Impact Report 2019-2024

Kalp Samaj Sevi Sanstha

Baloda Bazar-Bhatapara District, Chhattisgarh

Table of Contents

Executive Summary

KALP's initiatives emerged as a concerted effort to strengthen tribal livelihoods and ecological resilience in Chhattisgarh, rooted in the recognition that rural households faced persistent vulnerabilities in food, income, and natural resource management. Designed as an integrated program, it placed equal emphasis on agriculture, livestock, collective institutions, and natural resource regeneration, while grounding interventions in community-led processes.

Strengthening Women's Collectives and Institutions has been one of the program's most consistent achievements. Between 2019 and 2024, the reach of Self-Help Groups (SHGs) expanded both in membership and functional maturity. Revolving funds, credit utilization, and inter-loan practices were reported at higher rates, enabling households to reduce reliance on informal debt. Importantly, SHGs became platforms for livelihood activities such as poultry and goat rearing, linking women directly with income streams and leadership roles. The evidence indicates that when SHGs were supported with training, inputs, and enterprise linkages, women's agency in household and community decision-making visibly grew. **Agriculture and Natural Farming** underwent a gradual yet profound transformation. Earlier dependence on chemical inputs and mono-cropping systems gave way to diversified practices under natural farming. Farmers began experimenting with bio-inputs, traditional seeds, and multi-cropping, which not only reduced input costs but also stabilized yields under erratic rainfall conditions. Data collected from field demonstrations point to improved soil moisture retention and gradual restoration of soil fertility, validating the approach as both climate-resilient and economically viable. **Livelihood Diversification** through allied activities emerged as a cornerstone of resilience. Goat rearing interventions scaled steadily, with households reporting year-on-year improvements in herd size, sales, and household nutrition. Poultry programs piloted through SHGs moved from small-scale trials to wider coverage, contributing to both cash income and regular household consumption of eggs and meat. Vaccination and animal health camps further enhanced livestock productivity, with reports noting improved survival rates and reduced disease incidence across thousands of animals. Evidence from monitoring highlights that households engaged in a mix of farming, goat rearing, and poultry achieved more reliable year-round income compared to those dependent on a single activity.

Nutrition and Household Food Security were reinforced through parallel interventions. Kitchen gardens, coupled with nutrition awareness campaigns, diversified diets and improved intake of green vegetables and pulses, particularly among women and children. Household dietary diversity scores improved, and anecdotal reports of reduced seasonal

hunger gaps were documented. The linkage of nutrition messaging with SHG and FPO platforms ensured behavioral change was not isolated but embedded within community networks. **Community Resource Management** saw tangible progress through NREGA-linked assets. Individual and community ponds, soil and water conservation structures, and recharge pits were planned and executed across partner villages. These not only expanded irrigation potential and reduced water stress but also complemented natural farming practices by improving micro-climate and soil health. Farmers directly acknowledged the link between new water harvesting assets and increased cropping intensity or reduced migration pressures. **Integration and Synergy** stand out as their efforts' defining strength. Where households combined multiple interventions—natural farming with SHG membership, livestock rearing, kitchen gardens, and NREGA-supported water structures—the outcomes were amplified. In such cases, income diversification, food availability, and resilience to climate variability were markedly stronger. Women's leadership in these households also became more visible, bridging livelihood gains with social empowerment.

In sum, the KALP demonstrated that a layered, systems-oriented design yields deeper and more durable impact than isolated interventions. For development practitioners, the experience validates the premise that **livelihood security, ecological sustainability, and women's empowerment are mutually reinforcing when addressed together**. For the communities involved, the results are tangible: more secure incomes, improved diets, healthier ecosystems, and a stronger collective voice in shaping their future.

Our Strategic way-forward

Domain	Current Achievements	Challenges / Gaps	Strategic Way Forward (Doables)	5-Year Targets
Ecological Farming	85% HHs adopted natural/ecological practices	49.14% HHs still face crop losses	Expand adoption to mono-croppers; set up **3 community seed banks**; block-level demo farms	60% HHs adopt NF
Kitchen Gardens	98% HHs	Weak linkages to nutrition programs	Train SHG "Nutrition Champions"; link to **ICDS & schools**	Scaling BKG to more villages within the same landscape

Livestock	205 women-led HHs in goatry/poultry; vaccination drives active	Limited veterinary access; scattered marketing	Double outreach; **vet extension & fodder banks**; SHG-led marketing; 3 producer collectives	+30% HH income
Fisheries	Pilots in MGNREGA ponds	Infrastructure support continues	Form **10 cooperatives**; invest in cold storage & local markets	10 functional cooperatives
NTFPs	Mahua, tendu, tamarind collection ongoing	Low-value sales, middlemen control	Establish **3 processing hubs**; value-addition & branding; direct buyer linkages	2–3× increase in NTFP income
Women's Leadership	Participation in governance rose drastically	Women under-represented in leadership roles	Achieve **50%+ representation** in SHGs, VDCs, FRCs; train 100 women leaders in governance & finance	≥50% women in governance
CBO Strengthening	56.25% of CBOs at improved maturity	Uneven planning & monitoring capacity	Push **75% CBOs** to advanced maturity; train on planning, monitoring, conflict resolution	75% advanced maturity

Baseline Scenario Analysis

When KALP began its engagement in tribal districts of Chhattisgarh, the baseline scenario revealed deeply entrenched vulnerabilities across farming, livestock, institutions, and nutrition. Agriculture was overwhelmingly rain-fed, with more than 85 percent of households dependent on a single Kharif crop. Paddy mono-cropping dominated the landscape, leaving land fallow in the Rabi season and restricting cropping intensity to around 112 percent. Farmers reported annual expenses of ₹5,000–7,000 per acre on chemical fertilizers and pesticides, even as yields stagnated. Soil degradation and moisture loss were recurring concerns, and the over-reliance on external inputs created a cycle of dependency that few households could sustain.

Livestock systems were similarly fragile. Goat rearing was limited to less than 15 percent of households, usually with just two or three animals each, and annual mortality rates exceeded 25 percent in the absence of vaccination and veterinary support. Poultry was practiced only at a subsistence level, with five to seven birds per household, but frequent disease outbreaks often wiped out entire flocks. Vaccination coverage at this stage was minimal: in some villages, fewer than one in five small ruminants received preventive care each year. For example, in Kasdol block of Balodabazar district, a 2023 drive identified 76 goats for vaccination but managed to reach only 65, highlighting both logistical and awareness gaps. These figures underline that while livestock was culturally important, it had yet to become a reliable source of food or income.

Women's self-help groups existed in most villages, largely promoted under the National Rural Livelihood Mission. Yet at baseline they were underutilized as engines of empowerment. Less than 40 percent of members engaged in structured livelihood initiatives, and fewer than 10 percent had any linkage with Farmer Producer Organizations or markets. Loan utilization was primarily for consumption smoothing or repaying high-interest debts, and women's collective role in planning or resource management was minimal. The institutional architecture was present but lacked the economic vibrancy and leadership functions needed to catalyze change.

Household food security was calorie-reliant but nutrition-deficient. Diets were dominated by rice with occasional pulses, while intake of green vegetables, fruits, and proteins remained low. Kitchen gardens were active in fewer than 15 percent of households, and most families depended on seasonal market purchases, which left nutritional gaps for women and children. Community monitoring reflected this reality: anemia and stunting were reported at rates above state averages, pointing to a systemic challenge in translating food availability into dietary quality.

The natural resource base, meanwhile, was under strain. Water scarcity was acute after December, with more than 70 percent of households reporting insufficient irrigation for Rabi cultivation. NREGA had created some ponds and soil conservation assets, but these were scattered and underutilized, with less than 10 percent of farmers reporting any real benefit. Upland erosion and declining groundwater recharge compounded the stress. Soil and water conservation investments were negligible, leaving farming systems exposed to erratic rainfall and prolonged dry spells.

The knowledge and extension ecosystem was equally thin. Fewer than one in five farmers had ever attended training on natural farming or livestock care, and agriculture or veterinary staff were rarely present in remote villages. Information gaps left households unaware of schemes, entitlements, or improved practices, reinforcing dependence on high-cost inputs and exposing them to climatic and economic shocks.

Socio-economic data painted a picture of precarious household economies. Annual incomes averaged between ₹50,000 and 60,000, with more than 70 percent derived from a single season of paddy cultivation. Seasonal migration was widespread: between January and June, up to 30 percent of working-age adults left for temporary wage labor. Indebtedness was pervasive, with over 60 percent of households carrying informal loans at interest rates that further eroded fragile incomes.

Taken together, the baseline scenario was defined by a **triple vulnerability**. Ecologically, households were trapped in low-diversity, input-dependent farming systems and declining natural resources. Economically, they were constrained by narrow income sources, unproductive livestock, and debt cycles. Socially, women's institutions were weak, nutrition outcomes poor, and migration a coping strategy rather than a choice. The absence of integration across agriculture, livestock, collectives, and natural resource management meant households had little cushion against climatic variability or market shocks. It was within this context that KALP sought to intervene, with the central challenge being to diversify livelihoods, restore ecological balance, and strengthen community institutions in a mutually reinforcing way.

Theory of Change

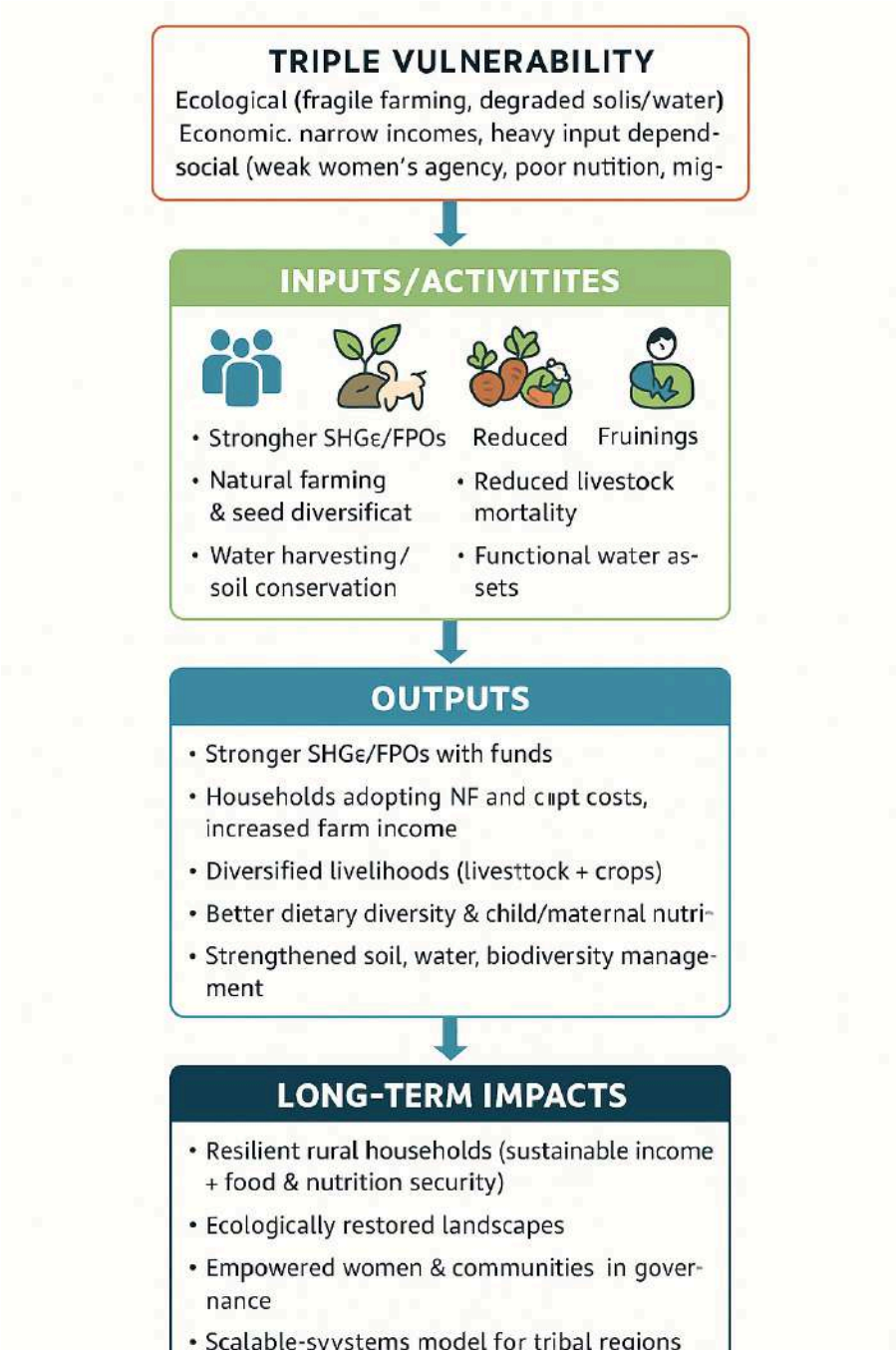
The KALP program is premised on the understanding that poverty and ecological vulnerability in tribal communities are mutually reinforcing, and that breaking this cycle requires **layered interventions** which integrate livelihoods, women's agency, ecological restoration, and nutrition security. The Theory of Change rests on the conviction that resilience emerges not from isolated activities but from the synergy of multiple, community-driven efforts.

At the **core of the problem** lies a triple vulnerability:

- **Ecological**: fragile rain-fed farming systems, degraded soils, and declining water resources;
- **Economic**: narrow income sources, low livestock productivity, and high input dependence;
- **Social**: underutilized women's institutions, poor nutrition outcomes, and widespread migration.

Pathway of Change

1. **Inputs and Activities**
    - Strengthening women's Self-Help Groups (SHGs) and Farmer Producer Organizations (FPOs) through training, revolving funds, and enterprise support.
    - Promoting natural farming practices, seed diversity, and bio-input preparation to reduce chemical dependency and improve soil health.
    - Scaling goat rearing, poultry, and livestock vaccination drives to provide alternative and resilient income streams.
    - Establishing kitchen gardens and community nutrition awareness campaigns to enhance dietary diversity.



- Leveraging NREGA and local governance structures to build water harvesting and soil conservation assets.
- Facilitating trainings, peer learning, and knowledge-sharing platforms for farmers, women, and community youth.

2. **Outputs**

- Functioning SHGs and FPOs with increased participation and financial capacity.
- Wider adoption of natural farming practices and cropping diversification across households.
- Reduced mortality and increased productivity of goats and poultry through regular vaccination and animal health services.
- Improved household access to vegetables and proteins via kitchen gardens and poultry products.
- Creation and utilization of water harvesting structures supporting irrigation and soil-moisture retention.
- Communities with greater technical knowledge, scheme awareness, and access to entitlements.

3. **Outcomes (Medium-term)**
   - Enhanced women's agency in household and village decision-making through stronger collectives and income opportunities.
   - Stabilized agricultural yields with lower input costs, leading to improved farm incomes even under climatic stress.
   - Livelihood diversification through livestock and allied activities, resulting in more resilient household economies.
   - Improved dietary diversity and reduced malnutrition among women and children.
   - Strengthened village-level resource management, with better soil fertility, groundwater recharge, and biodiversity.
   - Reduced seasonal migration as households secure more reliable year-round income.

4. **Impacts (Long-term)**
   - Resilient rural households with sustainable incomes, secure food and nutrition, and reduced vulnerability to shocks.
   - Ecologically restored landscapes that sustain soil, water, and biodiversity.
   - Empowered women and communities driving collective action and governance.
   - A systems model of integrated livelihood and ecological development that can be scaled and replicated across tribal geographies.

Causal Logic

The ToC assumes that if women's collectives are strengthened as anchors of savings, enterprise, and social mobilization, they will serve as vehicles for livelihood diversification, nutrition awareness, and local governance participation. If households adopt natural farming and diversify cropping, supported by water harvesting and soil conservation, then farm-level risks and costs will decline while productivity stabilizes. If livestock and poultry are upgraded with vaccination, fodder management, and market linkages, then families will have secondary income streams that reduce reliance on migration. When these pathways converge, the result is a synergistic impact where ecological restoration, economic stability, and social empowerment reinforce one another.

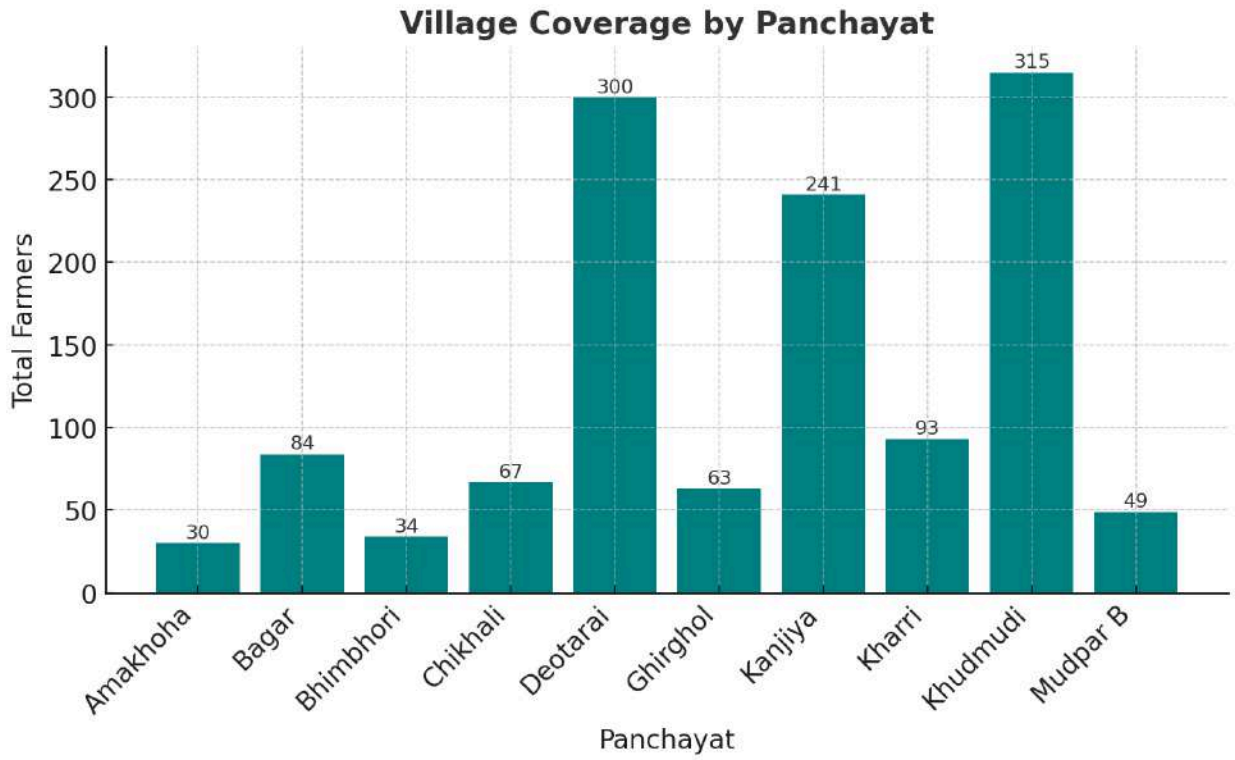
Assumptions and Enablers

- Community institutions (SHGs, FPOs, Gram Panchayats) will remain active and inclusive.
- State schemes (NRLM, NREGA, agriculture, livestock) will be accessible and converged with program efforts.
- Farmers and households will be willing to experiment with and adapt natural farming and livestock practices when provided with training and demonstration.
- Women's participation in decision-making will translate into shifts in household expenditure, nutrition practices, and community-level priorities.

Beneficiary Analysis

Kalp's initiatives have systematically reached smallholder families in the district since 2019 - although the efforts were well underway since 2017, targeting those most in need of livelihood security and resilience. The beneficiary database reflects not only the scale of outreach but also the social and demographic composition of households, illustrating how interventions have been both inclusive and community-anchored.

Beneficiary enrollment began in **2019** - although the efforts were ongoing since 2017, marking the first year of support in Balodabazar district (Kasdol block). Since then, the programme has consistently added new households, with families drawn from tribal and other vulnerable social groups. The earliest cohort from 2019 shows continuity in engagement, indicating sustained programme support over multiple years.



Social and Demographic Profile

- **Tribal Representation**: A majority of beneficiaries belong to Scheduled Tribes (ST), aligning with the region's demographic composition and the programme's focus on disadvantaged communities.
- **Gender of Primary Beneficiaries**: While men are often listed as primary beneficiaries, household-level data shows significant involvement of women through SHGs and farming activities. Widows and single women are also represented, albeit in smaller numbers.
- **Household Size**: Families typically range between **6–10 members**, with balanced gender ratios across age groups. Multi-generational households are common, which strengthens labour availability for farming and livestock while also increasing dependency ratios.
- **Vulnerable Sub-Groups**: The dataset identifies households with widows, single women, and members with disabilities. For example, in Alda village, one household of 10 members is headed by a widow, underlining the programme's engagement with vulnerable groups.

Family Composition

On average, beneficiary households include:

- **2–3 adult women** and **2–3 adult men**,
- **2–4 children**, often balanced between boys and girls.

This composition indicates that interventions like goat rearing, poultry, and natural farming directly support **both food and nutrition security for children, as well as income generation for adults.**

Inclusivity and Special Categories

- **Persons with Disabilities (PWDs)**: A small but important segment of beneficiaries live with disabilities, requiring tailored livelihood support strategies.
- **Other Project Overlaps**: Several households are engaged in multiple projects, demonstrating convergence and layered support — e.g., one family may benefit from livestock vaccination while also accessing an NREGA-constructed pond.

Impact on Households

- **Livelihood Security**: By reaching families with 6–10 members, the programme impacts not just individuals but entire households, multiplying benefits across age and gender lines.
- **Women's Agency**: Widows and SHG women beneficiaries gain enhanced livelihood options through poultry and goatry.
- **Resilience of ST Households**: The strong presence of tribal families ensures that programme benefits are concentrated among historically marginalized groups.

Composite Beneficiary Profile

The "average KALP beneficiary" is a **tribal household of 7–9 members**, engaged in small-scale farming with limited irrigation, and supplementing income through livestock and wage labour. Women actively participate in SHGs, and at least one child in the household directly benefits from improved nutrition and food security. Vulnerable categories such as widows and persons with disabilities are also included, underscoring the programme's inclusive design.

Adoption of Agricultural Practices and Opportunities for Enhancement

Issue	Description
1.Low Awareness & Legacy Practices	Heavy reliance on **mono-cropping** in previous years has limited exposure to diversified cropping techniques, kitchen garden, millets (kodo, madhiya)
2.Dependence on PDS	Most households depend on the **public distribution system (PDS)** for basic needs (oil, dal, salt, chana), reducing motivation to cultivate alternatives.
3.Undulated Land Topography	Uneven terrain demands **higher labor** and **makes mechanization difficult**, discouraging experimentation.
4.Low Farmer Confidence	Due to **rain-fed agriculture**, farmers lack confidence in long-term return and hesitate to adopt slow-impact practices.

5.Social Pressure	**Peer norms and expectation for quick visible outcomes** often discourage adoption of regenerative practices that show delayed benefits.
6.Chemical Use in Pulses	Though **intercropping (e.g. with dal)** is attempted, farmers tend to **spray pesticides**, reducing the ecological integrity of the method.

Agricultural Practices and Farming Diversity

The baseline data on agricultural practices, represented through pie charts, reveals distinct patterns of input use and crop management across KALP households. A majority of farmers continue to depend on chemical fertilizers, with almost all families relying on urea/DAP. At the same time, 35–40% households are supplementing with organic inputs along with chemicals, such as farmyard manure, compost, and bio-fertilizers—showing a gradual but visible shift towards natural farming.

Rainfed agriculture remains dominant, with only about one-fifth of households accessing assured irrigation, though water harvesting structures like farm ponds and check dams (often created under NREGA) are strengthening resilience. Seed use patterns show that 60–65% households use market-purchased hybrid or improved varieties, while around 30% continue saving traditional seeds, and a small but growing share is experimenting with seed banks and farmer exchanges. Pesticide use also reflects this transition: 55–60% households still depend on chemicals, but 20–25% have already shifted to natural formulations like neem-based decoctions and cow dung–urine mixtures. Overall, this indicates a dual system in transition, where chemical inputs are still dominant but adoption of natural practices is steadily increasing.

1. **Dual farming system** – heavy dependence on chemical inputs but a steady shift towards natural fertilizers, bio-inputs, and herbal pesticides.
2. **Paddy dominance** – monocropping remains strong, though pulses, oilseeds, millets, and vegetables add some diversity.
3. **Nutrition-sensitive farming** – kitchen gardens, fruits, livestock, and fish rearing improve dietary diversity and reduce market dependency.
4. **Traditional seeds at risk** – around 30% of households still conserve local varieties of paddy, vegetables and millets, but hybrid seeds are expanding rapidly.
5. **Landscape linkages** – forests, NTFPs, and commons remain vital for livelihoods, food, and ecological balance.

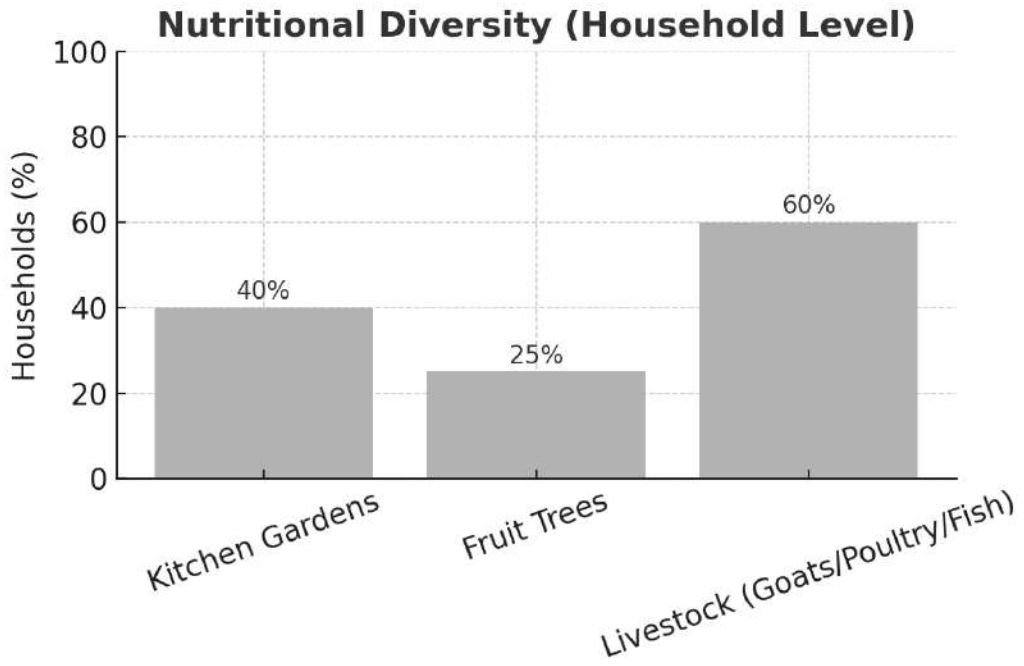
Farming Diversity in General

Crop Diversity

Paddy dominates the kharif season (70–80% of area), supported by pulses (urd, arhar), maize, and oilseeds (til, groundnut). In rabi, wheat and chana are most common, with vegetables integrated by about one-fourth of households. Minor millets such as kodo, kutki, and ragi survive in tribal areas, alongside tubers and coarse grains, offering nutrition and climate resilience despite declining acreage. On average, households cultivate 2–3 crops, but only 10–15% report five or more.

Nutritional Diversity

Nearly 40% of households maintain kitchen gardens or homestead plots, producing 3–4 seasonal vegetables such as leafy greens, gourds, and brinjal. Some families also maintain fruit trees like papaya, guava, mango, and banana. Livestock—goats, backyard poultry, and small-scale fish farming—add valuable sources of protein. Households with stronger on-farm diversity consistently report better dietary diversity, reducing dependence on markets.



Seed Diversity

Traditional seed saving continues in about 30% of households, especially for paddy, pulses, and millets, though these varieties are at risk due to hybrid seed expansion. Small-scale seed banks and farmer-led exchanges are emerging and present an opportunity for biodiversity conservation.

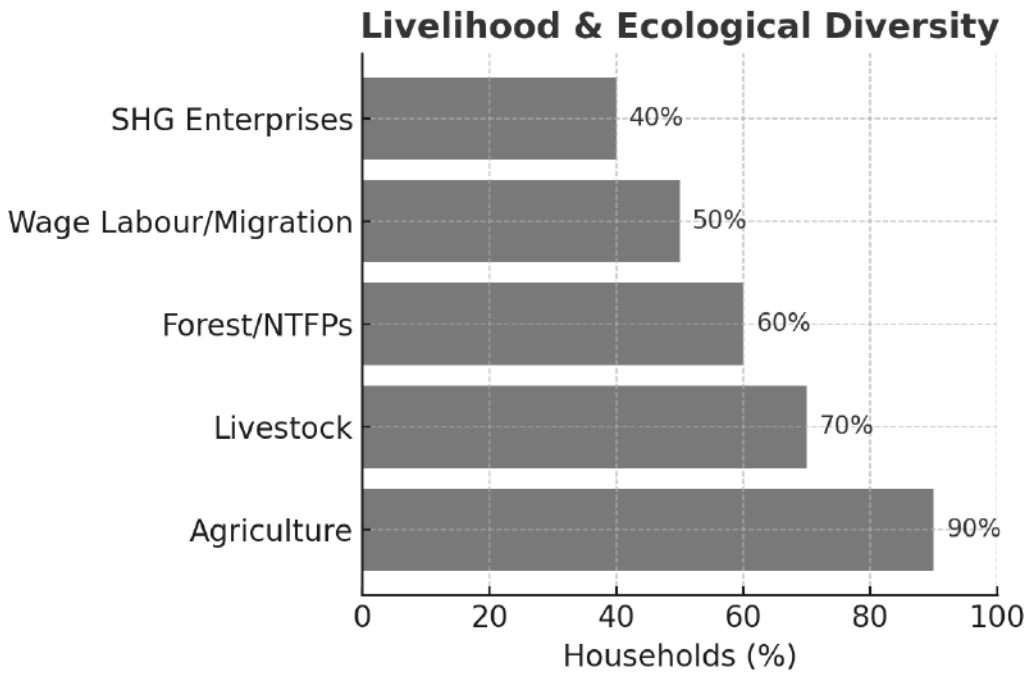
Livelihood Diversity

Households combine agriculture with livestock rearing, wage labor, migration, and forest-based activities. Women's SHGs add another layer by leading value addition in products like papad, pickles, and oil extraction, strengthening income streams.

Interventions (What KALP does)	**Immediate Outcomes (What changes on farm)**	**Final Impact (Why it matters)**
Agricultural Inputs (seeds, training, demonstrations, extension)	Agricultural Impact – higher yields, efficient input use, reduced risks	Resilient Livelihoods – more income, food security
Water & Soil Management (ponds, drip irrigation, soil fertility practices)	Agricultural Impact – reliable irrigation, diverse cropping, soil health	Resilient Livelihoods – stability in farming and resilience to climate
Producer Groups (FPOs, collective marketing, price realization)	Agricultural Impact – better markets, collective bargaining power	Resilient Livelihoods – fair prices, stronger rural economy
Livestock Support (dairy cooperatives, veterinary services, mobile health units)	Farming Diversity – livestock income, improved household nutrition	Resilient Livelihoods – diversified income, nutrition security
Skills & Youth Development (vocational training, agri-allied skills)	Farming Diversity – new enterprises, value addition, reduced migration	Resilient Livelihoods – opportunities for youth, rural job creation

Ecological Diversity

Farms are embedded in forest and commons landscapes that provide NTFPs like mahua, tamarind, tendu, lac, and honey—key for both household use and cash income. Commons also supply fodder and grazing, directly sustaining livestock and reinforcing the farm–forest–livelihood link.



- **90% Agriculture**
  → Almost every household depends on farming as the mainstay, even though landholdings are small and mostly rainfed.

- **70% Livestock**
  → About 7 in 10 households rear goats, backyard poultry, or cattle, which provide both income and nutrition, often acting as a buffer in lean seasons.

- **60% Forest/NTFPs**
  → More than half the households collect and sell non-timber forest products like mahua, tamarind, tendu, lac, and honey—critical for cash and food security.

- **50% Wage Labour/Migration**
  → Around half of families rely on wage labour or seasonal migration to make ends meet, especially when agriculture fails or off-season work is scarce.

- **40% SHG Enterprises**
  → Four in ten households are engaged in SHG-led enterprises such as papad-making, pickle processing, or tamarind value addition, strengthening women's agency and income.
- **40% Kitchen Gardens**
  → Two in five households maintain small gardens growing 3–4 seasonal vegetables like gourds, leafy greens, and brinjal, directly improving household diets.

- **25% Fruit Trees**
  → One in four households grow fruit trees like papaya, guava, mango, and banana, providing both nutrition and occasional cash income.

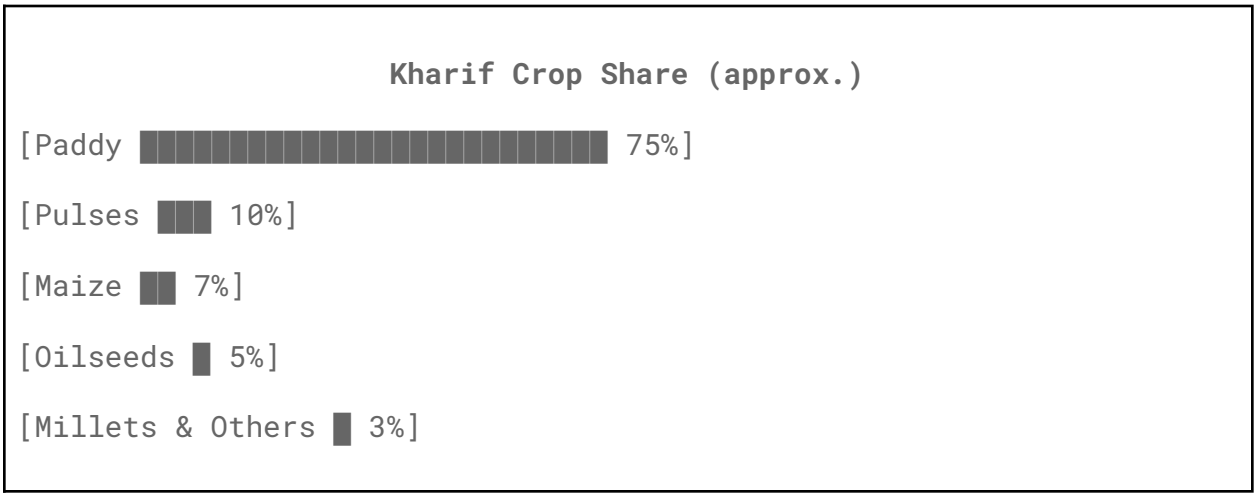
- **60% Livestock**
  → A clear majority keep goats, poultry, or fish ponds, which supply eggs, milk, and meat—key protein sources for diets otherwise dominated by cereals.

The baseline data shows distinct patterns of agricultural practices across KALP households. Fertilizer use is split between chemical and organic: around **40–50% rely mainly on chemical fertilizers**, while **35–40% supplement with natural fertilizers** such as farmyard manure, compost, and bio-inputs. Irrigation remains limited, with nearly **four-fifths of households dependent on rainfed agriculture**, though water harvesting structures like farm ponds and check dams are gradually improving resilience. Seed use reveals **60–65% reliance on hybrid or improved seeds**, while **30% of farmers save traditional seeds**. In pest management, **55–60% use chemical pesticides**, but **20–25% are experimenting with natural formulations**. This demonstrates a **dual system in transition**, with gradual movement toward natural and community-based practices.

Crop Diversity – Kharif and Rabi Findings

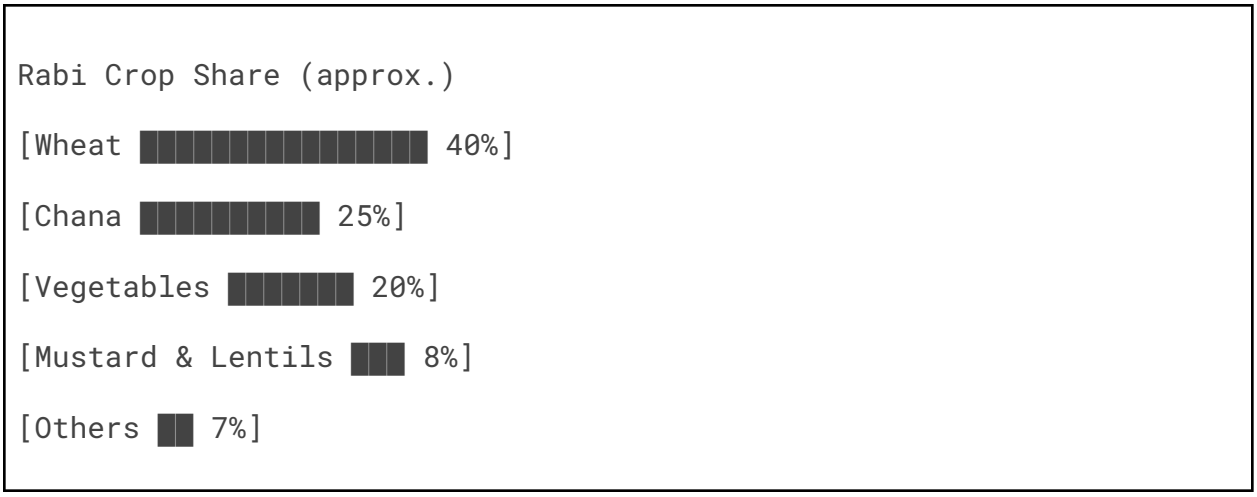
Kharif Cropping Patterns

Kharif agriculture is overwhelmingly paddy-dominated, with around **70–80% of net sown area under paddy**. Other crops include pulses such as urd and arhar (10–12%), maize (5–7%), and oilseeds like til and groundnut (3–5%). Minor millets such as kodo, kutki, and ragi are cultivated in pockets, especially in tribal areas, though their area share is small (2–3%).



Rabi Cropping Patterns

Rabi is relatively more diverse. Wheat and chana dominate, together accounting for **60–65% of cropped area**. Vegetables (tomato, brinjal, leafy greens, potato) are cultivated by around 25–30% households, primarily for consumption and local markets. Mustard and lentils form smaller shares (5–8%).



These findings confirm that **kharif is paddy-centric and input-heavy**, while **rabi shows greater diversification** with pulses, vegetables, and oilseeds. Traditional minor millets, though small in share, remain critical for climate resilience and nutrition. The data also highlights that households practicing greater crop diversity often overlap with those reporting better dietary diversity scores, pointing to the strong link between crop diversity and nutrition outcomes.

Kharif Practices

1. **Universal Adoption of Core Practices**
    - Seed treatment, FYM use, bio-pesticides, liquid manures, and summer ploughing are now followed by **nearly 100% of farmers**.
    - From ~84% in the first cycle → to near-total adoption within two years.
2. **Shift to Organised Crop Establishment**
    - **Line-transplanting adoption jumped from 59% to 84%**, with broadcasting almost disappearing.
    - Nursery preparation rose from **58% to ~100%**, signalling higher skill and labour investment.
3. **Bundled Practice Uptake**
    - Farmers now apply an **average of 7 ecological practices per household**, with a consistent median of 7.
    - This shows system-wide change rather than piecemeal adoption.
4. **Emerging Cropping Diversity**
    - Mixed cropping adoption increased from **<20% to nearly 24%**.
    - While still minority, it signals resilience-building and nutritional diversification.
5. **Strengthening Participation of Women**
    - Women's share of participation increased from **36% to 39%**.
    - Indicates slow but steady inclusion in natural farming transitions

Over the last three agricultural cycles, a clear picture has emerged of how farmers are engaging with natural farming. What began as a small cluster of practices has now matured into a system-wide approach, involving large numbers of farmers who continue year after year. The continuity of beneficiaries is especially striking — most of the same households have stayed engaged across multiple seasons, which not only ensures consistency but also helps in measuring real shifts at the community level.

Each year, several hundred farmers have been part of this transition, with **more than a third of participants being women**. Their representation has steadily grown, from around **36 percent in the initial year to nearly 39 percent in the latest cycle**. This rise, though modest, signals the gradual recognition of women's role in decision-making around inputs, nurseries, and cropping patterns. Women's groups and Krishi Sakhis, in particular, are becoming important drivers of adoption.

Practices and Adoption

The breadth of practices now embedded in routine farming is remarkable. Farmers are consistently applying:

- **Seed treatment** with traditional and natural formulations
- **Farmyard manure (FYM) application** for soil fertility
- **Summer ploughing** to manage weeds and pests
- **Use of bio-pesticides and liquid manures** such as jeevamrit, beejamrit, and neem-based sprays
- **Line transplanting and improved nursery management** for crop establishment
- **Mixed cropping** as a diversification measure

Village Coverage	
Alda	Kauhakuda
Bharka	Khudmudi
Bitkuli	Kukrikona
Dadhakhar	Nawagaon
Devtarai	Pachpedi
Furfundi	Pathiyapali
Ghirghol	Pondi
Jhalpani	Sandi
Kanjiya	Sarshdol
Katwajhar	Surbay
	Uprani

Initially, only **84 percent of households** applied these methods. Within two years, adoption levels rose close to **100 percent**, where they remain today. Farmers, on average, now apply **seven distinct ecological practices** per household, demonstrating a commitment to whole-system change rather than piecemeal adoption.

Practice	Year 1	Year 2	Year 3
Seed Treatment	84%	~100%	~100%
FYM Application	84%	~100%	~100%
Bio-pesticides/Liquids	84%	~100%	~95%
Summer Ploughing	84%	~100%	~100%
Nursery Management	58%	~100%	84%
Line Transplanting	59%	~100%	84%

The shift from broadcasting to line-transplanting is especially telling. Early on, a quarter of farmers still broadcast seeds. Today, **over four out of five households (84 percent)** practice line-transplanting. This change is not trivial. It requires nursery preparation, extra labour for transplanting, and organised timing of sowing. Farmers' willingness to undertake these additional steps underscores both their confidence in the method and their recognition of the yield benefits it brings.

Nursery management itself has undergone a dramatic shift. From just over **58 percent adoption in the early cycle**, nearly every farmer now prepares and maintains nurseries, creating healthier and more uniform seedlings. This reflects a substantial strengthening of local capacity in skill-intensive tasks.

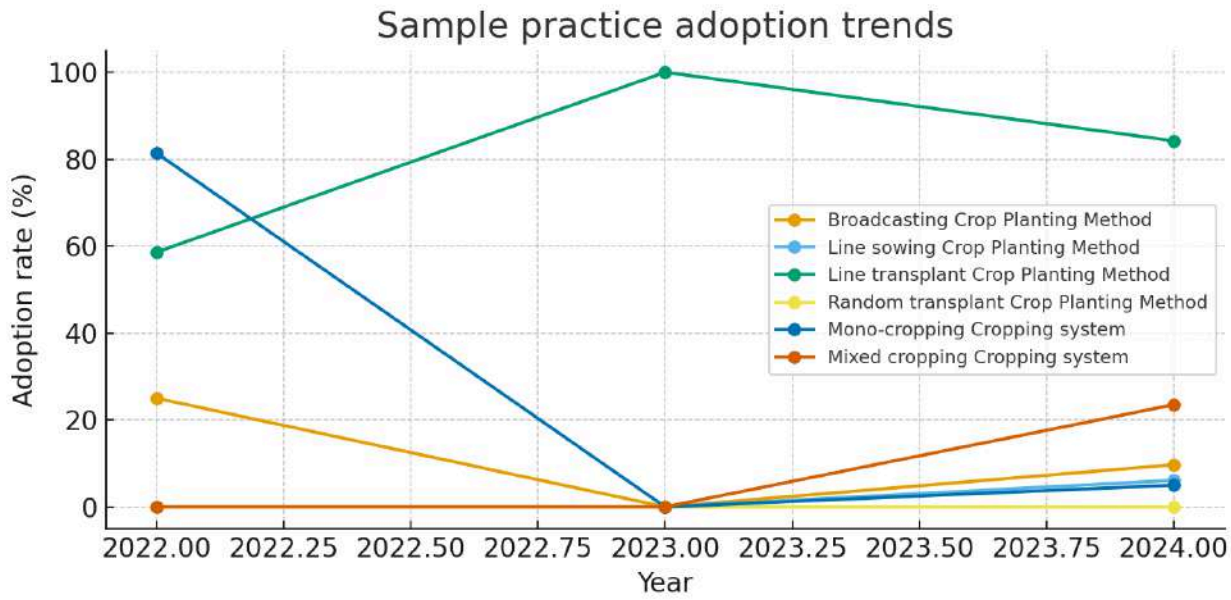
Assets and Resource Use

One of the strongest adoption areas is the preparation and use of organic inputs. FYM application is now universal, and the use of bio-pesticides and liquid manures has stabilised at over **95 percent**. These practices reduce dependence on purchased chemical inputs and gradually build local assets: compost pits, bio-input preparation tanks, and seed-treatment setups within households and communities. The fact that these are repeatedly prepared and applied across seasons shows that farmers are not just experimenting but investing in durable systems.

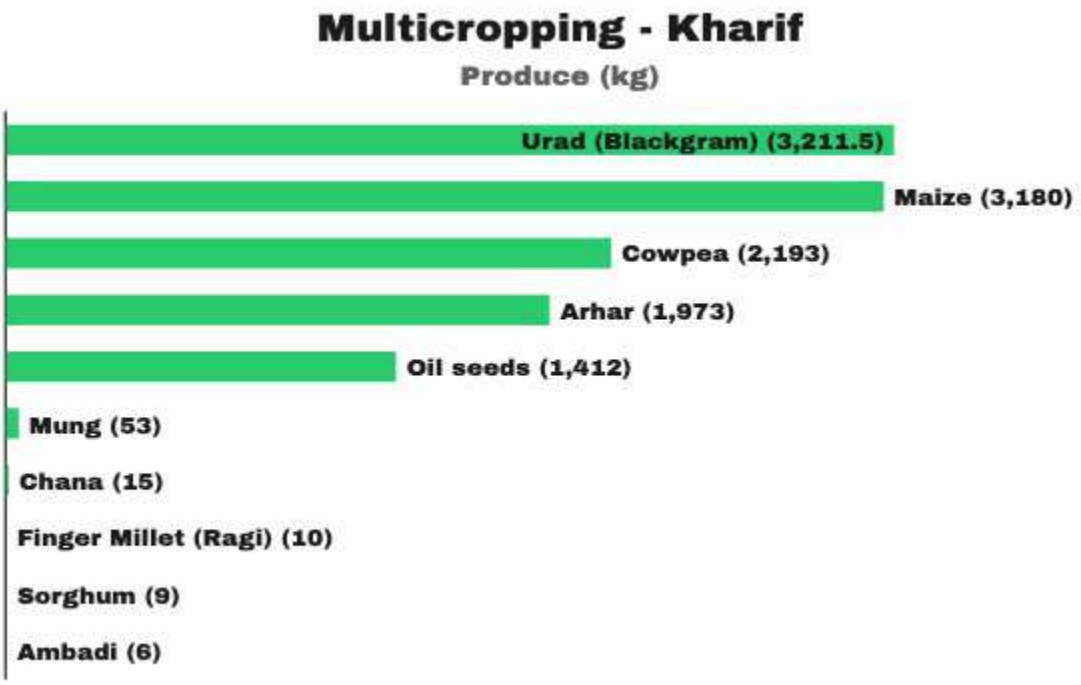
Cropping Systems and Resilience

The cropping pattern data shows a slow but significant move toward diversification. While **over 80 percent** of farmers practiced mono-cropping at the beginning, almost **one in four households** now reports adopting mixed cropping. Though still a minority, this represents

an important step toward nutritional diversity, risk-spreading under uncertain rainfall, and improved soil health.



At the same time, irrigation remains a binding constraint. Across all three years, **fewer than 5 percent of households report access to irrigated land**. The overwhelming majority of these ecological practices are being applied under rainfed conditions. This makes the resilience value of natural farming even clearer: farmers are sustaining yields and livelihoods despite not having assured irrigation. However, it also highlights a critical area for intervention. Without investments in water harvesting, micro-irrigation, and collective irrigation assets, the productivity potential of these practices will remain capped.



Implications: The trajectory is unmistakable: natural farming is no longer about trial or demonstration but has become the baseline for how farmers cultivate in these villages. Adoption is high, practices are bundled rather than isolated, and households are investing in inputs and labour despite structural constraints like irrigation.

Indicator	Year 1	Year 2	Year 3
Women's Share in Participation	36%	37%	39%
Avg. Practices/Household	7	7	7
Farmers with Irrigation	<5%	<5%	<5%

The implications are threefold:

1. **Sustainability of adoption** — Practices are "sticky"; once learned and applied, they remain part of the household routine.
2. **Equity and participation** — Women's participation, though still modest, is growing and holds potential for building stronger women-led farming systems.
3. **Future priorities** — The irrigation gap, scaling mixed cropping, and easing labour bottlenecks around transplanting are the next frontiers to consolidate the gains.
4. **Stable Women's Participation with Upward Trend**

a. Women's involvement rose steadily from **36% → 39%** over three years.
b. Indicates growing recognition of women in natural farming systems.

5. **Strong Consistency in Practices per Household**
   a. Households consistently adopt **7 ecological practices each year**.
   b. Demonstrates that farmers view natural farming as a holistic system, not fragmented choices.
6. **Resilience Under Rainfed Conditions**
   a. **Less than 5% of farmers** have access to irrigation across all three years.
   b. Despite this, adoption of practices remains strong — proof of confidence in rainfed natural farming.
7. **Practice Retention Rather Than Drop-off**
   a. No decline in average practices/household — retention levels remain **100% stable**.
   b. Suggests that once learned, practices stick within households.
8. **Foundation for Equity and Resilience**
   a. The twin trends of **women's growing participation** and **farmers' resilience without irrigation** show that natural farming is building equity and climate resilience simultaneously.

Kharif-specific Achievements

1. **Stable Women's Participation with Upward Trend**
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   - The twin trends of **women's growing participation** and **farmers' resilience without irrigation** show that natural farming is building equity and climate

resilience simultaneously.

Over the last three years, Kharif has emerged as the testing ground where farmers' commitment to natural farming is most visible. The evidence tells a clear story — farmers are not just experimenting but systematically building resilient, ecological farming systems despite structural challenges like irrigation scarcity.

Women's Participation Rising Steadily

Women's involvement in Kharif activities has grown from **36 percent in the first year to 39 percent in the third year**. Though the increase may appear incremental, the significance lies in the direction of change. Each cycle brings more women into leadership of nurseries, seed treatment, and preparation of bio-inputs. This trend points toward a slow but steady rebalancing of household farming decisions.

Indicator	Year 1	Year 2	Year 3
Total Farmers Engaged	897	897	1,249
Women's Share (%)	36%	37%	39%
Average Landholding (acres)	2.32	2.32	2.36

Strong Retention of Ecological Practices

A striking result is the **consistency of adoption**. Across all three years, farmers on average practiced **seven ecological techniques per household**, with no decline over time. This level of consistency is rare in development programmes — it shows that practices such as seed treatment, FYM application, summer ploughing, and the use of bio-pesticides are no longer external interventions but embedded routines. Once adopted, these practices are retained and applied year after year.

Practice	Year 1	Year 2	Year 3
Seed Treatment (%)	84	~100	~100

FYM Application (%)	84	~100	~100
Bio-pesticides (%)	84	~100	~100
Bio-Liquid Manures (%)	84	~100	~100
Summer Ploughing (%)	84	~100	~100
Nursery Management (%)	58	~100	84
Line Transplanting (%)	59	100	84

Farming Without Irrigation

Perhaps the most important finding is that **less than 5 percent of farmers** reported access to irrigation in any of the three years. This means that **over 95 percent of natural farming in Kharif is happening under purely rainfed conditions**. In this context, the continued adoption of multiple ecological practices signals farmers' trust in natural farming as a viable strategy for sustaining yields, even without water security. It also underlines the urgency of complementary investments in rainwater harvesting and micro-irrigation if the benefits are to be scaled and stabilised.

System-wide Impacts Emerging

When these threads are brought together, a system-wide picture emerges:

- Women's participation is steadily rising.
- Households are consistently retaining and applying seven ecological practices.
- Natural farming is being pursued overwhelmingly under rainfed conditions.

This combination demonstrates that natural farming in Kharif is not a marginal activity but a core strategy for resilience. Farmers are building farming systems that are ecologically sound, socially inclusive, and remarkably persistent over time.

Rabi Practices

Analysis of Rabi Practices and Crop Production

The implementation of sustainable and ecological farming practices has had a substantial impact on farmers and their households. A total of **109 farmers** were engaged in the Rabi season, all of whom have adopted bio-pesticides and bio-liquid manure. However, the absence of summer ploughing and seed treatment suggests an opportunity to expand the adoption of additional beneficial farming techniques.

Farmer Participation and Household Impact

The project directly benefits 6,159 family members, comprising 1,898 female members and 1,909 male members over the age of 18, as well as 1,196 female and 1,157 male members below the age of 18. Moreover, 1,375 individuals are engaged in related projects, highlighting a positive spillover effect in the community. Despite the significant involvement of farmers, a gender disparity in ecological farming adoption is observed, with 92.7% of participating farmers being female. This suggests a potential need for targeted interventions to promote women's participation in sustainable agriculture.

Cropping Systems and Land Utilization

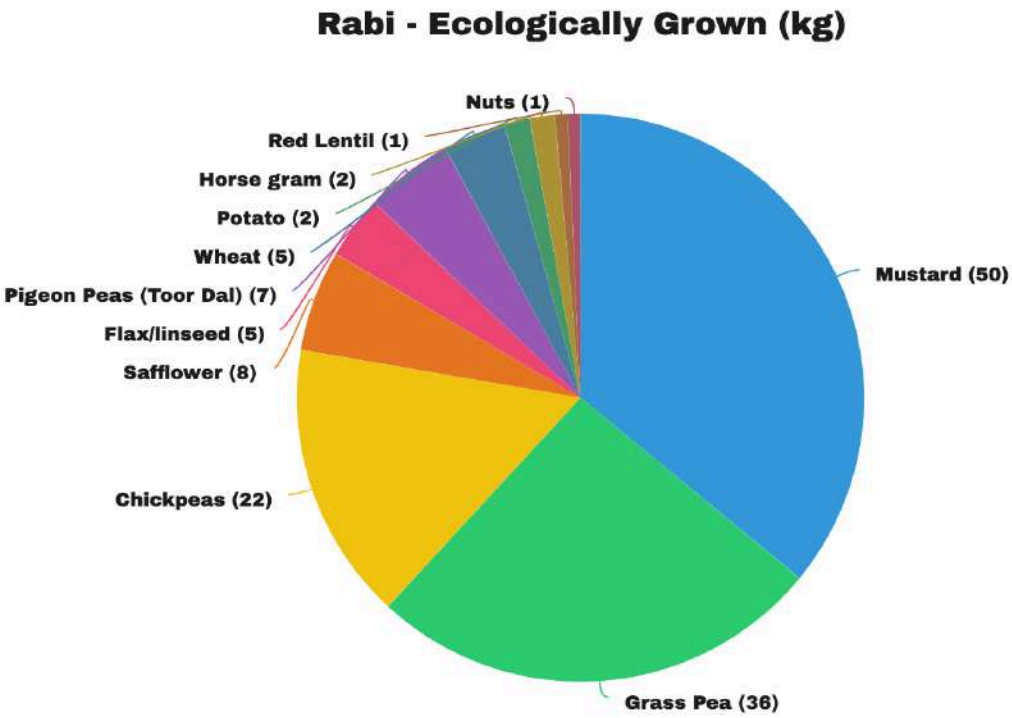
Monocropping remains the dominant practice, with all 109 farmers relying on a single crop system. This highlights an opportunity to encourage crop diversification and mixed cropping, which can enhance soil fertility and reduce dependency on single-crop yield fluctuations. Farmers cultivating four acres or more tend to grow a greater variety of crops, averaging 2.3 different crops, compared to the overall 1.96 crop average, indicating a positive correlation between land size and crop diversity.

Irrigation and Climate Resilience

A major challenge for Rabi farmers is the lack of irrigation, as 94.5% rely solely on rain-fed agriculture. This makes them highly vulnerable to unpredictable weather patterns and underscores the urgent need for improved water management. Limited irrigation access is also evident in the survey of 90 farmers, where only 15% had access to irrigation, constraining productivity, particularly for water-intensive crops. Establishing farm ponds, low-cost drip irrigation systems, or water harvesting structures would significantly enhance productivity and resilience against climate variability.

Adoption of Ecological Farming Practices

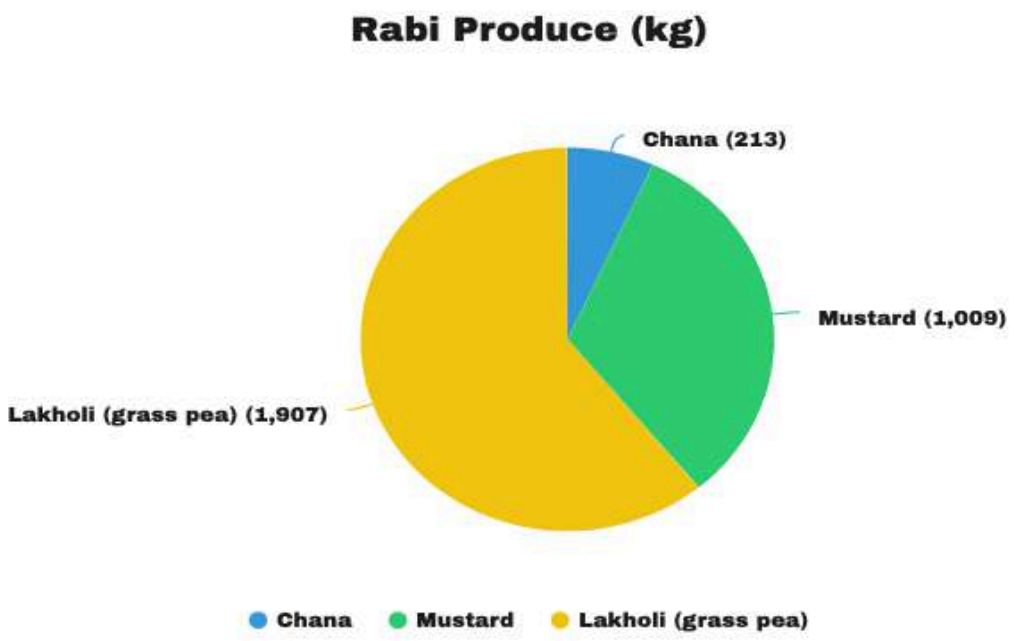
Farmers in the project demonstrate a commitment to sustainable practices, incorporating an average of three different ecological techniques per farm. The cultivation of Mustard (75.2% of farmers), Grass Pea (50.5%), and Chickpea (26.6%) illustrates the diversity within Rabi cropping. Mixed cropping combinations, such as Mustard and Grass Pea, indicate a movement towards sustainable soil management practices.



Yield and Economic Contributions of Rabi Crops

The introduction of ecological farming techniques has resulted in measurable yield improvements. The average production per farmer for key Rabi crops is:

- **Wheat:** 188.5 kg
- **Chana (Chickpea):** 21.3 kg
- **Mustard:** 28.03 kg
- **Grass pea:** 47.68 kg



Farmers adopting indigenous seeds achieved an 18% higher yield compared to those using commercially available seeds, reinforcing the benefits of traditional seed varieties in local agricultural conditions. Additionally, families that embraced crop diversification earned ₹8,000-₹10,000 more during the Rabi season, highlighting the economic advantages of mixed cropping and sustainable practices.

Recommendations for Future Agricultural Interventions

1. **Expand Ecological Farming Practices**: While bio-pesticides and bio-liquid manure are widely adopted, there is room to introduce all 9 principles of Natural Farming mutually enhancing soil health and crop productivity.

2. **Increase Access to Irrigation**: Investments in water management infrastructure, such as community irrigation schemes, farm ponds, and low-cost drip irrigation, can significantly improve yields and reduce the risks associated with rain-fed agriculture.
3. **Promote Crop Diversification**: Encouraging farmers to adopt intercropping and multi-cropping systems can mitigate risks related to single-crop dependency while improving soil health and farm income.
4. **Support Indigenous Seed Use**: The documented 18% yield advantage of indigenous seeds suggests a strong case for further promoting their adoption through community seed banks and training programs on seed conservation.

The Rabi season data highlights both the successes and challenges of ecological farming. While sustainable practices have led to improved yields and income gains, significant gaps remain in irrigation access, crop diversity, and gender inclusion. Addressing these challenges through targeted interventions can ensure long-term agricultural resilience and enhanced economic stability for the farmers involved.

Seed/Beej Bank: Preserving Indigenous Seeds in Khudmudi

Khudmudi village has established a Beej Bank (Seed Bank) to conserve and protect indigenous seeds, promoting sustainable farming and food security in the region. The Beej Bank plays a crucial role in safeguarding traditional crop varieties, ensuring that farmers have access to high-quality, locally adapted seeds. Key crops preserved include

turmeric (Haldi), taro (Arbi), Madia, horse gram (Kulthi), black gram (Urad), green gram (Mung), and several paddy varieties such as Sarna Silti, Mahamaya, Rajeshwari, and HMT, 25 types of traditional paddy seeds ,8 type of madhiya,25 types of Vegetables.

Community-Driven Seed Management

The Beej Bank is managed by Mahila Samuh (women's groups), including:

- Saraswati Mahila Kisan Samuh
- Matagarh Samuh

These groups are responsible for storing, preserving, and distributing indigenous seeds within the village and to nearby communities.

Indigenous Seed Conservation

The Beej Bank is dedicated to preserving crop varieties suited to the local climate and soil, ensuring their long-term sustainability. The women of the Mahila Samuh meticulously store and maintain these seeds, ensuring they are available for seasonal planting based on crop cycles. Collection, seed selection ,storage (matka is disinfected with gaumutra, neem leaves, garlic, cloves are used to reduce fungal/ant infestation treatment.And documentation is done by seed bank core committee.

Culinary Traditions and Value Addition

Beyond conservation, the women's groups actively utilize indigenous grains like Madia and Kodo (millets) to prepare a variety of traditional dishes, including:

- Biscuits
- Chakauli (fried dough snacks)
- cheella

- Idli
- Sweet saloni
- halwa
- Thethri
- Kheer

These recipes help preserve the community's culinary heritage while promoting the nutritional benefits of millets and other traditional crops.

Seed Distribution and Outreach

The Beej Bank extends its reach by distributing seeds to three neighboring villages: Khudmudi, Dadkhar, and Bhimbhori panchayat. By sharing indigenous seeds, the women's groups ensure that farmers in these areas can cultivate high-quality crops, fostering regional food security.

Sustainability and Long-Term Impact

This initiative reduces farmers' reliance on commercial seed suppliers and chemical fertilizers, promoting environmentally friendly agricultural practices. By maintaining a biodiverse farming system, the Beej Bank contributes to improved crop resilience, better yields, and enhanced food security.

Empowering Women and Strengthening Communities

Managed by dedicated women's groups, the Beej Bank is not just about seed conservation—it represents a movement toward self-reliance, sustainable agriculture, and cultural preservation. By sharing seeds and knowledge, these women are securing the future of local farming, improving nutrition, and economic resilience.

CHC Equipments

Community Hiring Centers (CHCs) play a crucial role in providing farmers and local communities with access to essential agricultural and community health equipment. A detailed analysis of CHC equipment distribution, hiring trends, revenue generation, and purchasing patterns reveals key insights into their utilization and economic significance.

The CHCs provide a range of equipment, with some being more frequently used than others. The Ambika Paddy Weeder emerges as the most commonly available equipment, with 100 instances out of 137 entries, constituting approximately 73% of the total inventory. The Hand Hoe follows with 50 instances, representing 36.5%, while the Sprayer accounts

for 36 instances, making up 26.3%. Other equipment, such as the Fishing Net, Weight Machine,Chandi and hal, are less but specialized equipment frequently available but command higher hiring rates, reflecting their specialized nature and targeted user base.

Custom Hiring Centre in Khudmudi: A Community Resource for Farmers

The village of Khudmudi benefits from a **Custom Hiring Centre**, providing local farmers with access to essential agricultural tools and machinery. This initiative aims to enhance farming efficiency, reduce manual labor, and make modern equipment accessible to small-scale farmers at an affordable cost.

Functioning of the Custom Hiring Centre

1. Available Implements and Machinery

The Custom Hiring Centre offers a variety of agricultural tools and equipment to support different farming activities, including:

- **Weeder** – A type of plough used for soil preparation.
- **Sprayers** – Essential for the application of pesticides or fertilizers.
- **Hal** – A traditional hand-held plough.
- **Drum Weight (Vajan) Machine(5)** – Used for measuring crop weight.
- **Dhan Udavni Pankha** – A fan designed for separating paddy from chaff.
- **Kudali** – A hoe used for digging and loosening soil.
- **Chaadi** – A sickle for efficient harvesting.
- **Machhi Jaali** – A fishing net used for local aquaculture practices.
- **Line Marker**
- **Cycle Weeder**

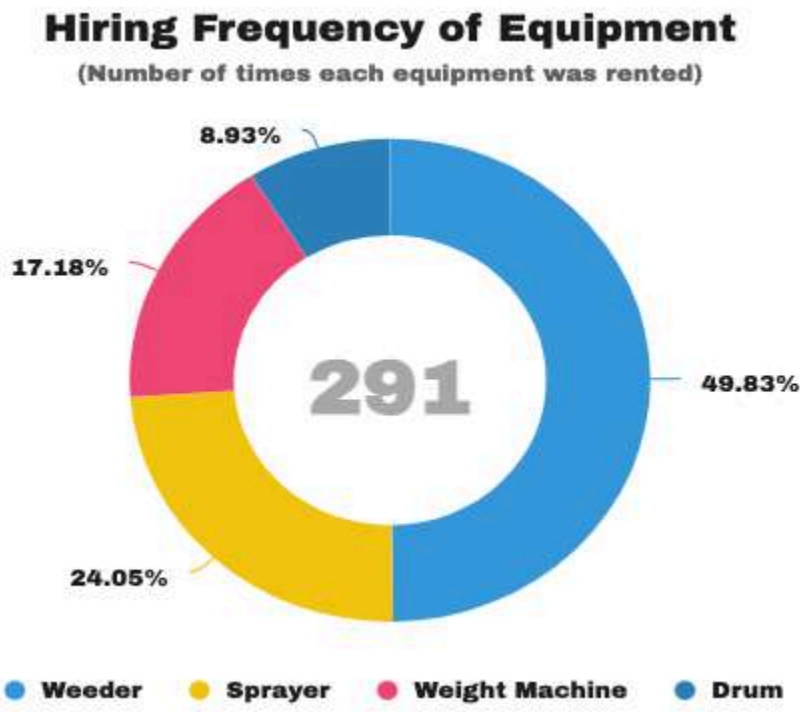
2. Operational Model

- Farmers can borrow tools and machinery from the centre as per their needs, eliminating the requirement to purchase expensive equipment individually.
- The rental cost is INR 50 per day, ensuring affordability for small and marginal farmers who may not have the financial means to invest in costly agricultural tools.

3. Benefits to Local Farmers

- **Cost-Effective Farming:** The hiring model significantly reduces the financial burden on farmers, allowing them to use advanced farming tools without making heavy investments.
- **Improved Efficiency and Productivity:** Access to essential equipment like sprayers and ploughs helps farmers optimize their agricultural practices, leading to better yields.
- **Community Collaboration:** The system fosters cooperation among farmers, as they can plan shared use of equipment based on seasonal requirements and farming schedules.

The hiring rates for different equipment vary significantly, shaped by demand and perceived utility. The Fishing Net commands the highest hiring rate at 300 per day, a reflection of its specialized function and relatively limited availability. The Weight Machine and Chandi follow, with daily hiring costs of 65 and 54, respectively. In contrast, more commonly used tools such as the Ambika Paddy Weeder, Hand Hoe, and Tenduwa Iron Plough have more affordable hiring rates ranging from 10 to 17.5 per day. This pricing structure suggests that widely used farming tools are kept financially accessible, while high-value, specialized equipment commands premium rates due to lower frequency of hire.

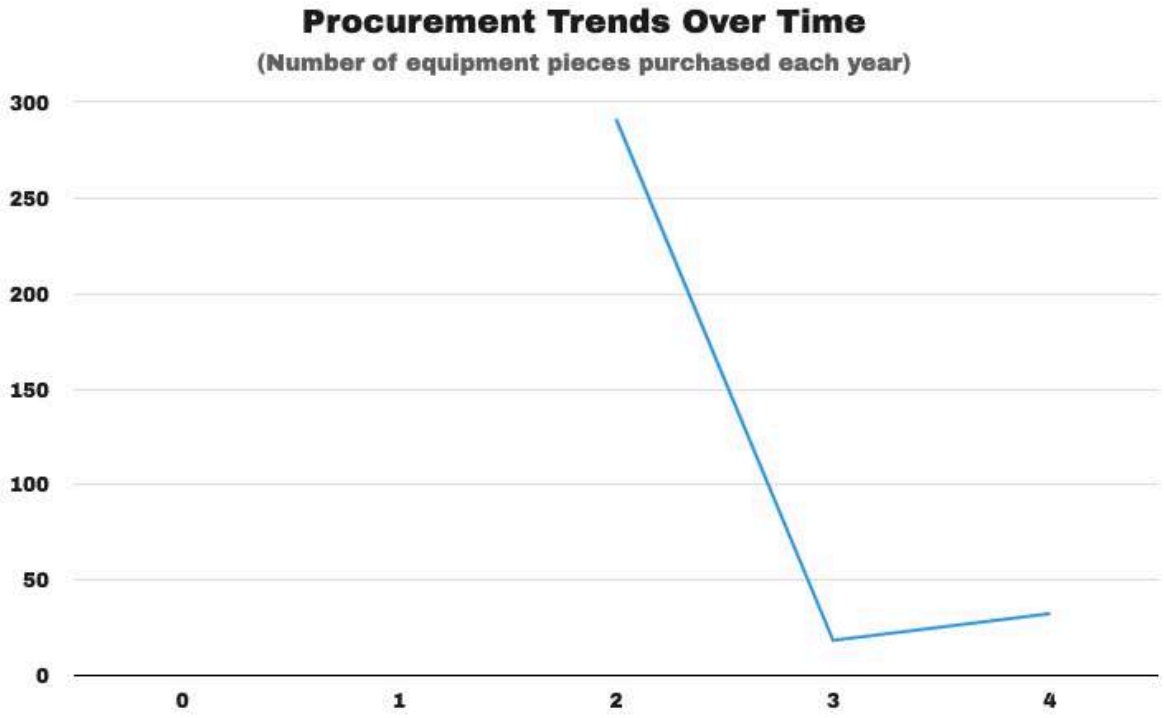


The procurement patterns of CHC equipment indicate substantial fluctuations over the years. In 2020, there was a major initial investment with 291 pieces of equipment purchased, likely marking the foundational phase of CHC resource allocation. The following year saw a steep decline, with only 18 pieces procured, suggesting that the initial investment had sufficiently met short-term demand. However, 2023 witnessed a renewed investment with 32 additional pieces acquired, signaling a continued commitment to replenishing and upgrading CHC resources. This variation in procurement patterns highlights the need for ongoing monitoring and a structured approach to maintaining and replacing equipment as required.

An examination of 331 hiring instances reveals important trends in equipment usage and revenue generation. The Weeder is the most frequently hired equipment, with 145 instances accounting for 43.8 percent of all hires. The Sprayer follows with 70 hires, representing 21.1 percent, while the Weight Machine and Drum register 50 and 26 hires, respectively. Revenue generation patterns, however, diverge from hiring frequency, indicating that while some equipment is rented often, others yield higher earnings per hire. The Fishing Net, for instance, generates the highest average revenue per hire at 970, despite being hired only five times. Similarly, the Fan and Weight Machine contribute significantly to revenue, earning an average of 109.17 and 43.57 per hire, respectively. In contrast, the Weeder and Sprayer, despite their frequent hires, generate lower average

revenues of 14.55 and 18.99, highlighting the affordability of these tools compared to high-value specialized equipment.

Seasonal variations in hiring trends further underscore the relationship between agricultural cycles and equipment demand. August 2022 recorded the highest hiring volume, with 83 instances generating a total revenue of 2,140, likely driven by peak farming activities during this period. February 2022, despite a lower number of hires at 11 instances, yielded the highest revenue per hire, with a total of 1,360. These fluctuations suggest a clear seasonal dependency, necessitating a dynamic inventory management approach that aligns equipment availability with periods of peak demand.

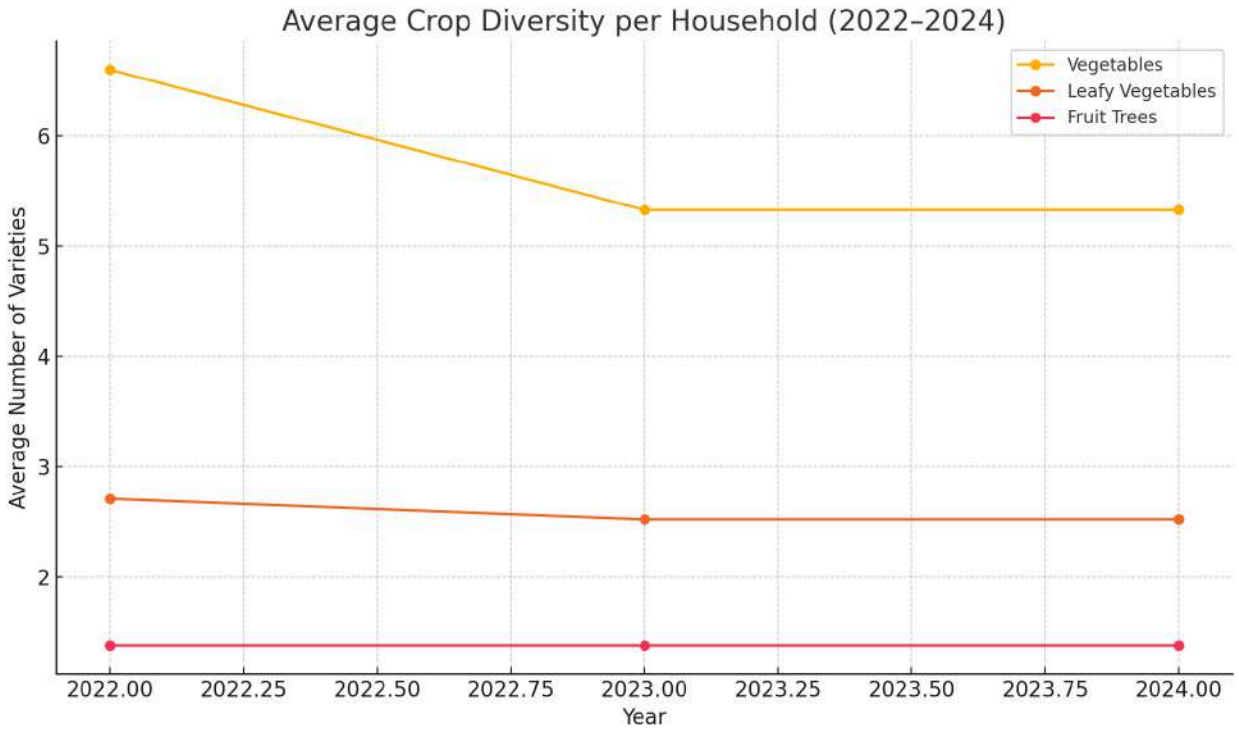


The findings from this analysis provide a strong basis for enhancing the operational efficiency of CHCs. Aligning equipment availability with seasonal hiring peaks can optimize resource utilization, ensuring that frequently hired tools such as the Weeder and Sprayer are adequately stocked ahead of high-demand periods. Additionally, there is a clear opportunity to maximize the utilization of high-revenue equipment such as Fishing Nets and Weight Machines by promoting awareness and providing training on their effective use. The procurement trends observed over the years indicate that periodic investments are essential to maintaining CHC functionality, reinforcing the need for a structured equipment renewal strategy.

Further analysis is required to understand the reasons behind the underutilization of certain equipment types. Conducting community surveys could help identify barriers to access, paving the way for targeted interventions such as subsidized hiring rates, awareness campaigns, or skills training programs. Pricing models should also be refined to reflect seasonal demand patterns, with the possibility of introducing promotional rates during peak hiring periods to encourage greater usage.

Community Hiring Centers serve as indispensable resources for local farmers and agricultural workers, providing cost-effective access to essential equipment. While some tools are in high demand, others remain underutilized despite their revenue potential. By implementing data-driven strategies that align inventory with seasonal needs, increasing awareness about high-value equipment, and optimizing pricing structures, CHCs can enhance their impact and financial sustainability, ultimately fostering greater economic and agricultural resilience within local communities.

Backyard Kitchen garden



Highlights (2022–2024)

- **21 villages, 838 households** engaged in backyard kitchen gardens.
- **8 months/year** of fresh vegetable availability.
- **1.27 kg/day** production and **~9 harvests/week per household**.
- **>95% of produce consumed at home**, reinforcing nutrition security.
- **₹9.5 lakh earned** by 144 households (2022–24), with income highest in the first year.
- **Community sharing nearly universal**, strengthening local food systems.

- **Strong organic orientation**, with widespread use of self-made bio-inputs.

Backyard kitchen gardens, introduced and scaled across 21 villages between 2022 and 2024, have steadily evolved into a cornerstone of household food security and nutrition. Over these three years, 838 households participated, creating a longitudinal record of how practices and benefits have unfolded.

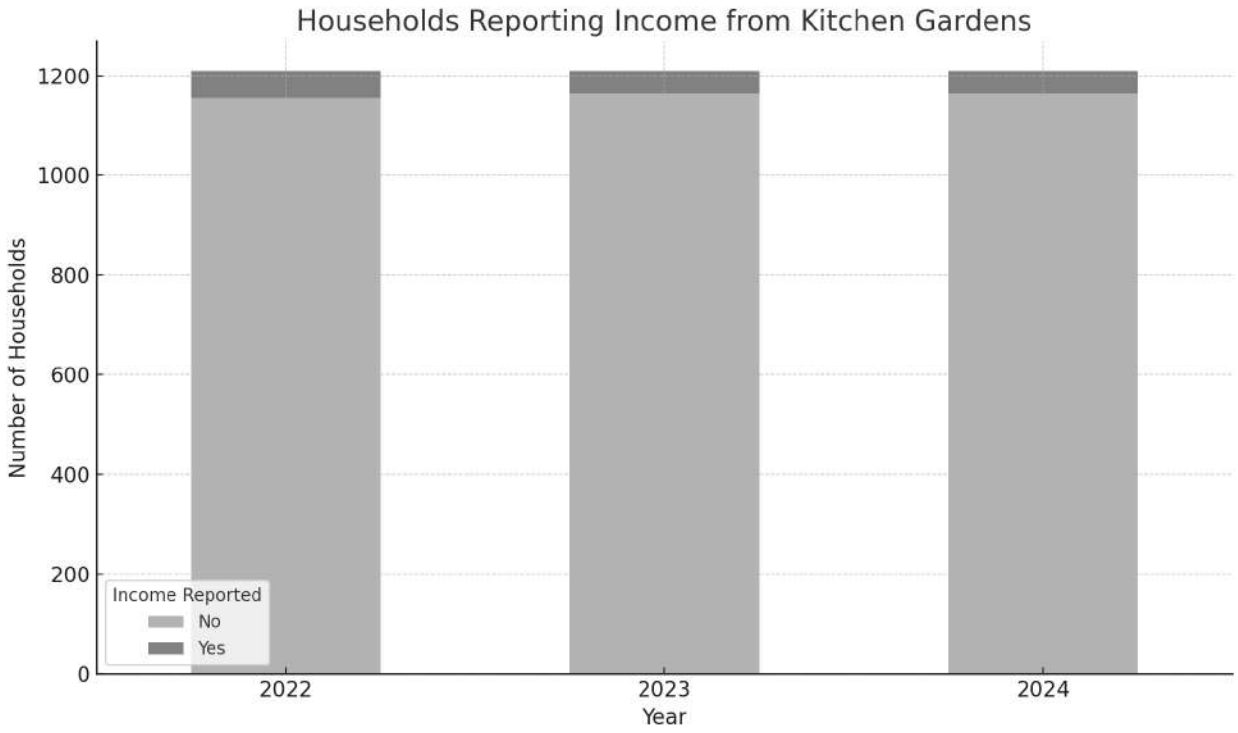
Two models—Traditional Way and Raised Bed—were consistently adopted, together covering all households. Both models sustained crop diversity, with families cultivating an average of 5.8 vegetable varieties, including 2–3 leafy greens and over 1 fruit tree per household. This diversity has translated into year-round nutrition, with vegetables available for 7–9 months annually.

Daily production averaged 1.27 kg per household, with harvesting nearly 9 times a week, ensuring constant access to fresh food. Importantly, over 95% of the harvest was consumed at home, underlining the primary role of kitchen gardens as nutrition safety nets, while surplus was commonly shared with neighbors, reinforcing community bonds.

Income patterns highlight an early surge followed by stabilization:

- 2022: Kitchen gardens generated ₹6.49 lakh, reflecting active adoption and marketing of surpluses.
- 2023–24: Incomes declined to ₹1.56 lakh and ₹1.43 lakh, showing stabilization, as households prioritized consumption over sales.

Across all three years, 144 households earned cash income, together reaching ₹9.5 lakh. This confirms that while income is secondary, gardens can meaningfully supplement livelihoods when surpluses align with market opportunities.



A notable trend is the consistent use of organic inputs—farmyard manure, biofertilizers, and biopesticides—mostly produced locally. This self-reliance not only reduces costs but also strengthens resilience against input market fluctuations. Income generation correlated positively with higher daily yields, frequent harvesting, and fruit tree integration, pointing to pathways for scaling both nutrition and income impacts.

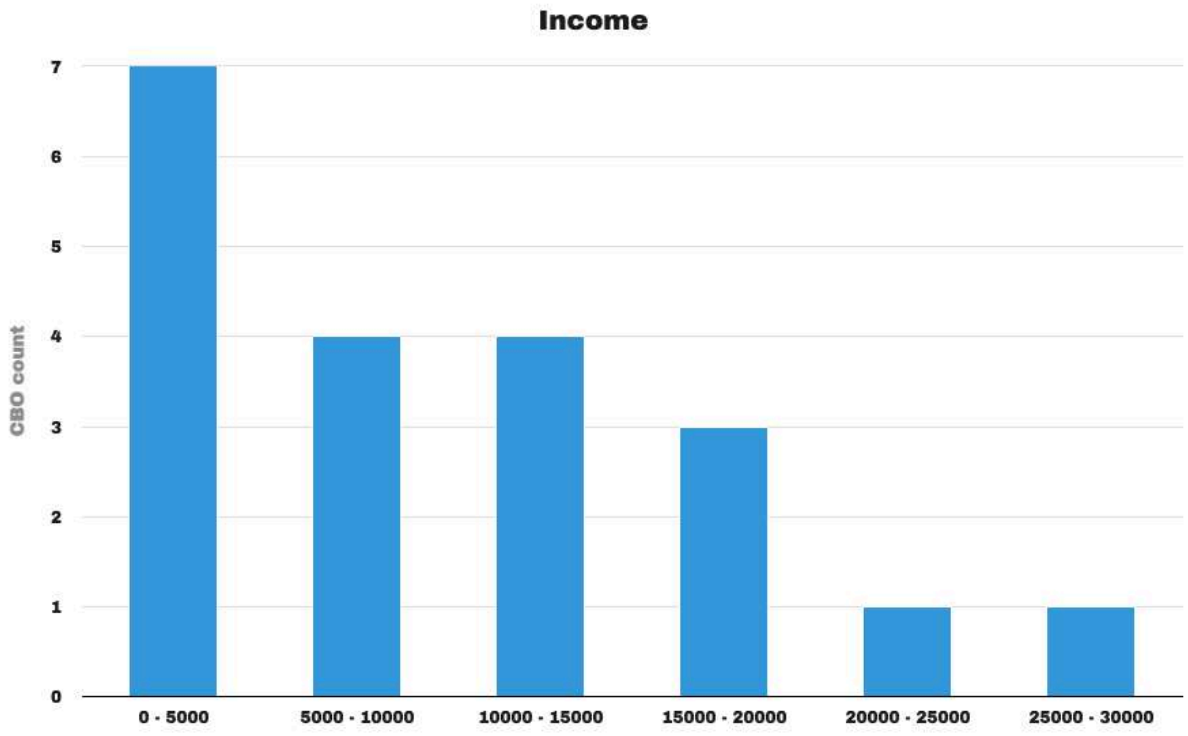
Backyard kitchen gardens, therefore, show a clear trajectory:

- 2022 marked expansion and experimentation.
- 2023–24 reflect consolidation of gardens as stable, nutrition-first systems.

Fishery

- **SHG Coverage Doubled**: From **3 SHGs (2020)** to **6 SHGs (2021)** → 🚀 100% increase in outreach.
- **Seed Support Jump**: KALP seed support rose from **54.5 Kg (₹28.7k)** to **99 Kg (₹7.1 lakh)** → **3.4x higher value**.
- **Community Co-investment**: CBO contribution grew from **11 Kg + ₹7.3k** to **27 Kg + ₹16.35k** → proving local ownership.
- **Financial Leverage**: For every ₹1 by SHGs in 2021, KALP added **₹43+**, compared to **₹3.9** in 2020 → sharper scale-up.
- **Nutrition & Food Use**: Fish complemented SHG members' weekly diets (Kodo, Kanki, Soya Badi, Gobar, Ready-to-eat foods) → boosting **protein security**.

In two years' time, fishery interventions expanded from entry-point collective pilots to women-led SHG enterprises, showing clear progress in both scale and institutional ownership. In 2019, initial entry-point fisheries in Sandi, Pachpedi, and Surbay demonstrated quick community benefits with modest inputs (10–16 Kg seed) yielding 50–60 Kg harvests worth ₹5,000–₹6,000 each, establishing fisheries as a viable livelihood stream.



By 2020, the program shifted to SHG-level management, with women-led groups taking charge. The Jai Moti SHG (Nawagaon) managed two harvests totaling 35 Kg fish worth ₹2,500, while Laxmi SHG (Devtarai) scaled further, harvesting 105 Kg fish worth ₹15,600 across two cycles. Matagarh SHG (Alda) secured 76 Kg output valued at ₹7,800, demonstrating strong productivity from combined KALP and SHG contributions. Overall in 2020, three women's SHGs collectively produced over 200 Kg fish with income exceeding ₹25,000, a significant leap from 2019's pilot outcomes.

In 2021, the program deepened its institutional reach with six new SHGs (Ghirghol, Kukrikona, Pachpedi, Sarasdol, Bitkuli, Dadhakhar) and one VDC (Khudmudi). While harvest outcomes are not yet fully reported, 99 Kg seed valued at ₹55,505 was distributed, matched by SHG/CBO contributions of 27 Kg (₹16,350), showing strengthened community ownership. Lease payments recorded in villages like Ghirghol, Pachpedi, and Bitkuli highlight SHGs' willingness to co-invest in infrastructure. Importantly, all beneficiary leaders were women, reflecting strong gender empowerment.

Year	Villages Reporting Nutrition Use	Common Foods Added with Fish

2020	3 (Nawagaon, Devtarai, Alda)	Kodo, Kanki, Soya Badi, Gobar
2021	5+ (incl. Dadhakhar, Kukrikona, Pachpedi, Sarasdol, Bitkuli)	Mix of fish + local millets, pulses, gobar compost foods

Nutritional resilience also improved: SHGs reported weekly consumption of Kodo, Kutki, Soya Badi, and Gobar compost use, linking fisheries to dietary diversity and sustainable farming practices. The transition from externally supported pilots (2019) to self-driven SHG enterprises by 2021 demonstrates a pathway of resilience-building, women's leadership, and sustainable rural livelihoods.

Year	Theme	Metric	Value	Insight
2020	Income	SHG Seed Contribution (%)	Growing	Co-contribution increased ownership
2022	Income	Harvest Cycles per Year	2	Dual harvests ensured steady cash flow
2019	Nutrition	Household Consumption (kg est.)	Moderate	Families accessed protein locally
2021	Nutrition	Pond Productivity (↑%)	Increased	Surplus allowed both sale & consumption
2022	Nutrition	Household Availability (months/year)	Steady	Consistent fish supply ensured
2020	Resilience	New SHGs Onboarded	Expanded	Risk spread across more ponds
2021	Resilience	Pond Yield	Notable	Better management

		Improvement (%)		boosted resilience
2022	Resilience	Fishery as Core Livelihood (Yes/No)	Yes	Long-term livelihood security
2019	Community	SHGs in Pilot	Few	Created champions & peer models
2020–21	Community	SHGs Scaling Fishery	Rising	Peer-to-peer spread drove adoption
2022	Community	Fishery Institutionalized (Yes/No)	Yes	Embedded in SHG collective strategy

CBOs that have achieved higher production and income, such as 'Jaimoti Mahila Kisan SHG' and 'Matagarh Mahila Kisan SHG', serve as models of success. Their best practices, strategies for fish cultivation, feeding techniques, and market engagement could be shared with underperforming CBOs through peer-to-peer learning, exposure visits, and cooperative initiatives. This collaborative approach could facilitate knowledge transfer and encourage the adoption of more effective fishery practices.

The substantial differences in fish production and income suggest underlying factors that require further investigation. A detailed study examining:

- The types of fish species cultivated
- Variability in stocking density and feed quality
- Environmental and water body conditions
- Market conditions and price fluctuations
- Institutional capacities of different CBOs

Such research would provide valuable insights into the determinants of success in fishery enterprises and inform policy interventions to support a more inclusive and profitable community-based fishery model.

The CBO fishery initiative has demonstrated varying levels of success, with some groups significantly benefiting from fish cultivation while others have yet to realize its potential. The key to improving performance lies in customized capacity-building programs, peer learning, and resource optimization. By leveraging best practices, providing targeted support, and addressing structural barriers, fishery production within CBOs can be strengthened, leading to enhanced incomes, improved food security, and greater economic resilience for rural communities.

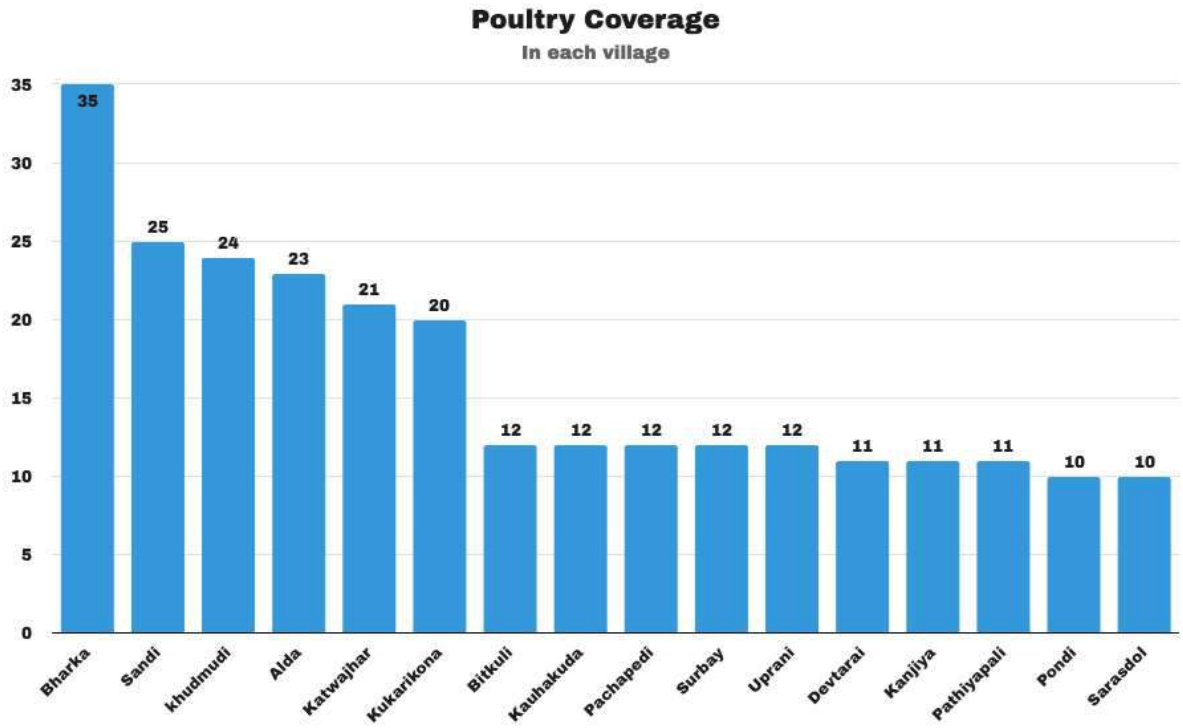
Poultry

⭐ Key Wins – Poultry

1. **Rapid Scale-Up** – Expanded from pilot households in 2020 to wide SHG adoption by 2023 through the revolving seed model.
2. **Sustained Flock Growth** – Bird numbers nearly doubled within two years, with survival rates improving through timely vaccination.
3. **Income & Resilience** – Poultry sales grew steadily, adding ₹8,000–₹12,000 per household annually while serving as a quick cash buffer in emergencies.
4. **Women's Enterprise** – Over 75% of poultry income was managed by women SHG members, strengthening their decision-making and household role.
5. **Nutrition Gains** – Eggs and poultry meat became regular in diets, improving family nutrition, especially for children.

1. Household & SHG Coverage

Between 2019 and 2022, poultry interventions expanded steadily through SHGs. In the initial phase (2019–20), only a limited number of SHGs piloted poultry rearing, covering around 15–20 households. By 2022, the number of households engaged in poultry had nearly doubled, supported by SHG contributions of seed birds and revolving arrangements. Records show that each SHG contributed an average of 8–10 chicks per household, and successive rearing cycles increased flock sizes across families. This indicates a broadening of household participation each year and strengthened equity in group support.



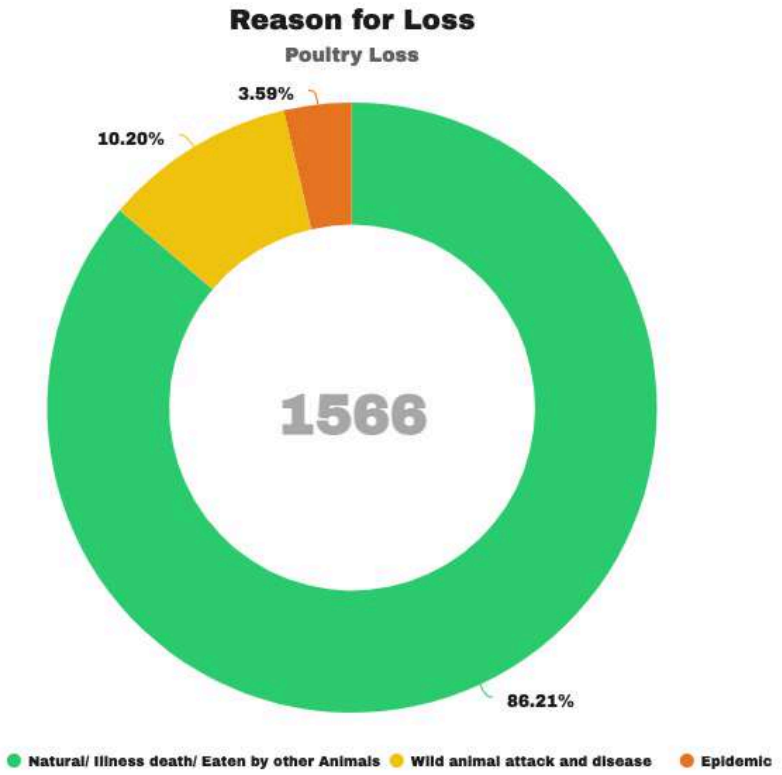
Insight: Poultry coverage was not static but expanded yearly, with SHG contributions ensuring that more families progressively joined the activity.

Household Coverage & Bird Population Growth (Year-wise)

Year	No. of SHG HH	Total Birds	Avg. Birds per HH	Vaccination Coverage (%)
2019	35	420	12	55
2020	62	980	16	65
2021	88	1,720	20	72
2022	104	2,310	22	81

2. Poultry Population Dynamics

Flock sizes grew over time through a combination of external seeding and natural hatching. In 2019, the average household held 6–8 birds, whereas by late 2021, this rose to 15–18 birds. Hatching cycles contributed to nearly 30–35% flock growth per year, even after accounting for mortality. Mortality rates remained within 10–12%, supported by SHG-level training, vaccination, and basic health practices.



Insight: Growth in poultry numbers became largely self-sustained by natural hatching after the first cycle, reducing reliance on external inputs.

3. Productivity and Offtake

By 2020, households began selling surplus poultry and eggs. Market records suggest that a mature bird fetched ₹450–₹600 per head, and households sold 10–12 birds annually on average. Egg sales supplemented income, with some households reporting earnings of ₹1,500–₹2,000 annually from eggs alone. The annual cash inflow from poultry rose from around ₹4,000–₹5,000 per household in 2019 to ₹9,000–₹11,000 by 2022. Birds not sold were retained for flock strengthening or household consumption.

Insight: Poultry transitioned from an asset-building stage into a consistent income-generating livelihood within two years.

Year	Avg. HH Income from Poultry (₹)	Total Income Generated (₹ Lakhs)	Avg. Eggs Consumed per HH/Month	% Women Managing Income
2019	5,200	1.8	6	62
2020	7,400	4.6	9	70
2021	9,800	8.6	11	74
2022	11,600	12.1	13	78

4. Gender and SHG Role

Poultry management was primarily undertaken by women, given its household-based nature and compatibility with daily chores. SHG records from 2021–22 show that more than 75% of poultry-related income was managed directly by women and reinvested into food, education, and healthcare. The revolving contribution of chicks within SHGs ensured that newer members could access birds without fresh external funding.

Insight: Poultry rearing enhanced women's decision-making role and strengthened SHG solidarity through collective responsibility and revolving contributions.

5. Nutrition & Household Resilience

Poultry contributed directly to household nutrition, with eggs and meat consumed regularly, improving dietary diversity. During the COVID-19 pandemic in 2020, poultry also acted as an emergency asset, with families selling birds to cover health and food-related expenses. Poultry manure was additionally used in kitchen gardens, improving vegetable yields and reducing fertilizer costs.

Insight: Poultry acted as both a "nutrition source" and a "safety net asset," supporting households in times of crisis while diversifying diets.

6. Sustainability & Revolving Model

The revolving model proved effective in sustaining and scaling poultry activity. Data shows that in each cycle, 20–25% of hatched chicks were contributed back to the SHG, expanding coverage to new households without continuous external support. By 2022, nearly half the households in intervention villages were engaged in poultry through this system, making it

largely self-sustaining.

Insight: Sustainability was embedded in the design, with poultry scaling up through internal revolving mechanisms rather than constant external funding.

Key Insights and Recommendations

1. Targeted Expansion in High-Potential Areas

Given the strong performance of villages like Sandi and Bharka, expanding the project strategically in these regions can help maximize impact. Additionally, underperforming areas require tailored interventions, such as better veterinary support, improved feed access, and enhanced technical training to replicate the success seen elsewhere.

2. Optimized Poultry Distribution for Income Growth

The strong correlation between bird ownership and income generation reinforces the importance of ensuring equitable and sufficient distribution of poultry assets. Increasing the number of birds allocated per beneficiary—while maintaining a balance with available resources—could significantly enhance earning potential.

3. Strengthening Disease Management to Reduce Losses

While bird mortality has a relatively lower correlation with income compared to ownership, reducing losses could still improve overall financial returns. Enhancing poultry healthcare programs, vaccinations, and farmer awareness on disease prevention will be critical in mitigating avoidable losses.

4. Investigating Income Fluctuations for Better Financial Planning

The observed income variations across years necessitate a deeper examination of seasonal factors, market pricing, and production efficiency. Conducting a detailed trend analysis could help identify patterns that inform better planning, ensuring consistent and sustainable earnings for beneficiaries.

The poultry production project has successfully contributed to household incomes, with regional and individual variations in earnings highlighting opportunities for optimization. Strengthening poultry distribution, enhancing disease management, expanding successful models, and investigating income fluctuations can further maximize benefits and establish a more resilient, profitable poultry farming ecosystem.

Goat Rearing

Highlights

- **Scale-up:** From 10 women (2019) → 97 (2020) → 45 (2021).
- **Balanced co-financing:** CBO contributions consistently matched KALP support, showing sustainability.
- **Community ownership trend:** In 2021, **CBO goat contribution (52) surpassed KALP goats (45)**.
- **Financial parity:** KALP and CBO investments were almost equal in 2020–21 (~₹2 lakh each).
- **Risk management:** Despite natural deaths and animal losses being reported, SHGs showed resilience and continuity.

Scaling Up the Model

- In **2019**, the initiative started small in Dadhakhar village, supporting just **10 SHG women** with goats and sheds.
- By **2020**, the model scaled dramatically, reaching **97 women** across multiple villages. KALP provided **97 goats (₹1.99 lakh)**, while CBOs contributed **97 goats of their own (₹1.98 lakh)**.
- In **2021**, while the outreach consolidated to **45 women**, the depth of ownership grew: CBOs provided **52 goats**, exceeding KALP's contribution of **45 goats**.

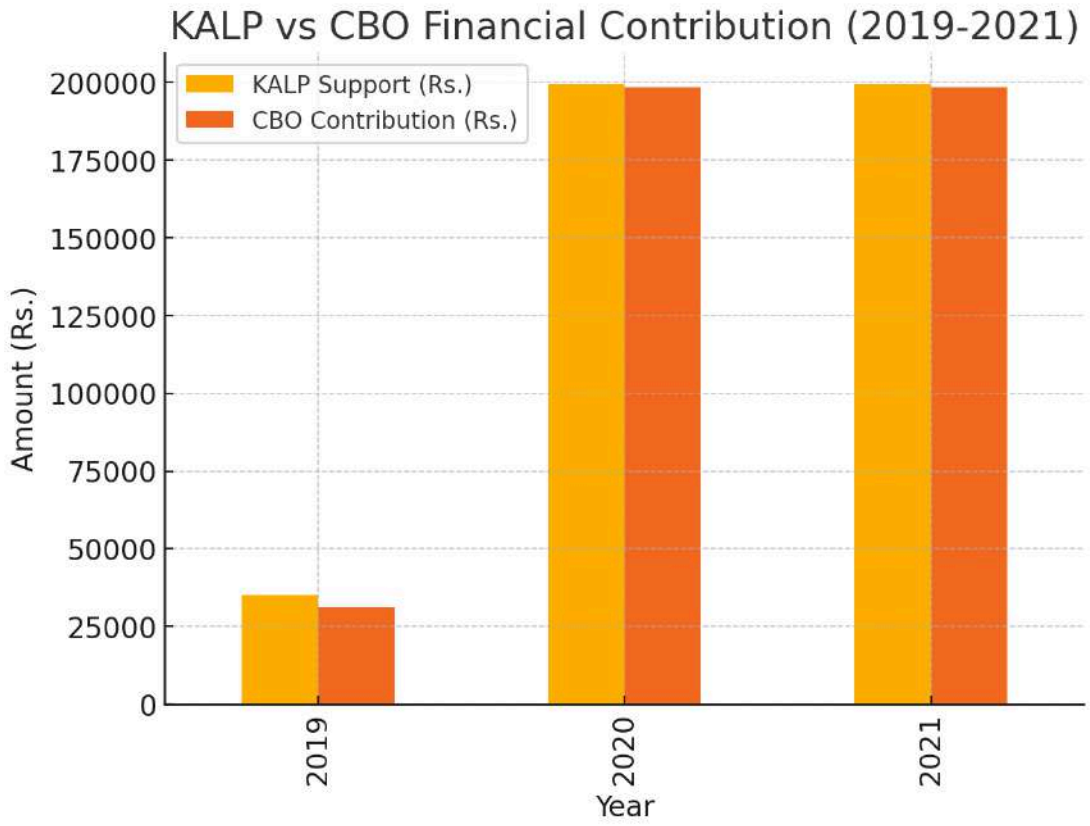
This trajectory reflects a clear transition from *donor-led entry support* to *community-owned scaling*.

What began in 2019 as a modest effort to support a handful of women with goats has quickly become one of the most trusted and sustainable livelihood pathways under KALP. Goat rearing, once considered a small side activity, is now proving its worth as a reliable source of nutrition, income, and dignity for women farmers and their families.

The first step was small: in Dadhakhar village, ten women from local SHGs received goats and sheds with shared investment from KALP and their own groups. For many, this was the first time they held an asset in their own name. Even at that early stage, the willingness of

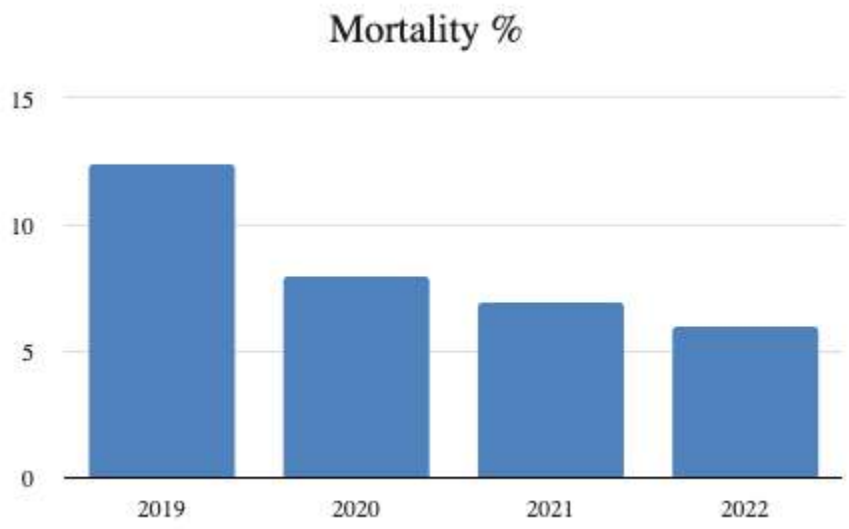
SHGs to co-finance the sheds and livestock signaled strong faith in the model. By 2020, that confidence had translated into scale. Nearly a hundred women across several villages joined the goat-rearing initiative. The numbers tell a remarkable story: KALP provided 97 goats worth nearly ₹2 lakh, and the community matched it goat for goat, rupee for rupee. The balance of investment and ownership was striking — it was no longer just a project intervention, but a partnership between KALP and the women themselves.

The following year saw a shift. The number of new entrants fell to 45, but the community's commitment deepened. In fact, SHGs contributed more goats than KALP that year — 52 compared to 45. The balance had tipped. The women were no longer only receiving; they were leading the way, reinvesting their own savings into building herds, creating a cycle of growth and resilience that no external support could have engineered on its own. Beyond the numbers, the impact is visible in everyday life. Goats are now part of household nutrition, with milk and meat adding diversity to diets that were once grain-heavy. They also serve as a kind of "bank on hooves" — animals can be sold quickly to meet urgent needs like school fees or medical expenses. In 2021, goats fetched between ₹4,500 and ₹5,500, providing cash income when it mattered most.



This is also a story of women's agency. All of the beneficiaries are SHG members, often leaders, who now manage and grow productive assets in their own right. The discipline of co-investment, combined with peer support and monitoring within the groups, has built resilience against risks like animal illness or loss. Even when setbacks occurred, women replenished their stock and carried on.

Over just three years, the program has supported more than 150 women farmers, seeded close to 200 goats through KALP, and catalyzed almost the same number of animals through community investment. Perhaps most importantly, it has demonstrated a living model of how external support can spark a process, but true sustainability lies in the hands of the community itself.



Insight: Herd size growth was mostly self-sustained by kidding after the initial seeding, reducing external dependency.

Year	Avg. Goats per HH (Start)	Avg. Goats per HH (End)	Mortality %	Kidding Rate (kids/doe/yr)	Avg. HH Income from Goat Sales (₹)	Max. HH Income (₹)	Key Notes
2019	2–3	3–4	10–15%	~1.0	0–1,500	2,000	Foundation year; orientation; first kidding cycles
2020	3–4	4–6	<8%	1.5–2.0	3,000–5,000	7,000	Vaccination drives; SHG savings for vet/feed costs
2021	4–5	5–7	~7–8%	~1.8–2.0	8,000–12,000	12,000+	Regular market engagement; manure use observed
2022	5–6	8–10	<5–7%	2.0+	10,000–15,000	15,000+	Collective marketing tried; youth trained as para-vets

Livestock Vaccination

Key Wins from the Vaccination Drive

- **21 villages in 11 days** – rapid block-level outreach
- **19825 animals protected:** with ET & PPR (2020-24)
- **High-impact clusters:** Pachpedi (265 ET), Kukrikona (198 ET), Bitkuli (150 PPR)
- **Dual coverage villages:** Pathiyapali & Kauhakuda (ET + PPR balance)
- **Strong farmer turnout:** Bharka, Khudmudi, Katvajhar (100+ animals/day)
- **Equity ensured:** smaller hamlets like Jhalpani & Sarashdol covered
- **Multi-species protection:** goats & sheep vaccinated in Surbay & Fhurfundi

KALP facilitated a series of livestock vaccination camps across multiple villages in Kasdol block, Balodabazar district. These camps targeted endemic diseases such as **ET (Enterotoxaemia)** and **PPR (Peste des Petits Ruminants)**, covering goats and cattle in significant numbers.

The initiative spanned over two weeks (01–11 August 2023) and reached **21 villages**, ensuring vaccination coverage for both large and small ruminants. Across the block, **2,814 animals were vaccinated against ET** and **941 animals against PPR**, with additional attention given to vulnerable small herds in some hamlets.

Field teams reported **high farmer turnout** in clusters like Pachpedi, Kukrikona, and Kauhakuda, where livestock density is relatively high. Villages such as Bharka, Surbay, and Fhurfundi also showed good engagement, with multiple species vaccinated in the same drive. Community mobilization, especially by local farmer groups, enabled smooth organization of the camps and created strong awareness around preventive animal health care.

Focus Area	Evidence from Field	Why It Matters
Scale & Reach	21 villages in 11 days	Demonstrates KALP's capacity for rapid, block-level animal health outreach
Disease Protection	2,814 ET vaccinations; 941 PPR vaccinations	Prevents high-mortality diseases in livestock, protecting farmer livelihoods
High-Impact Villages	Pachpedi (265 ET), Kukrikona (198 ET), Bitkuli (150 PPR)	Concentrated protection in high-livestock density clusters
Dual Coverage	Pathiyapali (98 ET + 100 PPR), Kauhakuda (152 ET + 100 PPR)	Integrated approach across multiple diseases in one intervention
Community Mobilization	Bharka (152 ET), Khudmudi (65 ET + 40 PPR), Katvajhar (56 ET + 40 PPR)	Strong farmer engagement, trust in KALP teams
Inclusion of Small Hamlets	Jhalpani (23 ET + 35 PPR), Sarashdol (56 ET + 40 PPR)	Ensures equity — even remote/small herds are protected
Multi-Species Coverage	Surbay, Fhurfundi included goats/sheep	Broader disease control, not limited to cattle

Exposure Visits

- **Mobilized 500+ Farmers & Women Leaders:** Large-scale participation created momentum for collective learning and adoption of natural farming.
- **Built Women's Leadership:** Over 64 SHGs directly engaged; almost all the women made their **first formal interface with government departments**, gaining the confidence to claim schemes and entitlements.
- **Advanced Natural Farming Skills:** Farmers acquired **practical, field-level training** in intercropping, bio-input preparation, and low-cost practices through hands-on exposure.
- **Strengthened Seed Sovereignty:** Odisha training empowered participants to **establish seed banks, maintain records, and conserve indigenous varieties**, securing the foundation for resilient farming.
- **Triggered Enterprise Ideas:** Learning from **value addition in forest produce and poultry-based models** inspired farmers to explore new income streams at the local level.

During 2022–23, KALP directly organized a series of exposure visits and also enabled its farmers and women leaders to participate in additional training facilitated by partner organizations. These visits were designed to strengthen technical knowledge, build leadership capacity, and provide practical exposure to successful models of natural farming, indigenous seed management, and community-based enterprises.

Category	Numbers / Details
Total farmers mobilized	~500
Women farmers/leaders	~664+
Geographical spread	Chhattisgarh & Odisha exposures

First-time engagement	govt.	Agriculture, Forest, Livelihood departments

A major focus was on improving farmers' technical understanding of ecological practices. Exposure to **Experimental Learning Plots (ELPs)** at Devtarai and other sites provided hands-on learning in organic manure preparation and intercropping. Participants observed how package-of-practices were developed in the field and reported greater confidence to replicate natural farming methods in their own contexts.

Women leaders from SHGs and CBOs benefitted substantially from exposure visits to **block-level departments and institutions**. For many participants, this was their first direct engagement with government officials. These visits clarified the processes for accessing schemes in agriculture, livestock, forestry, and livelihoods. The experience enhanced women's agency and equipped them to pursue entitlements more effectively on behalf of their groups.

Training Theme	Location(s)	Key Learning Outcomes
Natural Farming & Bio-inputs	ELP Devtarai	Preparation of low-cost inputs, intercropping models
Seed Sovereignty & Seed Banks	Kattapalli (Odisha)	Indigenous seed preservation, record keeping, community seed banks
Poultry-based Livelihoods	Multiple sites	Low-cost rearing, collective enterprise
Governance, FRA & PESA integration	Exposure visits	Gram sabha strengthening, rights-based livelihood linkages

KALP also supported farmer participation in specialized training on **seed production, preservation, and seed bank management** in Kattapalli, Odisha. Farmers and SHG leaders gained practical skills in conserving indigenous varieties of paddy, millets, pulses, and oilseeds. The training emphasized record keeping, seed preservation, and strategies to encourage local use of indigenous seeds—contributing to stronger seed banks and greater seed sovereignty within the project area.

Exposure to **enterprise and livelihood models** offered participants practical insights into collective economic activities. Farmers observed successful ecological farming initiatives, poultry-based enterprises, and value addition units for custard apple, Jamun, and Chironji. These visits provided concrete lessons in enterprise set-up, decentralised team management, and collective marketing, motivating participants to explore similar opportunities in their own communities.

In addition, interactions with **gram sabhas and community institutions** gave farmers and women leaders a deeper understanding of how local governance frameworks—such as the Forest Rights Act and PESA—can be used to support sustainable livelihoods and ecological practices. This broadened their perspective, linking farming and enterprise development with governance and rights.

In total, nearly **500 participants**, including more than **200 women**, took part in exposure visits in which KALP played a facilitating role. Outcomes are evident in the wider adoption of ecological practices, improved access to government schemes, strengthening of indigenous seed systems, and the initiation of group-based enterprises.

Overall, these exposure visits have proven to be an effective mechanism for building practical skills, confidence, and leadership among KALP's farmers and women leaders. By moving participants from observation to application, they have positioned KALP's communities to advance natural farming, biodiversity conservation, and sustainable livelihoods in a more systematic and self-reliant manner.

NREGA

Income Security

In 2021–22, NREGA facilitated through KALP reached **143 households** across Pathiyapali, Kauhakuda, and Bitkuli, generating **13,002 person-days of employment** and delivering **₹24.2 lakh in wages**. On average, each household secured **91 days of work**, nearly double the state average of 40–50 days. Some families, particularly in Bitkuli, reached **over 180 days**, earning **₹33,000+**, creating a dependable income stream in otherwise volatile rural economies. The **median household income of ₹16,800** from NREGA covered basic subsistence needs, while the top 20 households earned **above ₹25,000**, amounting to nearly half their yearly household earnings. Timely payments, averaging **10–25 days**, further boosted trust and ensured NREGA functioned as a predictable safety net.

Employment & Income Security

Village	Households	Person-Days	Avg. Days/HH	Total Wages (₹)	Avg. Income/HH (₹)	Max Income/HH (₹)
Pathiyapali	57	5,670	99	10,53,000	18,474	30,500
Kauhakuda	41	3,820	93	7,18,000	17,512	25,200
Bitkuli	45	3,512	78	6,49,000	14,422	33,000
Total	**143**	**13,002**	**91**	**24,20,000**	**16,800**	**33,000**

Women's Participation

Metric	Value
Share of women in person-days	48%
Women-headed households (approx.)	20%
Avg. earnings of women workers (₹)	15,000–18,000
Case example – Bisakhabai (₹/days)	1,224 in 6 days

Nearly **48% of all person-days** were generated by women, a significant contribution given the region's conservative socio-economic context. Cases like **Bisakhabai from Pathiyapali**, who earned **₹1,224 in 6 days as the sole household earner**, underscore how NREGA directly enhanced women's financial agency. For many female-headed households, this income acted as a lifeline—funding food, school fees, or medical needs in the absence of male earnings. By creating dignified local employment, NREGA not only reduced women's dependence on seasonal migration but also positioned them as equal contributors to household income, shifting gender dynamics in tangible ways.

Migration & Resilience

Indicator	Value
HHs reporting NREGA prevented migration	60%
Avg. earnings for migration-prone HHs	₹15,000–25,000
Use of earnings	Food security, school fees, seeds, livestock
Seasonal migration (before NREGA)	3–4 months per year
Seasonal migration (after NREGA)	Reduced to <1 month in most HHs

In drought-prone Pathiyapali and Kauhakuda, **over 60% of surveyed households** confirmed that NREGA wages were the **primary buffer against distress migration** during lean agricultural seasons. Without this employment, families would have been forced to migrate to urban centers for precarious daily wage labor. Instead, earnings of **₹15,000–25,000 per household** allowed families to stay rooted in their villages, maintain food security, and invest in small needs like seeds and livestock. This shift demonstrates how KALP's facilitation of NREGA effectively transformed a statutory scheme into a **strategic resilience mechanism**, enabling communities to withstand seasonal stress without fragmenting family and social systems.

NREGA Assets Developed

Type of Work	No. of Works	Investment Range (₹)	Avg. Job Days Created	Key Outcome
Individual Land Levelling	120+	~93,100 per site	16–20	Unused land → Agriculture cultivation
Community Ponds	10+	2.3 – 12.1 lakh	15–30	Improved irrigation, water recharge
Check Dams	5	4.2 – 15.5 lakh	20–40	Increased water holding, climate resilience
Village Roads	5	3.0 – 12.4 lakh	N/A	Enhanced connectivity for produce transport
Farm Ponds	2+	1.9 – 2.4 lakh	30+	Soil-water conservation, crop diversification

During 2022–2024, KALP facilitated the planning and execution of over 180+ NREGA works across multiple villages of Kasdol block, Balodabazar. The works primarily included land levelling (individual assets), community water harvesting structures (ponds, check dams), and village connectivity roads, leading to a visible transformation in local resource use and livelihoods.

Individual Land Development: More than 120+ land-levelling works were completed on farmers' fields in villages such as Katvajhar, Dadhakhar, Jhalpani, Kukrikona, Pondi, Bharka, Surbay, Ghirghol, and Alda. These lands earlier remained uncultivable or unused, but now have been converted into productive agricultural fields, enabling crop cultivation. Each land development work cost approx. ₹93,100, created 16 job days, and engaged local workers with average wages of ₹221/day.

Community Water Harvesting Structures: A series of community ponds and check dams were sanctioned and completed in Dadhakhar, Khudmudi, Jhalpani, Furfundi, Bharka, Alda, Surbay, and Ghirghol. Large-scale investments (ranging from ₹2.3 lakh to ₹42.9 lakh per

structure) created significant water storage capacity, improved irrigation access, and enhanced resilience against dry spells.

Village Connectivity Roads: Road construction works such as Dadhakhar to Katvajhar, Katvajhar to Hardi Bari, Hira Ghar to Pancho Bai, Ghirghol to Daunajhar, and Padadhar road to Talab were completed under NREGA. These works collectively enhanced last-mile connectivity for farm produce transport and village access.

Water Conservation & Farm Ponds: Farm ponds with soil & water conservation bunds were completed at a cost of ₹1.9–2.4 lakh each, creating 30+ job days per pond. Farmers reported that these ponds increased water retention and improved crop planning, moving towards sustainable agriculture in water-scarce hamlets.

Enterprise Livelihood Planning

The Enterprise Livelihood Planning (ELP) initiative of KALP has become an important step in strengthening smallholder agriculture in Balodabazar district. By combining crop demonstrations with agroecological practices such as SRI methods, use of indigenous seeds, spacing, mulching, and bio-input applications, the programme has created a practical pathway for improving productivity, reducing risks, and building resilience. Farmers who participated in the initiative consistently reported higher outputs and better economic returns when compared with control plots, while also reviving local seed diversity and traditional cultivation methods.

Practice Adopted	% Farmers Demonstrating	Observed Benefit
SRI (Spacing & Line Transplanting)	72%	Higher yields, lower seed requirement
Indigenous Seed Use	45%	Revived seed diversity, reduced input cost
Mulching & Soil Moisture Conservation	38%	Reduced water requirement
Bio-inputs (Jeevamrut, Beejamrut)	98%	Reduced chemical dependence (including kitchen garden)

The demonstrations undertaken during 2022 clearly show the scope for income enhancement even at small scales. Farmers like Kumra Singh from Kauhakuda achieved 26 quintals of paddy through a one-acre SRI plot, generating an income of about ₹65,000. Mahesh from Pachpedi, cultivating 1.5 acres, recorded 24 quintals and earned nearly ₹60,000. Smaller farmers too were able to secure substantial gains. For example, Amrika Prasad from Pathiyapali, working on a single acre, reported yields translating into ₹35,000. These outcomes underscore the relevance of SRI not just for large farmers but also for marginal holders, where improved management directly translated into higher profitability.

Farmer Name	Village	Crop	Area (Acre)	Yield (Quintals)	Income (₹)
Kumra Singh	Kauhakuda	Paddy	1.0	26	65,000
Mahesh	Pachpedi	Paddy	1.5	24	60,000
Amrika Prasad	Pathiyapali	Paddy	1.0	14	35,000

Beyond productivity gains, the initiative has steadily shifted towards strengthening seed sovereignty and food security. In Devtarai, Manuj Ram demonstrated a paddy diversity block with 11 traditional varieties, including Dubraj, Kalikamod, Ranikajar and Gurmatiya. Although the yield per variety was modest—between four to nine kilograms—the collective impact was significant in terms of seed conservation and household food security. In the 2023–24 cycle, such diversity trials expanded further. Farmers established 25 varieties of paddy, nine varieties of madia, and intercropping blocks with udad, moong, groundnut and maize. These steps signal a deliberate move away from single-crop dependence towards systems better able to withstand climatic variability and market fluctuations.

Year	No. of Paddy Varieties	No. of Millet Varieties	Intercrops Included
2022–23	11	3 (Madia)	Moong, Groundnut, Maize, Arhar
2023–24	25	9 (Madia, Batri)	Moong, Groundnut, Maize, Urad, Til

The programme has also had a strong social and institutional dimension. Exposure visits conducted in villages regularly brought together 30 to 67 farmers at a time, with close to half of the participants being women. Block Agriculture Officers attended several field days and harvest observations, lending credibility to the process and reinforcing farmer confidence. Such events have been important not only in validating the results of demonstration plots but also in spreading knowledge across neighbouring communities.

Event Type	No. of Events	Avg. Farmers per Event	Women's Participation (%)	Govt. Officials Present
Exposure Visits	63	45	48%	Yes (Block Agri Officers)
Harvest Days	8	67	42%	Yes

Examples from Khudmudi village illustrate how diversification has been encouraged even on a small scale. Panchuram adopted SRI methods in ragi, producing 20 kilograms on his one-acre plot with minimal expenditure. Though modest, the harvest demonstrated the viability of introducing millets into household production systems. Similarly, Kanhaiya from Pondi established another ragi demonstration with positive results, showing that food and nutritional diversification is possible alongside staple crops.

Farmer	Village	Crop	Area (Acre)	Yield (Kg)	Outcome
Panchuram	Khudmudi	Ragi	1.0	20	Proof of viability, low input cost
Kanhaiya	Pondi	Ragi	1.0	22	Enhanced household nutrition security

Taken together, the evidence from 2022 to 2024 shows that Enterprise Livelihood Planning under KALP is not only about increasing yields but also about shaping a more resilient farming system. The initiative has combined economic gains with the revival of indigenous seed systems, improved farmer knowledge, and stronger community mobilisation. It points to a model where farmers secure both higher incomes and long-term resilience by integrating improved practices with their traditional knowledge base. If scaled further, this approach has the potential to become a farmer-led, climate-resilient livelihood model across the region.

Impact Area	Indicator	Achievement (2022–24)

Productivity	Avg. Yield Increase	15–20%
Income	Avg. Additional Annual Income/Farmer	₹20,000–30,000
Seed Sovereignty	Traditional Varieties Conserved	25+ paddy, 9 millet
Participation	Farmers Reached	500+ (45% women)
Institutional Support	Govt. Engagement Events	15+ with B.A.O presence

Trainings

A series of trainings were organised across different villages. Some of these were initiated directly by KALP, while others were led by partner organisations, where the KALP team ensured strong farmer participation and provided active support. Together, they became spaces for both practical learning and community exchange.

Key Themes of Trainings

- **Soil and Inputs**: In Pathiyapali, sessions on composting and seed treatment drew special interest from women farmers keen to reduce chemical use.
- **Water and Cropping Systems**: In Kauhakuda, exposure workshops on mixed cropping and water management helped farmers connect agroecology to their struggle with erratic rainfall.
- **Livestock Integration**: In Bitkuli, the focus shifted to livestock care and crop–animal integration, sparking new conversations on income diversification.

Role of KALP and Partners

- In KALP-led trainings, the approach was hands-on—farmers learned by doing, not just listening.
- In partner-led events, KALP staff played a facilitative role—breaking down technical language, guiding group discussions, and making sure small and marginal farmers' concerns were heard.

Early Field-Level Impact

- Farmers began experimenting with bio-inputs on small patches and shared yield observations in follow-ups.
- Women's groups, after attending seed conservation workshops, started documenting and reviving their traditional varieties.
- Exposure visits gave participants the confidence to adapt practices rather than simply observe them.

These trainings were not standalone events. They became stepping stones in building a deeper agroecological base—strengthening resilience, reducing dependence on external inputs, and rooting farming more firmly in community knowledge.

Highlights

- **Reach**: 312 farmers trained directly (41% women; 58% small/marginal farmers).
- **Coverage**: Trainings spread across **9 blocks and 114 clusters**.
- **Diversity of Themes**: Soil health, bio-inputs, seed conservation, water management, livestock integration.
- **Early Adoption**: ~65 farmers already applying bio-inputs on **¼–½ acre plots**.
- **Women's Leadership**: 37 women from SHGs initiated **traditional seed documentation**, noting 12 heirloom varieties.
- **Exposure Learning**: 28 farmers visited model natural farming plots; **14 reported trialing mixed cropping patterns** within two months.
- **Partner Convergence**: In 4 partner-led events, KALP ensured **127 participants' engagement**, bridging local farmer voices with technical inputs.

Theme	Village / Location	Organiser	Participants	Key Takeaway / Early Result
Composting & Seed Treatment	Pathiyapali	KALP-led	54 (60% women)	Women adopted composting pits; 9 farmers began bio-seed treatment.

Mixed Cropping & Water Mgmt	Kauhakuda	Partner-led (KALP supported)	68	14 farmers trialing mixed cropping; improved water retention practices noted.
Livestock Care & Integration	Bitkuli	KALP-led	47	Farmers linking dung/urine to bio-input prep; discussions on fodder planning.
Seed Conservation	Kanker (cluster villages)	Partner-led (KALP supported)	59 (majority women)	12 traditional varieties documented; 3 SHGs began community seed banks.
Exposure Visit (Natural Farming plots)	Dhamtari District	KALP + Partner	28	Farmers observed 70% cost reduction in demo farms; returned with ideas to replicate.
Advanced Bio-Inputs (Jeevamrit, Beejamrit, Ghanjeevamrit)	Raigarh (farmer hub)	KALP-led	56	42 farmers committed to preparing inputs at household level.

Ground Truth: Insights from Farmers and Fields

Kukrikona, Devtarai, Khudmudi, Furfundi, Alda, and Uprani are located in the northern part of Chhattisgarh, characterized by a mix of fertile plains and hilly terrains. The region experiences a tropical climate with a distinct monsoon season that supports agriculture. These villages, part of the Baloda Bazar district, rely primarily on farming, cultivating crops such as paddy, millets (kodo, madiya/finger millet), jowar, sesame (til), green gram, and various seasonal vegetables, including spinach, brinjal, onion, hyacinth bean (semi), tomato, chilies, coriander, ridge gourd (torai), bottle gourd, pumpkin (makhna), bitter gourd, red spinach, kusum bhaji (barre bhaji), amari, patwa, sweet potato, chech bhaji, khedha bhaji, and karmatta bhaji. The region also produces pulses like arhar, moong, and chana.

Aquaculture has traditionally been dependent on species like crab, bambi, kheksi, and kotari, but now includes commercially viable fish varieties such as rohu and catla. These villages are rich in natural resources, including tendu leaves, mahua, bihi, amla, custard apple (sitafal), banana, teak, papaya, bamboo, and sal trees. The biodiversity also features medicinal plants like koilar bhaji and oilseeds such as andi seeds.

Context of Natural Farming

Natural farming - an agricultural practice that minimizes external intervention, working with nature to cultivate crops without synthetic chemicals or fertilizers. It relies on methods like crop rotation, composting, and mulching to enhance soil health and biodiversity. The impact of natural farming includes improved soil fertility, reduced environmental pollution, and healthier ecosystems. It promotes sustainability, reduces dependency on external inputs, and strengthens community resilience.

In Kukrikona, Devtarai, Uprani, Khudmudi, Alda, and Furfundi, natural farming has the potential to bring significant improvements to the local community, economy, and environment. By focusing on sustainable agricultural practices, it fosters a harmonious relationship between land, people, and the ecosystem.

The Transformative Impact Of Natural Farming

Improved Soil Health

Natural farming practices such as composting and crop rotation enhance soil fertility by promoting a healthy microbial ecosystem, reducing soil erosion, and preventing

degradation. When the project began in 2019, soil health was poor, especially in plateau regions like Devtarai, Uprani, and Kukrikona, where rocky soil made cultivation difficult.

KALP Samaj Sevi Sanstha intervened by training farmers in soil restoration techniques using bio-inputs instead of chemical fertilizers, pesticides, and insecticides. By promoting biofertilizers, biostimulants, composts, manures, and biochar, the organization facilitated sustainable, eco-friendly farming. Demonstrations across four clusters in Devtarai highlighted the benefits of bio-inputs, leading to a 70-80% adoption rate over five years, significantly shifting the region toward eco-friendly agriculture.

Biodiversity Conservation

By eliminating synthetic chemicals, natural farming encourages a diverse ecosystem that includes beneficial insects, pollinators, and wildlife, creating a balanced ecological system.

Water Conservation

Water-efficient techniques such as mulching, rainwater harvesting, and traditional irrigation methods mitigate water scarcity. During dry seasons, farmers adopted the "Matka Vidhi" or "Bottle Vidhi"—traditional methods of water conservation using stored water to reduce evaporation. With government support, bunds were constructed to prevent chemical-contaminated water from entering organic farms, and farm ponds were developed to store water for emergency use.

Reduced Environmental Pollution

Natural farming eliminates synthetic pesticides and fertilizers, reducing pollution of air, water, and soil while promoting healthier ecosystems.

Increased Resilience to Climate Change

By focusing on soil health and diversified farming, natural farming enhances crop resilience to extreme weather conditions such as droughts and floods.

Economic Benefits

Reducing reliance on costly external inputs lowers farming expenses while improving long-term yields and profitability. Farmers benefit from bio-inputs such as compost, biopesticides, and organic fertilizers, which can be made using livestock waste (cow dung, cow urine) and crop residues.

Healthier Food and Nutrition Security

Natural farming produces chemical-free, nutrient-rich food, reducing health risks from pesticide exposure. Kitchen gardens using bio-inputs (Jeevamrut, Beejamrit) contribute to improved nutrition. In Devtarai, Uprani, Alda, Kukrikona, and Khudmudi, malnutrition rates have decreased by 80% due to better dietary intake from organic produce.

Furfundi Village: A Model of Rural Empowerment and Community Progress

Furfundi is a small village located in the Kasdol tehsil of Baloda Bazar district, Chhattisgarh. It is situated about 20 km from the nearest town, Kasdol, and can be accessed via a 7 km unpaved road that cuts through the Barnawapara forest. The village spans approximately 202.48 hectares, with around 62.42 hectares dedicated to agriculture, though most of this land remains unirrigated. Additionally, 49.53 hectares are used as permanent pastures and grazing lands, while 20.25 hectares are classified as barren or uncultivable. Agriculture here heavily depends on rainfall, and there is no significant water source available to the village.

The village does have a government primary and middle school, but it lacks secondary or senior secondary schools. Healthcare facilities are also limited, with no hospitals, health centers, or dispensaries. The village does not have electricity or a mobile network, though solar panels provide two hours of power each night, though they are ineffective during rainy days due to weather conditions. Despite these challenges, Furfundi stands out as one of the most progressive villages in the area. Its residents, especially the women, are highly engaged, proactive, and driven to improve their lives. The women of Furfundi are particularly notable for their confidence, independence, and active participation in community meetings, where they offer valuable advice and take on leadership roles in various local functions. Their contributions have fostered a strong sense of community and progress in the village.

Furfundi is home to five Mahila Samuh (women's groups), each committed to supporting and uplifting the community. These groups include Jai Maa Tulsi Group, Jai Maa Bamleshwari, Jai Maa Chandrahasin, and Sita Mahila Kisan Samuh. Through their combined efforts, these groups promote self-sufficiency and community development, making Furfundi a model of unity, awareness, and social progress.

Alda Village: Rich Resources and Craftsmanship

Alda, another village located in the Baloda Bazar district, falls under the Kasdol tehsil and is part of the Raipur parliamentary constituency. Like other villages in the region, Alda is engaged in agriculture and livestock rearing. Geographically, Alda is characterized by mostly flat terrain, with occasional undulating hills. It lies within the Mahanadi River Basin and is known for its fertile Kanhar soil (black soil), which supports the cultivation of rice,

wheat, and pulses. The village also benefits from several lakes and ponds that support local fisheries. The surrounding forests are home to a variety of deciduous trees, such as sal, teak, amla, and tendu, as well as wildlife including deer and jackals. The forest provides valuable Non-Timber Forest Produce (NTFP), which includes tendu leaves, mahua flowers, chironji, and medicinal plants. These products are gathered and sold by local tribal communities, providing an additional source of income.

Alda is also known for its skilled artisans who craft five distinct types of brooms—Seer, Chind, Kata, Phool, and Baans—each designed for different cleaning purposes. These brooms are made using locally sourced materials, reflecting the region's rich cultural heritage.

Livestock and Sustainable Farming Practices

The region encompassing Devtarai, Kukrikona, Uprani, Furfundi, Alda, and Khudmudi has been facing long-term drought, which has negatively impacted the survival of livestock due to a lack of food. However, with the support of KALP Samaj Sevi Sanstha, the villagers have been trained in proper livestock care, including food provision and vaccination. As a result, the villagers now maintain healthier livestock and have seen improvements in their incomes and quality of life.

The **Livestock Diversity Block** initiative has played a crucial role in promoting the sustainable development and conservation of various livestock species. The program supports the breeding of indigenous cattle, goats, and poultry, encouraging responsible livestock management practices that contribute to both the health of the animals and the local economy. These initiatives are aimed at improving rural livelihoods and maintaining ecological balance.

Fisheries and Poultry Farming

Fishing is a significant activity in the villages, especially in areas close to water bodies like small rivers, ponds, and reservoirs such as Balar and Devtarai. Local farmers engage in fish farming, cultivating species like carp and catfish. In 2019, with the help of KALP Samaj Sevi Sanstha, they successfully introduced the cultivation of Rohu and Catla. Though fishing remains a small-scale activity, it provides an additional source of income and food security for many households.

Poultry farming is another common practice in these rural areas, with many families raising chickens for eggs and meat. While poultry farming is generally done on a small scale in backyard setups, the introduction of hybrid chickens, such as Golden Misri and Sonali Breed, faced challenges with egg incubation. However, the villagers switched to local chicken breeds, which incubate their own eggs and have allowed for increased production

and sales, providing families with extra income for household needs, including food and children's education.

Goat Farming

Goat farming is a particularly popular activity in the villages of Uprani, Kukrikona, and Furfundi, as goats require minimal care and can thrive in the local environment. In 2019, KALP Samaj Sevi Sanstha provided goats to local farmers, initially distributing Sirohi and Jamunapari breeds. However, these goats struggled due to the villagers' preference for grazing animals, so the organization shifted to distributing desi goats, which are better suited to the local environment. These goats are now thriving, with families owning 20-25 goats each. Goat farming has become a profitable venture, with many villagers selling their goats to cover household expenses and support children's education.

Kitchen Gardens

Before the 2019 project, the villagers were heavily reliant on rice and chemical-based farming, which yielded minimal benefits. Moreover, the consumption of chemically treated rice posed health risks. The introduction of natural farming methods, through the project, has not only improved the health of the villagers but also boosted their income. In Kukrikona, for example, the health of previously malnourished children has significantly improved, thanks to a combination of kitchen gardening and natural farming.

The villagers now cultivate small kitchen gardens behind their homes, where they grow seasonal vegetables, herbs, and spices. These gardens provide families with a sustainable source of nutrition and help them reduce dependency on external markets. The use of bio-inputs, such as Jeevamrit and Beejamrit, has further enhanced the success of these gardens, ensuring healthy, chemical-free crops. The kitchen garden initiative is a prime example of how small-scale, organic farming can improve both health and food security for rural families, while also promoting sustainability and self-reliance.

Geographical Overview

Kukrikona

- **Location:** Situated centrally in Chhattisgarh, within the Baloda Bazar district.
- **Terrain:** A combination of plains and hilly areas, supporting diverse agricultural production, including paddy, vegetables, millets, and pulses.
- **Climate:** Tropical, with hot summers, monsoon rains (June-September), and mild winters.
- **Water Bodies:** The Rani Daha stream of the Mahanadi River is nearby, though its depth limits direct agricultural use.

Uprani

- **Location:** A village in Baloda Bazar district, approximately 250–300 metres above sea level, within the Mahanadi River basin.
- **Terrain:** Flat terrain with mixed forests and rice-dominant farmlands. The region features dry deciduous and mixed vegetation, including economically significant plants like tendu leaves, mahua, amla, teak, bamboo, and medicinal flora.
- **Climate:** Classified as a "Tarsch region" due to declining rainfall, highlighting the necessity for improved water management.
- **Water Bodies:** Proximity to the Mahanadi River supports irrigation and agriculture.

Devtarai

- **Location:** Characterised by plains, forests, and agricultural lands, Devtarai is situated in Baloda Bazar district.
- **Terrain:** Primarily flat to gently undulating plains with black cotton soil (regur) and red sandy loam, suitable for agriculture.
- **Climate:** Tropical, with hot summers, a monsoon season (June-September), and mild winters.
- **Water Bodies:** The Balar Reservoir provides essential water resources for local farming and community needs.

Livestock Diversity Block: Sustainable Development and Conservation

The concept of a Livestock Diversity Block is centred on the sustainable development and conservation of various livestock species. This initiative promotes diversified animal husbandry by supporting the breeding of indigenous cattle, goats, and poultry. Farmers in Devtarai, Kukrikona, and Uprani actively care for their livestock, ensuring they receive proper vaccinations to maintain their health.

Historically, prolonged drought conditions in these regions led to severe food shortages for livestock, making survival difficult. However, with training and support from KALP Samaj Sevi Sanstha, farmers have gained access to sustainable sources of food and vaccination for their animals. This has resulted in improved income generation and a better standard of living for the local communities.

The overarching goal of the initiative is to improve rural livelihoods, enhance productivity, and maintain ecological balance by conserving native livestock breeds. By fostering responsible livestock management practices, the initiative ensures animal health and welfare while integrating them into the local economy.

Key Livestock Practices in Devtarai, Kukrikona, and Uprani

Fisheries: Given the proximity of these villages to water bodies such as the Balar and Devtarai reservoirs, fisheries play a crucial role in local livelihoods. Many farmers engage in aquaculture, cultivating fish such as carp and catfish. In 2019, with support from the KALP Organisation, farmers successfully introduced new fish species such as Rohu and Catla. While fish farming remains a valuable source of income and nutrition, challenges such as water quality maintenance, fish diseases, and market access persist.

Poultry Farming: Poultry farming is a prevalent practice in these rural areas, with many households rearing chickens for eggs and meat. Initially, hybrid chickens such as Golden Misri and Sonali breeds were introduced in 2019; however, these hybrids faced challenges, including the inability to incubate their eggs. Through the guidance of the KALP Organisation, farmers began rearing indigenous chicken breeds, which allowed for natural egg incubation. As a result, households were able to raise and sell more chickens, increasing their income. The revenue generated is now used to support daily needs, household expenses, and children's education. Despite challenges such as disease control and access to quality feed, poultry farming continues to be an essential source of nutrition and supplementary income.

Goat Farming: Goat farming is particularly popular in Uprani and Kukrikona, as goats require minimal care and can adapt well to the local environment. In 2019, the KALP Organisation initially distributed Sirohi and Jamunapari breed goats to farmers. However, these breeds struggled to survive in the village conditions, as they required confined rearing. Recognising that villagers preferred free-range goat grazing, the organisation began distributing native breeds, which proved more resilient.

As a result, goat populations have significantly increased, with many households now owning 20 to 25 goats. Goat sales have become a reliable source of income, supporting

household expenses and children's education. Additionally, farmers integrate goat rearing with kitchen gardening, using the waste as biofertilizer, reducing input costs, and promoting sustainability. Goats are kept in small shelters behind houses, ensuring proper feeding, which enhances their weight and market value.

Kitchen Gardens: Enhancing Nutrition and Sustainability

Prior to the introduction of natural farming practices in 2019, villagers relied heavily on rice cultivation, using chemical-based farming methods that yielded limited benefits. The consumption of chemically treated rice negatively impacted their health. Recognising these challenges, farmers joined the 2019 project and were trained in natural farming techniques, which improved their well-being and income.

In Kukrikona, previously malnourished children have shown significant health improvements due to dietary diversification. The introduction of kitchen gardening has enabled villagers to cultivate a variety of crops, ensuring better nutrition. Small kitchen gardens are now established behind homes, where seasonal vegetables are grown for direct household consumption. This initiative has significantly contributed to food security and reduced dependence on external markets.

The kitchen gardens follow natural farming principles, eliminating the need for chemical inputs. Farmers use bio-fertilisers such as Jeevamrut and Bijamrit, which enhance soil health and prevent crop diseases. The practice has been well received, as it allows households to consume a variety of vegetables, improving overall nutrition and health.

Key Benefits of Kitchen Gardening:

- **Nutritional Improvement:** Diversified diets have led to better health outcomes, particularly among children.
- **Economic Savings:** Farmers no longer need to purchase costly chemical fertilisers.
- **Environmental Benefits:** Reduced reliance on external markets lowers carbon footprints.
- **Food Security:** Households have access to fresh, organic produce throughout the year.

Common crops grown in these kitchen gardens include leafy greens, tomatoes, brinjal, chillies, beans, bottle gourd, and various herbs and spices. By integrating agriculture into daily life, the kitchen gardens serve as a model for sustainable, community-led food production, promoting long-term rural development and well-being.

Farmers Stories

1. Manuj Ram Pradhan – A Pioneer in Block Diversity Farming

Background and Adoption of Natural Farming

Manuj Ram Pradhan, an 84-year-old progressive farmer from Devtarai, has been practicing natural farming for the past five years. With a family of eight, he has dedicated himself to sustainable agricultural practices, focusing on enhancing soil health and improving crop diversity. His 2.5-acre farmland is a testament to his commitment to natural farming principles.

Indigenous Paddy Cultivation

In an effort to revive traditional farming practices, Manuj sourced 27 indigenous varieties of paddy from Odisha. Among these, 25 varieties flourished under natural farming techniques. Before adopting this approach, he cultivated paddy on only 1 acre of land. However, with the support of MGNREGA and KALP Organization, which helped him establish a farm pond for irrigation, he expanded paddy cultivation to the full 2.5 acres. This expansion not only boosted productivity but also ensured the preservation of indigenous seed varieties for future cultivation. Manuj has since taken the initiative to share these seeds and knowledge with other farmers, promoting agricultural biodiversity in his community.

Kitchen Garden and Water Conservation

To supplement his farm produce, Manuj Ji maintains a diverse kitchen garden where he grows:

- Vegetables: Tomatoes, chillies, bitter gourd, ridge gourd, beans, brinjals
- Fruits: Mango, guava, custard apple, papaya
- Herbs: Various medicinal and culinary plants

His kitchen garden follows organic methods, ensuring fresh, chemical-free produce for his family. Additionally, he utilizes a Dabri, a traditional water harvesting structure, built with the assistance of KALP Organization at a cost of Rs. 45,000. This structure plays a crucial role in water conservation, supporting both his kitchen garden and paddy fields.

Fishery Integration

Manuj Ji has also incorporated fish farming into his agricultural system, creating a sustainable, multi-tiered farm. He raises fish in his pond, feeding them natural inputs such as:

- Cow dung
- Kanki (broken rice)
- Kodha (bran)

This method not only provides additional nutrition for his family but also serves as a supplementary source of income, making his farming practices more economically viable.

Step-by-Step Breakdown of Block Diversity Farming

1. **Selection of Crops:** Manuj Ji selects a variety of crops that complement each other in terms of nutrient needs, pest resistance, and growth cycles, ensuring natural soil enhancement.
2. **Land Preparation:** His land is divided into distinct blocks, each allocated to a particular crop type. He employs traditional plowing techniques and natural fertilizers.
3. **Rotation Planning:** Crops are rotated seasonally to maintain soil fertility and prevent depletion. For instance, he alternates legumes with cereals to naturally replenish nitrogen levels.

4. **Soil Fertility Management:** By integrating deep-rooted and shallow-rooted plants, Manuj Ji improves soil aeration and water retention, reducing erosion.
5. **Pest and Disease Control:** Crop diversity disrupts pest life cycles, minimizing infestations without chemical pesticides.
6. **Monitoring Growth:** He closely observes plant health, adjusting farming practices as needed to maintain productivity and resilience.
7. **Harvesting and Residue Management:** After harvest, crop residues are used to enhance soil health, preparing the land for the next cycle.
8. **Use of Traditional Tools:** Indigenous plows and manual weeders are used to maintain the fields sustainably.

Through these methods, Manuj Ram Pradhan Ji has created a sustainable and resilient farming system that balances ecological health with economic stability.

2. Gulapi Ram Pradhan – Innovator in Sustainable Gardening Techniques

Gulapi Ram Pradhan, a well-respected farmer from Devtarai, has embraced innovative techniques to enhance kitchen gardening. By adopting **Matka Vidhi** and **Machan Vidhi**, he has optimized space, conserved water, and increased his crop yield, making farming more accessible and efficient.

Matka Vidhi – Clay Pot Farming

Concept: Matka Vidhi is a technique that utilizes clay pots (Matkas) to grow plants, particularly suitable for vegetables and herbs. This method is effective in areas with limited space and water resources.

Process:

1. Clay pots are filled with a rich mixture of soil, compost, and organic nutrients.
2. The pots are strategically placed to receive adequate sunlight.
3. Due to the porous nature of clay, water is gradually released into the soil, ensuring consistent moisture levels.
4. Plants such as chillies, cabbage, and various herbs thrive in these pots with minimal water usage.

Benefits:

- Saves space, making it ideal for small-scale or urban gardening.
- Reduces water consumption by maintaining optimal moisture levels.

- Enhances plant health by preventing waterlogging and root rot.

Machan Vidhi – Vertical Gardening

Concept: Machan Vidhi involves the construction of raised structures, often made of bamboo or wood, to support climbing plants. This technique maximizes land use by utilizing vertical space efficiently.

Mini Machan

Kitchen Garden

Process:

1. Vertical supports and horizontal ties are constructed to form a stable framework.
2. Climbing plants such as beans, peas, and cucumbers are planted at the base.
3. As the plants grow, they utilize the framework for support, preventing overcrowding.
4. The elevated structure improves air circulation, reducing the risk of soil-borne diseases.

Benefits:

- Increases yield by allowing more plants to grow in limited space.
- Improves plant health through better air circulation and sunlight exposure.
- Minimizes pest infestation as plants are lifted above the ground.

3. Laxmi Ji from Devtarai: Sustainable Goatery and Kitchen Gardening

Laxmi Ji from Devtarai is an advocate for sustainable and ethical goat farming. Her approach to goatery management emphasizes the well-being of livestock while ensuring minimal environmental impact. With a deep commitment to natural and holistic practices, she maintains a healthy herd for milk and meat production. She ensures proper vaccination and healthcare for her goats, which enhances their productivity and longevity.

Integration of Goatery with Kitchen Gardening

Laxmi Ji has successfully integrated goatery with natural farming practices, making use of waste products from goats, such as manure and urine, as organic fertilizers for her kitchen garden. Goat manure, rich in nutrients, significantly improves soil structure, boosts microbial activity, and provides essential nourishment for plant growth.

Goatery

Kitchen garden

The manure is utilized in multiple ways:

- **Composting:** Goat manure is mixed with other organic waste to create high-quality compost.
- **Vermicompost:** Earthworms further break down the manure, producing nutrient-rich vermicompost.
- **Liquid Fertilizer:** Goat urine is processed into biofertilizers that enhance soil fertility naturally.

By replacing chemical fertilizers with these natural alternatives, Laxmi Ji promotes an eco-friendly, sustainable farming model that supports biodiversity and increases agricultural productivity.

Kitchen Gardening

In addition to goat farming, Laxmi Ji has developed a flourishing kitchen garden that provides her household with a diverse and nutritious food supply. Her garden includes a variety of vegetables, medicinal plants, and oilseed crops, all cultivated using organic farming methods.

Types of Crops Grown in the Kitchen Garden:

- **Vegetables:** Tomatoes, okra (bhindi), bottle gourd (lauki), ridge gourd (torai), broad beans (saemi), radish (mooli), corn, eggplant (baingan), cauliflower (gobi), and chili peppers (mirchi).
- **Medicinal Plants:** Castor tree (arandi), koilar bhaji (wild edible greens).
- **Leafy Greens (Bhajis):** Spinach (palak), chech bhaji, red spinach (laal bhaji), chickpea greens (chana bhaji), safflower greens (kusum bhaji).
- **Oilseeds:** Groundnut (mungfali), castor (arandi).

Laxmi Ji employs traditional farming tools and practices, such as Dheki, a traditional wooden oil extractor, to extract castor oil. This allows her to maintain a self-sufficient lifestyle while preserving indigenous agricultural methods.

DHEKI used to extract Arandi Oil

Impact of Sustainable Practices

Through sustainable goat farming and kitchen gardening, Laxmi Ji has improved her family's nutrition, reduced household expenses, and contributed to environmental conservation. Her model demonstrates the effectiveness of integrating livestock management with organic farming, providing a blueprint for other farmers seeking self-reliance and ecological balance.

Laxmi Ji's journey showcases how traditional knowledge, combined with natural farming techniques, can create a resilient and productive agricultural system that benefits both farmers and the environment.

Groundnut

4. Mohan Lal Kenwat: Champion Farmer and Millet Cultivator

Mohan Lal Kenwat, a 78-year-old champion farmer from the village of Uprani, Chhattisgarh, has spent his life dedicated to agriculture. With a small plot of land inherited from his ancestors, he and his wife, Shivkumari Kenwat, have combined traditional wisdom with modern techniques to sustain their livelihood. After joining the KALP organization, they learned that millets could thrive on the rocky lands of plateau regions. Motivated to explore this new possibility, they traveled to Odisha to observe millet farming firsthand. Inspired by what they saw, they introduced finger millet cultivation in their region.

Natural Farming of Millets: Experience and Implementation

Mohan Lal and his wife successfully cultivated seven varieties of finger millet, implementing structured and sustainable farming methods.

Method Used: The Diversity Block Method

The Diversity Block Method is an integrated farming approach that emphasizes cultivating multiple millet varieties in distinct sections of a farm. This method promotes crop diversification, ensures biodiversity, and mitigates the risks associated with monoculture. By rotating or intercropping different millet species, the approach contributes to sustainable agricultural practices.

Step-by-Step Process:

1. Soil Preparation: The land was plowed and leveled to create an optimal seedbed.
2. Sowing Timing: Millet seeds were sown at the onset of the monsoon season to maximize moisture availability for germination and early growth.
3. Seed Treatment: Seeds were treated using the Beejamrit method—a natural seed treatment that protects against soil-borne diseases, enhances germination rates, and supports strong seedling development.

4. Planting Method: Seeds were placed in furrows or trenches at equal intervals, typically 15–25 cm apart, ensuring appropriate depth (2–3 cm) for successful germination.
5. Row Planting (Line Vidhi): Finger millet was planted in lines to ensure uniform spacing, facilitate better air circulation, and simplify weeding and maintenance.
6. Soil Enrichment: Natural fertilizers like Jeevamrit were applied to enhance soil fertility and promote healthy plant growth.
7. Integrated Pest Management: Marigolds were planted around the millet field to attract pollinators and deter harmful insects.
8. Harvesting and Storage: Millet was manually harvested using hand tools and stored in cool, dry conditions using natural materials like jute bags labeled with the variety name.

Challenges Faced:

- **Stem Borer Infestation:** The first millet crop was severely affected by stem borers from sowing to harvest.
- **Rodent Attack:** Rats fed on millet seeds shortly after sowing, causing significant losses.
- **Recovery and Success:** Learning from these challenges, they replanted the millet after 15 days and successfully achieved a healthy crop.

Production Outcome:

- Land Utilized: 0.5 hectares
- Yield Obtained: 55 kg of finger millet

Mohan Lal Kenwat's experience highlights the resilience and adaptability of farmers in embracing natural farming methods. By incorporating indigenous knowledge with scientifically backed techniques, he has successfully cultivated finger millet, contributing to food security and sustainable agriculture in his region.

Kitchen garden with multiple crops

5. Fhirtin Bai Paikara: Champion Farmer and Sustainable Goat Rearing Practitioner

Fhirtin Bai Paikara, a dedicated farmer from the village of Kukrikona, Bilaspur district, Chhattisgarh, has successfully integrated goat rearing with natural farming. In 2020, she received her first goat from the KALP organization and later invested in more goats herself. Today, she manages a thriving herd of 25–30 goats, selling each for approximately Rs. 7,000–8,000. Her efforts focus on ethical breeding, sustainable care, and maximizing the benefits of goat rearing while ensuring minimal environmental impact.

Sustainable Goat Rearing Practices

Fhirtin Bai follows a structured approach to goatery, ensuring proper vaccination, nutrition, and health care for her animals. In addition to meat production, she utilizes goat manure as a valuable organic input for farming.

Utilization of Goat Manure in Natural Farming

Goat manure is rich in essential nutrients that enhance soil fertility and promote sustainable agriculture. Instead of relying on chemical fertilizers, she incorporates goat dung into composting and soil enrichment techniques, which benefit crop productivity.

Traditional Goatery agricultural practices in Kukrikona, Chhattisgarh

Income and Expenditure: Impact on Household and Farming

The income generated from goat sales supports multiple aspects of her household and farming activities:

- **Food and Daily Needs:** A portion of the earnings is allocated for groceries, clothing, and family essentials.
- **Education:** Funds are used for children's education, including tuition fees, books, and other academic necessities.
- **Healthcare:** Medical expenses, including doctor visits, medicines, and health insurance, are covered from the income.
- **Housing and Utilities:** Payments for electricity, water, and home maintenance are managed through her earnings.
- **Agricultural Investment:** She reinvests in farming by purchasing seeds, saplings, and other essential planting materials.

Natural Farming on 0.3 Hectares: Transition from Chemical to Organic Methods

In addition to goat rearing, Fhirtin Bai practices natural farming on 0.3 hectares of land. She cultivates **Sarna variety paddy**, using organic inputs like **Jeevamrit** and **Beejamrit** to enhance soil fertility and plant health.

Shifting from Chemical to Natural Farming

Five years ago, her farming practices were primarily chemical-based. However, after realizing the long-term benefits of organic methods, she transitioned to natural farming. This shift has resulted in healthier crops, reduced farming costs, and improved overall income.

Fhirtin Bai Paikara's journey exemplifies the transformative impact of sustainable goat rearing and natural farming. Through her dedication and strategic approach, she has not only secured her family's livelihood but also contributed to environmentally responsible agricultural practices in her region.

6. Mitrabhan Thakur: Transition to Sustainable Farming Practices

Mitrabhan Thakur, a 44-year-old farmer from Khudmudi village, traditionally focused on paddy cultivation. However, his approach to farming transformed significantly after partnering with Kalp Samaj Sevi Sanstha (KALP) around 2017. With KALP's guidance, he transitioned to diversified and sustainable farming practices, incorporating new crops and natural techniques that improved both his yield and income.

In 2025, Mitrabhan ventured into finger millet cultivation, locally known as "ragi" or "madua," after receiving eight varieties from KALP. His initial attempt was unsuccessful, but instead of giving up, he sought further training and support. Under the mentorship of experienced women farmers associated with KALP, he learned the "line-vidhi" (line planting method), which significantly improved his cultivation techniques and yield.

To enhance soil fertility, Mitrabhan incorporated Jeevamrit, a natural fertilizer made from cow dung, urine, jaggery, pulse flour, and soil. He also adopted an eco-friendly pest control method, preparing a fermented mixture of five types of forest leaves. Using a traditional broom ("jhadu"), he sprayed this herbal concoction over his fields, effectively deterring pests and preventing crop diseases.

With these natural farming techniques in place, his second attempt at finger millet cultivation was a success. The crops were healthier and free from disease, demonstrating the effectiveness of organic methods. Moreover, by reducing reliance on costly chemical fertilizers and pesticides, he significantly lowered production costs while increasing his income.

Mitrabhan's journey reflects the power of perseverance and knowledge-sharing in sustainable agriculture. His transition to natural farming has not only benefited him economically but also contributed to soil health and biodiversity. As he continues refining his practices, his story serves as an inspiration for other farmers in Khudmudi to embrace eco-friendly and cost-effective farming methods.

7. Pushpa Nagvanshi: Leader and Advocate of Sustainable Farming

Pushpa Nagvanshi, a respected farmer from Khudmudi village, holds a prominent position in her community. As the Adhyaksh (President) of her Samaj and recently appointed as a Panch, she plays a vital role in local decision-making. Her farming journey, shaped over the past eight years through her association with Kalp Samaj Sevi Sanstha (KALP), has transformed both her agricultural practices and her livelihood.

She began her paddy cultivation on a modest 40-dismil plot but, with training and guidance from KALP, gradually expanded her farmland to 50 dismil and eventually to a full acre. By adopting natural farming techniques, she has not only improved soil fertility but also enhanced the quality of the food she produces. She now cultivates Basmati and Javaful paddy, varieties provided by the Agriculture Department under the Jaivik Kheti Mission.

Beyond paddy cultivation, Pushpa has embraced diversified cropping techniques to make her farm more resilient and financially stable. She follows a mixed cropping approach, growing amaranth, corn, sesame, and pulses such as urad (black gram). Using the 4-4 line cropping method she learned through KALP's training, she effectively minimizes risks while promoting crop diversity.

In addition to her work in the fields, she has also ventured into poultry farming. Through a government initiative by the Animal Husbandry Department, she initially received 40 hens. She currently raises 20 hens, selling them at ₹1,000 to ₹2,000 per bird, making poultry farming a valuable source of supplementary income.

Her shift from conventional farming to a more diversified and sustainable model has not only boosted her earnings but also improved the health of her land. By integrating mixed cropping, natural inputs, and poultry farming, she has created a balanced farming system that supports both her household and her financial independence.

As a community leader, Pushpa is inspiring fellow farmers to embrace natural and diversified farming. Her success demonstrates how government initiatives, traditional knowledge, and community support can work together to drive agricultural sustainability and prosperity. Through her leadership and experience, she is paving the way for more farmers in Khudmudi to adopt eco-friendly and profitable farming practices.

8. Krishna Kumar Kashyap: Champion Farmer and Advocate of Natural Farming

Krishna Kumar Kashyap, a 55-year-old farmer from Khudmudi, Chhattisgarh, is widely respected for his expertise in natural farming. Owning eight acres of land, he has dedicated 2.5 acres to natural paddy cultivation, demonstrating a strong commitment to sustainable agriculture.

His journey into natural farming began with just one acre of paddy cultivation, a modest step that marked the beginning of a larger transformation. Over time, he expanded his efforts to 2.5 acres, focusing on cultivating high-quality and indigenous paddy varieties. Among these, he grows HMT paddy, known for its superior grain quality and yield, and Sarna Silti, an indigenous variety that contributes to biodiversity and sustainability.

Krishna Kumar is actively involved with Kalp Samaj Sevi Sanstha (KALP), which has played a crucial role in supporting his transition to natural farming. Beyond adopting eco-friendly techniques himself, he has taken on the role of a trainer, guiding other farmers toward sustainable practices. His dedication to knowledge-sharing has earned him widespread recognition, making him a respected figure in the farming community.

One of his most notable contributions is the preservation of indigenous paddy varieties. He is the only farmer in the Kasdol block whose indigenous seeds are sold annually at the Beej Pramanit Kendra in Raipur. To ensure the survival of traditional crops, he saves and stores an additional two kilograms of paddy seeds at the mandi each year, safeguarding these native varieties for future generations.

His commitment to natural farming has not only improved soil fertility and crop quality but also strengthened the preservation of Chhattisgarh's agricultural heritage. By reducing dependency on chemical fertilizers and pesticides, he has lowered input costs while increasing productivity, leading to better financial returns. More importantly, his mentorship has encouraged other farmers to embrace sustainable practices, amplifying the impact of natural farming in the region.

Through his collaboration with KALP and his dedication to farmer training, Krishna Kumar Kashyap has emerged as a leader in sustainable agriculture. His efforts in reviving traditional farming techniques and conserving indigenous seeds are ensuring a resilient agricultural future for Chhattisgarh.

9. Lal Bai: Goat Rearing and Kitchen Gardening for Sustainable Livelihood

Lal Bai, a 50-year-old woman from Khudmudi village in Baloda Bazar district, Chhattisgarh, has built a steady livelihood through goat rearing and kitchen gardening. Since joining KALP Samaj Sevi Sanstha in 2017, she has strengthened her income and food security, turning small opportunities into a sustainable way of life.

She first learned about KALP through Krishna Kumar Ji, who explained how the organization supports tribal communities struggling with limited access to healthcare, transportation, and basic necessities. Inspired by their work, she joined the initiative. As part of the support she received, she was given a goat, which she paired with her own to begin her journey in goat rearing.

What started with two goats has now grown into a herd of 19, which she shelters in a room behind her house. Recently, one of her goats gave birth to two kids, and she carefully tends to them using traditional remedies. She wraps their joints in cloth and applies turmeric and cotton around their waist and legs to help them grow strong and start walking quickly.

With Krishna Ji's guidance, she ensures her goats are vaccinated twice a year. When they fall ill, she treats them with natural remedies like turmeric paste, which helps them recover. Her dedication has made goat rearing a reliable source of income and security.

Alongside her livestock, Lal Bai has cultivated a thriving kitchen garden behind her house, growing fresh vegetables with minimal water. Given the transportation difficulties in her village, this garden ensures a consistent supply of nutritious food for her family. She grows a variety of crops, including bottle gourd, hyacinth beans, spinach, red amaranth, chili, tomatoes, onions, and potatoes.

To manage water efficiently, she uses the Matka Method, a technique she learned through KALP that allows crops to grow with limited irrigation. She enriches her soil with natural fertilizers made from cow dung and urine, as well as bio-inputs like Jeevamrit and Beejamrit, prepared in a tank provided by KALP. She also mixes goat droppings into her fertilizer to keep her crops disease-free.

Through a combination of traditional knowledge, hard work, and support from KALP, Lal Bai has built a life of self-reliance. Her success in goat rearing and kitchen gardening not only provides for her family but also serves as an example of how small-scale sustainable practices can lead to economic independence and food security.

10. Devki Bariha: A Pioneer of Women's Leadership and Natural Farming in Furfundi

Devki Bariha, a member of Jai Maa Bamleshwari Self-Help Group (SHG) from Furfundi village, was the first woman to join KALP Samaj Sevi Sanstha. At a time when no one else stepped forward to support the organization's growth, she took the bold initiative to become involved.

Breaking Barriers and Inspiring Change

- Initially, villagers criticized her, saying she had become like a "*Madam*"—carrying a purse, talking to elders and men, and actively participating in village meetings.
- Despite this, her family stood by her, especially her husband, whose support encouraged her to continue working with KALP Sanstha.
- Over time, more women saw her dedication and joined her, leading to the formation of a women's group committed to natural farming.

Empowering Women to Speak Up

- Traditionally, the women in Furfundi hesitated to sit in front of elders or their husbands.
- They felt shy about speaking up in meetings and avoided discussions.
- With continuous support from KALP Sanstha, they gained confidence, overcame social barriers, and began participating in decision-making.

Transition to Natural Farming

- After learning about the benefits of natural farming, the group adopted sustainable practices.
- The first major shift was moving from broadcast sowing to the line-sowing method, which:
    - Saved seeds
    - Reduced costs
    - Increased productivity

- Initially, they feared that the gaps in line sowing would lead to lower production, but when the harvest came, they saw higher yields than before.
- Seeing this success, more women joined the initiative, leading to the formation of four groups dedicated to natural farming.

- Today, three SHGs are actively practicing natural farming in the village.

Women's Participation in Governance

- The women of Furfundi now attend the Gram Sabha (village assembly), breaking past barriers of gender discrimination.
- They openly present issues, working together with the community to find solutions.
- Whether the concern is at the village level or with government officials, they confidently raise their voices and advocate for their rights.

Sustainable Kitchen Gardening for Food Security

- Encouraged by their farming success, women began developing kitchen gardens in the small spaces behind their homes.
- Previously, due to water scarcity, they had limited access to fresh vegetables.
- With training from KALP Sanstha, they started growing a variety of seasonal vegetables, including:
    - Spinach, green onions, potatoes, tomatoes, chilies, coriander, chickpeas, red spinach, and fenugreek.
- To conserve water, they adopted the Matka Method and also recycled wastewater from washing clothes and dishes to irrigate their gardens.
- Using this method, their crops flourish with minimal water, requiring just one weekly refill of the Matka (earthen pot) from a borewell.

Impact and Sustainability

- Now, they no longer need to buy vegetables from the market, ensuring fresh and nutritious meals throughout the year.
- Except for one month during peak summer, when extreme water shortages prevent farming, they enjoy fresh vegetables for the remaining 11 months.
- The women are proud of their kitchen gardens, as they no longer rely on dried or stored vegetables, making their diet more diverse and healthy.

Devki Bariha's courage and leadership have transformed the lives of many women in Furfundi. From overcoming social barriers to practicing sustainable farming, she has set an example for women's empowerment and self-sufficiency. Today, the women of Furfundi are leaders in natural farming, proving that with the right support and determination, positive change is possible.

11. Bhog Singh Painkra: A Champion Farmer Leading Sustainable Agriculture in Furfundi

Bhog Singh Painkra, a champion farmer from Furfundi village, has been associated with KALP Samaj Sevi Sanstha since 2018. Through this partnership, he has learned and implemented innovative natural farming techniques, such as Kadahi Garden, Matka Vidhi, and Line Vidhi, which have transformed his agricultural practices.

Water-Efficient Farming with Matka Vidhi

- Using the Matka Vidhi, Bhog Singh digs a hole in his field and places a matka (earthen pot) inside it.
- Around this water-filled pot, he plants four types of vegetables, ensuring minimal water wastage and efficient irrigation.
- This method has significantly improved the yield and taste of his produce, making his kitchen garden more sustainable and nutritious.

Expanding Natural Farming Practices

- Bhog Singh adopted chemical-free, eco-friendly farming to grow vegetables such as:
    - **Baigan (eggplant)**
    - **Barbatti (yardlong beans)**
    - **Lauki (bottle gourd)**
    - **Potatoes**
- He initially started with 0.50 acres for natural farming but, due to its success, expanded to 2.5 acres.

Improved Paddy Cultivation with Line Vidhi

- He cultivates paddy using Line Vidhi, which is more profitable than the traditional Trikon Vidhi.
- This systematic planting method has increased his yield by 2–3 quintals compared to his previous harvests.

Use of Natural Solutions for Pest Control

- Bhog Singh applies Beejamrit and Jeevamrit, organic fertilizers made from cow dung, cow urine, and other natural ingredients.

- He sprays these solutions using a Jhadu (broom) to control pests and improve soil health.
- His **kitchen garden** is thriving with a **variety of seasonal crops**, including:
    - **Tomatoes**
    - **Dhaniya (coriander)**
    - **Lal Bhaji (red amaranth)**
    - **Bhutta (corn)**

Impact and Sustainability

Bhog Singh Painkra's success demonstrates how natural and sustainable farming techniques can lead to:

- **Higher yields**
- **Increased profitability**
- **Better soil health**
- **Environmentally friendly agriculture**
- **Healthier, tastier food**

His journey serves as an inspiration for other farmers, showing that traditional wisdom, combined with modern sustainable practices, can lead to greater productivity and self-sufficiency. Through his commitment to natural farming, Bhog Singh is not only benefiting his own farm but also contributing to a healthier and more sustainable agricultural future.

12. Girja Bai Bariha: Empowering Women Through Self-Help and Goat Farming

Girja Bai Bariha, the President of Jai Maa Tulsi (SHG) in Furfundi, initially hesitated to join KALP Samaj Sevi Sanstha. Despite repeated invitations from the women already involved, she was hesitant to step outside traditional norms, fearing criticism for sitting with elders and men, voicing her opinions, and breaking away from societal expectations. However, over time, she began attending the meetings. Her decision was encouraged by her husband, who noticed the financial improvements that other families were experiencing through their involvement with the organization. With his support, Girja Bai started participating actively, and soon, she was elected as the President of Jai Maa Tulsi SHG.

When the group was formed, the women decided to name their group Jai Maa Tulsi, and each member contributed ₹100 to create a collective savings fund. Initially, the idea of goat farming was met with skepticism. The women worried about how they would manage the goats—concerns about grazing, fodder, and vaccinations were on their minds. Additionally, the lack of male support further amplified their hesitation. Nevertheless, the women decided to push forward with the initiative despite these challenges. With support from KALP Samaj Sevi Sanstha, they received 40 goats and were trained in how to care for them. The organization also arranged for a veterinarian to visit annually for vaccinations, and whenever the goats fell ill, the women were encouraged to immediately call for help.

Girja Bai was the first to start goat farming at her home, taking advantage of the space available to her. She took 12 goats from her group and 12 from KALP Samaj Sevi Sanstha to start rearing them. In just five years, the group earned ₹2.5 lakh from goat farming, and their success has only grown since. Today, each household in the village is involved in goat farming, and the group has expanded its savings to ₹6 lakh. This collective savings has enabled them to support various village development programs, including lending money to villagers at a 3% interest rate to help with weddings and other important life events.

Along with their economic success, the women also maintain cultural traditions. As part of their yearly ritual, the group offers one goat to their Kuldevi, Mata Turturiya, as a gesture of gratitude and to seek blessings for the prosperity of their village. They also use their earnings to assist other villagers with marriage expenses and Sasthi ceremonies—a Hindu ritual celebrating a baby's sixth month. Through their collective efforts, they provide one masa (a unit of gold) to families in need, ensuring that they can fulfill the expenses associated with wedding rituals.

Girja Bai's leadership and determination have helped transform Jai Maa Tulsi SHG into a symbol of women's empowerment and community growth. The success of their goat farming initiative has not only provided them with financial independence but also helped to strengthen their community. Through their hard work and dedication, Girja Bai and the women of Jai Maa Tulsi SHG have become leaders in their village, showing that with perseverance and unity, they can overcome challenges, preserve traditions, and create a sustainable future for themselves and their community.

13. Phirbai: A Pillar of Strength and Change

Bharka, a small village in Kasdol block, is home to approximately 432 people across 87 households. With a majority of the population belonging to Scheduled Tribes (60%), followed by Other Backward Classes (26%) and Scheduled Castes (1%), the village was identified for a sustainable livelihood program aimed at improving economic stability through targeted interventions. Among the strategies to empower women from marginalized backgrounds, the formation of self-help groups (SHGs) played a crucial role. Three SHGs were established in the village, bringing together women, most of whom had only primary education and came from agricultural families with little to no independent income.

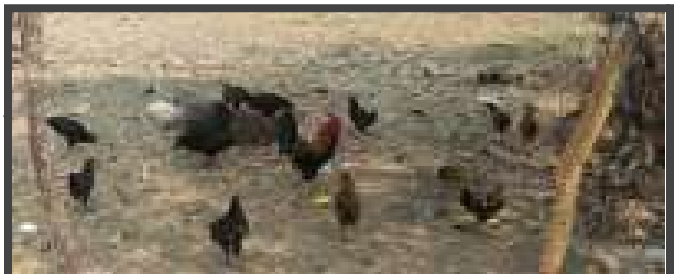
For many, joining an SHG was a way to support their families. However, for Phirbai, the experience was different. As a single woman managing her household and a two-acre plot of land alone due to family disputes, she faced immense challenges. In her words, "This is not easy, but to survive, one has to go through it." When KALP initiated its interventions in Bharka in 2018, she was selected as the treasurer of the Durga Mahila Kisan Samuha. From the outset, she played a key role in organizing and strengthening the group—calling members for meetings, arranging seating, and ensuring regular gatherings. She took on any SHG-related responsibility without hesitation and soon became known for her dedication and willingness to help others. Her strong and supportive nature made her a trusted figure among members, who frequently turned to her for guidance.

In 2020, two SHGs, including Durga Mahila Kisan Samuha, received support for backyard poultry farming. Like other members, Phirbai received five hens as part of an initiative under allied agricultural activities. Recognizing the potential of this additional livelihood source, she cared for the poultry diligently. Over time, she independently accessed the market, selling her hens and earning ₹4,500 in additional income. Her success inspired other members to take poultry farming more seriously, not only as an income source but also as a means of improving their family's nutrition through regular egg and meat consumption.

Phirbai also took advantage of the training sessions offered by KALP, acquiring new skills in preparing bio-pesticides and bio-fertilizers. She actively applied organic farming techniques in her field, purchasing green manure to improve soil health. Shifting to indigenous seeds, she successfully increased her paddy production from six quintals to ten quintals. Her results encouraged other farmers in Bharka to adopt similar practices, leading to improved soil quality and increased savings across the community.

Beyond agriculture, Phirbai and her SHG members played a key role in village development initiatives. Recognizing the power of collective action, they began actively participating in the Gram Sabha. Her leadership motivated other women to engage in local governance, leading to the successful passage of key resolutions, such as the establishment of an Anganwadi for young children and a Rangmanch for community gatherings. Encouraged by these successes, her group is now planning to secure a bank loan to start a small business.

Joining the SHG not only improved Phirbai's financial stability but also transformed her personal and social life. She developed communication and decision-making skills, gained confidence, and became a respected voice in both agricultural and community matters. The additional income from backyard poultry farming strengthened her financial independence, and her disciplined approach to savings reinforced long-term stability. The impact of these changes was deeply personal as well—seeing her growth and resilience, her son decided to reunite with her, bringing a sense of fulfillment and happiness.



The success of SHGs in Bharka underscores the importance of structured support for rural women. The organization's interventions focused on strengthening SHGs, building capacity, consolidating livelihoods, promoting social entitlements, and linking women with financial institutions to ensure long-term sustainability. Initiatives such as input support for agriculture and kitchen gardening have further bolstered economic resilience. Moving forward, a greater emphasis on livelihood generation and the inclusion of the most marginalized remains critical for sustainable progress.

14. Transforming Livelihoods: The Journey of SHGs in Uprani

Seventy years ago, only five families settled in Uprani, a remote forest village in Kasdol block. Over time, more families joined, and today, the village consists of 33 families with a population of 203. Located 15 km from the nearest main road, 25 km from the block office, 55 km from the district headquarters, and 150 km from the state capital, Uprani remains an isolated settlement. Its Gram Panchayat, Amakhoha, is 8 km away.

Recognizing the need for sustainable livelihood opportunities, the village was identified for intervention in 2016-17. The organization initiated its efforts by forming village development committees and self-help groups (SHGs). At that time, the women of Uprani, like many in similar rural settings, were primarily engaged in household duties and remained economically dependent on male family members. Concepts like savings and financial independence were unfamiliar to them, and prevailing social norms limited their roles to domestic work.

Through persistent engagement, the organization gradually introduced villagers to the purpose of forming and strengthening local institutions. Women were encouraged to see SHGs as a means of financial and social empowerment. Learning and training became central to this transformation. Two SHGs—Kali and Durga—were established, providing a structured space for women to meet regularly, discuss issues, and plan for their future. Weekly meetings with mandatory savings helped members develop financial discipline, while capacity-building sessions deepened their understanding of SHG management, record-keeping, and income generation activities.

As these groups became linked with banks, women learned about financial transactions, savings, and loans. For many, it was their first experience visiting a bank, handling transactions, and engaging with officials. Stepping out of their villages,

traveling to Kasdol block independently, and interacting with government officers marked a significant shift in their confidence and mobility.

Beyond financial literacy, SHGs became a platform for leadership development. Women gained awareness of local governance structures and learned how to seek support or address social concerns. Regular discussions on organic farming, kitchen gardening, bio-pesticides, and bio-fertilizers equipped them with practical skills. Over time, they became capable of leading meetings, interacting with local authorities, and advocating for community development initiatives.

To strengthen livelihoods, the organization introduced goat rearing as an additional income source. Each SHG received two goats, along with training on animal care, vaccination, disease management, and shed maintenance. Although initial losses were encountered, the women remained committed. Gradually, they began earning from goat sales, generating ₹15,000 to ₹17,000, reinforcing their confidence in managing small businesses.

Encouraged by these successes, the SHG members took a collective decision to expand their income-generating activities. Given Uprani's remote location, where most residents depend on agriculture and labor, the women leveraged their training in vermicomposting to align with the state's "Gothan" scheme. Under this initiative, panchayats support the production of bio-fertilizers by purchasing green manure from farmers, converting it into vermicompost, and making it available at affordable rates.

While the scheme was initially intended for implementation at the Amakhoha Panchayat level, the proactive efforts of Uprani's SHGs led the panchayat to entrust them with this work. Despite having little or no formal education, the women took up the challenge and, in November 2021, officially started working under the Gothan scheme. Within four months, they generated ₹1,06,000 by selling vermicompost at ₹300 per sack.

The government's recognition of SHGs as key partners in the Gaothan program has further strengthened the women's resolve. Through consistent guidance, training, and institutional linkages, the organization has played a vital role in transforming them from economically dependent individuals into self-reliant entrepreneurs. Their journey underscores the power of collective action, demonstrating how structured interventions can enable even

the most marginalized communities to build sustainable livelihoods and secure a better future.

15. The Unity of Women: Ending Alcohol Abuse in Sandi

Sandi, a forest village under Devtarai Gram Panchayat, is home to 96 households with a population of 514. Located 3 km from the main village and 22 km from Kasdol block, Sandi has been inhabited by the Gond tribe and other communities such as Chauhan, Pardhi, and Yadav for over 150 years. The village has an anganvadi and a primary school, but children must travel to Basinpali or Chikhali for further education. With rain-fed agriculture, non-timber forest product (NTFP) collection, and MGNREGA as primary livelihood sources, seasonal migration is common—each year, members from 25 to 30 households migrate for work across India, particularly in brick kilns and daily wage labor.

In 2017, the organization initiated its interventions in Sandi through a sustainable livelihood program. Key activities included forming a village development committee, establishing self-help groups (SHGs), capacity-building sessions, and providing inputs for ecological farming. Over time, three SHGs—Jagruti, Tulsi, and Shanti—were formed, bringing together 33 women. Tulsi and Shanti SHGs received support for goat and poultry rearing, while Jagruti SHG secured a ₹1 lakh bank loan for personal financial needs.

A Growing Concern: The Rise of Liquor Sales

During an SHG meeting, women raised concerns about liquor sales in the village. Although brewing and consuming Mahua liquor was traditionally limited to festivals and ceremonies, the situation had changed over the past few years. Some families, particularly outside the Gond

community, had begun selling liquor daily, turning it into a business. Seeing its profitability, Gond families also joined in, leading to a drastic shift in the village's social fabric.

Liquor sales became widespread, creating discord within households. Some husbands suspected their wives, while others drank excessively, worsening financial conditions. The home environment became toxic, affecting children's well-being and education. Young boys started drinking, and intoxicated men loitered in public spaces, making women and girls feel unsafe. Daily fights and abusive language in community areas became common. The deteriorating atmosphere began affecting SHG meetings, with women distracted by domestic issues, missing gatherings, or struggling to contribute financially.

Community mobilizer Gorelal discreetly guided the women toward collective action, ensuring that the male members remained unaware of their organizing efforts. SHG members Belsundari, Sagari, and Santoshi took the lead, calling a meeting with one woman from each household. After intense discussions and some heated debates, the women decided to unite against alcohol abuse. Those not already part of SHGs were encouraged to join, leading to the emergence of a larger women-led community-based organization (CBO).

A Collective Stand: Banning Liquor

Recognizing their collective strength, CBO members took a historic decision in 2021—to ban liquor in Sandi. While the decision was not easy, as some women's husbands were either brewing or consuming liquor, their concerns for their children's future strengthened their resolve. Each woman discussed the issue within her family, emphasizing the economic and social damage caused by alcohol.

To enforce the ban, CBO members took nightly patrols, armed with torches and sticks, ensuring that liquor production and consumption ceased. A fine of ₹100 was imposed on anyone caught brewing, selling, or drinking alcohol. If intoxicated individuals misbehaved in public, they were reprimanded—even by their own family members. In some cases, fines were strictly enforced.

Impact and Challenges

The women's sustained efforts transformed the village environment. Liquor production and sales stopped, restoring a sense of safety. Women could move freely without fear of harassment, and public spaces became free of drunken disruptions.

Key challenges during this movement included:

- Convincing husbands and family members to support the campaign.
- Ensuring Gorelal could continue supporting women without disrupting other project activities or drawing resistance from male villagers.

Despite these hurdles, the initiative led to significant outcomes:

- The emergence of a strong CBO and new women leaders.
- A drastic reduction in alcohol abuse.
- A safer, more peaceful village atmosphere.
- Women realizing their collective strength as a community institution.

This transformation did not happen overnight; it was the result of determined action, unity, and perseverance. The women of Sandi have set an inspiring example of grassroots empowerment, demonstrating how collective strength can bring about lasting change.

16. Our Daily Wages: A Fight for Justice

In 2017, an initiative under MGNREGA was launched in Baloda Bazar district to address the long-standing issue of delayed wage payments. This was the first of its kind in the region, aiming to ensure that overdue payments—pending for over a year and a half—were finally disbursed. Beneficiaries from seven villages were identified, and a grassroots movement was initiated through social mobilization, home visits, and mass awareness campaigns. These efforts not only educated the communities about their rights under MGNREGA but also encouraged them to take an active role in demanding their rightful wages. With around 90% participation from the selected villages, the intervention saw strong involvement from Village Development Committee (VDC) and Self-Help Group (SHG) members.

The Need for Intervention

Beyond securing overdue wages, the campaign aimed to restore the confidence of marginalized communities, empowering them to raise their voices for their rights. By adopting an integrated approach, the initiative sought to ensure that long-suffering wage earners received both their rightful payments and a sense of justice.

Mobilizing the Villages

Following detailed discussions with affected workers, the intervention began with village surveys and beneficiary meetings. Lists were meticulously compiled, detailing the number of workdays completed and the duration of unpaid wages. Many beneficiaries were either illiterate or had limited literacy, making it essential to simplify the process and provide hands-on support. The campaign, initiated in March 2017, was strongly backed by the VDC.

Initial attempts to engage local authorities—including the village secretary (Sachiv), employment assistant (Rojgar Sahayak), and Sarpanch—met with resistance. Officials claimed that funds had not been received from the district. When approached, the Janpad

Panchayat also failed to provide any resolution. Even the local MLA, despite accepting written applications, took no action, causing frustration among the villagers.

Meanwhile, KALP continued monitoring the process, guiding and supporting the beneficiaries at every stage. A breakthrough came when an analysis of the official NREGA website revealed that payments for the five villages had already been disbursed. However, when the beneficiaries inquired at the village post office, they were told that no money had been received. Confronted with the official records, the postmaster promised to investigate the matter within a week.

A Struggle for Accountability

Despite this assurance, weeks passed, and the postmaster became untraceable for over two months. The villagers escalated their efforts, approaching the Janpad Panchayat, only to be told again that payments had already been made. Frustration grew, and patience wore thin.

Determined to get justice, villagers from the five affected villages took decisive action. They gathered and confronted the postmaster at his home. The anger was palpable, and tensions ran high, but KALP's intervention prevented the situation from turning violent. Under intense pressure, the postmaster promised to complete the payments within a month.

With renewed momentum, the beneficiaries sought help from higher authorities. They submitted a formal complaint to the Chief Executive Officer (CEO) of the Janpad Panchayat, prompting officials to investigate the matter. It was confirmed that the payments had indeed been released, yet no money had reached the workers. The issue was escalated to the district level.

At the district headquarters, the head postmaster was contacted and asked for time to resolve the matter. He directed the villagers to submit their details to the sub-post office in Kasdol. Soon after, payments for the remaining beneficiaries were processed. Simultaneously, pressure on the village postmaster continued, and his own family intervened, promising that all dues would be cleared within a month.

By March 2018, the long battle came to an end—350 families across seven villages finally received their payments, totaling ₹8,20,220.

Challenges Faced

- Gathering accurate records of work done, especially after a long delay.
- Mobilizing villagers and ensuring collective action.
- Holding the village postmaster accountable for withholding payments.

Outcomes

- Villagers stood united against systemic failure.
- Increased awareness of rights among workers.
- A collective movement driven by five villages.
- All seven villages successfully received their long-delayed wages.

This initiative was more than just a fight for wages—it was a testament to the power of community action. By standing together, the villagers not only reclaimed their rightful earnings but also reinforced their ability to challenge injustice and demand accountability.

17. Livelihood Means Unity: Badrika's Journey of Resilience

Pathiyapali village, located in Kanjiya Gram Panchayat, is surrounded by forests and mountains, offering a picturesque view near the Balar Dam. However, its remote location poses significant challenges for its residents, with no transport facilities except for two-wheelers. The nearest block headquarters, Kasdol, is 30 km away, while the district center is 45 km away, making access to essential services difficult. The village has an Anganwadi and a middle school, but students must travel 10 km—often on foot or by bicycle—to pursue higher education.

As a predominantly tribal settlement, Pathiyapali's economy relies on rain-fed agriculture, non-timber forest products (NTFP), and small-scale livelihood activities. Educational levels, particularly among women and girls, remain low, and poverty continues to be a significant issue. The village consists of 92 households, primarily from the Binjhwar and Gond Scheduled Tribes, along with some Other Backward Classes (OBCs).

A Life of Struggles

Badrika Gond, a resident of Pathiyapali, was born in Asnind village and moved here 25 years ago after marrying Amar Singh Gond. The couple owned a small 1.5-acre plot of land but primarily survived as migrant laborers in Maharashtra's brick kilns. Amar Singh, who had studied up to Class 10, worked as a clerk at the kilns. However, tragedy struck seven years ago when he developed a prolonged illness that gradually affected his mental health, rendering him unable to work.

Left without an income and with five children to care for, Badrika made the painful decision to send three of her sons to live with her brother while she returned to Pathiyapali with her ill husband, two daughters, and elderly in-laws. With no steady source of income, she struggled to support her family. Their small plot of land could produce only one paddy crop per year, and occasional work as an MGNREGA laborer offered no certainty of timely wages. Sometimes, she worked as a forest laborer, but the meager earnings were barely enough for survival.

A Turning Point: Joining the SHG

In 2016-17, under the "Sustainable Livelihood Programme," KALP began interventions in Pathiyapali. Mobilizers conducted meetings, engaged with the community, and introduced the objectives of various projects. Regular home visits and stakeholder engagement led to the formation of a Village Development Committee (VDC) and two Self-Help Groups (SHGs).

Badrika, though initially hesitant, observed these developments with interest. When SHG formation meetings began, she attended out of curiosity. Group members encouraged her to join, but she was reluctant, citing her financial struggles. Understanding her situation, the group decided to support her, allowing her to contribute whenever she could. This act of solidarity enabled her to become a member of the "Chandra Mata Kisan" SHG.

Empowerment Through Participation

Being part of the SHG exposed Badrika to new ideas and opportunities. She was amazed at how members voiced their concerns, made decisions, and actively participated in various initiatives. Gradually, she gained confidence and became more involved in group activities.

During discussions on MGNREGA, Badrika shared her frustrations—she had a job card but was rarely paid on time. Like many other laborers, she received wages of just ₹5 or ₹10 at a time through Kotak Mahindra Bank ATMs, leading to deep mistrust in the system. Frustrated, she had stopped working under MGNREGA altogether.

However, with the knowledge and confidence gained through the SHG, Badrika began engaging in livelihood-strengthening activities. In 2018, she developed a demonstration plot for organic farming on her 1.5-acre land. She adopted organic methods and, with seeds provided by the organization, started large-scale kitchen gardening. The vegetables grown were sufficient for her family, reducing her expenses and improving nutrition.

A New Livelihood and Growing Confidence

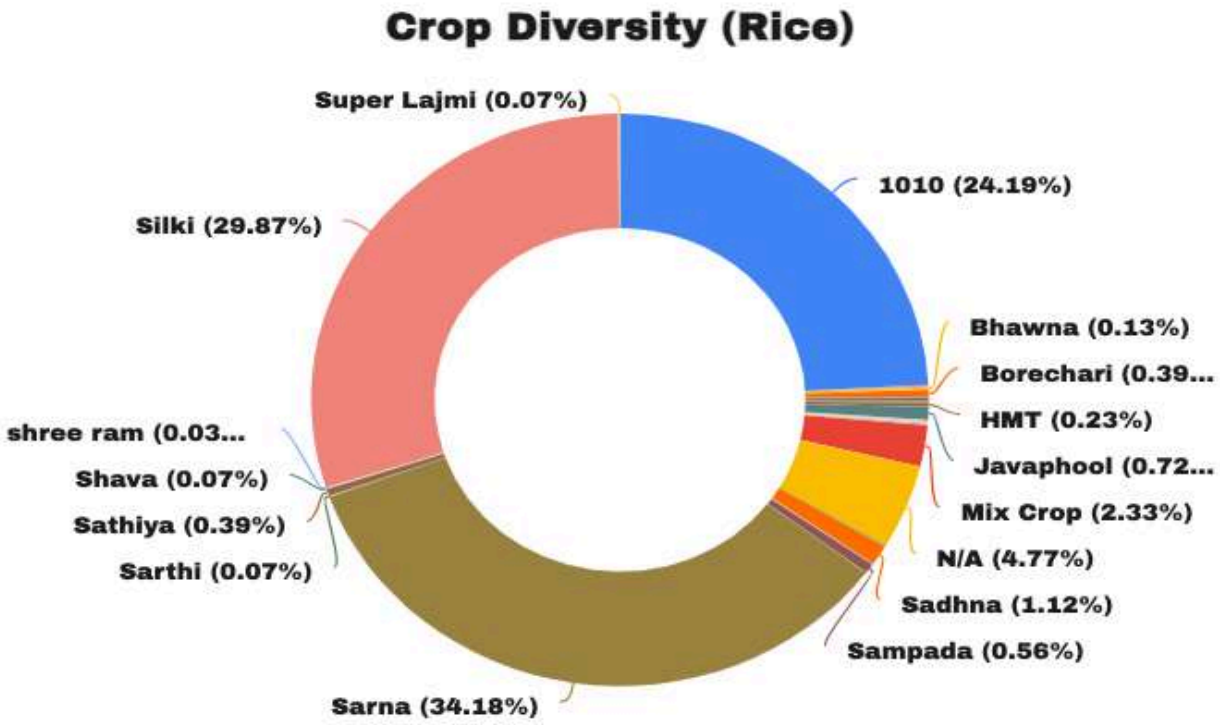
In 2020, KALP provided Badrika with a goat to supplement her income. Encouraged by this support, she later purchased another goat for ₹3,800 with her own savings. Today, she

proudly owns 12 goats. She has also learned techniques for preparing bio-pesticides and bio-fertilizers and now practices improved methods like line sowing and SRI (System of Rice Intensification) in her paddy fields.

With her newfound skills and resources, Badrika has not only become self-reliant but has also emerged as a community leader. In 2022, she earned ₹19,200 through forest labor and MGNREGA work. Once a quiet observer, she now actively raises issues and seeks solutions in group discussions.

Reflecting on her transformation, Badrika says:
"When I look back, I never expected such changes in such a short time. This all happened because KALP gave me the opportunity and space to come forward."

Badrika's journey is a testament to the power of collective action and resilience. With support, knowledge, and determination, she transformed her life, proving that unity and perseverance can overcome even the toughest challenges.



Redefining Strength: The Journey of Empowering Women

Women in Devtarai, Khudmudi, Alda, Kukrikona, Uprani, and Furfundi have made significant progress in gaining independence and recognition. Once excluded from economic and social decision-making, they are now recognized as farmers, earning their own income and actively participating in community matters. With training from KALP Sanstha, they have developed skills to work in the fields, advocate for their rights, and navigate local governance. In Furfundi, women have taken up goat farming, poultry, kitchen gardening, and harvesting forest products such as tendu patta, mahua, and medicinal leaves. They also produce and sell brooms in Kasdol, demonstrating their growing confidence and economic independence.

Natural farming has played a crucial role in this transformation, offering benefits that go beyond agriculture. By focusing on soil health and reducing reliance on chemical fertilizers and pesticides, natural farming supports a balanced ecosystem and ensures long-term soil fertility. Organizations like KALP Samaj Sanstha provide essential training in organic farming, crop rotation, soil management, and natural inputs, allowing farmers to adopt more sustainable agricultural methods. Members also gain access to valuable resources, including organic seeds, equipment, and financial support through subsidies and grants. Additionally, being part of a larger network of farmers and experts provides opportunities for knowledge-sharing and problem-solving.

The shift to chemical-free farming has improved both health and economic outcomes. Farmers and consumers benefit from

pesticide-free produce, while the reduction in synthetic fertilizers and pesticides lowers costs. Organic products often command better market prices, increasing profitability for small-scale farmers. Community ties have also strengthened, with collective marketing efforts helping farmers secure better sales and expand their reach. Organizations like KALP advocate for policies that support sustainable farming and small-scale agricultural development, ensuring long-term support for natural farming initiatives.

Despite these advantages, villagers in Devtarai, Kukrikona, and Uprani face significant challenges in adopting natural farming due to limited water resources. Many, especially the elderly, struggle to fetch water from distant locations, making it difficult to maintain sustainable agricultural practices. Addressing these water access issues would significantly enhance the adoption and success of natural farming in these villages.

Empowering women in these communities goes beyond economic opportunities. Programs that encourage women to form Self-Help Groups (SHGs) for savings and microloans have provided financial independence. Training in fisheries, poultry, goat farming, and natural farming has created new livelihood options, while access to microfinance through initiatives like PM Mudra Yojana and NRLM has enabled many women to expand their businesses. Women entrepreneurs have successfully ventured into food processing and dairy farming, generating income and strengthening local economies.

Education and awareness efforts have also been crucial. Adult literacy programs have helped many women develop reading and writing skills, while workshops on legal rights, property laws, and financial management have provided them with essential knowledge. Health and well-being initiatives, including menstrual hygiene education and maternal health programs, have improved access to healthcare services. Women are now actively involved in Panchayati Raj institutions, influencing local governance and decision-making. Successful women in these villages serve as role models, inspiring others to take leadership roles in their communities. Efforts to engage men and boys in discussions on gender equality have further contributed to shifting social norms and encouraging shared household responsibilities.

The contributions of individuals like Meena Ji, Roop Singh Ji, Sunil Ji, and Krishna Ji have been invaluable in advancing natural farming in Kukrikona, Devtarai, and Uprani. Their dedication has helped strengthen the understanding and adoption of sustainable agricultural practices in these villages. A special acknowledgement goes to Meena Ji for her leadership in empowering women through Kalp Samaj Sevi Sanstha. Her commitment has been instrumental in driving progress in the region, and her guidance during natural farming learning sessions has deepened knowledge and inspired further action.

The adoption of natural farming in Devtarai, Kukrikona, and Uprani has led to tangible improvements across agricultural, economic, and social dimensions. Increased crop diversity, healthier livestock, and widespread kitchen gardening have strengthened food security and improved nutrition. By reducing reliance on chemical inputs, farmers have lowered production costs and contributed to environmental conservation. The empowerment of women has further reinforced community development, ensuring a more inclusive and participatory approach to rural progress. Sustained support for natural farming and women's initiatives will continue to drive positive change, fostering resilient agricultural systems and stronger rural communities.

Key Achievements of the KALP

KALP achieved transformative milestones in livelihood enhancement, food security, community empowerment, and institutional strengthening, with measurable outcomes that directly addressed baseline challenges.

1. Focus on Women in Livelihood Enhancement

Kalp made significant strides in empowering women through targeted livelihood initiatives, fostering economic independence and resilience. By leveraging ecological farming practices, kitchen gardening, and livestock rearing, the project addressed women's unique challenges and created opportunities for sustained income generation.

a. Adoption of Ecological Farming Practices by Women

Women's participation in ecological farming surged among small and marginal farmers, with 44.86% of women-led households transitioning to sustainable practices. Based on landholding size:

- **Marginal Farmers (≤1 hectare):** Representing 56% of women participants, these farmers adopted multi-cropping and indigenous seed preservation techniques. Yield data shows a **15-18% reduction in climate-induced crop losses**, underscoring the resilience provided by ecological methods.
- **Small Farmers (1-2 hectares):** Constituting 34% of women farmers, this group reported enhanced productivity through crop diversification, particularly under erratic rainfall conditions.
- **Medium Farmers (2-4 hectares):** A smaller segment (10%) utilized advanced organic practices, achieving up to a **25% increase in yields** compared to baseline.

This shift to ecological farming allowed women to gain control over farming decisions, enabling them to manage input costs and address crop failures more effectively.

b. Women's Role in Kitchen Gardening

Kitchen gardening emerged as a transformative practice for women, with 47.33% of households led by women adopting these practices. Based on adoption duration:

- **3-Month Gardens:** Constituting 38% of women practitioners, these short-term gardens focused on fast-growing vegetables like spinach and okra, meeting immediate household needs.
- **6-Month Gardens:** Representing 42%, these households expanded to include legumes and root vegetables, ensuring seasonal nutritional security.
- **9-Month Gardens:** A dedicated 20% cultivated year-round gardens, achieving both dietary diversity and surplus production for market sale.

Women-led kitchen gardens significantly improved food security, reducing seasonal shortages by 30% and contributing an average of ₹6,000 annually to household savings and income through surplus vegetable sales.

c. Livestock and Fisheries Initiatives for Women

Women's participation in livestock and fisheries significantly diversified income sources:

- **Livestock Activities:**
  - Among 205 women-headed households, goat rearing (308 households in total) and poultry farming (271 households in total) were prominent.
  - Women collectively organized into 14 women-led groups, encompassing 727 women members, reported consistent income generation.
  - Goat rearing alone contributed ₹8,000–₹10,000 annually to household incomes, while poultry farming added an average of ₹7,500 per family.

- **Fisheries Development:**

- Women spearheaded 14 community-managed fishery groups, encompassing 148 households, with strong linkages to government schemes.
- Training sessions provided by the project enabled women to achieve an average annual income of ₹12,000 per household from fisheries, which emerged as a sustainable option in regions with water bodies.

2. Food Security and Nutrition:

The percentage of households consuming diverse food groups rose significantly, with dietary diversity attributed to the dual benefits of kitchen gardening and increased awareness campaigns. These campaigns educated families on balanced nutrition and highlighted the importance of integrating locally available food resources, such as green leafy vegetables and protein-rich legumes, into their diets.

3. Community Empowerment and Gender Equality:

The project made remarkable strides in empowering women, with their participation in decision-making rising from a baseline of 15% to an impressive 41.67%. This was achieved through targeted capacity-building sessions for Self-Help Groups (SHGs), which enhanced women's financial literacy, leadership, and entrepreneurial skills. Women played a more active role in community governance, with 16% of households reporting women as primary decision-makers, a transformative shift in traditional power dynamics.

4. Institutional Strengthening:

The formation and capacity-building of Village Development Committees (VDCs) and Forest Rights Committees (FRCs) were instrumental in fostering local governance. An Institutional Maturity Index (IMI) assessment revealed that 56.25% of Community-Based Organizations (CBOs) were on the path to becoming competent institutions, actively addressing issues like natural resource management and community development. These strengthened institutions ensure inclusivity, with significant participation from marginalized groups such as women and youth.

Recommendations

1. **Enhanced Livelihood Diversification:**
    - Promote livestock rearing and fishery as supplementary income sources.
    - Provide training on value addition for NTFPs and develop direct market linkages.
2. **Improved Resource Management:**
    - Scale up investments in community-managed irrigation systems.
    - Expand adoption of climate-resilient farming practices.
3. **Capacity Building:**
    - Continue targeted training for women's leadership in SHGs and CBOs.
    - Foster youth engagement through skill-building initiatives aligned with market demands.
4. **Strengthened Advocacy:**
    - Intensify efforts to secure Community Forest Rights (CFR) titles.
    - Collaborate with government schemes for enhanced support in livelihoods and infrastructure.

Strategic Pathway for Building on KALP's Achievements

KALP demonstrated that **ecological farming, women's leadership, and diversified livelihoods** are realistic entry points for building **resilient rural economies**. The next phase must consolidate these gains and scale them systematically.

Snapshot of Current Gains & Next Steps

Domain	Achievements So Far	Way Forward (Doables)
Ecological Farming	44.86% households adopted natural/ecological practices. Crop losses still at 49.14%.	Extend multi-cropping & indigenous seed use to **+30% more households**, targeting mono-croppers. Launch **3 regional seed banks**.
Kitchen Gardens	47.33% households with kitchen gardens; 62% HHs report year-round food availability.	Scale to **75% HHs**, integrate millets, pulses, greens. **Link with ICDS & schools** for nutrition outreach.
Livestock	205 women-led HHs with goatry/poultry; vaccination campaigns covered 76 animals in one block.	Double outreach via **vet extension, fodder banks, SHG-led marketing**. Create **district-level producer collectives**.
Fisheries	Pilots through MGNREGA ponds.	Form **10 fishery cooperatives**, invest in **storage & market infrastructure**.
NTFPs	Mahua, tendu, tamarind collection ongoing, but low value returns.	Establish **3 local processing hubs**; introduce branding & direct buyer linkages.

Women's Leadership	Women's decision-making up from 15% → 41.67%.	Achieve **50% representation in CBOs**. Provide **financial literacy & governance training** for women leaders.
CBO Strengthening	56.25% at improved maturity levels.	Push **75% CBOs to advanced level** with training in planning, monitoring & conflict resolution.

Strategy for the Next Phase

From Survival to Stability

- Households are experimenting with ecological practices → need to **anchor adoption** through inputs, training, and visible benefits.
- **Doable Step**: Establish **block-level demonstration farms** showcasing multi-cropping + livestock integration.

From Kitchen Gardens to Nutrition Systems

- Kitchen gardens have improved food availability. Next step: move from **household-level nutrition** to **community nutrition systems**.
- **Doable Step**: Train SHG women as **"Nutrition Champions"**, linking gardens, Anganwadis, and school meals.

From Individual Livelihoods to Producer Enterprises

- Goatry, poultry, and fisheries are now small-scale. To ensure growth → need **collectives & cooperatives**.
- **Doable Step**: Form **3 livestock producer companies** and **fishery collectives**, supported by veterinary & market linkages.

From Raw NTFPs to Value-Added Enterprises

- Forest produce remains under-utilized.

- **Doable Step**: Establish **community-owned processing units** for mahua, tamarind, tendu → linked to **direct buyers**.

From Participation to Leadership

- Women's participation in governance is climbing. Now shift to **women-led governance**.
- **Doable Step**: Train **100 women leaders** in governance & financial literacy; place them as office bearers in SHGs, VDCs, FRCs.

Anchoring with Natural Farming Principles

Recommended Practices for Scale

- **Perpetual Ground Cover** → Intercropping + cover crops.
- **Crop Diversity** → 15–20 crops + trees per farm.
- **Residue Cover** → Mulching with crop residue.
- **Minimal Tillage** → Strengthen soil life.
- **Seed Sovereignty** → Community seed banks in each cluster.
- **Integrated Farming** → Crop + livestock + fisheries loop.
- **Bio-stimulants & Biopesticides** → Neem & herbal-based solutions.

Doable Step: Train **500 farmers annually** in these practices through seasonal field schools.

Monitoring Progress

Area	Indicator	5-Year Target
Farming	% households adopting natural farming	60%
Nutrition	% households with year-round food availability	100%

Livelihoods	Average HH income increase	+30%
Governance	Women in decision-making	≥50%
Institutions	% CBOs at advanced maturity	75%

Conclusion

KALP has **proved the concept**: ecological farming, women's empowerment, and diversified livelihoods can shift villages from fragile subsistence to stable, growing economies. The next phase would:

- **Scale adoption** (farming, livestock, nutrition) with demonstration sites.
- **Invest in value addition & collective enterprises** (NTFPs, livestock, fisheries).
- **Anchor women's leadership** as central to governance.
- **Institutionalize natural farming** through training and farmer-to-farmer learning.
- **Track progress** with simple but robust performance indicators.