



***Farm Livelihood Intervention Models Developed
by
Loka Kalyan Parishad, West Bengal***

***under
Mahila Kisan Sashaktikaran Pariyojana
(MKSP)***



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Loka Kalyan Parishad (LKP), a Kolkata based nonprofit voluntary organization has been striving for sustainable development of the poorest of the poor through Decentralized Natural Resource Management (DNRM) with a special focus on women empowerment since 1977. In course of its journey, LKP accomplished number of projects leaving remarkable footprints in the development pathway for the underprivileged sections in the society.

The MoRD, Government of India launched a mission mode national programme called DAY – NRLM with MKSP as one of its components making partnership with NGOs and CSOs in the country. The West Bengal State Rural Livelihood Mission (WBSRLM) was the co sponsor to implement the MKSP project in the state of West Bengal. Loka Kalyan Parishad having sound domain knowledge and relevant experience in rural livelihood development was awarded the project as the PIA in the districts of Birbhum, Purulia, Uttar Dinajpur, Dakshin Dinajpur and Alipurduar in the state of West Bengal. Food security attained, production, productivity, and income enhanced and 60,000 Mahila Kisan households do feel empowered in their domestic and social environment.

The core principle of agro – ecology was followed in course of implementation of the agro based project integrating trees , crops and livestock, focusing on ecological relationship within man, animal and plants in the ecosystem in various agro climatic zones in the rural area. LKP introduced a few potential livelihood prototypes/models to bring back the chain of interdependence through agro - ecology to work in harmony with society. These approaches required maintenance of agricultural biodiversity in different eco systems i.e. trees, diversity of crops, livestock, agro forestry, fish, pollinators, insects, earth worms, soil biota and plant-based products that is available in and around production systems to achieve sustainable production and productivity. A large number of promising best practices have emerged under MKSP which have immense potential to be replicated across the country. For this purpose a ‘Compendium of Agro Ecological Best Practices ‘ under MKSP was developed and published by the MoRD in 2018 that included many practices of LKP implemented under MKSP. **It gives me immense pleasure to announce that LKP’s work in MKSP was recognized as a model that found place in the compendium in a special article on ‘Integrated Livelihood approach for Landless & Marginal Farmers through Convergence by LKP in West Bengal.**

An effort has been made to present here in brief the models of integrations (land based integration, pond based integrations and small animal based integration) developed by LKP where a basket of compatible activities is taken up in an integrated manner that really contribute significant income of the MK families covered under the project.



(Shyamal Gan)
Project Director, MKSP
Loka Kalyan Parishad

Contents	Page No.
Acknowledgement	1
Foreword by the Project Director, Loka Kalyan Parishad	2
Introduction	4
Approach	4
Ecological Turntable	4-5
Land based Integration with livestock	6
Pond based Integration with fish and ducks, poultry and cultivation of vegetables	7
Small animal-based Integration in combination of other activities (CPR management, Non farm activities)	8
Components	9
Convergence framework	9-11
Convergence with Different line Departments:	11-12
Model 1: Integrated Farming System (Land, Livestock & off farm)	13
Model 2: Pond based integrated farming	14-15
Model 3: Small animal-based Integration in combination of other activities (CPR management, Non farm activities)	15-16
Photo Album	16-22





Farm Livelihood Intervention Models Developed under MKSP Loka Kalyan Parishad, West Bengal

Introduction:

The MKSP is a well-designed programme implemented by the MoRD to mainstream the role of women in agriculture. The **main objective** of the project is empowerment of the women farmers through creation of sustainable livelihood opportunities to address Food and Nutrition Security at the household level based on **Decentralized Natural Resource Management (DNRM) (land based, pond based and small animal based)** farming system to lead a life of economic prosperity. Since the majority of the Mahila Kisans belong to the ultra-poor community under the project are landless., they did not have the potential to contribute any significant income from a single source of activity. Subsidiary activities, they were engaged in , could not make their life sustainable. Need was felt to engage most of the assisted families around the whole farming system, where a basket of compatible activities is taken up in an integrated manner that really contribute significant income.

Approach:

As per guideline of MKSP, principle of sustainable agriculture practices was followed through these kinds of integration with decentralized natural resources management. The core principle of agro – ecology in the principle include recycling nutrients and energy on the farm without application of chemical inputs, integrating crops and livestock, focusing on ecological relationship within man, animal and plants in the ecosystem. LKP introduced a few potential livelihood prototypes/models to strengthen the livelihood of the MKs with **land and pond based multiple agriculture integrated with livestock** in 5 districts of West Bengal in various agro climatic zones.

Effort has been made to develop the models to bring back the chain of interdependence through agro - ecology to work in harmony with society. These approaches require maintenance of agricultural biodiversity i.e. diversity of crops, livestock, agroforestry, fish, pollinators, insects, soil biota and plant-based products that is available in and around production systems to achieve sustainable production and productivity.

Ecological Turntable

Components and processes of technology Integration to build up strong and resilient Integrated farming Systems are as follows:

- Recycling of biomass and optimize



nutrient availability in the soil

- Create favorable soil conditions for plant growth by using organic matter and soil biotic activity.



Group based seed bank

- Seed banks for seed sovereignty (Grain bank, Seed Bank)
- Access to Foundation Seed chain by the communities to produce quality seeds got certified (LKP best practice under MKSP)



Group based cultivation of Azolla

- With primacy to dung based inoculants livestock, dairy, poultry, small ruminants will get integrated with crop husbandry. (All kinds of farming system)
- Fishes may re appear in paddy field in absence of chemical pesticides

- Use Azolla for nitrogen fixation in soil, as a feed to poultry birds to give more eggs and grow in pond for fish feeding. (Used in land – livestock -fisheries system)

- Minimize losses by way of microclimate

management, water harvesting and soil management through Mulching (earth worm returns)

- Biodiversity management on CPR (LKP Best Practice) : Tree based income generation Food, Fodder, Fertilizer and Timber plants grown through partnership with GP, Fodder for animals also available, (Land and Livestock)



CPR for the landless

LKP developed three kinds of integration models under MKSP which are as follows:

1. Land based Integration with livestock:

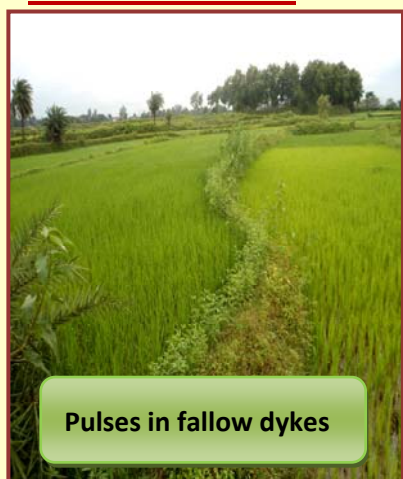


Multiple agriculture included introduction of 0.5-acre land model in which cultivation of paddy and vegetables will be shared following SCI method. Promotion of multi layered Home Nutrition garden or community garden ensuring to provide year long vegetables and fruits from them. Various SA practices are adopted in

Land based Integration such as seed management, soil health and nutrition, irrigation, SRI, conservation of water and soil moisture, create NPM environment, climate resilience and preservation of biodiversity in the ecology. Package of practices has been developed and extended through CRP strategy. Every household should practice seed treatment, seed preservation for **seed sovereignty**, Vermi / NADEP compost, recycling of bio mass, green manure azolla for **soil health and nutrition**, contour field bunding, excavation of storage tanks, by bio mulching, sub surface irrigation– pitcher irrigation, recycling of waste water in home garden for **conservation of water and soil moisture**, Pest repellent trap crops, NPM techniques for natural ecological balance and create **No Pesticide Use environment**.



Small is Beautiful



Besides, practices of several small but useful integration are remunerative and very important in terms of climate resilience and preservation of biodiversity in the ecology those are mixed crop, companion crop, vegetable crop hedge, cover crop of pulses, grain and seed bank, Relay (*poira*) cropping, usage of Common Property Resources(CPR), Usage of untapped, fallow land, Crop on field dykes, nursery raising, school nutrition garden etc. Improved rearing practices of goats and back yard poultry would be integrated as an additional source of income with agriculture.

2. Pond based Integration with fish and ducks, poultry and cultivation of vegetables



Pond side vegetable

Those who have no sufficient land with them but scope is there for generation of more income in pond-based interventions have opted for this kind of integration. Water area in the pond and its embankment are utilized to an optimum level in this kind of intervention. Fish will be produced in the pond and ducks could also be reared for production of eggs. Droppings of the ducks are used as feed for the fish in the pond, cultivated Azolla in the pond can be source

of good feed of fish and ducks as well. It may be used for soil nutrient on the pond side land.

The inside and outside land available on the embankment can be utilized for vegetable and fruit production both on the land and also on the multi-tier trellis with shed tolerant crops in filtered sun light under trellis. The trellis should not cover 40% of the water bodies. Pond side land will give a good return in vegetable cultivation due

to



Duck rearing in pond

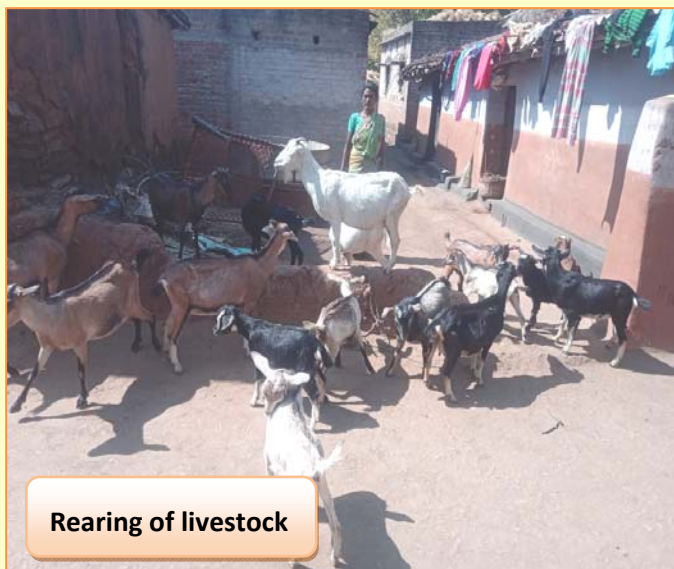


Fish farming in pond

availability of irrigation sources with almost no cost.

Poultry birds also can be reared at ease on the embankment with feed available there making this integration highly remunerative for the community cultivation.

3. Small animal-based Integration in combination of other activities (CPR management, Non farm activities)



Rearing of livestock

Livestock rearing, specially the small ruminants, has played an important role in the livelihood of the poorest of the poor households in the rural area through the ages.

LKP is working with the people belonging to ultra-poor households. These households have little access of land and dependent on wage earning as agricultural laborers with no or less irrigation facility. During post monsoon season, the MKs remain

unemployed and also there is lack of scope for wage earning. LKP motivates them for small animal based integrated farming with sufficient training provided to them. This activity is regarded as poor people's bank deposit, help bringing money (liquid cash) in hard times as well as provide nutrition to family specially for the landless, elderly widows, single women, and differently abled women.



Hatching of ducks by deshi hen

Several sustainable indigenous practices were followed with a mix of modern technology. Introduction of newer variety of goats, chicks, ducks, pigs etc., hatching of ducks by the country hens, ethno botanical practices in disease management, vaccination through convergence with line Department give a good return in this stream of income generation.

LKP's best practice in this regard is to introduce new and improved variety of animals for them., e.g., for chicks- Banaraj, Rhode Island Red etc. for ducks- Khaki Cambel, for goats- black Bengal, for pigs- Ghunghroo etc. The whole programme of integrated livestock is run in close collaboration of the concerned state department. Pashu Sakhi developed under MKSP played important role in the areas of deworming, vaccination and medication with integration of technical support provided by Prani Mitra and other official in the department. Besides, they engage themselves in some off farm and non-farm activities like production of vermi compost and kantha stich material specially by the minority women members for sale.



Approach to landless issue in the model:

In this kind of integration an important issue of landlessness is addressed by LKP very successfully through partnership approach (Private- Private & Public – Private). The private land that remain fallow in between two seasons is taken on lease basis in Private-Pvt mode of partnership for a short period. The public land(road side, canal side, untapped land etc) the Public -Private partnership mode is adopted by the landless SHGs to take up agro forestry plantation for fruit, fodder, fuel, fertilizer and timber(FFFFT). Ponds and other water bodies are taken on lease for integrated farming with agro forestry and livestock. Gram Panchayat authorities play an important role to take part in the process as a stake .

Components of the Model:

1. Judicious use of **land** to produce cereals and vegetable (Owned and leased in) (.5 acre)/36*36 models
2. For **land** less MKs, use community leased land and cultivate on sharing basis in Partnership mode (**LKP Best Practice**)
3. Access to **finance** for crop planning for all seasons
4. Identify major crops to grow
5. Adoption of Agro ecology blending with modern **technology (Decomposer in NADEP compost, SCI etc.)**
6. Technology transfer through **CRP strategy (CRPs nested with the communities)**
7. **Integration of natural resources with animal resources** (returning crop residues to soil through animal route or directly, use of cow dung, Neem cake application, bio pesticides)
8. Calculate cost of Investment vis a vis Income
9. Check profitability and modify

Models are found to be economically viable, technically feasible and easily adaptable. They were acceptable by the women farmers to adopt and found viable through consistent field centric applications that resulted in well diversified farming system with reduction of production cost and enhancement of production and thus generating more income into their livelihood basket. **Our Kisi Sakhi and Pashu Sakahi models** were very successful in convergence with the concerned state departments were able to create sustainable livelihood opportunities.

Convergence framework:

This is a convergence model of LKP for the Landless poor recognized by the MoRD under MKSP (Ref.:COMPENDIUM ON AGRO ECOLOGICAL BEST PRATICES, MoRD as one of our best practices, LKP always give emphasis on convergence of the programmes of the PRIs and

other line departments of the state government for developing synergies directly with the community institutions of the poor under MKSP. Strong institutions, so developed, were able to create a demand driven accountability and pressure for access to various legal entitlements from the Government in general, and to various inputs from the line departments to the grassroots at the level of Mahila Kisans. LKP played an important role to establish linkages with PRIs for regular consultations between Community based Organizations (CBOs) particularly at the Gram Panchayat (GP) level for exchange of mutual advice, support and sharing of resources.

SHGs and PRIs on a Single Platform:



Women participation in Gram Sabha

Development work under MKSP is being carried on through a participatory approach. The MKSHGs prepare their livelihood plans which are consolidated at the village/sub cluster level. After being passed in the Gram Sansad sabha as

well as Gram sabha, the plans are incorporated in the Annual GP Plan. It has been observed that the convergence of MKSP with PRI and the livestock department, the success rate is much better, both in terms of spread of outreach, saturation and the level of benefit.

Linkages with the department of agriculture, animal resource, water resource, horticulture and fishery played an effective role in the



programme. Seasonal Supply of Inputs was made to the Mahila Kisans like quality seeds, various plants, construction of vermicompost pit, water pumps, drudgery reducing



equipment etc. in agriculture, improved variety of chicks and ducks and other animals, fish pawns, jointly organizing animal vaccination camps in a regular interval from designated departments.

MGNREGA



Roadside plantation under MGNREGA

In this convergence framework, MGNREGA needs a special mention providing social protection to Mahila Kisans in terms livelihood development. The MKSP project led by LKP took the full advantage of the systemic reforms in the scheme took place during this project period with the focus strategically shifted to effectively address agrarian crises and farmers distress. Work of land

development, flood control, draught management, contour field bunding, indigenous water management with low water requirement, excavation of storage tanks, recycling of waste water pits in home garden and other work having direct bearing on agricultural productivity.

This innovative programme called Cluster Facilitation Scheme (CFT) was put in place to provide support to the GPs under the intensive participatory planning exercise using SECC deprivation data to reach the doorsteps in order to plan for their wellbeing. This, further strengthened the partnership with the poorest household to see that greater benefits enjoyed by the Mahila Kisans productive assets.

Convergence with Different line Departments:



The convergence is a very critical issue in the process of development for creation of livelihood assets, capacity building for overall development to help the landless families under MKSP. The following table depicts the scenario of such collaboration with the Government departments and schemes.



Sl. No.	Name of Department/ Agencies	Materials /Services provided	Remarks
1	Agriculture	Seeds (cereals, pulses & vegetables), vermi compost	Distribution through SHGs
2	Horticulture	Vegetable seeds, fruit plants, vermi compost pit etc.	
3	Animal husbandry	Chicks, ducks, goat farm, fodder seed, vaccination, medicines, deworming, training	Vaccination camp twice in a year jointly with LKP Prani Sakhi and Prani Mitra worked together
4	Fishery	Fish feed, spawn	
5	CADC	Mushroom house, goal shed, azolla pits, Ragi seeds, training in agriculture, livestock management	
6	MGNREGA	5% model of water conservation, fruit orchard, IBS scheme	
7	PRI	Livelihood support to MKs in different season	Bottom up planning



Model 1: Integrated Farming System (Land, Livestock & off farm)

Name of Mahila Kisan	Morjina Bibi, Dakshin Dinajpur
Name of SHG	Golap Swanirbhar Dal
Vulnerability category	Minority
Land size	0.83 acre(own land: 0.66, leased :0.17 acre)
Sustainable technique used	Bio Compost, Bio Pesticides, Liquid manure, Green Manure, Cropping pattern, mixed cropping, companion Cropping, SRI, SWI, seed treatment
Crop planning	0.41 acre for Paddy and Wheat(Partly in SCI) in 2 seasons, 0.42 acre seasonal vegetable crop cultivation in 3 seasons
Major crop	Paddy and vegetables
Gross income from agriculture(yearly)	Rs. 109500.00
Gross income from fishery (yearly)	Rs. 18000.00
Gross income from animal husbandry (yearly)	Rs. 92800.00
Gross income from other sources (yearly)	Rs.13000.00
Total income (yearly)	Rs. 233300.00
Total investment (yearly)	Rs. 74050.00
Net income (yearly)	Rs.159250.00

Cost of Investment & Income

Expenditure(Rs.)			Income(Rs.)		
Source	Particulars	Amount(Rs.)	Name of produce	Quantity	Amount(Rs.)
Agriculture(A)	Seed, organic manure, pesticides, labour, irrigation,trellis, etc.	44600.00	Paddy, Jute & vegetables	110Qtl	109500.00
Fishery	Feed, fishlings etc	7000.00	Fish	9 Qtl	18000.00
Livestock development	Shed, improved feed, medicine etc	19000.00	Chick, duck, Sale of goat, calf& Milk		92800.00
Income from other source	Preparation of sapling, Bio compost & pest	3450.00	Sale of Bio compost, Bio pest, Seed	3450	13000.00
Grand total		74050.00			233300.00
Net income					159250.00



Model 2: Pond based integrated farming

Name of Mahila Kisan	Kanchan Das, Birbhum
Vulnerability category	SC & landless
Leadership	SHG leader, Sub Cluster leader (VO), GPLF leader, Director of Producer Company
Pond size	Water area 0.66acre, embankment and surrounding area 1 acre
Sustainable technique used	Vermi compost, NADEP, Neemastra, Agneyastra, seed bank, seed treatment, improved feed for livestock, rearing of improved variety, vaccination etc
Major crop	Vegetables (potato. Onion, cucumber, brinjal, ladies finger, ridge guard, tomato, beans, etc.) and spices
Gross income from agriculture	Rs. 58700.00
Gross income from fishery animal husbandry	Rs. 50000.00
Total investment	Rs. 17000.00
Net income (Annual)	Rs. 91700.00

Cost of Investment & Income

Expenditure(Rs.)			Income(Rs.)		
Source	Particulars	Amount(Rs.)	Name of produce	Quantity	Amount(Rs.)
Agriculture	Seed, Organic manure & pest mgt labour etc	5000.00	Vegetables		58700.00
Livestock development	Feed, medicine	12000.00	Fish		40000.00
			Ducks		10000.00
Grand total		17000.00			108700.00
Net income	Annual				91700.00



Benefits accrued:

- Year-round food & nutrition security achieved
- Regular cash flow for the household throughout the year
- Chemical free healthy food reduces medial cost in the family
- Improved social status and become a part of the decision-making process in the family
- Established leadership in the community
- Social evils reduced with a united face of the Mahila Kisans

Model 3: Small animal-based Integration in combination of other activities (CPR management, Non farm activities)

Name of SHG	Abhijan swanirvar Dal
Location	Village- Fatepur, P.O – Baragram Block – Harirampur, D/ Dinajpur
No. of members	11
Vulnerable category	SC, Minority and landless
Sustainable technique used	Common Property Resource(CPR) Management, agro forestry, non farm activities, livestock development, improved rearing practices of small ruminants
Gross income from Livestock development	Rs. 206800.00
Gross income from CPR management	Rs. 10300.00
Gross income Non Farm sources	Rs. 4600.00
Total income	Rs. 221700.00
Total investment	Rs. 42800.00
Net income	Rs. 178900.00
Income per member	Rs.16263.00

Cost of Investments & income

Expenditure			Income	
Source	Particulars	Amount(Rs.)	Name of produce	Amount(Rs.)
Livestock	Feed & medicine	41000.00	Milk, egg,meat	206800.00
CPR	Pulses(Arhar),Vegetables	1000.00	Pulses, Vegetables	10300.00

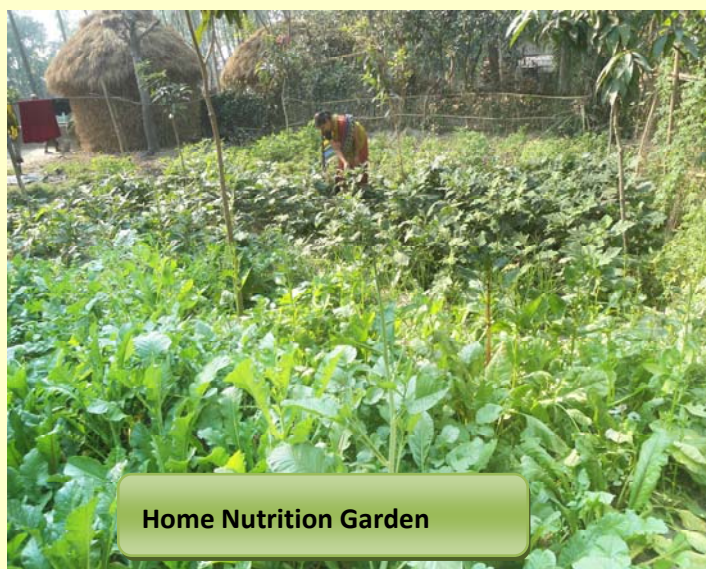


Non farm activities	Material, yarn etc.	800.00	Kantha	4600.00
Grand total		42800.00		221700.00
Net income				178900.00

Benefit accrued:

- Group based activity
- Income from livestock
- Overcoming the hinderence of landlessness

Photo album





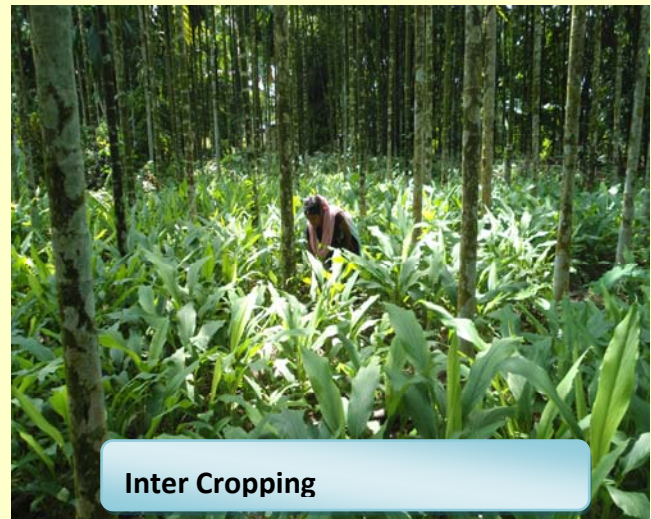
Harvesting Arhar



Community Nutrition Garden



Poira/ Relay cropping



Inter Cropping



Group based Vermi Compost Pit



Application of NPM



Application of NPM in field



Pitcher Irrigation



NADEP in group



Green manure-Dhaincha cultivation



Pakchoi-New ilntroduction



Azolla Pit





Revival of old crop



Group based nursery in common land



Non farm activity



Poultry farming

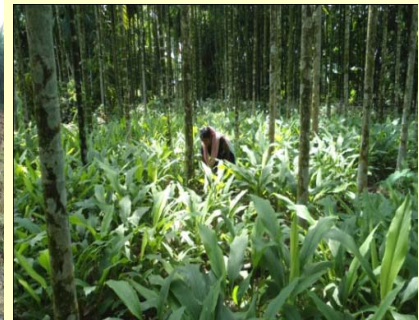


Rearing of small ruminant



Groupbased grain

Land based Integration



Pond based integration



Small Animal based integration in combination of other activities



The Unbeatable



**“If we could free even one village from the shackles of helplessness and ignorance, an ideal for the whole of India would be established... Let a few villages be rebuilt in this way, and I shall say they are my India.
This is the way to discover the true India.”**

Rabindranath Tagore