF worked across 23 districts of Odisha and 6 districts of Chhattisgarh, directly benefitting over one lakh families. Livelihood enhancement remained central, with livestock development expanding through advanced breeding, fodder management, and animal health services. Over 100,000 artificial inseminations were done, while initiatives in goat breeding and genomic selection demonstrated transformative potential for dairy and small ruminant farmers.

Water-centric programmes created more than 28,000 cubic metres of storage, introduced solar-powered irrigation, and diversified livelihoods through fish farming and climate-resilient agriculture. The *Wadi* model converted underutilised land into productive orchards, establishing 500 acres fruit-based plots and generating sustainable income through intercropping.

Non-farm enterprises—mushroom cultivation, poultry and small-scale processing—strengthened income security, particularly for women, who also led 47 enterprises and numerous producer groups. Samruddha Gram initiatives integrated health, sanitation, renewable energy, and education, reinforcing the quality of life alongside livelihoods.

Climate-smart agriculture, renewable energy adoption, biodiversity conservation, drudgery reduction, and applied research further underlined BAIF's commitment to resilience and sustainability.

I sincerely thank my team for their dedication and hard work, our CSR partners for their consistent support, and senior management for their guidance. Together, we continue to build empowered, self-reliant, and prosperous rural communities.

Thank you

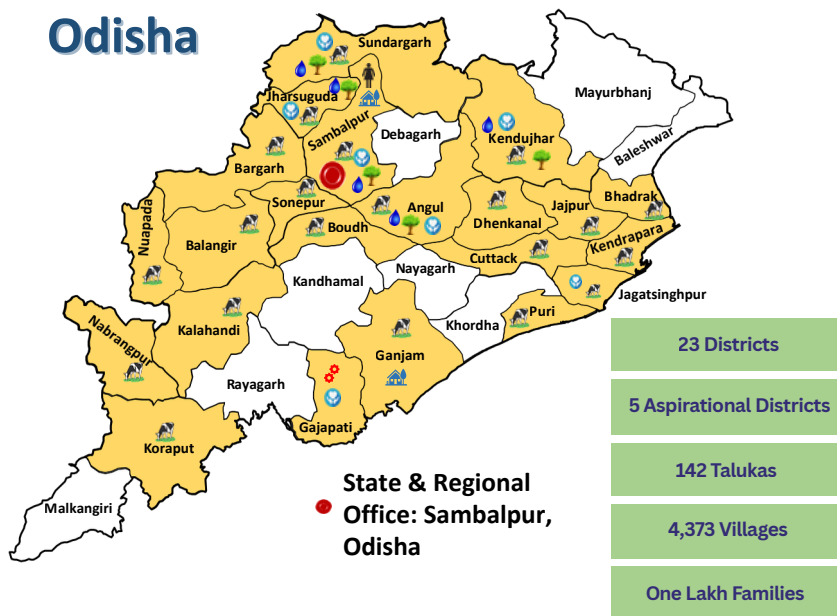
**Sandip Kakade**

**State Head**

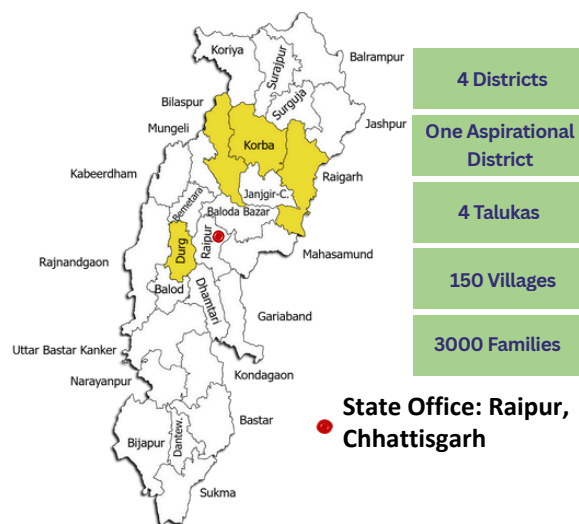
**BISLD – Odisha and Chhattisgarh**

# 2024-2025 at a Glance and Programme Coverage

## Odisha



## Chhattisgarh



## MISSION

*"The Mission of BISLD is to create opportunities of gainful self-employment for the rural families, ensuring sustainable livelihood, enriched environment, improved quality of life and good human values. This is being achieved through skill development, effective use of local resources, extension of climate smart technologies, facilitation for value chains of farm-produce and community participation."*

## VISION

*Building a self-reliant rural society assured of food security, safe drinking water, good health, gender equity, low child mortality, literacy, high moral values and clean environment.*

## CORE VALUES

*Well-being | Excellence | Sustainability | Transparency | Equity | Participation*



# PROGRAMME HIGHLIGHTS

## 1. LIVELIHOOD PROGRAMMES

### A. Livestock-based Livelihoods

Livestock-based livelihoods are a crucial component of rural economies around the world, providing a vital source of income, food security, and employment. They serve as a financial asset and safety net, helping families to weather economic shocks and natural disasters. Additionally, livestock farming often plays a significant role in cultural traditions and social structures. Sustainable livestock management practices are essential for ensuring the health of the animals, the well-being of the farmers, and the protection of the environment. This multifaceted livelihood strategy thus not only supports economic stability but also enhances resilience and contributes to the broader goals of rural development and poverty alleviation. Major projects implemented in the state under this thematic component are outlined below.



### 1. Training of Youth and Scaling up Bovine Breeding Services through Establishment of Multipurpose AI Technicians in Rural India (MAITRI)

**Sponsor:** Odisha Livestock Resources Development Society (OLRDS)

**Location:** All 30 districts of Odisha

**Duration:** June 2022 to May 2025

The MAITRI project has successfully trained and empowered 1,500 rural youth as self-employed Artificial Insemination (AI) technicians, enhancing livestock breeding services across Odisha. Through 30-day classroom and 60-day field training, youth were equipped to deliver doorstep artificial insemination and basic veterinary care, improving cattle health and milk production.

By FY 2024–25, over 65,000 AIs were conducted, demonstrating the sustainability and reach of MAITRI's services. A total of 95,000 AIs were digitally recorded across 23 districts using the INAPH mobile reporting system, ensuring real-time, transparent data tracking.

MAITRIs (590) received equipment kits (cryo-containers, protective gear, consumables), while more than 1,100 MAITRIs were formally registered under the National Digital Livestock Mission (NDLM).



### Major Outcomes



1,500 rural youth trained and 590 equipped as self-employed MAITRIs across 30 districts.

95,000+ artificial insemination records uploaded on the INAPH system as of March 2025.

1,000+ MAITRIs registered under the National Digital Livestock Mission (NDLM) for long-term integration.

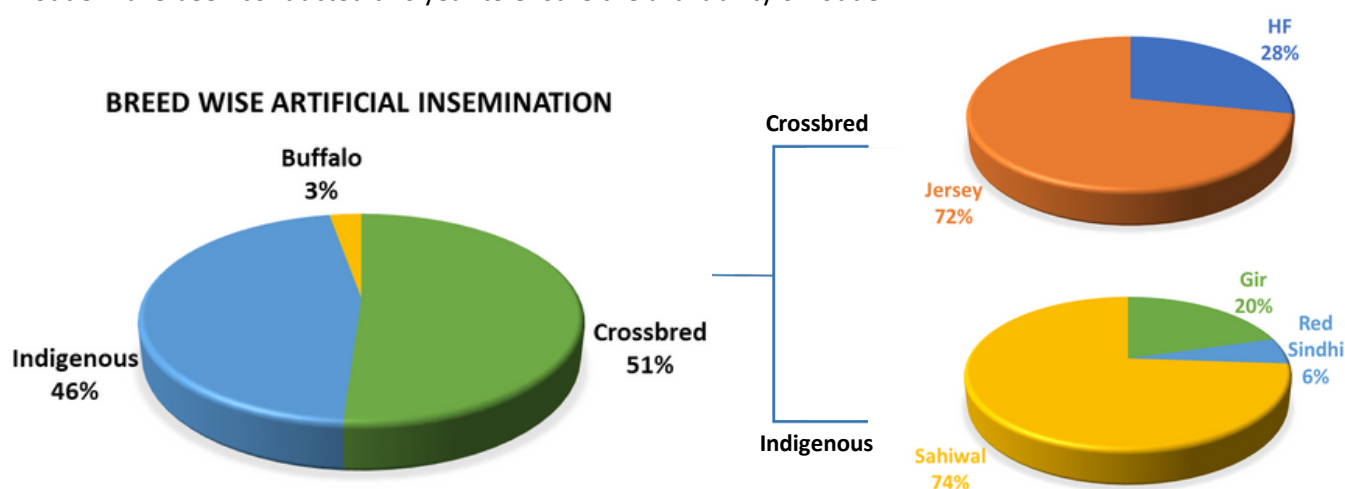
## 2. Livestock Development Programme

**Sponsor:** Adani Foundation

**Location:** Bhadrak district, Odisha and Raigarh, Durg and Bilaspur districts, Chhattisgarh

**Duration:** April 2019 to March 2026

**Major Achievements:** The project is being implemented across 149 villages in Bhadrak district of Odisha and the districts of Raigarh, Durg, and Bilaspur in Chhattisgarh, through a network of nine Livestock Development Centres (LDCs). The programme focusses on enhancing rural livelihoods through scientific dairy husbandry, including artificial insemination, fodder development, health services, and capacity building of farmers. During the reporting year, a total of 5,145 artificial inseminations were performed, and 940 female calves were born across both states. Geo-tagging, ear tagging, and calving reports are maintained for traceability. Community outreach, farmer trainings, and animal health initiatives have further strengthened livestock productivity and resilience. With focus on green fodder availability, 286 demonstrations covering both perennial and seasonal fodder have been conducted this year to ensure the availability of fodder.



### Livestock Support: Empowering Dairy Farmers through AI Training



Shri. Prasanta Behera, a 35-year-old farmer from Sashikadeipur village in Bhadrak, Odisha, transformed his dairy-based livelihood after participating in the Adani Foundation's Livestock Development programme under CDC Karanjmal. The programme introduced him to artificial insemination (AI) techniques, which he applied first to two of his 15 non-descript cows.

Encouraged by early success, he applied sorted semen AI across his herd, resulting in the birth of healthy Gir, HF, and Sahiwal calves. Today, he owns eight progenies, four crossbred and four indigenous, with milk production rising from 2 litres to 14 litres per day. His monthly income has increased threefold, from ₹5,000 to ₹15,000, significantly easing household expenses. With better breeds and improved management, Prasanta is now planning to expand his dairy enterprise.

### Major Outcomes



**5,145 AIs conducted and 940 female calves born, generating assets worth ₹58 lakh.**

**93 training sessions and 6,268 home visits, strengthening dairy management skills of over 2,200 rural households.**

**12,097 livestock treated through 66 animal health camps, ensuring improved herd health and farmer resilience.**



### 3. Enhanced Genetics Project (EGP)

**Sponsor:** Gates Foundation

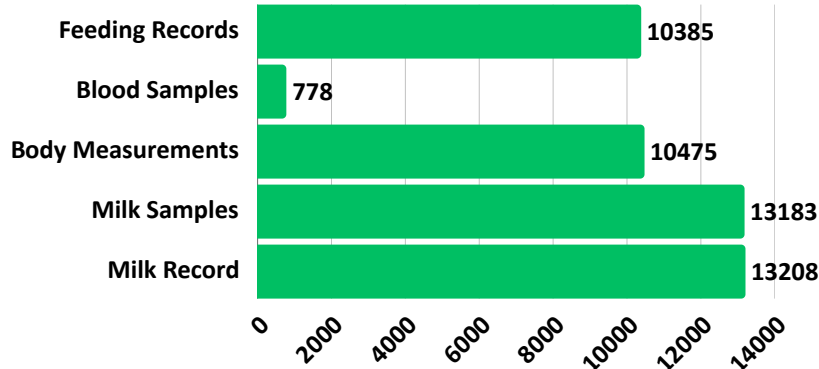
**Location:** Angul and Balangir districts

**Duration:** January 2023 to March 2025

**Major Achievements:** The project focusses on several key activities to achieve its objectives in the livestock sector. These activities include milk sample collection, milk testing, body measurement, analysis of feeding practices, and blood collection programmes. The objectives are to

understand the genotype-environment interaction, establish a platform for genomic selection among crossbreds, implement a multi-breed and multi-trait genomic selection programme for cattle and buffaloes, develop a farmer feedback system, demonstrate and implement a business model, and source potential bull calves for semen production. Overall, the project aims to gather data, improve genetic selection, involve farmers in the feedback process, and showcase a sustainable business model in the livestock sector.

#### Multi - Trait Genomic Selection



### 4. Sustainable Agriculture for Alternative Livelihoods (SAFAL)

**Sponsor:** ArcelorMittal Nippon Steel India Limited

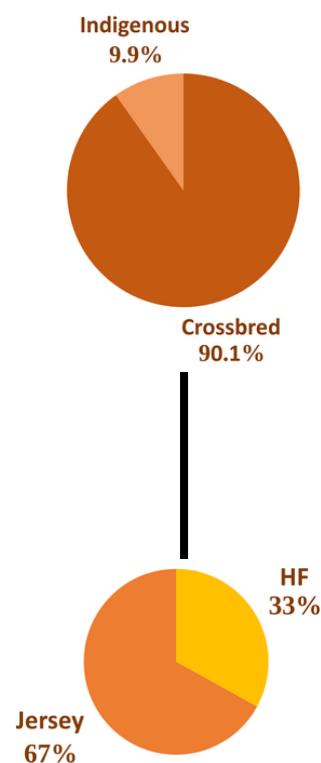
**Location:** Jagatsinghpur district

**Duration:** September 2023 to August 2026

**Major Achievements:** The project aims to cover 12 villages in Kujang block of Jagatsinghpur district, is strengthening livestock-based livelihoods through improved breeding, fodder management, and animal health interventions. Since its launch in September 2023, the project has established one Cattle Development Centre (CDC), covering 500 households.

A total of 235 artificial inseminations were conducted during the year, with 56 female and 30 male calves born. The project also used the sex-sorted semen technology, with 108 doses administered to improve breed quality and female calf ratio. The total estimated value of female calves born during the reporting period stood at ₹3.92 lakh, highlighting the economic potential of improved livestock services introduced under the project.

Four animal health camps were organised, providing treatment to 150 animals and enhancing preventive livestock care in the region. To support feed security and nutritional management, fodder development demonstrations were conducted with 40 farmers, each cultivating plots on a cumulative area of 0.5 acres.



#### Major Outcomes



200 households reached through a fully operational Cattle Development Centre.

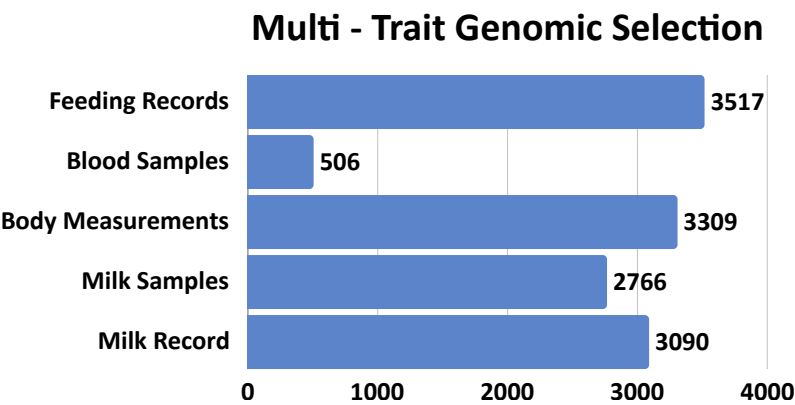
₹3.92 lakh worth of female calves added to the livestock asset base.

150 animals treated through 4 livestock health camps; 40 farmers adopted fodder development on demonstration plots.

5. Breeding Bull Production through Assisted Reproductive Techniques and Genomic Evaluation

**Sponsor:** Directorate of Animal Husbandry and Veterinary Services, Govt. of Odisha  
**Location:** Cuttack and Sambalpur districts  
**Duration:** April 2022 to March 2026

**Major Achievements:** The project initiated the production of breeding bulls using assisted reproductive techniques and genomic evaluation. Demonstrated commitment to enhancing cattle breeding by introducing superior genetics through embryo transfer technology has contributed to the improvement of dairy farming in the region and supported the Government of Odisha's efforts in livestock development.



6. Goat Artificial Insemination Programme

**Sponsor:** Tata-Cornell Institute  
**Location:** Angul district  
**Duration:** January 2023 to June 2024

**Major Achievements:** The programme continued to promote improved goat breeding through scientific practices, benefitting 200 families from 4 villages and covering 2,000 goats this year. With 263 artificial inseminations performed and a conception rate of 42%, the programme successfully recorded the birth of 186 kids through AI and 57 through natural service. Extensive animal health support was provided through 700 dewormings and 5,500 vaccinations, contributing to better flock health and productivity.

7. Mor Jal Mor Maati (MJMM)

**Sponsor:** Bharat Aluminum Company Ltd (BALCO)  
**Location:** Korba district, Chhattisgarh  
**Duration:** August 2024 to March 2028

**Major Achievements:** Under the Mor Jal Mor Maati project, BAIF has continued to implement integrated rural development initiatives in 40 villages of Korba block, with a focus on sustainable agriculture, water management, livestock-based livelihoods, and institutional strengthening. The project aims to benefit 7,000 families through multi-thematic interventions aimed at enhancing rural incomes and ensuring livelihood security. A total of 147 artificial inseminations were conducted. Of these, 118 were performed using conventional semen, while 29 were carried out using sorted semen, marking the introduction of this advanced breeding technique in the region. Two Cattle Development Centres (CDCs) were established in the project area. To enhance goat-rearing livelihoods, 50 families were provided with low-cost goat houses and two goats each, promoting income generation and sustainable livelihood opportunities. Village-level awareness meetings were also organised, where participants were sensitised on goat artificial insemination, fodder cultivation, use of mineral mixtures, and livestock health management, contributing to improved livestock productivity.



## 8. Holistic Cluster Development Programme (HCDP)

**Sponsor:** JSW Foundation

**Location:** Joda and Koira blocks in Keonjhar and Sundargarh districts respectively

**Duration:** November 2021 to October 2024

**Major Achievements:** The programme implemented in Joda and Koira blocks of Keonjhar and Sundargarh districts, has made significant strides in improving livestock-based livelihoods. A total of 277 artificial inseminations (AI) in cattle were successfully conducted using both conventional and sex-sorted semen, resulting in 49 calves and projecting an incremental income of ₹31.86 lakh from enhanced milk production over the next 2.5 years. The goat development component, which included 127 successful goat AIs and



targeted support to 20 women-headed households has strengthened alternate income avenues while promoting breed conservation. Animal Health Camps organised in eight villages treated 592 animals, directly benefitting 172 families with better animal husbandry practices. Furthermore, the introduction of nine Super Napier fodder plots has ensured a sustainable green fodder supply, benefitting 30 cattle and helping reduce feeding costs while improving livestock nutrition.

### Major Outcomes



**277 cattle AIs led to a projected increase of 1.06 lakh litres in annual milk yield and an estimated income gain of ₹31.86 lakh over the next 2.5 years.**

**592 animals were treated across 8 health camps, resulting in improved livestock health and reduced mortality risks for 172 rural households.**

**9 Super Napier fodder plots established, ensuring round-the-year green fodder availability for 30 cattle, reducing external input dependence.**

## 9. Basudha

**Sponsor:** Hindalco Industries Ltd.

**Location:** Sambalpur district, Odisha

**Duration:** July 2024 to June 2027

**Major Achievements:** The project aimed to improve dairy and goat-based livelihoods through strategic breed improvement, better nutrition, animal healthcare, and support infrastructure. A dedicated Cattle Development Centre (CDC) was established to deliver doorstep services including artificial insemination (AI), pregnancy diagnosis, calf care, and animal health support. So far, 16 AI procedures have been carried out, with 3 confirmed pregnancies and a high potential for improved milk yield through sex-sorted semen.

To reduce drudgery and promote clean milk production, 20 cow mats, 4 chaff cutters, and 20 feeding troughs were supported, helping improve hygiene, nutrition, and efficiency in cattle management. Alongside, 200 cattle were dewormed and provided with mineral mixtures, significantly improving their productivity and health. Green fodder promotion activities supported 20 farmers with Hybrid Napier, maize seeds, and Azolla beds, expected to reduce feed costs by 25–40% and increase milk yield by up to 20%.

Low cost goat sheds (eight) were constructed and five goat rearing units (each with 4 female goats of Black Bengal and Ganjam breeds) were provided to poor families. Additionally, five families were supported with Jersey crossbreed calves, with a potential to yield 8–10 litres of milk per day after maturity.

## Major Outcomes



20 cow mats, 4 chaff cutters, and 20 feeding troughs distributed—enhancing hygiene, reducing labour, and improving productivity.

200 cattle provided with mineral mixtures and deworming; 20 farmers supported with Hybrid Napier, maize seeds, and Azolla for green fodder cultivation.

3 health camps treated over 900 cattle, improving animal health, reducing mortality by 15–20%, and cutting down emergency veterinary expenses.

## 10. Comprehensive Community Development Programme - Utthan

**Sponsor:** Mahanadi Coalfields Limited

**Location:** Angul, Jharsuguda, Sambalpur and Sundargarh districts

**Duration:** May 2019 to October 2024

**Major Achievements:** The project spans 40 villages across 4 districts. A total of 700 households benefitted from the livestock development initiatives, anchored by four Cattle Development Centres (CDCs) which are functioning smoothly. Artificial insemination (AI) services have been a core component, with 2,210 conventional and 1,597 sex-sorted semen procedures performed cumulatively, leading to the birth of 519 female and 318 male calves. Fodder availability was improved through demonstrations covering 472 farmers, introducing high-yielding and climate-resilient

varieties such as Hybrid Napier, berseem, oat, maize, azolla, and spineless cactus. The programme also diversified into small ruminants, with goat AI services rolled out in 35 villages, resulting in 110 procedures. Health services were strengthened through five livestock health camps, treating 147 animals. The integrated approach has contributed to improved milk productivity, livestock health, and increased economic returns for rural households.



## 11. Dairy Development Activity (DDA)

**Sponsor:** NABARD

**Location:** Ganjam district

**Duration:** April 2024 to March 2025

**Major Achievements:** The project was initiated in April 2024 to strengthen livestock-based livelihoods across nine blocks and 28 villages. A total of 78 participant families have been supported through the induction of 94 crossbred cows, aligned with the goal of improving dairy income in the region.

To enhance technical knowledge and on-ground capacity, six dairy management training sessions were conducted, benefitting 52 farmers with practical insights into livestock care, feeding, hygiene, and milk management. Milk production has increased by 940 litres, and families are experiencing a monthly income boost of ₹12,000 per household. Additionally, 22 progressive farmers have received support in the form of dairy equipment, seeds, feed, and cattle, setting a strong foundation for scalable dairy-based income generation in Ganjam.

## Major Outcomes



52 farmers trained through six capacity building sessions on dairy management and best practices.

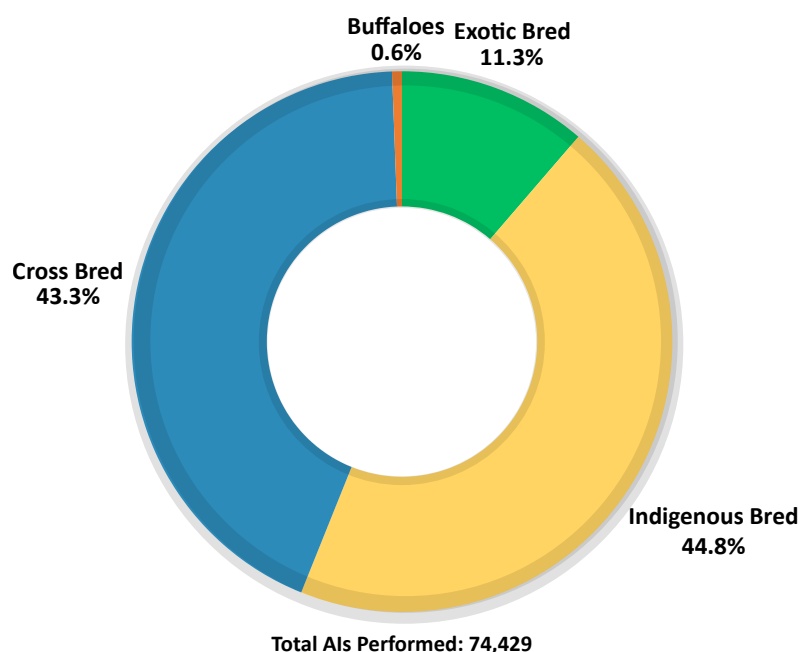
Milk production increased by 940 litres, with an average income rise of ₹12,000/month per family.



## Overview of Livestock Development Programme in Odisha & Chhattisgarh

**Major Achievements:** A total of 91 Cattle Development Centres (CDCs) were actively operational during the reporting period, offering doorstep artificial insemination (AI), breed improvement, and calf care services.

Through these CDCs, 74,429 AI procedures were successfully performed, marking a substantial increase in breed improvement outreach across the four districts. These efforts resulted in the birth of 23,311 calves, of which 11,889 were male and 11,422 were female.



**Total Calves Born: 23,311**

## B. Water-centric Livelihoods

Water-centric livelihoods in rural areas are crucial for community well-being, providing essential income and food security. Activities like agriculture, aquaculture and small-scale irrigation rely on sustainable water management. Effective practices such as rainwater harvesting and efficient irrigation boost productivity and resilience against environmental challenges. These initiatives foster community cooperation, ensuring long-term water availability and ecological balance. By focussing on water-centric livelihoods, rural communities can achieve economic stability, environmental sustainability and improved quality of life.

### 1. Mor Jal Mor Maati (MJMM)

**Major Achievements:** The project focussed on building water resilience and promoting sustainable agriculture through integrated water resource development. A total of 25 farm ponds were constructed, creating a harvesting potential of 20,475 cubic metres. In addition, desiltation of a community pond restored 4,447.35 cubic metres of storage capacity, enhancing water availability for agriculture and fish farming.

To further strengthen irrigation efficiency, two ponds were lined, securing 3,572 cubic metres of water for extended use. Forty-seven farmers adopted portable solar lift irrigation systems, reducing fuel costs and promoting clean energy, while 70 farmers were equipped with micro-irrigation systems, improving water use efficiency and increasing cropping intensity. Collectively, these interventions will create 28,494 cubic metres of additional water storage capacity and ensure improved irrigation for at least 115 acres of farmland.

In parallel, pisciculture was introduced as a complementary livelihood, with support provided to 10 farmers across 6 villages. They were provided with Rohu and Catla fish seeds along with inputs like netting, training, and livelihood support to promote fish-based income opportunities.



### Major Outcomes



**4,447 m<sup>3</sup> of Water Storage Restored via community pond desiltation, enabling year-round crop planning and fishery promotion.**

**28,494 m<sup>3</sup> Additional Water Storage Capacity created across all interventions, improving irrigation access for 115 acres.**

**47 Farmers Adopted Solar Lift Irrigation, saving up to 50% on fuel costs and enhancing crop yield through green energy use.**

## 2. Basudha

**Major Achievements:** The project initiated inland fish farming interventions in the Hirakud region of Sambalpur district to enhance water-centric livelihoods. In November 2024, five progressive farmers were selected and supported with the provision of approximately 2,400 quality fingerlings each, comprising Rohu, Catla, and Mrigal species. To enable sustainable production, feed support and fishing nets were also supported, complemented by hands-on training on scientific fish rearing practices. This initiative aims to harness underutilised water bodies for livelihood enhancement, with each pond expected to yield 500–600 kg of fish annually. The projected income of ₹70,000–80,000 per farmer per year not only supports household income but also encourages the adoption of integrated, water-based livelihood models in the region.



## 3. Holistic Cluster Development Programme (HCDP)

Sponsor: JSW Foundation

Location: Joda and Koira blocks in Keonjhar and Sundargarh districts respectively

Duration: November 2021 to October 2024

**Major Achievements:** The project covers 17 villages in the mining areas of JSW Steel in Keonjhar and Sundargarh districts and aims to improve water resources. During the project period, 16 farm ponds were constructed, creating a rainwater harvesting potential of over 10 TCM and bringing 16.06 acres of land under irrigation. These ponds have ensured reliable water availability for protective irrigation, enabling participating farmers to grow additional crops and increase their annual income by ₹22,500 per person.

To further enhance water retention and soil productivity, field bunding was undertaken across 247.11 acres, supporting erosion control and nutrient retention for 40 farmers. In parallel, 10 solar lift irrigation systems were installed,



offering year-round, cost-effective water access to 10 farmers while saving ₹12,500 annually per farmer in fuel costs. Increased irrigational efficiency was also achieved through the distribution of 48 water lifting devices, benefitting 48 farmers and enabling irrigation over 35.83 acres. Additionally, 20 drip/micro-irrigation units were adopted, covering 5 acres and improving water use efficiency by up to 35% compared to conventional methods. These combined efforts have strengthened climate-resilient farming, reduced dependency on rainfall, and diversified incomes for smallholder farmers across the region.



#### Major Outcomes



**16 farm ponds were constructed, creating a rainwater harvesting potential of 10 TCM and bringing 16 acres of land under irrigation.**

**48 water lifting devices installed, covering 35.8 acres, enabling cropping during Kharif and Rabi seasons.**

**10 solar lift irrigation systems ensured year-round irrigation, saving ₹12,500 per farmer annually in energy costs.**

#### 4. Comprehensive Community Development Programme-Utthan

**Major Achievements:** The project is being implemented in 40 villages of Jharsuguda, Sundargarh, Sambalpur, and Angul districts, enhancing sustainable water use and agricultural livelihoods. This year, the project expanded its reach to 292 households, with focussed efforts on improving irrigation infrastructure, promoting micro-irrigation, and enhancing climate resilience. A cumulative 40 lakh litres of water harvesting potential has been created through the construction of 46 lined farm ponds, complemented by the renovation of 84 wells. A total of 181 water lifting devices and 450 micro-irrigation units have been distributed so far, enabling efficient water application across 114.90 acres, now fully under irrigation.



The project also encouraged sustainable agriculture through Integrated Vegetable Clusters (IVC), benefitting 1,793 households cumulatively, while promoting the cultivation of diverse seasonal crops such as paddy, bitter gourd, cucumber, and pumpkin. In FY 2024–25 alone, 779 families participated in vegetable cultivation-based livelihoods. The interventions led to a 150% increase in cropping intensity, and an average income rise of ₹20,000 per family, along with reduced carbon emissions (approx. 76.8 tons of CO<sub>2</sub>) through the use of 14 solar-powered irrigation units generating nearly 70,000 kWh/year of clean energy. The adoption of trellis farming and soil-moisture conservation through farm bund-cum-trench work (over 247 acres) further strengthened the project's sustainability goals.

#### Major Outcomes



**40 lakh litres of water harvesting capacity created and 84 wells renovated, supporting long-term water availability for farming.**

**115 acres brought under irrigation, with 450 micro-irrigation units and 181 water lifting devices distributed.**

**Clean energy innovations like 14 solar-powered irrigation units reduced carbon emissions by 76.8 tons CO<sub>2</sub>/year, generating 70,000 kWh of green energy.**

### 3. Sustainable Agriculture for Alternative Livelihoods (SAFAL)

**Major Achievements:** With a focus on enhancing irrigation access and promoting sustainable agriculture, two farm ponds were constructed, creating a water harvesting capacity of 980 cubic metres. Additionally, 25 water lifting devices were distributed to local farmers, enabling efficient utilisation of water resources for crop cultivation.

The project actively supported horticulture and vegetable-based farming to improve household nutrition and income. A total of 124 households adopted vegetable cultivation, growing crops such as cauliflower, cabbage, bitter melon, and ridge melon. To maximise vertical space and improve yields, 50 households implemented trellis farming for vegetables like bitter melon, ridge melon, and cucumber. Further, 20 households initiated high-value papaya cultivation, marking a shift toward diversified and market-oriented farming. These efforts have collectively contributed to improved water management and sustainable agricultural livelihoods in the project villages.

#### A Pond of Possibilities – How One Intervention Transformed Farming in Paradeep

Mr. Pradeep Panda, a smallholder farmer from Chakradharpur village in Jagatsinghpur, struggled with seasonal water shortages, limiting his income from paddy and green gram to around ₹70,000 annually. Under the SAFAL project, a farm pond with 490 m<sup>3</sup> capacity was constructed on his land in October 2024.

The pond has ensured year-round irrigation, allowing him to improve crop productivity and plan for vegetable cultivation on the pond embankments. He also introduced fish farming by releasing 300 fingerlings, opening up a second income stream.

Six neighbouring farmers now access water from the same pond, enabling rabi cultivation with protective irrigation facility available. This intervention has improved soil fertility, reduced rainfall dependency, and expanded livelihood options for him and his community, demonstrating how a single farm pond can drive sustainable, multi-layered impact in rural farming systems.



### 4. Focussed Rural Development Programme (FRDP)

**Sponsor:** HDFC Bank

**Location:** Jujomura, Naktideul and Rairakhol blocks of Sambalpur district of Odisha

**Duration:** January 2022 to December 2024

**Major Achievements:** The focussed Rural Development programme (FRDP), supported by HDFC Bank and implemented across the blocks of Jujomura, Rairakhol, and Naktideul in Sambalpur district, continues to prioritise water-centric livelihoods as a pathway to rural resilience. In the reporting period, 286 farm ponds were constructed, significantly enhancing the region's capacity for rainwater harvesting and enabling irrigation even during dry spells. A total of 355 water lifting devices were distributed to facilitate efficient use of harvested water. Additionally, the repairment of 185 wells played a critical role in improving water access, reducing drudgery, and promoting hygiene at the household level.

The programme also introduced 25 micro-irrigation units, including drip and sprinkler systems, to improve water use efficiency in farming. 50 solar-powered irrigation units were installed, aligning with sustainable energy goals and ensuring uninterrupted access to irrigation without reliance on conventional power sources.

#### Major Outcomes

**286 farm ponds constructed, and 355 water lifting devices distributed.**

**50 solar-powered irrigation units and 25 micro-irrigation systems installed, promoting sustainable, energy-efficient, and climate-resilient farming practices.**



*"Sustainability is no longer about doing less harm. It's about doing more good." — Jochen Zeitz*

## C. Farm-based Livelihoods

### 1. Livelihood Enhancement through Orchard Plantation

**Sponsor:** Deputy Director of Horticulture (DDH)-Keonjhar

**Location:** Champua block, Keonjhar district of Odisha

**Duration:** September 2023 to July 2027

**Major Achievements:** The initiative expanded to 93.4 acres, with 6 new *Wadis* established this year, benefitting 83 participant families across 6 villages. The orchards comprise of fruit trees such as mango, cashew, apple ber, and pomegranate, chosen for their high market demand and agro-climatic suitability. While all *Wadis* are in their first year and yet to reach harvest stage, farmers have been actively engaged in maintaining the plantations through weeding, mulching, watering, and fencing, with continuous field monitoring and technical support from the project team.

To provide short-term income support while the orchards mature, intercropping support was extended for turmeric cultivation over approximately 19.8 acres, with input assistance provided to all 83 farmers by the Horticulture Department.

#### Major Outcomes



93.4 acres brought under orchard plantation, with 6 new *Wadis* established this year.

83 small and marginal farmers from 6 villages supported with fruit tree plantation and ongoing orchard maintenance.

### 2. Focussed Rural Development Programme (FRDP)

**Major Achievements:** The project spans three blocks in Sambalpur district. With a focus on the water-energy-livelihood nexus, the programme has brought 268 acres of underutilised land under agri-horti-forestry development, promoting climate-resilient fruit and intercrop cultivation.

This year, 22,500 fruit trees were maintained across these plots, with mango emerging as the dominant

species. Farmers adopted leguminous intercropping practices such as green gram and black gram, promoting soil health and short-cycle income generation. Additionally, 18 millet intercropping plots were supported to enhance food and nutritional security. The initiative has not only enabled diversification but also led to an average additional income of ₹15,000 per family, reinforcing the long-term value of integrated land use planning and sustainable farming on marginal lands.



#### Major Outcomes



268 acres under *Wadi* development, supporting long-term fruit and intercrop cultivation across three blocks.

Participating families earned an average additional income of ₹15,000 through *trellis* farming.



### Journey of Change: From Barren Land to Productive Orchard

Shri. Rajkumar Munda, a dedicated member of the Maa Andhari Village Development Committee in Bidyadharpur village, transformed his 4-acre barren land into a productive cashew orchard through BAIF's orchard-based livelihood initiative. With active participation in trainings and village-level meetings, and under the continuous guidance of the project team, he adopted the *Wadi* model with scientific land preparation, fencing, and high-density cashew plantation. Key interventions including income support through MGNREGA convergence, expert-designed field layout, intercropping support, and technical training ensured a strong foundation for sustainable livelihood. Though still in its first year, the orchard is expected to yield over ₹6 lakh annually by the tenth year, offering long-term income security.

His proactive efforts have become a source of inspiration in his community, showcasing how scientific planning, capacity building, and institutional support can reclaim unproductive land and drive sustainable rural transformation.



### 3. Mor Jal Mor Maati (MJMM)

**Major Achievements:** The project aims to develop 250 *Wadis* by converting 125 acres of underutilised land into productive fruit orchards. Approximately 12,000 mango saplings will be planted across 40 village clusters, laying the foundation for long-term sustainable livelihoods. The project is encouraging farmers to adopt intercropping alongside orchard plantations, enabling sustainable source of income. In parallel, support was extended to nine existing *Wadis* across six locations under the project's revival component. These *Wadis* were rejuvenated through focussed training, input support, and fencing material to ensure their long-term sustainability.

### 4. Comprehensive Community Development Programme - Utthan

**Major Achievements:** Under the project, a total of 244 *Wadis* have been developed, covering 122 acres, with mango and cashew as the primary fruit crops. Existing plantations have matured significantly, with 95% of the orchards (over three years old) now bearing fruit. Farmers earned an estimated ₹6.8 lakh from harvesting 20 tonnes of mango during the year. Intercropping and millet cultivation continued across the orchards, offering an additional annual income of ₹35,000 per family. The project's integrated approach to fruit tree cultivation and intercropping has led to greater income security and enhanced land productivity for participating families.



#### Major Outcomes

244 *Wadis* established over 122 acres, with mango and cashew as key fruit crops.

20 tonnes of mango harvested in 2024–25, generating ₹6.8 lakh in revenue.

95% of plantations are now fruit-bearing, showing strong survival and growth.



## D. Rural Non-Farm Sector Livelihoods

Rural non-farm sector-based livelihoods encompass economic activities in rural areas beyond agriculture, forestry and fisheries, crucial for economic diversification, poverty reduction and rural development. By offering alternative income sources, livelihood opportunities, the non-farm sector improves living standards and reduces dependency on agriculture. The specific projects with RNFS component and their contribution to the RNF Sector are detailed below.

### 1. FRDP, SAFAL, HCDP, CCDP, MJMM, and BASUDHA

**Major Achievements:** Across various projects under the Rural Non-Farm Livelihoods (RNFL) component, the projects successfully expanded income generating opportunities beyond agriculture, reaching 576 households. Key interventions included mushroom cultivation, backyard poultry, low-cost goat housing, paper plate production, badi-making, nurseries, and flour mills. These activities, implemented through both individual and group-level models, significantly improved income resilience, especially among landless and marginal farmers. Backyard poultry emerged as a prominent livelihood option, with over 170 new poultry houses established this year across MJMM, CCDP, BASUDHA, and HCDP projects, supporting women and smallholder farmers with regular income and nutritional security. Mushroom farming was actively promoted under FRDP, SAFAL, and HCDP, with over 80 units supported and essential training and materials provided. Low-cost goat housing and the development of nurseries, equipment banks, and enterprise clusters further bolstered rural entrepreneurship. On an average, RNF participants earned ₹10,000–₹18,000 annually, with many women entrepreneurs stepping into independent income-generating roles.



Goat House



Backyard Poultry



Mushroom Harvesting

### Gajalaxmi Enterprise's Journey in Value Addition

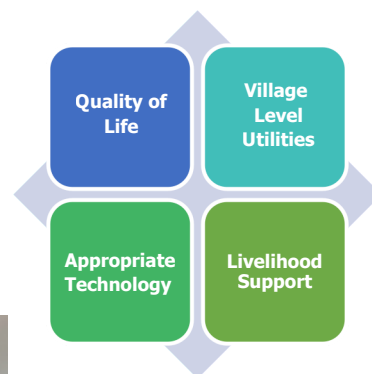
Formed in 2016 by 12 women from Jujomura block in Sambalpur, Odisha, Gajalaxmi Enterprise marked a turning point in rural entrepreneurship. In 2024, with support from BAIF under the focussed Rural Development programme, the group transitioned from individual ventures to a structured Vegetable Value Addition Enterprise.

Equipped with training in machine operation, branding, and record keeping, the members began processing raw produce into market-ready products. Within 2–3 months, they generated ₹11,000 in income, followed by ₹10,000 in direct sales at the District Agriculture Festival in December 2024. Recognised by local authorities for their achievements, Gajalaxmi Enterprise is now scaling its presence by fulfilling orders from nearby villages. Their journey reflects the power of skill building, collective action, and sustainable enterprise, serving as a model of empowerment and economic self-reliance for women across the region.



## E. Samruddha Gram (Holistic Village Development)

The concept of “*Samruddha Gram*” (Prosperous village or Model village) aims at providing sustainable livelihoods to target families and improving their quality of life through household and village-level initiatives that enhance overall living standards in the village. The thematic areas of water management and improved agriculture primarily focussed on livelihoods, and the initiatives planned for developing a model village included health, sanitation, empowerment, enterprise development, clean energy, education, functional literacy, digitalisation, and common utilities, all of which are aligned with national priorities.



### 1. Livelihood Enhancement through Self-employment

**Sponsor:** Charity for Goodness Foundation

**Location:** Gajapati district, Odisha

**Duration:** September 2023 to September 2024

**Major Achievements:** The initiative aimed at holistic rural transformation through a range of household and village-level interventions focussed on livelihoods, health, hygiene, energy access, and empowerment. Extensive capacity building efforts included training programmes on mushroom cultivation, beekeeping, tailoring, and fish farming, equipping over 85 participants with sustainable income generation skills.

Vegetable cultivation was actively promoted, benefitting 19 families and generating nearly ₹40,000 in seasonal income. In addition, 8,000 fish seeds and necessary equipment were distributed, enabling 10 families to earn close to ₹39,000 through aquaculture. Health and hygiene were also prioritised — a mega human health camp provided medical care to 254 villagers, while 80 women received sanitary pad kits and awareness training on menstrual hygiene. For livestock wellbeing, 30 farmers benefitted from free veterinary check-ups in animal health camps. Furthermore, seven solar streetlights were installed across all four villages, significantly improving safety and mobility during nighttime.



#### Major Outcomes

85+ individuals trained in mushroom cultivation, beekeeping, tailoring, and fish farming.

Mega health camp reached 254 individuals with free diagnosis, treatment, and medicines, while 80 women received sanitary pads and menstrual hygiene training.





### Self-Employment Training Leads to Rural Livelihood Improvement

Mr. Eliya Mandol, a 35-year-old farmer from Kintesingh village in Gajapati district, had long depended on seasonal paddy farming to support his family of five. With limited income and no alternate livelihood, financial stability remained a challenge.

In January 2024, BAIF introduced him to the potential of mushroom cultivation and encouraged him to participate in a 10-day training at RSETI, Paralakhemundi. Post-training, he established a mushroom shed with 50 beds using materials provided free of cost by BAIF. Within just 10 days, he harvested 30 kg of mushrooms and earned ₹7,200 from his first sale. Encouraged by the high returns and low investment, he scaled up his efforts and began harvesting 60 to 70 kg of mushrooms twice a month.

Over a three-month period, he earned ₹14,000 through mushroom cultivation, with a minimal expenditure of ₹2,500—achieving a net profit of ₹11,500. The impact has been transformative.

What was once a single-income household now enjoys a reliable, supplementary income source that supports their daily needs. Mushroom farming has also given a boost to his confidence to explore new livelihood avenues. With the support of his wife and the active involvement of his family, he is now planning to expand production.



## 2. CLIMATE ACTION PROGRAMME

The Climate Action Programme is designed to address the urgent need for sustainable solutions to combat climate change. This initiative focusses on reducing greenhouse gas emissions, promoting renewable energy and enhancing community resilience through education and innovative practices. By engaging individuals, businesses and governments in proactive measures, the programme aims to foster a healthier planet and ensure a sustainable future for generations to come. Specific interventions and packages promoted are highlighted and explained in the following sections.

### A. Climate Change Adaptation and Mitigation Strategies

#### 1. CCDP, HCDP, SAFAL, FRDP, MJMM, BASUDHA

**Major Achievements:** The programmes integrated agroforestry, renewable energy, water use efficiency, and GHG-reducing technologies into rural livelihoods to mainstream climate action. The agri-horti-forestry expanded significantly, covering over 568 acres, promoting biodiversity, carbon sequestration, and enhanced farm incomes. These sustainable land-use practices contribute approximately 8 tonnes of CO<sub>2</sub> sequestration per acre.



Energy-efficient irrigation solutions were upscaled with the installation of 16 new group-based solar pumps, and 46 individual solar units (0.5 HP each), promoting clean energy adoption and reducing diesel dependence. This green energy initiative generated an estimated 70,000 kWh annually.

Over 1,000 solar insect traps were introduced, drastically reducing pesticide use and improving soil health. These traps, with a lifespan of 4–5 years, are expected to save ₹2,000 per acre each season. Additionally, vermi beds were distributed to 100 farmers to promote organic soil enrichment, improving fertility and reducing synthetic inputs.

Through sustained engagement and demonstration plots, farmers were trained in soil health management, natural farming, green manuring (azolla), and sustainable crop cycles, ensuring enhanced resilience to climate variability.

Cultivating seasonal and perennial fodder enhances ecosystem resilience, reduces erosion, and sequesters carbon. These practices bolster agricultural productivity, livelihoods, and environmental sustainability amidst climate challenges. A total of 355 fodder demonstration plots have been covered so far.

Sex-sorted semen technology reduces GHG emissions by optimizing herd size, leading to less dung production and rumination, and thus lower methane emissions. This technology contributes to the dairy sector through the rapid multiplication of female calves.

Over 500 micro-irrigation systems have been installed, which reduce water usage and enhance crop productivity by delivering precise amounts of water directly to plant roots. This technology minimizes evaporation and runoff, conserving water resources and promoting sustainable agricultural practices and climate resilience.



## B. Climate-Smart Agriculture

### 1. CCDP, HCDP, SAFAL, FRDP, MJMM, BASUDHA

**Major Achievements:** To ensure agricultural sustainability, several innovative and resource-efficient techniques were introduced and scaled up.

- Trellis farming emerged as a key intervention, allowing climber vegetables like bottle gourd and long beans to thrive with better sunlight exposure, pest control, and minimal land usage.
- Polyhouse farming was promoted, with six polyhouses established to enable year-round cultivation of high-value crops like tomato and chilli.
- Improved vegetable cultivation benefitted over 1,000 farmers, covering crops like potato, tomato, brinjal, and okra. High-value horticulture models were piloted, including banana and papaya plantations, with convergence from horticulture departments.
- Paddy diversification and improved cultivation practices (including Rabi and Kharif seasons) reached more than 1,000 farmers, demonstrating yield increase and significant cost savings. Interventions also included distribution of spray pumps, biofertilisers, and nano urea, reducing labour and chemical costs.



- Nutrition Gardens were established with 50 households to promote balanced food intake. This initiative supported vegetable, fruit, and herbal diversity, and helped families save ₹6,000–₹8,000 annually on food expenses while enhancing women's participation in homestead farming.
- Climate-resilient agriculture was supported through the introduction of drought-, flood-, and saline-resilient paddy varieties, alongside improved millet-based farming systems. 200 acres of paddy were brought under Integrated Pest and Nutrient Management (IPM/INM), with yield increase, reduced chemical input, and lower cultivation costs.

Across projects, over 150 farmers adopted climate-smart agriculture practices through structured capacity building and demonstration-based extension. These integrated efforts continue to position climate-smart agriculture as a core strategy for achieving resilient rural livelihoods.

### Growing More with Less: Boosting Paddy Yields

In Paradeep, Jagatsinghpur district, the SAFAL project, implemented by BAIF with support from AM/NS India, has empowered 200 farmers across 10 villages to significantly improve their paddy productivity through scientific cultivation. With access to high-yielding seed varieties, organic seed treatments, fertilisers, and essential tools, farmers adopted improved package of practices. These interventions resulted in a remarkable 9.04% increase in yield, from 10 to 15 quintals per acre. With the market price of paddy at ₹20 per kg, farmers cultivating just 0.5 acres have seen their annual income grow by ₹40,000. The project also strengthened market linkages, enabling farmers to sell their produce through APMC markets and local rice mills. Building on this success, SAFAL plans to promote crop diversification, farmer collectives, improved irrigation, and training on integrated and organic practices, ensuring sustainable agricultural growth and long-term rural prosperity in coastal Odisha.



## C. Agrobiodiversity Conservation

### 1. Use & Conservation of Agrobiodiversity for Food and Nutrition Project

**Sponsor:** Bioversity International

**Location:** Hatibari block of Sambalpur district

**Duration:** March 2023 to June 2025

**Major Achievements:** This project promotes the in-situ conservation and sustainable use of indigenous crop varieties to strengthen community-led food and nutrition security in tribal regions of Sambalpur. Through participatory trials and seed saving initiatives, the project has supported the revival of local agrobiodiversity and empowered farming communities to preserve their traditional agricultural heritage.



During the year, the project engaged 212 tribal families across nine villages, establishing eight mother trials and 200 baby trial plots to identify suitable traditional varieties through field-level evaluation. 62 indigenous crop varieties were cultivated and assessed, and 100 nutrition gardens were developed using native seeds to encourage household-level food diversity.

A community seed bank preserving 50 seed varieties across 10 crop species was strengthened, while 77 seed savers were formally identified and encouraged to contribute to local seed conservation efforts. Additionally, four traditional recipes using native crops were documented as part of the knowledge preservation initiative.



### Tradition to Transformation: Santosh Padhan's Journey

Mr. Santosh Padhan, a 52 year-old farmer from Chhamunda village in Jujomura block, Sambalpur, exemplifies how traditional knowledge can drive modern day sustainability. With 30 years of experience and 2.5 acres of land, he conserves seven indigenous seed varieties including paddy types like Kusumkoli, Bagrijhuli, and Kalabati, along with wild vegetables and tubers.

Fully committed to organic farming, Santosh uses bullock ploughs and homemade natural inputs like Brahmastra and Handikhath. Despite challenges such as crop loss due to wild animals and lack of fencing, he remains undeterred, starting mushroom cultivation at home with plans to scale up to 200 beds.

A member of the Burda community seed bank, he actively contributes to conserving native biodiversity. His participation in training programmes and events like the International Millet Festival showcases his dedication to learning and inspiring fellow farmers toward resilient and eco-friendly agriculture.



## D. Renewable Energy

### 1. FRDP, SAFAL, CCDP, MJMM, BASUDHA



**Major Achievements:** Renewable energy is one of the most efficient forms of climate change mitigation. Solar power has its benefits and immediate application in the rural context for energy applications in lifting. This year, solar- and bioenergy-based interventions were scaled up demonstrating their practical applications in irrigation, lighting, cooking, and sustainable farming.

A total of 105 solar pumps (both group-based and individual) were installed across projects, benefitting 167 households and covering 21 of agricultural land. These systems not only improved irrigation access but also reduced farmers' dependence on diesel pumps, resulting in significant fuel cost savings of ₹8,000–10,000 per household per year. Furthermore, 22 IRESA (Integrated Renewable Energy and Sustainable Agriculture) units were installed, promoting efficient use of organic residues and contributing to energy self-sufficiency. Replacing traditional cooking fuels and helping farmers save annually on LPG and on synthetic fertilisers. To improve public infrastructure, solar-powered streetlights were also installed in Kodomal village, Nuapada district.

### 3. CROSS CUTTING PROGRAMMES

#### A. Health and Nutrition

The emphasis under this theme is to synergise efforts to improve overall living standard in each of the villages through inputs in health, hygiene, nutrition, education, literacy, knowledge and awareness. Quality of life activities complement the livelihood generation initiatives and multiply the impact through progression to overall development and well-being.

##### 1. PAANI

**Sponsor:** Jindal India Thermal Power Ltd (JITPL)

**Location:** Kaniha block, Angul district

**Duration:** January 2023 to March 2025

**Major Achievements:** The project has established a total of 29 solar-based gravity-fed water purification units, equipped with sediment and activated carbon filters, installed across 10 villages in 2 Gram Panchayats (Derange and Kaniha) this year. These systems lift water using solar energy and distribute it through overhead tanks and standposts, ensuring uninterrupted clean water access for the beneficiary households.

To ensure sustainability, 29 Water User Groups (WUGs) and 29 Village Level Committees (VLCs) were formed and trained in operation, maintenance, and community ownership of the systems. Awareness programmes and training sessions further enhanced local capacity on water quality, sanitation, and the health benefits of clean water. The project directly benefitted 1,295 individuals, contributed to drudgery reduction among women, and promoted low-carbon development through the use of renewable energy.



##### Major Outcomes



**1,295 individuals gained reliable access to clean drinking water across nine villages.**

**29 solar-powered water systems installed, generating 13,691 kWh of green energy annually and reducing CO<sub>2</sub> emissions by 12.6 tons/year.**

#### Clean Water Transforms Health and Hygiene in Derang Primary School

Derang Primary School, located near Hata Padia in Derang village, Angul district, houses both school and Anganwadi Centre activities with a total of 120 children. Before the intervention, students depended on open wells and tube wells contaminated by fly ash from nearby power plants, especially during the monsoon. As a result, cases of diarrhoea, skin infections, and other waterborne diseases were frequent, severely affecting attendance and well-being.

In 2024, with support from BAIF and JITPL under the Solar-Based Drinking Water Project (SBDWP), a solar-powered filtration system was installed in the school.

The system now provides clean, bacteria-free drinking water 24/7. A Water User Group (WUG) was also formed to ensure regular maintenance, including tank cleaning and repair of taps. Since the time of the installation, incidences of waterborne diseases have drastically reduced, and students no longer need to fetch water from hand pumps or unsafe sources. The school has embraced sustainable hygiene practices, and the availability of safe drinking water has created a healthier learning environment for the school as well as Anganwadi children.



## 2. Comprehensive Community Development programme-Utthan

**Major Achievements:** To enhance health and nutrition outcomes at the grassroots, efforts were made towards improving access to clean drinking water and promoting nutrition-sensitive agriculture. One additional solar-powered drinking water system was installed this year, providing safe water access to 35 households. In total, eight such systems are now operational, collectively benefitting 212 households across the project area.



Hand pump repair activities remained a priority to ensure reliable water access in remote villages. With 86 hand pumps repaired across 38 villages cumulatively, communities are witnessing better sanitation and water availability. Simultaneously, a total of 4,630 kitchen gardens have been promoted so far, supporting families in growing seasonal vegetables, leafy greens, and root crops.

## B. Women in Development

### 1. FRDP, SAFAL, MJMM

**Major Achievements:** Efforts were made towards empowering rural women through the promotion of self-help groups, micro-enterprise development, and skill-building initiatives. 35 Self-Help Groups (SHGs), comprising 271 women, were supported to initiate or strengthen income-generating activities. A total of 47 women-led enterprises have been developed, enabling women to take charge of their livelihoods. Additionally, 13 Producers' Groups were formed with a combined membership of 431 women, facilitating collective decision-making and access to markets.

capacity building efforts remained integral, with entrepreneurship and leadership trainings organised for women. Market linkages were facilitated through platforms like local fairs (e.g., Baliyatra), allowing women to showcase and sell their products.



## C. Capacity Building

Capacity building focusses on information dissemination, knowledge sharing, learning and empowerment of the community to be self-reliant. Various activities like training, exposures, demonstrations, documentation and camps were undertaken. It also helps in keeping the team apprised of emerging developments.



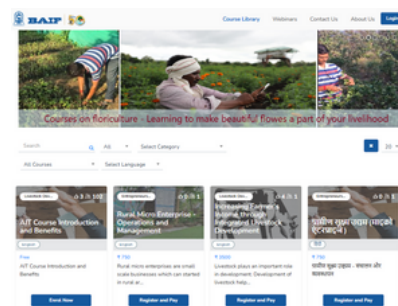


## D. Educational Initiatives

### 1. FRDP, SAFAL, MJMM

#### i. Learning Management System (LMS)

The Learning Management System of BAIF provides short and long-duration courses in agriculture, livestock, natural resource management, community-based development, and enterprise development for the capacity building of farmers, along with webinars. The highest number of enrolments was recorded under Livestock Development, followed by Crop-based Livelihoods. A total of 202 farmers from Odisha and Chhattisgarh participated in LMS courses, leveraging this digital platform for their livelihood enhancement.



#### ii. School Infrastructure Support

In an effort to create inclusive and engaging learning spaces for children, 18 government schools across 4 districts were supported through various interventions, directly benefitting 1,375 students. Holistic development was promoted through the provision of indoor and outdoor sports materials including footballs, cricket sets, carom boards, skipping ropes, volleyballs and other equipment, encouraging physical activity and team spirit.

Study materials such as whiteboards, dusters, markers, and age-appropriate library books were also distributed to enhance classroom learning and literacy. Wall painting activities were undertaken in several schools, transforming dull walls into vibrant visual learning aids and fostering a stimulating educational environment. These initiatives contributed to improving school infrastructure, promoting cleanliness, and enriching the overall learning experience for children.



## D. ICT for Development

### 1. FRDP, SAFAL, MJMM

#### i. Digitalisation

The complete record of Artificial Inseminations conducted in the field is entered into a mobile application-based database management system specifically developed for this purpose. The application is useful for maintaining a record of artificial inseminations, pregnancy diagnoses, calvings, and for monitoring.

#### i. Geo Tagging

This is a simple, authentic document designed to collect and preserve field data for future reference. It captures a photograph of the asset along with its geo-location, including latitude and longitude. This practice helps in maintaining updated records, monitoring, and verification as and when required. It also plays a crucial role in avoiding data duplication.



Website developed and maintained by ICT Group - NDDB Anand.

## 4. DEVELOPMENT RESEARCH

### 1. Performance of Grafted vs. Non-Grafted Brinjal and Tomato

A research study was conducted in Jharsuguda district, Odisha, to evaluate the performance of grafted versus non-grafted brinjal and tomato crops. The trial assessed plant growth, number of pickings, pest and disease incidence, total yield, graft longevity, and economic viability. Grafted plants of both crops showed significantly higher yields and returns. Grafted brinjal recorded a 30.6% higher yield and grafted tomato a 49.4% higher yield compared to their non-grafted counterparts. Graft longevity was also higher in both crops, along with improved cost-benefit ratios.



Crop	Treatment	Plant Height (cm)	No. of Branches	No. of Pickings	Yield (q/ha)	Net Income (₹/ha)	B:C Ratio	Graft Longevity (days)
Brinjal	Non-grafted	130.6	9.2	20	322.8	2,16,550	3.03	155
	Grafted	141.3	13.6	27	421.5	2,90,000	3.2	178
Tomato	Non-grafted	105.6	6.6	22	282.2	1,98,390	2.41	155
	Grafted	98.2	8.9	28	421.7	3,22,140	2.75	178

### 2. Breed Performance: Binjharpuri Cattle vs. Chilika Buffalo

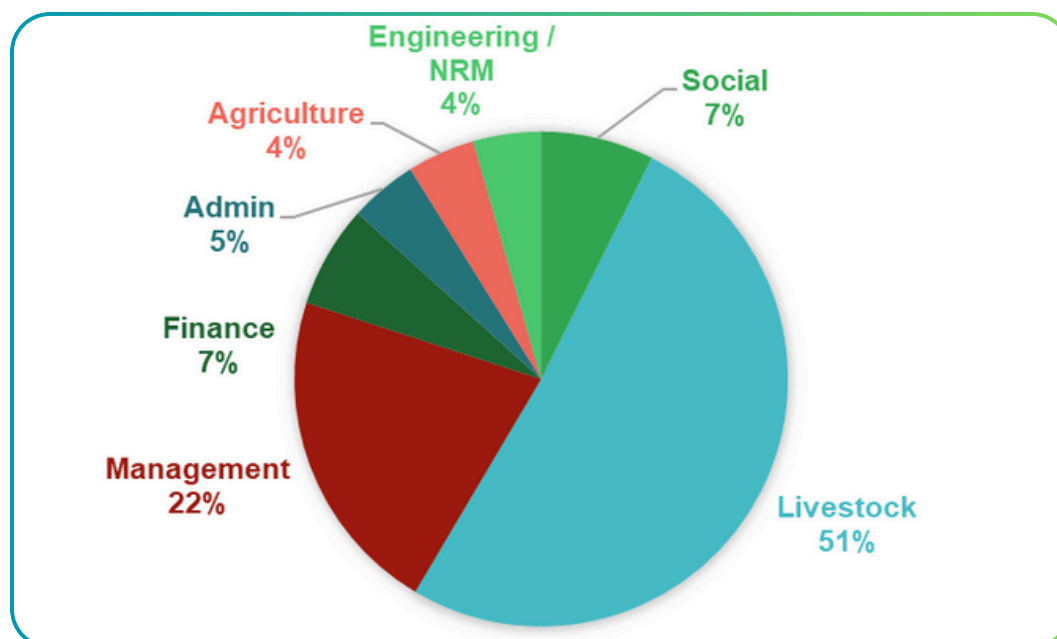
A detailed study was undertaken to document the production and morphometric characteristics of Binjharpuri Cattle and Chilika Buffalo—two indigenous breeds from Odisha. Chilika buffaloes, uniquely adapted to saline wetland environments, are reared in large herds without supplemental feed and are used for milk and curd production. Binjharpuri cattle, reared primarily in Jajpur district, are drought-resistant and valued for their hardiness. Performance data on milk yield, fat, SNF, and body measurements were recorded from over 700 animals. Additionally, blood samples were collected for genotyping to support future breed improvement initiatives. Ganjam and Jajpur districts served as key research sites under the Odisha Bull Production Project.

Trait	Binjharpuri Cattle	Chilika Buffalo
Animals Registered	319	336
Farmers Covered	289	26
Avg. Daily Milk Yield (L/day)	2.70 ± 1.17	3.79 ± 1.29
Avg. Milk Fat (%)	5.23 ± 1.94	9.09 ± 1.48
Avg. SNF (%)	7.75 ± 1.47	9.80 ± 0.50
Avg. Body Length (cm)	251.26 ± 38.88	443.68 ± 87.08
Avg. Herd Size (milking)	—	12.92
Blood Samples Collected	353	193
Qualified for Genotyping	109	140
Genotype Success (so far)	14	34



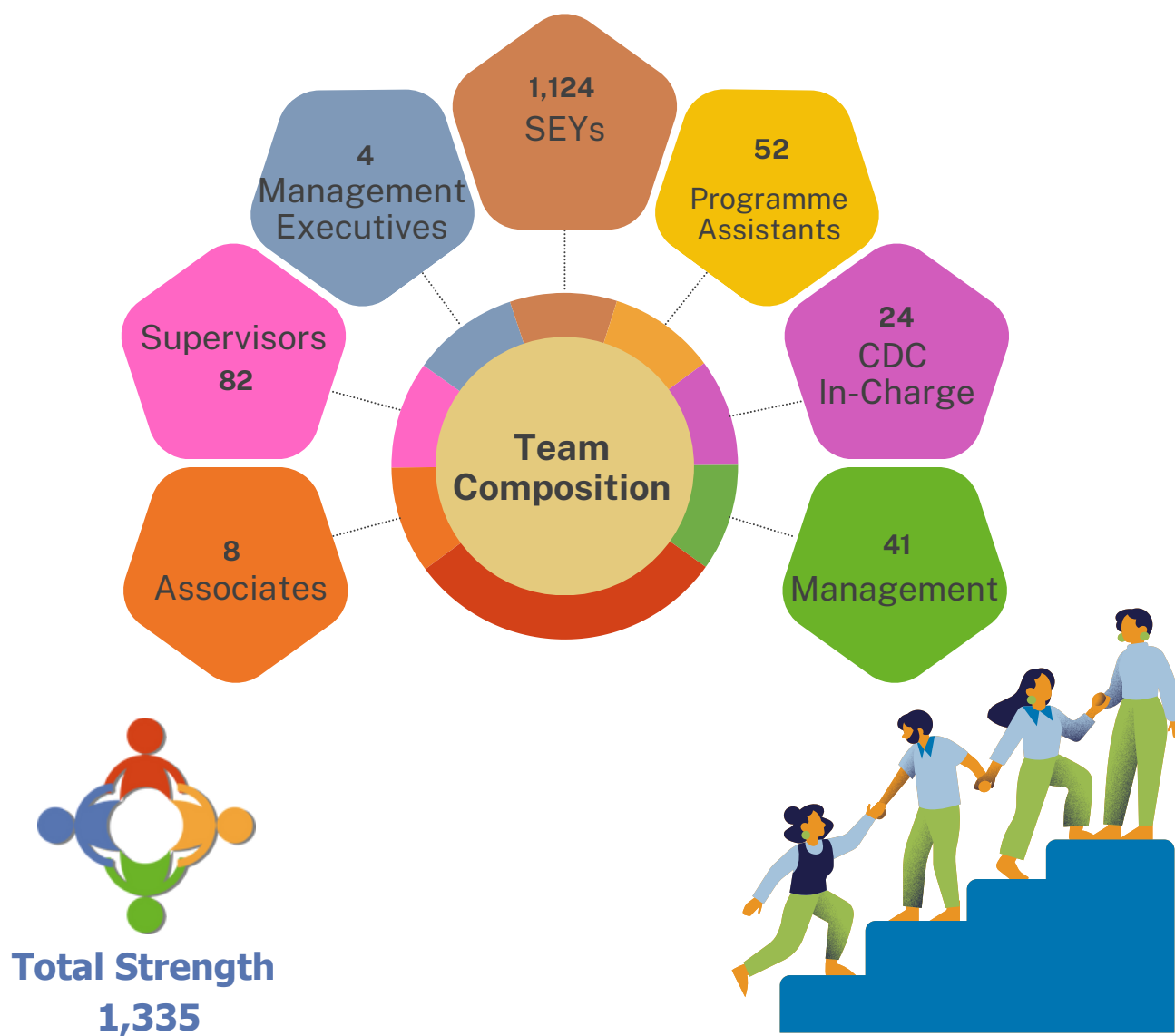
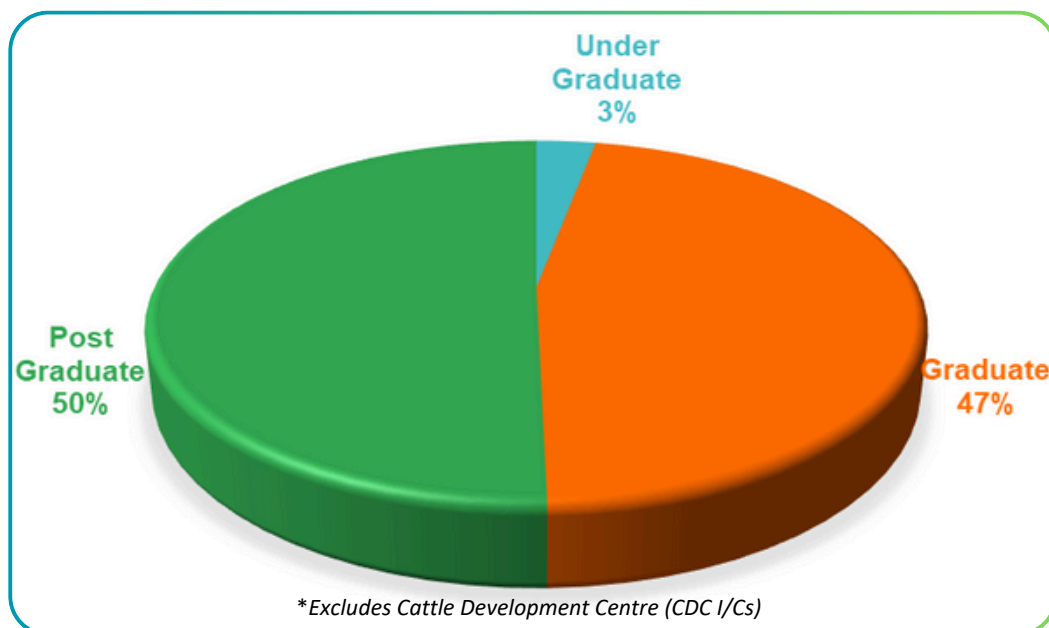
## 5. HUMAN RESOURCES

### FUNCTIONAL EXPERTISE\*





## Educational Background\*



## HIGHLIGHTS

### BAIF's Participation in COP29



As a UNFCCC accredited Observer Organisation at COP29, a five-member delegation from BAIF attended the summit at Baku, Azerbaijan. The delegation, as invited speakers in various events, could share successful models for replication, and explore opportunities for collaboration in climate actions. BAIF jointly organised a UNFCCC official Side Event with International Livestock Research Institute (ILRI), European Dairy Association (EDA), International Dairy Federation (IDF) and International Development Research Centre (IDRC) and hosted two sessions at the thematic pavilion.

### BAIF's Participation in UNCBD COP16



As a UNCBD accredited Observer Organisation at COP16, a two-member delegation from BAIF attended the summit at Cali, Columbia and presented BAIF's experience in agrobiodiversity conservation and nature-based solutions.

### Gopal Ratna Award 2024



Shri. Bhaskar Padhan, BAIF AIT from Odisha received the National Gopal Ratna Award (1st position) under the Best AIT category, from Shri. Rajiv Ranjan Singh, Hon'ble Union Minister of Fisheries, Animal Husbandry & Dairying, Govt. of India on 26 November 2024 (National Milk Day). He received the award at the hands of Mr. Suresh Kumar Vashishth, Secretary, Department of Animal Husbandry & Veterinary Services in Bangalore. He was also felicitated by Dr. Bharat Kakade, President, BAIF, at a ceremony held at the Head Office of BAIF in Pune. BAIF AITs from the State have bagged this Award for the 3rd consecutive time.

## 6. PARTNERSHIPS

### SPONSORS

Odisha Livestock Resources Development Society

ArcelorMittal Nippon Steel India Ltd

Adani Foundation

Gates Foundation

Tata-Cornell Institute

Vedanta Limited

JSW Foundation

Hindalco Industries Ltd.

NABARD

HDFC Bank

District Mineral Foundation

Charity for Goodness Foundation

Mahanadi Coalfields Ltd.

Jindal India Thermal Power Ltd. (JITPL)

### COVERAGE

Angul, Balangir, Bargarh, Boudh, Cuttack, Jagatsinghpur, Jajpur, Kalahandi, Kendrapara, Koraput, Nabarangpur, Nuapada, Puri, Sambalpur

Jagatsinghpur district

Bhadrak district, Odisha; Raigarh, Durg, Bilaspur districts, Chhattisgarh

Angul and Balangir districts

Angul district

Korba district, Chhattisgarh

Keonjhar and Sundargarh districts

Sambalpur district

Ganjam district

Sambalpur district

Keonjhar district

Gajapati district, Odisha

Angul, Jharsuguda, Sambalpur, Sundargarh districts

Angul district

### PROGRAMMES

Livestock Development: Breeding

Holistic Development

Livestock Development: Integrated services

Livestock Development: Characterization and performance recording

Livestock Development: Breeding

Holistic Development

Water-centric Livelihoods

Holistic Development

Livestock Development: Integrated services

Farm-based Livelihoods

Orchard Plantation

Capacity Building

Holistic Development

Health and Sanitation

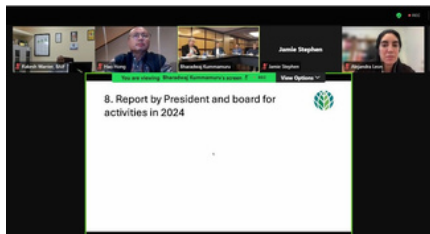




## 27



On August 29, 2024, the Chhattisgarh team participated in the 36th National Convention of Agricultural Engineers and the National Seminar on Agricultural Engineering at IGKC, Raipur, Chhattisgarh.



On October 22, 2024, the Regional Director – East represented BAIF virtually as a member at the General Assembly of the World Bioenergy Association, held in São Paulo, Brazil.

Mr. Rakesh Warriar, Programme Director and Regional Director – East and Dr. Sagar Jadhav, Senior Research Officer, BAIF, participated in the Conference on Sustainable Soil Governance for Agriculture in India, organised by GIZ India and the Umwelt Bundesamt (UBA – German Federal Environment Agency), in collaboration with NITI Aayog, in Delhi.



BAIF was invited to join the India country team for the “Agri-food System Transformation Leadership programme” hosted by GIZ in Berlin, Germany from January 14 to 18, 2025. Mr. Rakesh Warriar, Regional Director – East, represented BAIF at the event.

The Regional Advisory Board meeting held on March 18–19, 2025, in Patna, Bihar was chaired by Mr. J.L. Bajaj and attended by Mr. Mohan Kumar, Independent Member, Mr. B. Shivarudrappa, Vice President, BAIF, Dr. Rajashree Joshi, Programme Director, BAIF, Mr. Rakesh Warriar, Programme Director and Regional Director, East and other senior officials.



BAIF led by Mr. Rakesh Warriar, Programme Director and Regional Director – East, participated in a meeting chaired by Mr. Sajeesh Kumar N., Coal Controller, Ministry of Coal, Government of India, on March 24, 2025 in New Delhi.

A new programme was launched in Chhattisgarh with support from the Bharat Rural Livelihoods Foundation (BRLF).

## BISLD Programme Coverage



## Visit of Dignitaries



**December 20, 2024**

Under the Mor Jal Mor Maati initiative in Bela and Bhatgaon villages in Korba district of Chhattisgarh, Mr. Avtar Singh, Vice President – Corporate Affairs, Vedanta Group and and Mr. Subhasis Das, CSR Head, BALCO, attended the National Farmers' Day celebrations jointly organised by BAIF and BALCO.

## APPEAL

BAIF has been committed to sustainable rural development for over five decades of its operations. BAIF's valuable contributions to improving livelihoods of rural households have been recognised in various national and international platforms. Our innovative models and participatory community empowerment approaches have shown pathways to holistic development which have been adopted outside the Organisation as well as for replication. The hallmark of these models is integration of livelihood and quality of life resulting in enhanced living standards.

BAIF is recognised by the Ministry of Finance, Government of India u/s 35 (1) (ii) of the Income Tax Act 1961 for Scientific Research. Contributions made to BAIF for carrying out research activities will be eligible for deduction under income tax. BISLD is a Charitable Institution under the provisions of Section 12A (2) of the Income Tax Act, 1961. Donations made to BAIF Livelihoods will be eligible for benefit of deduction under Section 80G of the Income Tax Act, 1961.

We request contributions to the maximum extent possible for the noble cause of empowering rural communities and in the process, building a self-reliant, progressive and prosperous India.

## ACKNOWLEDGEMENTS

The dedication and perseverance of team members – our core strength have been the cornerstone of BAIF's impactful programmes. The generous support from our esteemed partners and sponsors is gratefully acknowledged which has enabled us to enhance our outreach and impact. The valuable guidance from senior management provides deep insights into both strategic and operational aspects of the programme. Last but not the least, the cooperation and trust from the communities we work with is gratefully acknowledged without which the programmes would have just remained as activities.



**December 25, 2024**

Shri. Dharmendra Pradhan, Hon'ble Union Minister for Education, Skill Development & Entrepreneurship appreciated the SHG-led enterprises initiative supported by HDFC Bank, at the District Agriculture Fair, Sambalpur, Odisha.

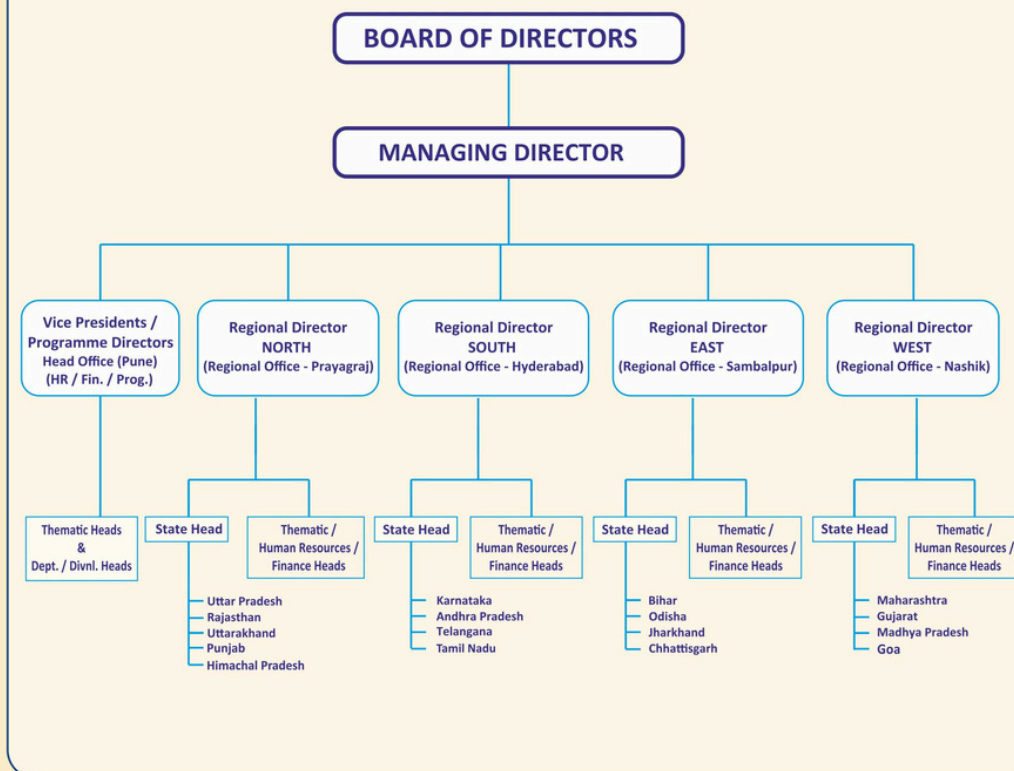
## ANNUAL REPORT DESIGN

**Ms. Prerna Sinha, Project Officer**



## BAIF Institute for Sustainable Livelihoods and Development (BISLD)

### Organogram



#### MANAGEMENT COMMITTEE- BISLD ODISHA

- Mr. Rakesh Warriar  
*Chairperson*
- Mr. Sandip Kakade  
*Secretary*
- Mr. Bikrant Kumar  
*Member*
- Mr. Bipin Sahu  
*Member*
- Ms. Manisha Sahu  
*Member*
- Invitee 1
- Invitee 2

#### INTERNAL COMMITTEE- BISLD ODISHA

- Ms. Manisha Sahu  
*Presiding Officer*
- Ms. Prerna Sinha  
*Secretary*
- Ms. Nanda Munda  
*Member*
- Ms. Minakshee Bisen  
*Member*
- Mr. Mufti M. Khan  
*Member*
- Mr. Umesh Chandra Meher  
*Member*
- Mr. A. Chandrashekhar Rao  
*Member*
- Ms. Bani Mahapatra  
*External Expert*

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**Last Cover Page** (Clockwise from top-left): Smt. Gayatri Beura engaged in mushroom cultivation; Shri. Birabara Pradhan practising vegetable cultivation; Backyard poultry farm of Shri. Girish Behera; Shri. Laxman Kumbhar from Kendudihi village in his farm; A young mango sapling amidst a mustard field in Angul district; Smt. Rajani Sahu in her improved vegetable cultivation (IVC) plot.





**BAIF Institute for Sustainable Livelihoods and Development  
– Odisha and Chhattisgarh**