

Guidelines on implementation of livestock Clusters

DAY-NRLM

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| Guidelines on implementation of Livestock clusters | Error! Bookmark not defined. |
| I. Introduction | Error! Bookmark not defined. |
| 1.1 Livestock, Livelihoods, and competitiveness in livestock..... | Error! Bookmark not defined. |
| 2. Convergence with Department of Animal Husbandry | Error! Bookmark not defined. |
| 3. Need for the promotion of the group enterprise on Livestock sector | Error! Bookmark not defined. |
| 3.1 Roadmap..... | Error! Bookmark not defined. |
| 4. Key outputs | Error! Bookmark not defined. |
| Reference | Error! Bookmark not defined. |
| Annexure-I (Economics of a Mother Unit – 960 bird capacity) | Error! Bookmark not defined. |
| Annexure-II (Economics of a Mini Hatchery – 2080 eggs capacity)..... | Error! Bookmark not defined. |
| Annexure-III (Economics of a Mother Unit – 2000 Chicks) | Error! Bookmark not defined. |
| Annexure-IV (Economics of HHs for 50 Vanaraja / Kuroiler and 50 Kadaknath under backyard poultry system) | Error! Bookmark not defined. |
| Annexure V Estimated Economics of 10 kids for Memna Nursery..... | Error! Bookmark not defined. |
| Annexure VI Estimated Economics of 10 improved goats in 24 Months..... | Error! Bookmark not defined. |
| Annexure-VII: Breeding Boars | Error! Bookmark not defined. |
| Annexure- VIII Income of a pig fattener (3 castrated piglets) | Error! Bookmark not defined. |
| Annexure -IX: Economics of keeping boar (05) for breeding purpose:..... | Error! Bookmark not defined. |
| Annexure- X: Economics of Mini Slaughter house | Error! Bookmark not defined. |
| Annexure XI: Business plan for household post mother unit at Household level .. | Error! Bookmark not defined. |
| Annexure XII: Business plan of Mother unit/ Hardening center of Ducklings | Error! Bookmark not defined. |
| Annexure XIII: Business plan for Hatchery unit of Ducklings..... | Error! Bookmark not defined. |
| Annexure XIV: Estimated Economics of Parent Unit for Duck (Indian Runner) | Error! Bookmark not defined. |

I. INTRODUCTION

Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) is a centrally sponsored programme of the Ministry of Rural Development, Government of India. It aims to eliminate rural poverty by promoting multiple livelihoods for each poor rural household. Launched in June 2011, the Mission seeks to reach 8-10 Crore rural poor households by 2023-24.

More than half of India's rural population is dependent directly or indirectly on agriculture and allied activities. In forest and forest fringe areas, the tribal depends mainly on livestock and forest-based livelihoods. Besides, a wide range of rural enterprises of different sizes, including self-employment, augment the diversity in the livelihoods of the rural poor. Animal Husbandry, Dairying, and agriculture have been integral to human life since civilisation started. These activities contribute to the food basket and draught animal power and maintain ecological balance. Owing to favourable climate and topography, Animal husbandry and dairy play a prominent socio-economic role in India. The syncing of Traditional, cultural and religious beliefs has led to its growth. They also play a vital role in gainful employment in the rural sector, particularly among the landless, small and marginal farmers and women, besides providing cheap and nutritious food to households.

India has vast livestock resources, including poultry. Livestock is an essential source of income for landless and marginal farmers and plays a vital role in the national economy. Livestock Sector has continuously been growing at a Compound Annual Growth Rate (CAGR) of 7.93% (at constant price) from 2014-15 to 2020-21, which is comparable to the CAGR of manufacturing at 4.93% (at constant price) and Services at 4.82% (at constant price) and in contrast to Agriculture (Crop Sector) CAGR of 2.05% (at constant price). Agriculture (crop sector) contributed 8.96 % (at constant prices) of total Gross value addition (GVA), whereas the livestock sector contributed 4.90% (at constant prices) of total GVA in 2020-21. Agriculture diversification through animal husbandry is one of the primary drivers of growth in rural incomes. Higher public investment in Livestock Sector is needed to double farmers' income. Livestock production and agriculture are intrinsically linked, dependent on each other, and crucial for overall food security. The livestock sector is an essential sub-sector of agriculture in the Indian economy. It forms an important livelihood activity for most farmers, supporting agriculture in the form of critical inputs, contributing to the health and nutrition of the household, supplementing incomes, offering employment opportunities, and finally, being a dependable "bank on hooves" in times of need. It acts as a supplementary and complementary enterprise.

1.1 LIVESTOCK, LIVELIHOODS, AND COMPETITIVENESS IN LIVESTOCK

Livestock is core to the livelihoods of the poor. They are an integral part of Agro-ecological practices and natural/organic farming and help raise farm productivity by providing revenue and nutritious food for the family. They also provide wealth insurance and create economic opportunities for women.

Small-scale farmers typically face higher transaction costs than large-scale enterprises. It is more difficult and costly for them to access high-quality inputs (mainly feed), credit and technology. On the output side, market information is critical in higher-end markets, where quality is essential. The high transaction costs for smallholder producers can be reduced through collective action, such as setting up Producer groups and producer companies. Such arrangements can potentially incorporate smallholders in high-value supply chains from which they would otherwise be excluded. This arrangement can also encourage gender equality by providing equal access to resources, including capacity building targeted equally at women and men.

1.2 ROLE OF ANIMAL HUSBANDRY IN DOUBLING FARMER'S INCOME

The animal husbandry sector is transforming rural India and promisingly aiding in doubling farmers' income. Although agriculture sector growth has been around 3-4%, it remains the primary livelihood source for over 50% population of India. In 2021-22, the timely intervention by the Centre in the form of an Rs. 20 lakh crore economic package under the 'Aatma Nirbhar Bharat Abhiyaan', coupled with other growth-promoting schemes, helped agriculture to achieve an improved growth of 3.9%. Hence the role of the animal husbandry sector is significant as it promises outstanding prospects for crores of farmers and a significant boost to the overall rural economy. Moreover, traditionally the farmers in India have maintained a mixed farming system, i.e., a combination of crops and livestock, where one complements the other and helps realise resource efficiency. Therefore, if executed properly, an enhanced focus on animal husbandry growth has been a viable strategy for income growth.

The animal husbandry market was estimated to be around Rs. 1,000 billion in 2021, and experts expect it to reach Rs. 1,574.7 billion by 2027. It means the growth rate is anticipated to be 7.66% during 2022-2027, almost double the growth rate of agriculture. The livestock sector grew at a compound annual growth rate of 8.15% during the last five years. It has the potential to raise farmers' income much faster than agriculture. Moreover, this sector may catch further momentum with the growing population and the rising consumption of eggs, meat, fish, dairy products etc. Exports of animal husbandry products have also registered good growth over the years.

Livestock contributes 16% to the income of smallholders, and 14% of all rural households, besides employing about 8.8 % of the population in the country. According to the Economic Survey-2021, the contribution of livestock in total agriculture has increased from 24.32% in 2014-15 to 28.63% in 2018-19. The role of livestock in the socio-economic life of rural India is vast. The animals offer social security to small farmers when faced with emergencies, besides providing regular income to the livestock farmers by selling milk, chicken, and eggs. In addition, thousands of landless and marginal holders depend upon livestock for their livelihood.

1.3 DAY-NRLM AND LIVESTOCK

Livestock is a crucial income source for the poor across India, where women play a more prominent role. Better livestock management practices are being promoted as universal intervention along-with agroecological practices, and Non-Timber Forest Produce interventions. The program promotes improved livestock management practices to reduce mortality and morbidity in small ruminants, pigs and poultry birds through improved feed and fodder, breed, health care, general management and ethnoveterinary practices. DAY-NRLM is also promoting livestock clusters and Integrated Farming Clusters for providing diversified and integrated livelihood activities at the household level.

DAY-NRLM, through its last mile extension worker "Pashu Sakhi", has provided 24*7 services at farmers' doorstep. To date, 58,348 , Pashu Sakhi have been trained and deployed by the Sate SRLMs.

1.4 Objective

- a) Upscaling of the livestock cluster intervention in a systematic way
- b) Creation of tiers of interventions for promoting livestock in holistic manner
- c) Promotion of Agri-entrepreneurs
- d) Convergence with line departments

1.5 Focused livestock intervention

The livelihoods activities being undertaken and planned under DAY-NRLM are as follows:

- (i) Creation of last mile extension worker "Pashu Sakhi" for providing extension services, thereby increasing saving through the adoption of sustainable livestock practices
- (ii) Enhancing production and productivity through better management practices and technology via the Pashu Sakhi
- (iii) For value chain initiative, Promotion of Producer Groups and Farmers Producer Organizations
- (iv) Promotion of Livestock Clusters (Sub-sector intervention).
- (v) Promotion of Integrated Farming Clusters

In rapidly growing economies where the livestock sector is in the early stages of transition, smallholders need support to participate. Appropriate interventions include support for technological innovations to increase productivity and to meet increasingly stringent health and food-safety standards, access to capital and credit for investment, access to input and output services and markets. The capacity to respond to changing contexts and conditions is essential if smallholders are to thrive. Such capacity relates not only to financial, technical and infrastructure requirements but also involves routines and networks that, in combination with policies, allow technology and other forms of information to be put into productive use (World Bank, 2007).

Looking at the issues mentioned above, the guidelines on poultry, goat rearing, Piggery and duck rearing were circulated for the benefit of Self-help Group members vide letter no.K-11038/02/2019-20/MKSP/Mis/367783 dated 25th September 2020, dated 4th November 2020, dated 1st February 2021 and 10th June 2021 (Summary of each intervention attached). Following interventions under the different thematic of livestock have been earmarked for the entrepreneurs/Collective enterprises:

| SI no | Poultry | Goat rearing | Piggery | Duck rearing |
|-------|----------------|---------------|---------------------|----------------|
| 1 | Parent Farm | Kid Nursery | Pig breeding centre | Parent Farm |
| 2 | Hatchery units | Buck breeding | | Hatchery units |
| 3 | Mother units | | | Mother units |

2. CONVERGENCE WITH DEPARTMENT OF ANIMAL HUSBANDRY

As part of convergence support, the State may take support from Department of Animal Husbandry where there is provision for subsidy to individual entrepreneur as well as to self-help groups under National Livestock Mission. The detailed plan is attached as Annexure XV

These activities through collective action (PG/SHG)/Individuals will help develop entrepreneurs or strengthen producer collective through captive market of SHG households who will be directly procuring from these enterprises. Looking at the immense opportunity, State rural livelihoods missions may take up these livestock interventions in cluster model. Financial requirement for the same may be kept as per the shared guidelines looking at the number of households to be benefitted and the number of livestock to be distributed. These centres will help maintain the constant supply of input (chicken, kids, piglets etc.) to the rural households for rearing.

Households supplied with these inputs will rear these livestock and either sell them in the market or utilise them for nutrition. State Rural Livelihoods Mission may plan to set up Producer Groups for collectivization of the produce, for economies of scale and connect them through institutional buyers, or Producer companies or whole sale dealers or retail markets for enhancing the income of the households.

Last but not least, training and capacity building across the segment is vital, including the technological inputs for enhancing the productivity and production at every level of value chain.

3. NEED FOR THE PROMOTION OF THE GROUP ENTERPRISE ON LIVESTOCK SECTOR

Livestock interventions at HH level must be linked with backward and forward linkages. Thus, there is need of identifying different resources for constant supply of inputs and proper marketing facility for maintaining the complete value chain. The back end support may be sought by promoting entrepreneurs/ collective action through convergence with DAHD and funding through DAY-NRLM, Bank Linkage, Department of Animal Husbandry (DAHD) etc. The technological input and training may come both from DAHD and DAY-NRLM.

3.1 ROADMAP

To achieve the objective of the sub-sector in generating the revenues, livestock sub-component will be horizontally integrated with the other sub-sectors such as agriculture and NTFP. Therefore, a robust approach has to be adopted for better integrations that should help increase efficiencies in producing high-quality output. The process flow for implementing the activities is as follows:

- (i) **Role of State Rural Livelihoods Missions (SRLM):** The role of SRLM is critical in terms of planning the cluster looking at the State perspective, converging them with the line departments, facilitating access to credit (through loans, support through line departments etc.) and in broader contour connecting with markets. The role of SRLM will also be important in planning for State level trainers for implementing and hand-holding the cluster interventions. The block unit identified will handhold these clusters through dedicated professional who will be responsible for the specific interventions.
- (ii) **Role of Cluster Level Federations (CLFs) :** The clusters Identified under the cluster promotions need ownership and mentoring by designated CLFs. The role of CLF will be important in terms of identification of households, training and capacity building of Mahila Kisans, Krishi sakhis, entry in MIS, and access to finance, monitoring, identifying gaps and taking remedial action.

- (iii) **Community Resource Person (Pashu sakhi):** The role of Pashu sakhi who is the back bone of DAY-NRLM livestock cluster providing sustainable livestock services at the doorstep of rural livestock farmers 24*7 cannot be over emphasized. The role of Pashu sakhi will not be only to provide the services but may also be in the list of 1st identified entrepreneurs who may serve as input provider for the community. These Pashu sakhis may be further trained to become entrepreneur in their area along with the service provider.
- (iv) **Identification of Clusters :** The identification of clusters may be based on identified activities through Village Poverty reduction Plan tool or District livelihoods potential mapping or through One district one Product. Besides the area where Pashu sakhis are primarily involved in specific livestock rearing activities like poultry, goat rearing etc. may be identified for promoting livestock clusters.
- (v) **Identification of Households (HHs):** As part of interventions under any given livestock sector, focus should be on achieving the economies of scale. Thus identification of proper households becomes imperative. To identify the households, the States may look into areas where Pashu Sakhis are already placed, sustainable livestock practices are being adopted by the intervention households and producer groups related to livestock are existent. Pashu sakhis of the respective village under the cluster may be chosen for this activity under the monitoring of respective CLFs
- (vi) **Entry in MIS:** MIS is an important component that helps in monitoring and planning, implementation and taking corrective actions as and when required. Thus, post identification of households' entry of identified household in MIS is critical. For proper and real-time MIS implementation, Pashu Sakhis may be trained and can serve as eCRP-MIS for livestock interventions. Block Mission Management Unit (BMMU) along with the CLFs may plan for the same.
- (vii) **Intervention planning:** Based on the intervention/s planned, the business plan has to be prepared looking at the cost norms already circulated for taking up activity. This plan will be based on the number of households to be covered, the number of livestock to be reared by each household, and the number of interventions intended. BMMU with the support of SMMU and respective Cluster level federation may design the proposal based on the current activities being undertaken by the community. The business plan may be made with the support of tentative budget for different heads attached in Annexure
- (viii) **Human resources:** For carrying out livestock cluster promotion, dedicated staff preferably with diploma in veterinary science may be placed to support the CLFs and BMMU in implementation of livestock cluster interventions.
- (ix) **Market side intervention:** Looking at the scope of output envisioned in the plan, setting up of Producer Groups/Producer Company may be envisaged. Looking at the number of producers mobilized, volume of business, scope of value addition, feasibility of market and the human resources available, the market side intervention should be planned. BMMU along with SMMU may support in planning whereas the implementation part may be done by CLFs, Community resource persons, dedicated staff and resource persons.
- (x) **Training and capacity building:** It is a cross-cutting theme across all segments that must be provided regularly based on the need and requirement. Besides hand-holding, mentorship and exposure visits are key for strengthening the stakeholders. The training program must include Standard Operating Procedure (SoP) and Package of Practice (PoP) for the particular species. In addition, the training must include diseases and outbreaks with major rearing problems in the particular areas.

3.2 INSTITUTIONAL MECHANISM OF IMPLEMENTATION

Cluster Level federation will serve as nodal agency for implementation of livestock cluster. The ownership of cluster will be with CLFs. The role of CLF will be important in terms of identification of households, training and capacity building of SHG members, Pashu sakhis, entry in MIS, access to finance, monitoring, identifying gaps and taking remedial actions. CLF will support individual entrepreneurs and Producer Groups by providing them requisite funds through CIF/Bank Linkage. SRLM team consisting of State, District and Block unit may serve as facilitator for supporting the cluster promotion by providing timely training and capacity building, convergence with line departments for funds as well as training etc.

3.3 FINANCIALS FOR THE INTERVENTION

The finance for different activities earmarked under livestock cluster promotion may be obtained either through dedicated livelihoods funds or community investment fund, Bank linkage, mudra loan or in convergence with line department scheme of national livestock mission or animal husbandry infrastructure development fund.

4. KEY OUTPUTS

- The overall outcomes are as follows:
- Farmers adopted new practices for sustaining livelihoods
- Pashu sakhi providing services to the farmers
- The households are getting services through hardening centers
- The households are using concentrate feeds for livestock as per recommendations
- Farmers are using deworming and vaccination at regular intervals
- Farmers are getting primary health services at their door step.
- Farmers are demanding improved breed of different species of livestock
- The beneficiaries adopted different models
- Livestock interventions are leading to cluster approach

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1.4.1 POULTRY INTERVENTION

Backyard poultry is defined as the small-scale rearing of poultry birds (chicken) by womenfolk in poor households for dietary improvement, cash income, investment and security against risk. Here, the poultry birds may range freely in the household compound and, find much of their food, get additional amounts from the household. The birds are fed with locally available feed sources, mostly household and farm by-products. Backyard poultry is rarely the sole means of livelihood for a family but is one of the number of integrated and complementary farming activities contributing to the overall well-being of the household. It generates income from the sale of poultry birds and eggs. Eggs can provide a regular, albeit small, income, while the sale of live birds provides a more flexible source of cash. Occasional consumption of chicken meat and egg offers a valuable source of protein in the household diet. Poultry also plays an essential socio-cultural role in many societies. Backyard poultry is the smallest livestock investment a rural household can make.

Objective: The objectives of backyard poultry may be any or more of the following:

- a. Income generation only.
- b. Income and home consumption;
- c. Home consumption and cultural reasons
- d. Home consumption only

VII A BACKYARD POULTRY INTERVENTION IN LIVELIHOOD CLUSTER

BACKYARD SYSTEM

Backyard poultry is a vital livelihood intervention for poor rural households, including landless or small landholders. It is more suited for poor households as it requires little investment and skill. Under this system, the pure indigenous breed/ hybrid varieties are promoted as a source of livelihood for the poor. The system consists of the following supply chain:

Supply chain system under backyard poultry: The functional smallholder supply chain can be established to supply chicks/pullets to small rural households, even in the remote area, through "mother units." The units raise the birds for 3-4 weeks and sell the grown-up birds to rural households. There are some critical element/Hybrid varieties in such a supply chain:

A typical supply chain under the backyard poultry system: The supply chain can be represented as below:

The above model can be explained in a tabular form also for better understanding:

| LH services | Service area | Particulars | Ownership |
|-------------|--------------|---|---|
| Parent farm | Block | At the parent farm pullet and cockerels are kept for supplying eggs to hatcheries. | An individual entrepreneur at the block level |
| Hatcheries | Cluster | At cluster level, hatcheries are units for supplying day-old chicks to the mother unit | Producers Group at cluster level attached with LSC / Individual entrepreneur / Pashu Sakhi can be promoted. |
| Mother unit | Village | The existence of a small-scale "mother unit" spread at the village level serves as a brooding unit where DOCs are kept for 3-4 weeks under good heat and light conditions and are appropriately fed and vaccinated. This is critical because, after three weeks, the brooded chicks weigh around 250 grams and can live and thrive in the open range, scavenging rearing system | Individual entrepreneur / Pashu Sakhi |

- Parent farm:** For a 960 birds' capacity parent farm unit for backyard poultry, an initial investment of about Rs 7.3 lac will be required. In addition, for a 55 weeks cycle, a recurring cost of about Rs 14 lac will be required. This will generate a net income of about Rs 3.3 lac after depreciation and interest payment. The details are in Annexure-I.
- Economics of Mini hatchery (2080 eggs):** The economics of an incubator of 2080 eggs capacity under a backyard poultry system found that an estimated Rs 6 lac initial investment will be required. In addition, an operational cost of Rs 5.6 lac per year will be necessary, generating a net income of Rs 77 thousand per annum. The details of the economics are shown in Annexure II.
- Economics of a Mother unit/ Hardening centre of Chicks (Unit: 2000 birds):** The economics of a mother unit of 2000 birds capacity under a backyard poultry system found that an estimated Rs 2 lac initial investment will be required. In addition, an operational cost of Rs 0.94 lac per cycle (1 month) will be required. In a year, 12 cycles can generate a net income of Rs 1.2 lac after the depreciation deduction. The details of the economics are shown in Annexure-III

- d. **Income at HH level:** 50 birds can be reared per household, and six cycles can be completed yearly. The economics of a backyard poultry household mother unit of 50 birds capacity under a backyard poultry system found that with a nominal initial investment. The cost of production per bird will come to Rs 171 (Vanaraj / Kroiler) and Rs 129 (indigenous breed), and the activity generates a net annual income of Rs 36,000 (Vanaraj / Kuroiler) and Rs 55,000 (indigenous species). The details of the economics are shown in Annexure IV.

1.4.2 GOAT REARING :

Goats are known as 'poor man's cow'. Goats contribute to the livelihoods of millions of rural poor. Small and marginal farmers and landless farmers, particularly women, increasingly rely on goat keeping for their socio-economic upliftment. Goat is well integrated into the farming systems of small and marginal farmers due to low capital requirement, secure handling and ability to adapt to versatile environmental conditions. The goat is ideal for farming for small and marginal farmers, including landless agricultural labourers, particularly in rainfed regions where crop production is uncertain. Rearing large ruminants is difficult because of acute feed and fodder scarcity. Goat rearing has distinct economic and managerial advantages over other livestock species because of its less initial investment requirement, low input requirement, higher prolificacy, early sexual maturity and marketing comfort. Goats can efficiently survive on available shrubs and trees in an unfavourable environment.

STRATEGY UNDER DAY-NRLM FOR GOAT INTERVENTION

The broader strategy consists of the following intervention:

- Promotion of kid nursery entrepreneur
- Promotion of improved rearing practices.
- Promotion of village-level Producer Group (Goat Club / Pashu Pathshala)
- Promotion of Producers Enterprise (Goat Resource Centre) at a larger geography

PROMOTION OF KID NURSERY ENTREPRENEUR

- Selection of entrepreneur: Preferably Pashu Sakhi or any individual related to SHG willing to take up the activity and having received any formal livestock training may be promoted to initiate kid nursery.
- Training and capacity building: The training and capacity building for the kid nursery can be done through:
 - National Resource Persons/State Resource Person
 - In convergence with the Department of Animal Husbandry
 - CRP rounds can do hand-holding by the experienced CRPs/PRPs of some pioneer states like Jharkhand and Maharashtra, where they have been practising it for quite some time.

Incubation supports: Incubation support can be provided by pioneer states like Jharkhand, Maharashtra, Rajasthan and Maharashtra for the entrepreneurs or Pashu Sakhi interested in promoting kid nurseries. The economics of rearing 10 kid in a nursery, popularly referred to as "memna nursery", is given in Annexure V and the Household economics in Annexure VI

1.4.3 PIG REARING

Backyard piggery has been an age-old practice among the communities in north-eastern India and socio-economically weaker sections of the country. It has great potential to contribute to a faster economic return to the rearers due to its high fecundity, better-feed conversion efficiency, early maturity and short generation interval. Moreover, a pig can convert so-called wastes into high-quality edible protein in its body.

Backyard pig rearing with a small herd size contributes in many ways to improving the livelihood of the poor. Pork and other pig products provide high-value animal protein. The meat is easy to dress and has superior curing and storage qualities. The low costs and small investments are recovered relatively quickly as slaughter can take place at about six to eight months from farrowing (birth), depending on breed and feed availability. Pig husbandry can be easily integrated with other farming activities (agriculture, fishery) within the agricultural and aquaculture sectors. All these advantages make the livelihood activity of pig production a valuable diversification option in small-scale production systems.

Strategies under DAY-NRLM for backyard pig intervention

The broader strategy for the promotion of backyard piggery among the SHG members can be presented below:

BACKYARD PIGGERY INTERVENTION UNDER DAY-NRLM CONSISTS OF THE FOLLOWING:

(a) Maintaining proper ratio (fattener, boar keeper, breeder): A village has been taken as a unit of intervention under this intervention. The number of individual fatteners, pig breeders and breeding boar keepers are to be maintained so that the ratio of 9:1:1 is attained. This ratio will help in producing the required piglets for the fatteners.

(b) Boar exchange: At the cluster level, in the regular interval, the breeding boar is to be exchanged among the boar keepers of that cluster to avoid inbreeding.

(c) Promotion of fatteners: Income from backyard pig fattening depends on the reduction in the cost of feed. Thus at the household level, the herd size is determined by the volume of agricultural / household wastes generated. So the bulk of the feed for the pigs is generated at the household level or within the village (herbs, forest products etc.) except for need-based vitamins and mineral mixture.

(d) Promotion of pig-breeders: Promotion of backyard pig breeder farmers and maintaining a proper ratio of different pig farmers and boar exchange will ensure the availability of quality piglets at an affordable price to all pig fatteners. In addition, the Pashu Sakhi may be promoted to pig-breeding entrepreneurs.

(e) Promotion of breeding boar-keeper: High-quality, locally adopted breeding boar rearing at the household level will be promoted for breeding purposes. After one or two years, such boar will be exchanged or castrated to convert into fattening pigs. This will ensure a continued supply of quality piglets without in-breeding. Pashu Sakhi may be promoted to boar-keeper entrepreneur.

(f) Credit linkage: During the piglet purchase, the SHG women needs credit. Timely availability of such credit through MCP will ensure access to such funds to purchase piglets.

(g) Mini Slaughter House: At the cluster level, such facilities may be promoted as an individual enterprise. Selection of such entrepreneurs may be done through the CLF.

(h) Pig Rearers Group (Producers Group): All the pig rearers (fatteners, boar keepers and breeders) of a cluster of adjoining villages may be organised around a Pig Rearers Group. This informal group is for sharing experiences, cross-learning, boar exchange, collective marketing of piglets, pigs, Mini slaughterhouses etc. This may act as Pashu Pathshala also.

(i) Pig Rearers Enterprise (PE): All the pig rearers groups of a block/district may be federated into a Producers Enterprise (PE) primarily for the aggregated supply of inputs (vaccine, vet-medicine, mineral mixture, vitamins etc.), vet services (through qualified vet-doctors), slaughterhouse, processing of pork, packaging, branding and marketing.

(j) Training and capacity building: The training and capacity building for all the different types of pig rearers can be done through:

- National Resource Persons (NRPs) / State Resource Persons (SRPs)
- In convergence with the Department of Animal Husbandry
- CRP rounds can do hand-holding by some pioneer states' experienced CRPs/PRPs / entrepreneurs.
- TSP and SCSP programmes of ICAR institutes and SAUs.

a. income from pig breeding: With a herd size of 3 female piglets, an SHG woman must invest Rs 25,600 to construct a pigsty, female piglets etc. The piglets will be purchased at three months and around 15 kgs of wt. This investment will bring an annual income of about Rs 23,830 in the first year (excluding incidental expenses). Similarly, in the second year, the income will become Rs 68,364 per year. The details of the calculation/economics have been annexed in Annexure-VII.

b. income from pig fattening: With a herd of 3 castrated pig rearing, 2.5 – 3 months old and weighing around 10 kgs. An initial investment in constructing a pigsty and other accessories comes at Rs 10,500. After all investments and expenses are deducted, it will generate an annual income of Rs 32,560 in the first year. Similarly in the second year yearly income will increase to Rs 43,060. The details of calculation is presented as Annexure-VIII.

c. income of a boar keeper: Keeping five locally adopted, high quality, cross-breed boar(male pig) for breeding purpose needs investment including cost on construction of pigsty, purchase of quality boar, transportation etc. The income from 2nd year onwards is expected around Rs. 90,000. The details of calculation is mentioned in Annexure-IX

d. Income from Mini Slaughter House: Initial investment in a Mini Slaughter House is Rs 4,20,000. Details of the income is presented in annexure as Annexure-X.

1.4.4 DUCK REARING

| LH services | Service area | Particulars | Ownership |
|-------------|--------------|---|--|
| Parent farm | Block | Drakes and Duck are kept at the parent farm for supplying eggs to hatcheries. | An individual entrepreneur at the block level |
| Hatcheries | Cluster | At the cluster level, hatcheries are units for supplying young ducklings to the mother unit | Producers Group at cluster level attached with LCC |
| Mother unit | Village | The small-scale "mother unit" spread at the village level serves as a brooding unit where young ducklings are kept for 3-4 weeks under good heat and light conditions and are appropriately fed and vaccinated. This is critical because after three weeks, the ducklings weigh around 250 gms and can live and thrive in the open range, scavenging rearing system | Individual entrepreneur / Pashu Sakhi |

Duck raising is a lucrative livestock industry in the globe and at the same time is an income-generating occupation for the small, marginal and even for landless to for its egg and meat. Duck eggs are larger than chicken, weighing about 4.5% of duck's body weight. Duck has higher red muscle fibre in breast than chicken and is considered red meat. It grows faster than chicken, is costly and is easy to rear.

ECONOMICS OF RAISING BACKYARD DUCK (COMPARATIVE STATEMENT OF KHAKI CAMPBELL AND DESI VARIETY)

- Parent farm:** For a 960 birds' capacity parent farm unit for backyard duck rearing, an initial investment of about Rs 7.3 lac will be required. In addition to this for a 55 weeks' cycle a recurring cost of about Rs 14 lac will be required. This will generate a net income of about Rs 3.3 lac after depreciation and interest payment. The details are in Annexure-XIV
- Economics of Mini hatchery (2080 eggs):** The economics of an incubator of 2080 eggs capacity under backyard duck rearing system found that an estimated Rs 6 lac initial investment will be required. In addition to this an operational cost Rs 6 lac per year will be required, generating a net income of about Rs 50 thousand per annum. The details of the economics is shown in annexure-XIII.
- Economics of a Mother unit/ Hardening centre of Chicks (Unit: 2000 birds):** The economics of a mother unit of 2000 birds capacity under backyard duck rearing system found that an estimated Rs 2 lac initial investment will be required. In addition to this an operational cost Rs 0.94 lac per cycle (1 month) will be required. In a year 9 cycles are

possible that will generate a net income of Rs 40,900 after deduction of depreciation. The details of the economics is shown in Annexure-XII

- d. **Income at HH level:** The economics, and six cycles can be completed per year. For example, the economics of a backyard duck rearing household post mother unit intervention of 20 birds capacity under backyard duck rearing system found that with a nominal initial investment, the net income can be obtained upto Rs. 8,500 (Detail in Annexure- XI).

ANNEXURE-I (ECONOMICS OF A MOTHER UNIT – 960 BIRD CAPACITY)

| Sl | Particulars | Unit description | Unit cost (Rs) | No of units | Cost (Rs) |
|------------|--|------------------|----------------|---------------|------------------|
| A. | Fixed cost | | | | |
| A1. | Poultry Shed | Sq. Ft | 300 | 2,400 | 720,000 |
| A2. | Drinker, Feeder, Nest and other accessories | Lump sum | 510 | 19.2 | 9,792 |
| | Total A | | | | 729,792 |
| B. | Recurring cost | | | | |
| B1. | Cost of 16-week old pullets & Cockerel | No. | 300 | 960 | 288,000 |
| B2. | Feed cost (for 16 to 19 weeks) | Kg | 30 | 2,419 | 72,576 |
| | Feed cost (for 20 weeks to 72-week age) | Kg | 25 | 42,739 | 1,068,480 |
| B3. | Vaccination, Deworming & other Medicine | Lump sum | 50 | 960 | 48,000 |
| | Packaging & transportation | No. | 0.5 | 148,400 | 74,200 |
| | Labour cost | Month | 13 | 10,000 | 130,000 |
| | Total B | | | | 1,393,256 |
| C. | Other costs | | | | |
| C1. | Depreciation on the fixed cost | 10% per annum | | | 72,979 |
| | Interest on Capital cost | 10% per annum | | | 109,517 |
| | Total C | | | | 182,496 |
| | Total recurring cost / annum (B+C) | | | | 15,75,752 |
| D | Receipts | | | | |
| D1. | Sale of eggs | No. | 12 | 148,400 | 1,780,800 |
| | Sale of culled birds | Kg | 130 | 960 | 124,800 |
| | Gross Receipts | | | | 1,905,600 |
| | Gross profit per cycle (D-B) | | | | 512,344 |
| | Net profit after deduction of depreciation and interest | | | | 329,848 |
| | Return on Investment | | | | 15.54% |
| | Egg production in 25 days | | | 10,000 | |
| | Initial investment required | Per unit | | | 10,95,168 |

SOURCE: JHARKHAND SRLM

ANNEXURE-II (ECONOMICS OF A MINI HATCHERY – 2080 EGGS CAPACITY)

| Particulars | | Year 1 | | |
|--|--------|--------------|-----------|---------|
| | Unit | No. of Units | Unit Cost | Value |
| | | | (INR) | (INR) |
| Capital Expenditure | | | | |
| Hatchery unit with other machinery & accessories (2080 eggs) | Number | 1 | 200,000 | 200,000 |
| 2 KVA inverter with solar support | Number | 1 | 150,000 | 150,000 |

| | | | | |
|--|----------------------------------|---------------|--------|-----------------|
| Platform & Platform & another establishment | Number | 1 | 50,000 | 50,000 |
| Construction of Building for Hatchery (20X10 Sq. ft) | Number | 200 | 1,000 | 200,000 |
| | Total capital expenditure | | | 6,00,000 |
| Output (Revenue) | | | | |
| | Sale of chicks | Number | 23,296 | 30.0 |
| Total Revenue | | | | 6,98,880 |
| Expenditure | | | | |
| 1. HR Costs | | | | |
| | Hatchery Operator | Person months | 12 | 7,000 |
| | Hatchery assistant | Person months | 12 | 4,000 |
| 2. Recurring Costs | | | | |
| | Rent/ Maintenance | Months | 12 | 2,000 |
| | Electricity | Months | 12 | 1,000 |
| | Purchase of eggs | Number | 29,120 | 12.0 |
| | Transportation | Number | 23,296 | 1.5 |
| | Cartoon for packaging | Number | 466 | 20.0 |
| Total Expenditure Costs | | | | 5,61,702 |
| Gross Profit | | | | 1,37,178 |
| Depreciation (machinery/equipment/tools) | | | | 60,000 |
| Net Profit | | | | 77,178 |

SOURCE: JHARKHAND SRLM

ANNEXURE-III (ECONOMICS OF A MOTHER UNIT – 2000 CHICKS)

| Sl. | Particulars | Unit description | Unit Cost | No. of Units | Total Cost |
|-----|---|-------------------------|-----------|--------------|-----------------|
| A. | Fixed cost | | | | |
| A1. | New building construction | Sq. Ft | 300 | 667 | 2,00,000 |
| A2. | Drinker, Feeder and other accessories | Lump sum | 180 | 40 | 7,200 |
| | Total A | | | | 2,07,200 |
| B. | Recurring cost | | | | |
| B1. | Cost of day-old chicks | No. | 30 | 2,000 | 60,000 |
| B2. | Feed Cost | Kg | 32 | 500 | 16,000 |
| B3. | Vaccination & other medicine etc. | Lump sum | 1 | 2,000 | 2,000 |
| B4. | Cost of In-charge- Mother Unit | Per cycle/ Month | 1 | 7,000 | 7,000 |
| B5. | Incentive to APS | per bird | 5 | 1,800 | 9,000 |
| | Total B | | | | 94,000 |
| C. | C. Other costs | | | | |
| C1. | C1. Depreciation on the fixed cost | 25% per annum | | | 51,800 |
| | Total C | | | | 51,800 |
| | Total cost including depreciation | | | | 1,45,800 |
| D | Receipts | | | | |
| D1. | Sale of 25 days old birds | Kg | 60 | 1,800 | 108,000 |
| | Gross Receipts | | | | 108,000 |
| | Gross profit per cycle (D-B) | | | | 14,000 |
| | Gross profit for 1 year | 12 cycle in year | | | 168,000 |
| | Net profit after deduction of depreciation | | | | 1,16,200 |

ANNEXURE-IV (ECONOMICS OF HHS FOR 50 VANARAJA / KUROILOER AND 50 KADAKNATH UNDER BACKYARD POULTRY SYSTEM)

| Sl | Particulars | Vanaraja/ Kuroiler | Indigenous breed |
|-----|---|-----------------------|------------------|
| I | Variable cost | | |
| A | Cost of a day-old chicks @Rs. 40/- for Vanaraja and @Rs. 25/- for local chicken | 2,000 | 1,250 |
| II | Cost of feed up to 42 days of age | | |
| A | For Vanaraja/Kuroiler chick 1.2 kg of broiler starter/bird i.e. 60 kg @ Rs 40 per kg | 2,400 | |
| B | For local chicks, 10 kg of broken rice @ Rs. 25/- per kg for 50 nos. chicks | | 1125 |
| li | Cost of vaccine @ Rs. 1.60/ chick | 80 | 80 |
| C | For Vanaraja chick cost of medicine, feed supplement @ Rs.3.75 per chick | 187.5 | |
| D | For the local chicken cost of medicine, feed supplement @ Rs. 2.40 per chicks | | 120 |
| E | For both the flock (Kuroiler and local) cost of labour @ 20 hrs. / month = 2.5 Man-days x 18 months = 45 man-days x Rs. 150/- per Man-day = Rs. 6750.00 | 3,375 | 3,375 |
| | Total variable cost | 8042.5 | 5,950 |
| III | Fixed cost | | |
| A | Land | with farmer | with farmer |
| B | Low-cost poultry shed made with locally available material | 1,000 | 1,000 |
| | Depreciation | 500 | 500 |
| K | Drinker/ Feeder | Local made | local made |
| L | Total fixed cost | | |
| M | Total cost/value of production | 8,543 | 6450 |
| N | Cost of production per bird | 170.85 | 129 |
| IV | Income | | |
| A | 105 eggs per bird @ Rs 8 each | | 42,000 |
| B | 120 eggs per bird @ Rs. 5 each | 30,000 | |
| C | Sale of birds @ Rs 400 per birds | | 20,000 |
| D | Sale of birds@ Rs 300 per birds | 15,000 | |
| E | Total income | 45,000 | 62,000 |
| | Net income | 36,458 | 55,550 |

SOURCE: JHARKHAND AND BIHAR SRLM

ANNEXURE V ESTIMATED ECONOMICS OF 10 KIDS FOR MEMNA NURSERY

| A. Fixed cost | Kids - Less than 14-15 kg kids weight | | |
|--|---------------------------------------|-------------|-------|
| | Unit cost | No of units | Cost |
| A1. Cost of kids | 3500 | 10 | 35000 |
| A2. Transport | 100 | 10 | 1000 |
| A3. Feeding manger, Water turf | 250 | 2 | 500 |
| A4. Housing (Thatched roof with ventilation) | 1000 | 1 | 1000 |
| Total A | | | 37500 |
| B. Recurring cost | | | |

| | | | |
|--|-------|-----|--------|
| B1. Feeding cost of kids @ 0.3 kg per day at 24 Rs/Kg - concentrate for 120 days in a year | 24 | 360 | 8640 |
| B4. Health care cost | 100 | 10 | 1000 |
| B5. Grazing charges @ Rs 100 per month per kids or fodder cost | 100 | 10 | 1000 |
| B6. Minerals and supplements | 50 | 10 | 500 |
| B7. Insurance | 200 | 10 | 2000 |
| B9. Consumables /Repair & maintenance | 500 | 1 | 500 |
| Total B | | | 13,640 |
| C. Investment required | | | 51140 |
| D. Receipts | | | |
| D1. Sale of 4 Month old goats | 7,500 | 10 | 75,000 |
| D3. Sale of manure | 20 | 600 | 12000 |
| Gross Receipts | | | 87000 |
| Net profit in 4 Months | | | 35860 |
| Monthly income | | | 8965 |

ANNEXURE VI ESTIMATED ECONOMICS OF 10 IMPROVED GOATS IN 24 MONTHS

Assumption: - 1.5 Kidding per year and 1.5 Kids per kidding for Meat goats

| Sl | Particulars | Unit description | Unit cost | No of units | Cost |
|----------|--|---|-----------|-------------|-----------------|
| A | Recurring Cost | | | | |
| 1 | Cost of goat | Age 1 to 2 years, 1 to 2 pair of permanent teeth | 10,000 | 9 | 90,000 |
| 2 | Cost of buck | Age 1 to 2 years, well-developed testicles | 15,000 | 1 | 15,000 |
| 3 | Housing | Low cost material available locally | | | 30,000 |
| 4 | Transport | Lump sum | 2,000 | 1 | 2,000 |
| 5 | Feeding manger, Water turf | As per requirement | 250 | 10 | 2,500 |
| 6 | Feeding cost of adult goats | 150 gm concentrate feed per day | 4.5 | 972 | 4,374 |
| 7 | Feeding cost of kids (For the first six months) | Nine goats will provide 14 kids in each parturition in 2 years, a total of 40 kids, 75 gm concentrate feed per kid | 30 | 540 | 16,200 |
| 8 | Feeding cost of new adults (for the next seven months) | Kids of 1st & 2nd parturition will be sold at 13 months of age and kids of 3rd parturition will be sold at six months of age, 150 gm concentrate feed for 27 kids | 30 | 851 | 25,530 |
| 9 | Feeding cost of Buck | 250 gm per day concentrate feed | 30 | 180 | 5,400 |
| 10 | Vaccination, Dewormer, Health care & insurance cost | PPR, ET, quarterly deworming & 3 years insurance cost | 500 | 10 | 5,000 |
| 11 | Fodder cost | Napier grass & other | 1,000 | 1 | 1,000 |
| 12 | Labour cost | | 200 | 24 | 4,800 |
| 13 | Charges to Pashu sakhi | Yearly basis | 600 | 2 | 1,200 |
| | Total A | | | | 2,03,004 |
| B | Other costs | | | | |
| 1 | Interest on capital | 12% per year for two years | | | 48,721 |
| | Total B | | | | 48,721 |
| | Total (A+B) | | | | 2,51,725 |

| C | Receipts | | | | |
|---|--------------------------------|---|--------|----|-----------------|
| 1 | Sale of 13-Month-old 27 goats | The average weight of 16 Kg | 10,000 | 27 | 2,70,000 |
| 2 | Sale of 6-month-old kids | The average weight of 9 Kg | 8,000 | 13 | 1,04,000 |
| 3 | Rate of adult goat & buck | Goats & buck purchase initial can be used for one more year | 12,000 | 10 | 1,20,000 |
| 4 | Sale of manure | Approx. 2 tons | 5,000 | 2 | 10,000 |
| | Gross Receipts | | | | 5,04,000 |
| | Net profit in 24 Months | | | | 2,52,275 |
| | Yearly Income | | | | 1,26,138 |

Source: Maharashtra SRLM and JSLPS

ANNEXURE-VII: BREEDING BOARS

| Particulars | Unit cost (Rs) | No of units | Cost (Rs) |
|--|----------------|-------------|---------------|
| A. Fixed cost | | | |
| A1. Cost of piglets (15 K.G.) | 4500 | 3 | 13500 |
| A2. Transport | 200 | 3 | 600 |
| A3. Feeding manger, Waterer | 500 | 3 | 1500 |
| A4. Housing (Thatched roof, pucca floor with ventilation) | 10000 | 1 | 10000 |
| Total A | | | 25600 |
| B. Recurring cost (first year) | | | |
| B1. Feeding cost of piglets @ 150 kg per year at 25 Rs/Kg - concentrate (50% concentrate + 50% agri-byproducts) | 3 | 3750 | 11250 |
| B2. Health care cost | 200 | 3 | 600 |
| B3. Minerals and supplements | 200 | 3 | 600 |
| B4. Insurance | 270 | 3 | 1620 |
| B5. Consumables /Repair & maintenance | 500 | 2 | 1000 |
| Total B | | | 15,070 |
| C. Investment required (A+B) First year | | | 40,670 |
| D. Receipts (first year) Piglets | 7 | 3 | 21 |
| D1. Sale of 2.5 Month old piglets | 3000 | 21 | 63,000 |
| D2. Sale of manure | 03 | 500 | 1500 |
| Gross Receipts (first year) – total of D | | | 64,500 |
| Income First year (D-C) | | | 23,830 |
| E. Recurring cost (Second year) | | | |
| E1. Feeding cost of 3 adult pigs @ 1.25 kg per day at 25 Rs/Kg - concentrate (50% concentrate + 50% agri-byproducts) | 3 | 11406 | 34,218 |
| E2. Health care cost | 300 | 3 | 900 |
| E3. Minerals and supplements | 300 | 3 | 900 |
| E4. Insurance | 600 | 3 | 1800 |
| E5. Consumables /Repair & maintenance | 1000 | 1 | 1000 |
| Investment required (Total E) | | | 38,818 |
| F. Receipts (Second year onward) Piglets (2 farrowing per year) | 16 | 3 | 48 |
| F1. Sale of 2.5 Month old piglets | 3000 | 48 | 1,44,000 |

| | | | |
|---|----|-------|-----------------|
| F2. Sale of manure | 03 | 1000 | 3000 |
| Gross Receipts (second year)-Total of F | | | 1,47,000 |
| Net receipt (F-E) | | | 1,08,182 |
| Income 2nd year | | | 69,364 |
| <i>Value of parent stock (available with farmer as insurance against natural disasters and hard times).</i> | 03 | 15000 | 45,000 |

Source: ICAR-Mega Seed Project on Pig

Note: Common Breeding Boars (05) will be maintained by Pashu Sakhi/ entrepreneur and will be rotated village-wise annually to prevent inbreeding.

ANNEXURE- VIII INCOME OF A PIG FATTENER (3 CASTRATED PIGLETS)

| Particulars | | | |
|---|----------------|-------------|---------------|
| | Unit cost (Rs) | No of units | Cost (Rs) |
| A. Investment | | | |
| A1. Feeding manger, Waterer | 500 | 1 | 500 |
| A2. Housing (Thatched roof, pucca floor with ventilation) | 10000 | 1 | 10000 |
| Total A | | | 10,500 |
| B. Recurring cost | | | |
| B1. Cost of piglets (10 KG) | 3000 | 3 | 9000 |
| B2. Transport | 100 | 3 | 300 |
| B3. Feeding cost @ 150 kg per piglet per year at 20 Rs/Kg - concentrate (50% concentrate + 50% agri- by-products) | 3 | 3000 | 9000 |
| B4. Health care cost | 100 | 3 | 300 |
| B5. Minerals and supplements | 100 | 3 | 300 |
| B6. Insurance | 180 | 3 | 540 |
| B7. Consumables /Repair & maintenance | 500 | 1 | 500 |
| Total B | | | 19,940 |
| C. Receipts | | | |
| C1. Sale of 12 Month old pigs (100 kg) @ Rs 200/kg | 20,000 | 3 | 60,000 |
| C2. Sale of manure | 3 | 1000 | 3000 |
| Total receipts (total C) | | | 63,000 |
| Income in the first year (C-B-A) | | | 32,560 |
| Income from second year (C-B) | | | 43,060 |

Source: ICAR-Mega Seed Project on Pig

ANNEXURE -IX: ECONOMICS OF KEEPING BOAR (05) FOR BREEDING PURPOSE:

| Particulars | Unit cost (Rs) | No of units | Cost (Rs) |
|---|----------------|-------------|--------------|
| A. Fixed cost | | | |
| A1. Cost of Boar (15 KG) 3 months age | 4500 | 5 | 22500 |
| A2. Transport | 200 | 5 | 1000 |
| A3. Feeding manger, Waterer | 500 | 5 | 2500 |
| A4. Housing (Thatched roof, pucca floor with ventilation) | 10000 | 1 | 10000 |
| Total A | | | 36000 |
| B. Recurring cost (first year) | | | |
| B1. Feeding cost of piglets @ 150 kg per year at 25 Rs/Kg - concentrate (50% concentrate + 50% agri-byproducts) | 5 | 3750 | 18750 |
| B2. Health care cost | 200 | 5 | 1000 |
| B3. Minerals and supplements | 200 | 5 | 1000 |
| B4. Insurance | 270 | 5 | 1350 |

| | | | |
|---|-----|-------|-----------------|
| B5. Consumables /Repair & maintenance | 500 | 2 | 1000 |
| Total B | | | 23100 |
| C. Investment required (A+B) First year | | | 59,100 |
| D. Receipts (first year) | 7 | 3 | 21 |
| D1. Three month Breeding (after 12 months of age) @ two mating per boar per week ie. 120 mating @ Rs. 300 per mating | 300 | 120 | 36,000 |
| D2. Sale of manure | 05 | 1000 | 5000 |
| Gross Receipts (first year) | | | 41,000 |
| Net receipt first year (D-B) | | | 17900 |
| E. Recurring cost (Second year) | | | |
| E1. Feeding cost of 5 adult Boars @ 1.25 kg per day at 25 Rs/Kg - concentrate (50% concentrate + 50% agri- by-products) | 5 | 11406 | 57,030 |
| E2. Health care cost | 300 | 5 | 1500 |
| E3. Minerals and supplements | 300 | 5 | 1500 |
| E4. Insurance | 600 | 5 | 3000 |
| E5. Consumables /Repair & maintenance | 500 | 2 | 1000 |
| Investment required (Total E) | | | 64,030 |
| F. Receipts (Second year onward) | | | |
| F1. Twelve month Breeding @ two mating per boar per week ie. 100 mating per boar per year @ Rs. 300 per mating | 300 | 500 | 150,000 |
| F2. Sale of manure | 05 | 2000 | 10,000 |
| Gross Receipts (second year onward) | | | 1,60,000 |
| Net receipt (E-F) excluding housing and equipment cost | | | 95,970 |
| Net Monthly income 2nd year onward | | | 7998 |
| <i>Value of parent stock (available with farmer as insurance against natural disasters and hard times).</i> | 05 | 15000 | 75,000 |

Source: ICAR-Mega Seed Project on Pig

Note: Common Breeding Boars (05) will be maintained by Pashu Sakhi.

ANNEXURE- X: ECONOMICS OF MINI SLAUGHTER HOUSE

| Particulars | | | |
|---|----------------|-------------|------------------|
| | Unit cost (Rs) | No of units | Cost (Rs) |
| A. Fixed cost | | | |
| A1. Establishment cost, infra for slaughter house | 4,00,000 | 01 | 4,00,000 |
| A3. Formation of shed for pigs to keep overnight | 04 | 5000 | 20,000 |
| Total A | | | 4,20,000 |
| B. Recurring cost (one month) | | | |
| B1. Fattened pigs will be purchased from the cluster @ 5 pigs per day ie. 150 per month | 15,000 | 150 | 22,50,000 |
| B2. Feeding cost @ 2 kg per pig per year at 20 Rs/Kg - concentrate (50% concentrate + 50% agri- by-products) for 2 days | 300 | 20 | 6000 |
| B3. Packaging cost | | | 5000 |
| A4. Electricity and Misc. cost | | | 1000 |
| Total B | | | 22,62,000 |
| C. Investment required | | | 26,82,000 |
| D. Receipts | | | |
| D1. Sale of slaughtered pork among consumers of nearby market (100 kg) @ Rs 200/kg, 5 pigs per day and 150 pigs per month | 20,000 | 150 | 30,00,000 |
| Gross Receipts | | | 30,00,000 |

| | | | |
|---|--|--|----------|
| Net receipt(C-B) excluding establishment and housing cost | | | 7,38,000 |
| Monthly income | | | 61,500 |

ANNEXURE XI: BUSINESS PLAN FOR HOUSEHOLD POST MOTHER UNIT AT HOUSEHOLD LEVEL

| Economics of Duck rearing Egg Purpose (20 Duck Unit) | | | | | |
|--|---|--|-----------|-------------|--------|
| S No. | Particulars | Unit description | Unit cost | No of units | Cost |
| A. | Fixed cost | | | | |
| A1. | Poultry Shed (Night Shelter) | Sq Ft | 100 | 20 | 2000 |
| A2. | Drinker, Feeder, Nest and other accessories | Lumpsum | 1000 | 1 | 1000 |
| | Total A | | | | 3000 |
| B. | Recurring cost | | | | |
| B1. | Cost of Ducklings | 21 day old, 300 gm weight | 105 | 20 | 2100 |
| B2. | Cost of supplementary Feed | 40 gm feed/ day for 5 week | 30 | 28 | 840 |
| B3. | Cost of supplementary Feed (Female) | 40 gm feed/ day for 70 week | 30 | 196 | 5880 |
| B4. | Deworming & other medicines etc | Rs. 30/ duck/ year | 30 | 10 | 300 |
| | Total B | | | | 9120 |
| C. | Other costs | | | | |
| C1. | Interest on fixed & recurring cost | 12% yearly for 16 month | | | 1939 |
| | Total C | | | | 1939 |
| D. | Receipts | | | | |
| D1. | Income from sale of eggs | Sale of eggs start after 20 week and 1 duck gives 225 eggs in year | 7 | 2250 | 15750 |
| D2. | Income from sale male duck | Male ducks will be sold after 2 month of age | 150 | 15 | 2250 |
| D3. | Income from sale culled female duck | Culled ducks will be sold after 72 week of age | 120 | 15 | 1800 |
| | Gross Receipts | | | | 19800 |
| | Net Income | | | | 8741 |
| | Return on Investment | | | | 79.04% |

Source : JSLPS

ANNEXURE XII: BUSINESS PLAN OF MOTHER UNIT/ HARDENING CENTER OF DUCKLINGS

| Unit Size | | 2000 | | Birds | |
|-----------|---------------------------------------|------------------|-----------|--------------|------------|
| S1 | Particulars | Unit description | Unit Cost | No. of Units | Total Cost |
| A. | Fixed cost | | | | |
| 1 | New building construction | Sq Ft | 300 | 667 | 2,00,000 |
| 2 | Drinker, Feeder and other accessories | Lumpsum | 180 | 40 | 7,200 |
| | Total A | | | | 2,07,200 |
| B. | Recurring cost | | | | |
| 1 | Cost of day old ducklings | No. | 35 | 2,000 | 70,000 |
| 2 | Feed Cost | Kg | 32 | 600 | 19,200 |
| 3 | Medicine etc | Lumpsum | 1 | 2,000 | 1,500 |
| 4 | Cost of Incharge- Mother Unit | Per cycle/ Month | 1 | 7,000 | 7,000 |
| 5 | Incentive to APS | per bird | 5 | 1,800 | 9,000 |
| | Total B | | | | 1,06,700 |

| | | | | | |
|----|--|-----------------|----|-------|----------|
| C. | Other costs | | | | |
| 1 | Depreciation on fixed cost | 25% per annum | | | 51,800 |
| | Total C | | | | 51,800 |
| D | Receipts | | | | |
| 1 | Sale of 15 days old birds | Kg | 65 | 1,800 | 1,17,000 |
| | Gross Receipts | | | | 1,17,000 |
| | Gross profit per cycle (D-B) | | | | 10,300 |
| | Gross profit for 1 year | 9 cycle in year | | | 92,700 |
| | Net profit after deduction of depreciation | | | | 40,900 |

| | | |
|---|----------|----------|
| Initial investment required per unit | Per Unit | 3,13,900 |
|---|----------|----------|

| ANNEXURE XIII: BUSINESS PLAN FOR HATCHERY UNIT OF DUCKLINGS | | | | |
|--|---------------|--------------|-----------------|-------------|
| Particulars | Unit | Year 1 | | |
| | | No. of Units | Unit Cost (INR) | Value (INR) |
| Capital Expenditure | | | | |
| Hatchery unit with other machinery & accessories (2080 eggs) | Number | 1 | 2,00,000 | 2,00,000 |
| 2 KVA inverter with solar support | Number | 1 | 1,50,000 | 1,50,000 |
| Platform & other establishment | Number | 1 | 50,000 | 50,000 |
| Construction of Building for Hatchery (20X10 Sqft) | Number | 200 | 1,000 | 2,00,000 |
| Total capital expenditure | | | | 6,00,000 |
| | | | | |
| Output (Revenue) | | | | |
| Sale of ducklings | Number | 17,472 | 35.0 | 6,11,520 |
| Total Revenue | | | | 6,11,520 |
| Expenditure | | | | |
| 1. HR Costs | | | | |
| Hatchery Operator | Person months | 12 | 7,000 | 84,000 |
| Hatchery assistant | Person months | 12 | 4,000 | 48,000 |
| 2. Recurring Costs | | | | |
| Rent/ Maintenance | months | 12 | 2,000 | 24,000 |
| Electricity | months | 12 | 1,000 | 12,000 |
| Purchase of eggs | Number | 24,960 | 12.0 | 2,99,520 |
| Transportation | Number | 17,472 | 1.5 | 26,208 |
| Cartoon for packaging | Number | 349 | 20.0 | 6,989 |
| Total Expenditure Costs | | | | 5,00,717 |
| Gross Profit | | | | 1,10,803 |
| Depreciation (machinery/equipment/tools) | | | | 60,000 |
| Net Profit | | | | 50,803 |

Source : JSLPS

| ANNEXURE XIV: ESTIMATED ECONOMICS OF PARENT UNIT FOR DUCK (INDIAN RUNNER) | | | | |
|--|------------------|-----------|-------------|------------------|
| Particulars | Unit description | Unit cost | No of units | Cost |
| Fixed cost | | | | |
| Poultry Shed | Sq Ft | 300 | 2,400 | 7,20,000 |
| Drinker, Feeder, Nest and other accessories | Lumpsum | 510 | 19 | 9,792 |
| Total A | | | | 7,29,792 |
| Recurring cost | | | | |
| Cost of 16 week old ducklings | No. | 350 | 960 | 3,36,000 |
| Feed cost (for 16 to 19 week)) | Kg | 30 | 2,419 | 72,576 |
| Feed cost (for 20 week to 72 week age) | Kg | 25 | 42,739 | 10,68,480 |
| Vaccination, Deworming & other Medicine | Lumpsum | 50 | 960 | 48,000 |
| Packaging & transportation | No. | 1 | 1,48,400 | 74,200 |
| Labour cost | Month | 13 | 10,000 | 1,30,000 |
| Total B | | | | 13,93,256 |
| Other costs | | | | |
| Depreciation on fixed cost | 10% per annum | | | 72,979 |

| | | | | |
|---|---------------|-----|----------|------------------|
| Interest on Capital cost | 10% per annum | | | 1,14,317 |
| Total C | | | | 1,87,296 |
| Receipts | | | | |
| Sale of eggs | No. | 12 | 1,48,400 | 17,80,800 |
| Sale of culled birds | Kg | 130 | 960 | 1,24,800 |
| Gross Receipts | | | | 19,05,600 |
| Gross profit per cycle (D-B) | | | | 5,12,344 |
| Net profit after deduction of depreciation | | | | 3,25,048 |
| Return on Investment | | | | 0 |

Source : JSLPS

Department of Animal Husbandry & Dairying, Government of India is implementing following schemes from FY 2021-22 aiming towards Entrepreneurship Development and Employment Generation, creating livelihood opportunities for unemployed youth and livestock farmers.

| SN | Scheme Component | Activities Supported | How to apply | Eligible entities | Assistance |
|----|---|--|--|--|--|
| 1 | Establishment of Entrepreneurs for breed development of Rural Poultry | For establishment of Parent Farm, Rural Hatchery, brooder cum mother unit for Production of Hatching Eggs, and Chicks and rearing of the said chick up to four week in the mother unit (with minimum 1000 parent layers) | I. State Implementing agency shall invite entrepreneurs/ eligible entities through expression of interest. II. The Entrepreneurs/ Eligible Entities shall submit the application through the NLM Portal in response to Expression of Interest. | Individuals / Self Help Group (SHG)/ Framers Producer Organisations (FPO)/ Farmers Cooperatives (FCOs)/ Joint Liability Groups (JLGs) and Section 8 companies | 50% capital subsidy up to the subsidy limit directly to the beneficiary account through SIDBI in two equal installments. Subsidy Limit for each unit: |
| 2 | Establishment of Entrepreneur for breed development in small ruminant sector (sheep and goat farming) | For establishment of sheep and goat breeding unit with minimum 500 females and 25 males. | The subsidy amount will be channelised through the Small Industries Development Bank of India (SIDBI). The subsidy will be provided by SIDBI through the lending scheduled bank or Financial Institutions to the subsidy account of beneficiaries. | Eligibility Criteria : Entrepreneurs/ Eligible Entities | Poultry Project: Rs. 25 lakh, Sheep & Goat Project: Rs- 50 lakh, Pig project: Rs. 30 lakh |
| 3 | Promotion of Piggery Entrepreneur | For establishment of a breeder farm with minimum 100 sow and 25 boars breeding animals from the Central or State Government/ university farms or local farmers with high genetic merit. | The beneficiaries interested in taking benefit under the entrepreneurship project in self-financing mode need to provide Bank | I. Either have obtained training or have trained experts or have sufficient experience in the relevant field in managing and running the project or have technical experts with sufficient experience in the relevant field of managing and running the project. II. Have got the loan sanctioned for project by the bank/financial | Feed and fodder – Rs 50 Lakh |
| 4 | Entrepreneurship activities in feed and fodder | For establishment of fodder value addition such as Hay/Silage/Total Mixed Ration(TMR)/ Fodder Block and storage of fodder, infrastructure development related to hay/silage at village level/ Fodder blocks | | | |

| | | | | | |
|---|--|--|--|--|---|
| | | making units for procuring machinery like bailer, block making machines, TMR machines/equipment, Forage harvester /reaper, Heavy duty Power operated Chaff cutters and any other PHT equipment as per the requirement/need | Guarantee from the scheduled bank for the remaining cost of the project beyond the capital subsidy sought for support. | institutions OR furnished bank guarantee from scheduled bank along with appraisal of project for its validity by bank where it is holding the account. | |
| 5 | Entrepreneurship model for establishment of Breed Multiplication Farms | For construction of cattle sheds, equipment, procurement of elite bull mothers etc. the entrepreneur will establish breed multiplication farm (BMF) and produce elite heifers using sex sorted semen or IVF technology. | Entrepreneur will formulate bankable proposal as per guidelines and submit directly to NDDDB in response to Expression of Interest issued by the NDDDB. Project will be implemented through NDDDB as implementing agency of the project. | III. Should have own land or lease land where the project will be established. IV. Have all the relevant documents for KYC | Maximum subsidy will not exceed Rs 2.00 crores. |

For detail guidelines visit Department's website www.dahd.nic.in.