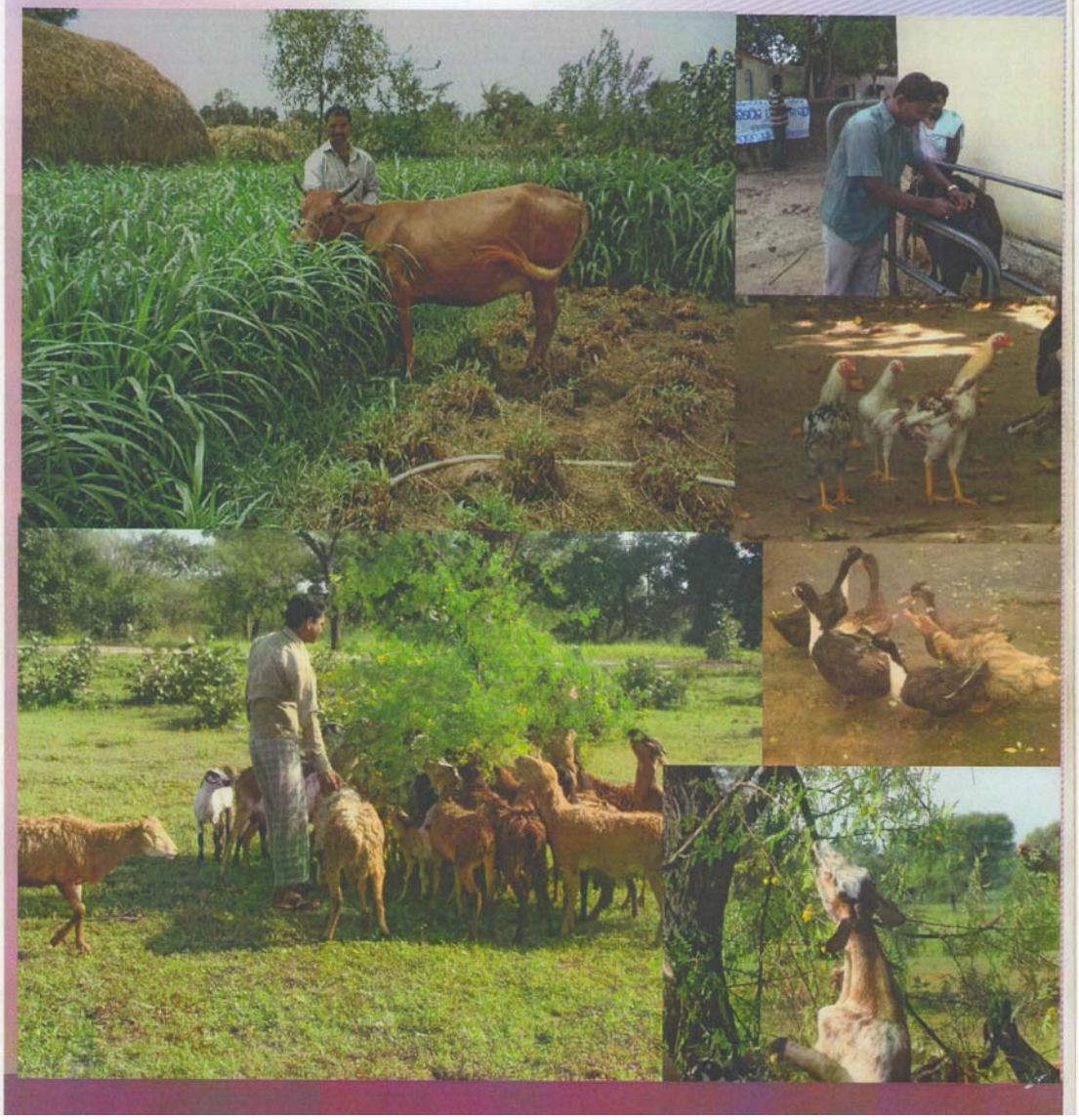
PERSPECTIVE PLAN
ARD SECTOR
2010 - 2020



Executive Summary

1. Livestock Production had always been an integral part of the rural livelihood systems in Odisha, all through the known history of the state. The predominant farming system in Odisha is the mixed crop-livestock farming system and over 90 per cent of farms of all categories conform to this farming system. The livestock wealth of Odisha is impressive in numbers across all species, constituting a natural resource base with immense livelihood implications, even though productivity levels are very low. Livestock holding in Orissa is equitable as over 80 per cent of all livestock are owned by the marginal / small holders and the land less. Some 80 per cent of all rural households own livestock of one species or the other, or a combination of some of them, cattle being the most popular and therefore, the preponderant species. The sector has ample scope to substantially enhance the production to meet the domestic market demands, create employment and income generating opportunities for the rural poor and enhance their food and livelihood security.

MISSION:

- To make Animal Resources Development an engine of growth of the rural economy of Odisha, providing income and livelihood opportunities to the people.
- To make dairying a viable livelihood option for small, marginal farmers and landless persons by strengthening all forward and backward linkages.
- To enable poor farmers to improve the productivity of animals like sheep, goat and pig.
- To make backyard poultry a popular and viable subsidiary farming activity in rural area
- Achieve self sufficiency/ surplus in milk, meat and egg production
- Enhance per capita availability of milk, eggs, and meat including poultry meat.
- Enhance availability of feed and fodder for economic dairy farming.
- Provide efficient veterinary services at the door step of the farmers.

GOALS:

- Create employment opportunity for 5 lakh farmers in ARD Sector within 10 years.
- Increase milk production from 1.5 million MT to 3 million MT in the next five years and 4.8 million MT by 2020.
- Enhance sale of milk by OMFED to at least from 1 to 1.5 million litres per day in the next 5 years and 2 million MT by 2020.
- Increase Meat production to 110 TMT per annum by 2020.
- Increase egg production from 42 lakhs to 100 lakhs eggs per day by 2020.
- Increase poultry meat production from 70 TMT to 100 TMT by 2020.
- Fodder production 200 lakh tons per annum by 2020.

1. Keeping the aforesaid Mission and Goals in view, this Perspective Plan document addresses in a holistic manner developmental needs of the Orissa Animal Resources Development sector over a 10 year period from 2010 to 2020.

2. During 2008-09, the total annual milk production was 1598.05 thousand metric tones, egg production was 1440 million nos. and meat production was 62 thousand metric tones in the State.

3. The Perspective Plan of the ARD sector in Odisha for the next 10 years (2010-11 to 2019-20) is based on the Vision 2020 "***To excel as a holistic support system by providing, securing and facilitating effective and efficient services to become self sufficient/ surplus in milk, egg and meat by enhancing Livestock productivity along with helping the poor to secure sustainable livelihood through livestock development and management while working in close coordination and partnership with allied institutions".***

4. This Perspective Plan encompasses the whole of Animal resources Development Sector in Orissa, which includes:

- ❖ Encourage dairy farming as a viable economic activity.
- ❖ Identification and demarcation of clear zones for AI service provision in the state (Intensive, Potential & Other)
- ❖ Improve quality of Frozen Semen production.
- ❖ Provide better post insemination support services to ensure better survival rate of crossbred progenies
- ❖ Develop and upgrade all infrastructures for production, distribution and implementation units.
- ❖ Initiate R& D activities
- ❖ Revive genetic up-gradation of small animals
- ❖ Provide routine de-worming and vaccination tasks in a planned manner to minimize mortality of small animals.
- ❖ Promote of backyard poultry farming for income generation by providing all backward and forward linkages
- ❖ Conservation and selective breeding of native species of cattle, buffalo, small ruminants and poultry.
- ❖ Utilize all departmental fodder farms optimally to produce quality planting materials for fodder development.
- ❖ Promote extensively fodder cultivation both in public and private land
- ❖ Provide effective Veterinary service delivery
- ❖ Put in place an effective disease control services
- ❖ Strengthen of Extension & Training for capacity building
- ❖ Human Resource Development of departmental staff

5. The overall objectives of this Perspective Plan are:

The main purpose of this Plan is to critically examine the present status of service delivery mechanism, infrastructural availability, and contribution of Livestock to per capita availability of milk, meat and egg and accordingly, improve the livestock sector as a whole, so as to increase the production and productivity in a phased manner over a period of ten years.

Thus, it is hoped that this perspective plan will help planners, investors, non-government organizations and credit institutions to take interest in the overall development for the sector.

Also, it is expected that this document will act as a road map to both the ARD Department as well as to other supportive organizations.

6. The Perspective Plan is dealt in 7 chapters covering the Animal resources Development Sector, estimated financial outlay and source of funding and the overall outputs and deliverables.

In chapter- 1, background information of ARD sector has been vividly analyzed on present status of all sub-sectors, livestock wealth, existing infrastructural facility and contribution of livestock in terms of production. Further, this chapter includes purpose and methodology adopted to prepare the plan.

The sub-sector Dairy development is dealt in chapter- Two and a detailed plan has been laid out with a view to achieving three fold increase in milk production over a period of 10 years. A SWOT analysis of the sub sector has been made and accordingly, all issues have been addressed by suggesting the necessary interventions to achieve the goal. The activities such as mineral mapping, ration balancing, integration of Information Technology and ear tagging of cattle are suggested as some of the new interventions to support Dairy development. Selective breeding programme for conservation and improvement of indigenous cattle and buffalo breed are elaborated.

Chapter-3 suggests a detailed plan on sub sector Small Animal Development, which includes Goat, Sheep and Pig. Similar process has been adopted to analyze SWOT, which has given insight for identifying all the interventions along with the physical and financial outlay. This plan envisages focused attention on up-gradation of local breeds by supplying superior quality breeding males, vaccination and de-worming. The suggested new interventions for Small Animal Development are AI in Goats, conservation and improvement through selective breeding and Community Insurance. Selective breeding programme for conservation and improvement of indigenous sheep and goat are included.

In chapter-4, Poultry Development has been narrated in detail. Major focus has been paid on promotion of backyard poultry for creating employment opportunities and encouragement of commercial units. The new interventions in poultry sub-sector are creation of poultry estate, optimum operationalization of hatcheries and establishment of chick rearing units. The whole

poultry plan aims at achieving production of 100 lakhs of egg per day and 1 lakh MT of broiler meat per annum. Selective breeding programme for conservation and improvement of indigenous poultry breed is included.

The plan for Fodder Development has been elaborated in Chapter Five to match the enhanced nutritional requirement of Dairy and Small Animal Sub-sector for next ten years. It is proposed to promote fodder cultivation in a massive scale by assisting the farmers. Some new interventions incorporated are involvement of private fodder seed growers for production of certified seeds.

The Chapter -6 deals with Veterinary Service Delivery. The entire livestock sub – sector such as Dairy, Fodder, Small Animal and Poultry are to be adequately supported with optimum services to achieve the growth forecast. Accordingly, all the veterinary services have been identified and incorporated in this chapter. Adequate attention has been given to the upgradation of all the Sub-divisional level veterinary institutions with the best possible physical facilities, thereby ensuring better service. The institutions like Orissa Biological Product Institute, ADRI, DDL and CIL are to be strengthened. It is proposed to upgrade the status of the service institutes to the national level. The animal welfare issues also find place in this chapter.

In Chapter – 7, Human Resources Development issues have been dealt with. The elements of training and extension have been given top priority to improve the motivational level amongst the different stakeholders. A key role has been envisaged for Society for Mangement of Information Learning and Extension (SMILE). The requirement of extension aids like leaflets, posters, charts, DVDs, Films are discussed in detail.

7. The total budgetary support required for implementing the programmes will be Rs. 2251 crores for the 10 year period starting 2010-11 till the end of the fiscal year 2019-20. A summary of the sub -sector wise projected outlay and the source of funding is given in Table – 01.

TABLE-01 SOURCE OF FUNDS FOR 10 YEARS PERSPECTIVE PLAN (2010-2020)
ARD Department, Orissa

(Rs. In Lakhs)

SOURCE OF FUND	Diary Development	Small Animal Development	Poultry Development	Livestock Service Delivery	Fodder Development	Human Resources Development	TOTAL
RIDF	1545	1100	2602	4500	922	766	11435
State Plan	8540.87	1666.551	4912.121	43316.5	2770.9	6876.604	68084
CSP	10466.14	0	150	13254.5	48	43.5	23962.14
CP	18247.41	859.48	7932.246	2965	5160	0	35164.13
RKVY	17757.06	0	0	0	2958.046	0	20715.11
NREGA (PR Dept)	0	0	0	0	5000	0	5000
Other devt projects	0	0	0	232	0	0	232
OMFED Own source	1824.741	0	0	0	49	0	1873.741
NPCBB	0	0	816	15656	0	83.64	16555.64
RLTAP	0	0	3052.75	0	0	0	3052.75
SGSY Infr/ Peripheral fund	5474.222	1836.84	0	5837	0	0	13148.06
ATMA	0	0	204	0	400	50	654
Urban body	0	0	0	1200	0	126	1326
KSK subsidy	3649.481	0	0	0	0	0	3649.481
Bank Loan/ Private Source	0	0	19664.45	0	640	0	20304.45
TOTAL	67504.92	5462.871	39333.57	86961	17947.95	7945.744	225156

TABLE-02 Requirement of Funds from STATE PLAN

SUB - SECTOR	2010-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	20-21	Total
Diary Development	1021	1320	1547	554	610	667	693	712	708	709	8541
Small Animal Development	156	228	226	230	213	213	214	60	68	59	1667
Poultry Development	1003	971	996	917	926	20	20	20	20	20	4912
Livestock Service Delivery	5593	6007	6499	4900	5427	3130	2920	2944	2947	2950	43317
Fodder Development	80	72	46	25	21	505	505	505	505	505	2771
Human Resources Development	679	744	744	742	738	738	693	603	603	590	6877
Total	8533	9341	10057	7369	7934	5273	5045	4845	4851	4834	68084

8. Implementation of the Perspective Plan will begin during the 2010-11. The Dept. shall focus on areas of strategic importance and will converge with various ongoing development programmes for investment in the Sector.

9. The major outputs/ deliverables of the proposed programmes in this Perspective Plan are:

Dairy Development:

- Additionally, 20 lakh crossbred female cows will be produced in 10 years. This will create additional direct employment to 10 lakh persons in dairy farming.
- The total milk production of the State will be 4860 TMT i.e. 3-fold by the end of 2020.
- 1,40,000 farmers will be benefited by rearing female CB Cows through Calf rearing scheme.
- 130 lakh nos. of large animals will be given identification marks through ear tagging.
- 9230 nos. of breeding bulls will be provided for up-gradation of indigenous animals.
- Ration balancing by considering the availability of local feed ingredients will be taken up in all MPCS.
- Conservation and improvement of 4 breeds of cattle and 5 breeds of buffalo through selective breeding.

Small Animal Development

- One million breedable goats and 0.2 million sheep will be upgraded through supply of improved variety buck/ ram by 2020.
- One lakh breedable goats will be covered under artificial insemination programme.
- One new Goat frozen semen bank will be established to produce 1 lakhs goat semen.
- The individual productivity of goat and sheep will be increased from 10 kg of dressed meat to 12 Kg dressed meat. There will be a gain of Rs.400 to Rs.500 as an additional income per animal.
- Meat production will be doubled to 104 TMT per annum.
- 41974 Breeders' forum will be constituted over 10 years.
- De-worming and routine vaccination will considerably reduce the disease incidence. Kid mortality is expected to be reduced appreciably. Reduced mortality rate shall add 5 lakh more

animals to the existing population. The net additional output value will be 1000 million per annum.

- ❖ The 5 goat farms and two sheep farms of the department will be upgraded.
- ❖ Conservation and Selective breeding of 6 goat breeds and 2 sheep breeds.

Poultry Development

- ❖ 100 more commercial layer units of average 45000 capacity will be introduced in the private sector for commercial egg production providing employment to 1000 persons.
- ❖ 2000 nos. of broiler units (bird capacity of 1000 birds to 10000 birds per week) will be established under KSK and by the other private players.
- ❖ At least one Poultry estate will be established in the state to encourage the private players to set up the poultry and its subsidiary units in a cluster.
- ❖ 56 poultry hatcheries will be made operational with a designed capacity for producing 112 lakh day old chicks per annum by 2014. This will provide direct employment to 100 persons in hatcheries.
- ❖ 294 Chick Rearing Units will be established within 4 years for rearing chicks for 4 weeks before supplying to the farmers. Chick rearing Units @ 2 per CRU will create employment for 600 persons.
- ❖ Development of backyard poultry units under Central Plan Scheme will provide part time employment to 2,50,000 members in 25000 Self help groups within 5 years and there by bringing about an improvement of their livelihood.
- ❖ Conservation and improvement of 5 poultry breeds will be done through selective breeding.

Fodder Development:

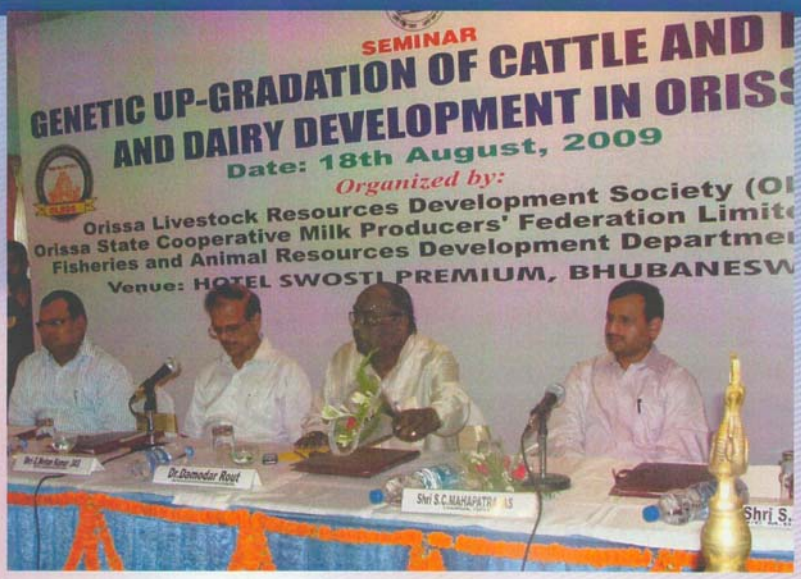
- ❖ 75000 nos. of fodder demonstration plots will be taken up in the farmers' field per annum.
- ❖ 1000 hectares pasture development will be taken up per year by groups in common land.
- ❖ 40,000 tons of crop residue will be enriched/ preserved for utilizing during lean period.
- ❖ 20 departmental fodder farms will produce 460 lakh grass root slips and 58000 tree saplings 235 MT certified seeds of seasonal fodder crops.
- ❖ 1200 registered seed growers will be producing 265 MT certified seeds of seasonal fodder crops

Veterinary Service Delivery:

- 58 Sub-Divisional level Veterinary Hospitals will be upgraded with modern facilities for better diagnosis and treatment of livestock and birds.
- 2945 new Livestock aid centres will be set up to cover all Gram Panchayats of the State with one LAC per GP.
- Orissa Biological Production Institute, Bhubaneswar will be modernized and developed into a centre of excellence for production of the required quantity of vaccine adopting Good Management Practice (GMP) and Good Laboratory Practice (GLP) norms.
- Animal welfare measures will be taken up along with Animal birth control & immunization of stray dogs for control of rabies.
- Livestock census and Sample Survey will be taken up regularly to evaluate the performance of the sector.

HRD & Training:

- Each Veterinary Officer will receive one technical refresher training at least once in 3 years. 900 nos. of Veterinarians will be trained for 4 times on technical subjects over 10 years.
- Every year, 50 freshly recruited Veterinary officers / personnel will get an opportunity to undergo Induction Training.
- The senior supervisory Officers before getting promotion will be trained on managerial skills.
- 3000 Para Veterinary staff will be given in-service training for at least once in 6 years.
- 10 lakh farmers will be trained on animal husbandry skill.
- 200 entrepreneurs from different discipline will be trained.
- Adequate quantity of leaflet, posters, charts, films, DVDs will be available for publicity.


SEMINAR
GENETIC UP-GRADATION OF CATTLE AND
AND DAIRY DEVELOPMENT IN ORISS
Date: 18th August, 2009
Organized by:
Orissa Livestock Resources Development Society (O
Orissa State Cooperative Milk Producers' Federation Limit
Fisheries and Animal Resources Development Departme
Venue: HOTEL SWOSTI PREMIUM, BHUBANESW
Dr.Bomodar Rout
Shri S.C.MAHAPATR
Shri S.

CHAPTER - 1

CHAPTER – 1

1.0 BACKGROUND INFORMATION

1.1 INTRODUCTION:

Livestock sector contributes about 6 % of Odisha's Net State Domestic Product (NSDP) with annual milk production of 1598.05 thousand metric tones during 2008-09. The egg production was 1440 million nos. and meat production was 62 thousand metric tones. About 80% of farmers depend fully or partially on animal husbandry enterprise for their livelihood.

The overall increase in milk production during the past four years from 2004-05 to 2008-09 was in the order of about 354 thousand tones. The present level of milk production in the State is contributing about 2% of the overall milk production of the nation.

As per the Indian Council of Medical research (ICMR) recommendation, the per capita requirement of milk should be 280 grams per day and the as per the latest data, the per capita availability at National level is 246 gms. per day. The per capita availability of milk in Odisha is only 102 grams. As per the National Dairy Development Plan, it is envisaged to enhance the milk production from 105 to 180 million tons by 2021-22. Every year, the production will be enhanced by 5 million tons. In comparison to other neighboring States, the milk production is the very low in Orissa at present.

Based on the present growth rate of human population in Odisha, the human population after next 15 years is estimated at 49 millions by considering DGR of 15%. The projected requirement of protein food of animal origin in the next 10 years is estimated as follows.

1. Milk - 4860 Thousand Metric Tonnes @ 260 gms. per head per day by 2020
2. Meat - 104 Thousand Metric Tonnes @ 2.13 gms. per head per annum by 2020
3. Egg - 3650 Million nos. @ 75 eggs per head per annum by 2020

Livestock production is one of the largest land users in Odisha and is one of the most important agricultural activities as well in the rural sector in terms of economic output.

There is massive appetite among the growing populations for meat, milk and eggs. This is an overwhelming opportunity for the rural population to exploit the demand driven market. The proposed perspective plan for ARD sector has been made with the main objective of facilitating planners, prospective private players and credit institutions and the common public to take full advantage of the enormous potential of the sector. It helps the planners to assess the present status, future focus and accordingly forecast the major interventions required for various sub-sectors, so that the investment in the sector takes place at a faster pace.

Animal husbandry, next to agriculture, is the major source of supplementary income of rural households. Livestock has always been an integral part of the rural livelihood systems in Odisha, all through the known history of the state.

1.2.1. **DAIRY DEVELOPMENT**

As per the Livestock Census 2003, the State had 142.8 lakhs cattle and 14.38 lakh buffaloes. Special focus is needed to develop the dairy sector in Orissa. Dairy development will be taken up in selected areas, where marketing of milk through DCS is feasible and Crossbreeding programme will be taken up as priority in such area. Cross breeding along with required post insemination services will be ensured for enhancing the production.

Presently, one sperm station is functioning in the State producing about 10 lakh frozen semen straws. As per the NPCBB, Phase-II plan, efforts will be made to upgrade the existing semen station to produce 15 lakh doses of semen per annum. It is projected to make 3 million Artificial Inseminations per annum by 2020. Another new sperm station is needed to produce 15 lakh more doses of frozen semen in order to meet the semen requirement of the state.

Bulls with high genetic merit will be produced through progeny testing, pedigree selection and Embryo Transfer Technology (ETT) in selected indigenous animals. Semen quality will improved by following Central Monitoring Unit standard, bio-security measures and by using high genetic merit bulls free from disease.

The Artificial insemination service delivery needs to be improved through animal identification, streamlining supply of AI inputs and post insemination advisory services and

inputs. Feeding fodder and balancing of ration as per the local availability of the feed ingredients are required to minimize the cost of milk production.

Orissa has local breeds of cattle with good potential i.e., Binjharpuri, Mottu, Ghumusuri, Khariar, and buffaloes like Chilika, Kalahandi, Parlakhemundi, Jeerangi , Manda which are dual purpose breeds. These breeds are proposed to be preserved and improved through Open Nucleus Breeding System (ONBS).

1.2.2 SMALL ANIMAL DEVELOPMENT

Orissa is having sizeable number of small animals i.e., 5.97 milion goats, 1.75 sheep and 0.6 million pigs. Recently, the Department has taken some steps for genetic up-gradation through supply of breeding bucks and deworming of goats through SGSY infrastructure fund and peripheral development fund. Vaccination against the major diseases like PPR, Goat Pox and Enterotoxaemia is being taken by the Department.

There are 6 goat breeding farms and one sheep breeding farm in the state. But, due to low budgetary allocation, most of the Goat farms were defunct. However, with SGSY infrastructure funding, 5 goat farms have been strengthened and one goat farm was strengthened under RKVY assistance. These farms are expected to produce about 2500 bucks every year for genetic up-gradation of goats. New infrastructure will be created to house 2000 pure bred Beetal goats and about 2000 off-springs at Goat Farm, Chipilima with the aim to producing 1000 Nos. of bucks per year. 300 nos. of ram per annum will be produced by maintaining 1000 female and 25 male pure stock of Malpura and Ganjam breed. The average production of meat from our local sheep and goat is only 10-11 kg, which needs to be improved through planned breeding programme. Cross breeding of indigenous goat breeds with better breeds viz., Sirrohi, Beetal, Black Bengal, Jamunapari, Barbari, and sheep breeds viz., Malpura, Sonadi will be taken up for genetic up-gradation to upgrade the existing stock. It is also proposed to take up artificial insemination by opening 3000 AI centres for 50 lakh breedable goats. The frozen semen dose requirement will be initially around 1 lakh per annum. A new frozen semen bank at Chipilima is proposed to be set up to meet the requirement.

The goat breeds like Black Bengal, Ghumusur, Ganjam, Raighar, Maraguda are famous for meat purpose. The sheep breeds like Kendrapada, Bolangir, Edka are also important. Selective Breeding programme through Open Nucleus Breeding System will be taken up to improve these breeds.

1.2.3 POULTRY PRODUCTION

The annual production of chicken is about 70 TMT and the per capita availability is 1.8 kg. The annual egg production is 1440 million, which constitutes 730 million eggs from commercial layer.

There are 8 Government Poultry Breeding Farm and 2 Duck Breeding Farm, available in the State. These farms have been strengthened under Central Sponsored Scheme for supply of dual purpose day old chicks for backyard poultry farming. Under SGSY Infrastructure, 56 hatcheries of capacity 2.2 lakh each have also been set up. It is planned to expand the parent layer farms to supply hatching eggs to each hatchery. Each hatchery will be linked to Chick Rearing Units, which will be set up in and around the hatchery. The Chick Rearing Units will rear the chicks for 4 weeks before supplying the 4 weeks old bird to the farmers for rearing in their backyard. This will bring perceptible change in the income of the poor farmers. The entire value chain has good employment opportunity at each stage.

Selective Breeding programme through Open Nucleus Breeding System will be taken up to improve the local breeds namely, Hansli, Vezaguda, Phulwari, Kalahandi and Dhinki.

1.3. ANIMAL RESOURCES DEVELOPMENT INFRASTRUCTURE

There are 540 veterinary hospitals/ dispensaries, 2939 livestock aid centres in the state to provide veterinary services. The Central Clinics of Orissa Veterinary College has the facilities for outdoor treatment and doorstep health and artificial insemination services on payment.

The state has three Clinical Investigation Laboratories, 1 State Veterinary Laboratory, one Animal Disease Research Institute, one Frozen Semen Bank and 1 Biological Product

Institute. One Veterinary Officer's Training Institute, 3 Livestock Inspector Training Centers, one Frozen Semen Artificial Insemination Training Centre, one Animal Disease Training Centre, one Fodder Training Centre are catering to the capacity building needs of the Veterinary department field staff.

1.4. PLAN OUTLAY AND EXPENDITURE

The Plan outlay for development of Animal Resources Development in Orissa increased from Rs.71.86 million in the Year 2001 to Rs.366.56 million during the year 2008-09. The total plan outlay has increased from 8.7 % of the total allocation to 27.5 % in the year 2008-09. For the 11th Five Year Plan, a sum of Rs.1412 million has been allocated and in the X plan outlay was Rs.1001 million, against which Rs. 570 million was released and utilised. The plan allocation needs to be enhanced 10 times to harness the huge potentiality of ARD sector.

Livestock production is one of the largest land users in Odisha and is one of the most important agricultural activities as well in the rural sector in terms of economic output.

There is massive appetite among the growing urban populations for meat, milk and eggs. This is an overwhelming opportunity for the rural population to exploit the demand driven market. The proposed perspective plan for ARD sector has been made with the main objective of facilitating planners, prospective private players and credit institutions and the common public to take full advantage of the enormous potential of the sector. It helps planners to assess the present status, future focus and accordingly, forecast the major interventions required for the various sub-sectors, so that the investment in the sector takes place at a faster pace.

As per the recommendation of National Commission on Agriculture (NCA), there should be one Veterinary Dispensary (VD) for 5000 adult livestock units. Presently, the State is having one VD for 19,300 adult units in the State. As per the NCA norm, facilities for veterinary health cover have to be expanded so as to cover all the livestock holders in the State. In view of 85% of farmers depending agriculture and animal husbandry, it is necessary to have one Livestock Aid Centre (LAC) in each GP. There is a need for opening 3295 nos. of new LACs in coming 5 years.

The numbers of educated unemployed youths are increasing at an alarming rate. The schemes relating to animal husbandry like poultry rearing and dairy farming can play an important part in generating self-employment for educated unemployed youths and in alleviating poverty in the rural area. It is expected to create direct employment to 5 lakh farmers in coming 10 years. It is necessary to promote such schemes available under various ongoing programmes. Further, some educated unemployed youths can be trained on basic first aid skill on livestock, vaccination, deworming etc. to act as bare foot worker at the community level.

This document indicates long term, medium term and short term interventions based on the production goals of the ARD sector with due emphasis on provision of livelihood opportunities and enhancement of income of the rural households.

1.5. PURPOSE OF THIS STATE PERSPECTIVE PLAN:

The main purpose of this Plan is to critically examine the present status of service delivery mechanism, infrastructural availability, contribution of Livestock, per capita availability of milk, meat and egg and accordingly improve the livestock sector as a whole so as to increase the production and productivity in a phased manner over a period of ten years

1.6 METHODOLOGY

One Seminar was organized for involving officials from the Animal Husbandry & Veterinary Department, OMFED officials, Orissa Veterinary College for the planning exercise. Some reputed speakers were invited to the workshop to discuss at length about the sector as a whole. Regional workshops were also organized to identify the region specific priorities. Thereafter, an attempt has been made to develop perspective plans of each district. The process of development of such plans was initiated after elaboration of the purpose and procedures to be followed in series of meetings and workshops involving Chief District Veterinary Officers (CDVOs), Nodal Officers, Branch Officers of the Directorate and General Managers of OMFED. All CDVOs along with their team have developed their District Plan based on the findings of SWOT analysis in different sub-sectors with imagination, foresight and sound judgment.

Thereafter, all the Draft District Plans have been presented and discussed vividly, followed by necessary additions and deletions before finalization. The proposed Perspective Plan of each district is a combination of present reality and future requirement. This output serves as a basis for development of State Perspective Plan. A group of Officers from OLRDS, SMILE, Fodder Wing and VOTI have made an in depth study of all the proposed District Perspective Plans and prepared this long term Perspective Plan.

1.7. PRESENT STATUS

The Department at present caters to the needs of livestock owners by providing Veterinary services. The department is essentially rural in character and is expected to work for the welfare of rural masses of Odisha.

1.7.1. Extension Services:

As per the job description, the field workers of the department i.e. the livestock inspectors were supposed to go on field visits at least for 10 days in a month during afternoon hours to different villages within their territory to provide advisory services.

Due to lack of clarity on the objectives of different programmes, inadequate training in extension, inadequate supervision and lack of appropriate messages, the field staff tend to give more emphasis on first aid to ailing animals. It was also noticed that the field staff gave priority to cattle and buffaloes rather than to sheep, goat, poultry and pigs. Such preferential attention to cattle by the field staff deprived the access to services to other species owners usually belonging to the poorer category.

1.7.2. Women in Livestock Development:

Though women play a major role in care and management of livestock and milk marketing, but traditionally the field staff used to target only men as their clients. In eighties, no conscious attempt was made to address the female sector. However, at present the field staffs get the opportunity to focus their extension activities through women Self-Help Groups (SHGs).

For the first time in the history of Odisha, a few Lady Veterinarians began to graduate in the early eighties but they preferred to remain in the teaching line in the University. At present, however, large number of Lady Veterinarians and Lady Livestock Inspectors got recruited in the department. Therefore, women work force in the department could prove to be great utility to strengthen the extension activities of the department.

It can be concluded that the department has a growing strength and opportunity to address gender issues.

TABLE- 1.1 Milk productivity (by cow and buffalo)

Crossbred cows	5.117
Non – Descript cows	0.869
Buffalo	2.536
Goat	0.11
Source: Basic Animal Husbandry Statistics, 2006	

TABLE- 1.2 Meat productivity (cattle, buffalo, sheep, goat, pig, chicken, duck)

Cattle	67.36	0.004
Buffalo	----	------
Sheep	10	9.079
Goat	10.44	38.118
Pig	27.31	4.842
Source: Basic Animal Husbandry Statistics, 2006		

1.8 AN OVERVIEW

1.8.1 Department Service Institutions

There are 540 Veterinary Dispensaries and 2939 Livestock Aid Centres in the state for providing veterinary services in the field.

TABLE- 1.3 SERVICE INSTITUTIONS OF THE DEPARTMENT

Institution	Number
Veterinary Dispensary (VD)	540
Livestock Aid Centre (LAC)	2939
Frozen Semen Artificial Insemination Centres (VD + LAC)	2934
Clinical Investigation Laboratory, State Veterinary Laboratory , Animal Disease Research Institute	5
District Diagnostic Laboratory	30
Orissa Biological Products Institute	2
Department Training Centres	7
Livestock Breeding Farms	11
Poultry Breeding Farms	11
Fodder Farms	20
Sheep , Goat breeding farms	2
Goat Farms	6

TABLE - 1.4 Technical Manpower:

Group	Functionaries	Sanctioned Strength
A	Joint Director	3
	Deputy Director	14
	Chief District Veterinary Officer (CDVO)	30
	Sub Divisional Veterinary Officer (SDVO)	41
B	Veterinary Assistant Surgeon (VAS)	1017
	Fodder Development Officer (FDO)	01
C	Livestock Inspector (LI)	3030
	Veterinary Technician (VT)	668
	Assistant Fodder Development Officer (AFDO)	19
	Sub Assistant Fodder Development Officer (SAFDO)	22
	TOTAL	**4842**

1.8.2. Department Infrastructure and Support Institutions

The Orissa Biological Product Institute (OBPI) plays a vital role in maintaining Good Management Practice (GMP) and Good Laboratory Practice (GLP) for producing standard vaccines for mass vaccination against economically important diseases of livestock & poultry (e.g. Hemorrhagic Septicemia, Black Quarter, Anthrax, Enterotoxaemia etc. in livestock and Ranikhet Disease, Fowl Pox etc. in poultry).

The Fermentation technology has been adopted for the first time to produce high quality HS vaccine production through specific bacterial biomass production using stringent parameters of Ph, Temperature, O_2 tension in a fermentor. The vaccine production is of high quality in terms of biological and immunological value. The first batch of vaccine was successfully produced during March, 2009. Automatic bottling Unit has been installed. The institute became eligible for **ISO: 9001-2000** certification on 20.12.2006 for its quality management system through year 2007, 2008 & 2009. A record production of **170.14 lakh** doses of different vaccines was achieved during 2008-09 which is all time high since inception.

In the current year, the diagnostic facilities have been strengthened under Rastriya Krishi Vikash Yojana (RKVY) and Assistance to State for Control of Animal Diseases (ASCAD). The buildings were constructed under RKVY and equipment, diagnostic kits and laboratory chemicals have been provided under RKVY and ASCAD programme. Under ASCAD programme, one BSL-II laboratory is being set up at ADRI.

A proposal for further augmentation of diagnostic laboratories at District level under RKVY has been put for further action in this direction. This will be a major initiative for ensuring proper disease diagnosis and surveillance.

The Frozen Semen Bank (FSB) is reinforced for production of quality frozen semen straws with NPCBB funding. The Frozen Semen Bank, Cuttack received **ISO: 9001-2000** certification during December, 2006. The Frozen Semen Bank, Cuttack was awarded **'B' Grade** by the Central Monitoring Unit (CMU) of GoI in the year 2007-08.

TABLE-1.5 Present strength of different breeds of bull maintained & Frozen Semen Production

Sl. No.	Particulars	Jersey	CB		RS	Hariyana	Buffalo	Total
			JC	HFC				
1	No. of donating bulls	19	18	0	10	3	0	50
2	No. of trainers	3	1	0	5	11	0	20
	Total Bulls	**22**	**19**	**0**	**15**	**14**	**0**	**70**
3	No. of Frozen Semen doses produced during the year 2008-09	336590	266930	0	151300	127855	0	882675
4	No. of Frozen Semen doses procured during the year 2008-09	0	24000	38409	0	0	20000	82409

A Quality Control Laboratory has been set up in a separate building during the year 2006-07. All quality control tests like HOST, Incubation Test, Acrosome Integrity, Bacterial load, Sperm morphology etc. are conducted regularly as per MSP of Govt. of India. One DIC microscope was installed during April, 07 to strengthen Quality Control process.

The high quality pure jersey semen having pedigree record above 5000 lits per lactation will be procured from reputed institution within the country. If required, pure jersey semen will be imported from abroad.

TABLE-1.6 Location of Department Farms in various Districts

Name of the District	Fodder Farm	Goat Breeding Farm	Pig Breeding Farm	Sheep Breeding Farm	Dairy Farms	Poultry Farms
Angul	Panchamahal					Angul
Balasore					Remuna	
Bargarh	Mahakhand, Haldipalli, Ainthapalli					
Bhadrak	Bahudarada					
Bolangir		Deogaon		Deogaon	Bolangir	Bolangir
Boudh					Boudh	
Cuttack	Gatiroutpatna , Sagadi				Cuttack	Khapuria
Deogarh						
Dhenkanal						
Gajapati						
Ganjam	Saru				Bhanjanagar	Bhanjanagar
Jagatsinghpur						
Jajpur						
Jharsuguda	Badamal					
Kalahandi		Jaring			Kalahandi	
Kendrapara	Barimul					
Keonjhar	Salapada	Salapada			Keonjhar	Harichandanpur
Khurda	Laxmisagar					Laxmisagar
Koraput	Randapalli					Koraput Similiguda
Malkanagiri						
Mayurbhanj	Kathapal				Kathpal	
Nayagarh						
Nowrangpur						
Nuapara	Tarbod					
Phulabani		Dadapaju			Phulbani	
Puri	Pipili, Kakatpur, Hansapada					
Rayagada						
Sambalpur	Chipilima	Chipilima	Chipilima	Chipilima	Chipilima	Chipilima (2)
Sonepur						
Sundargarh	Kuarmunda	Kuanrmunda			Kuanrmunda Sundargarh	Sundargarh

The cattle breeding Farm, Khapuria (Cuttack) is being strengthened for CB bull production. The Livestock breeding farm Keonjhar and Chipilima will be upgraded for bull mother farm.

The Departmental Goat farms at Dadapaju (Phulbani), Kuanrmuna (Sundargarh), Deogaon (Bolangir), Jaring (Kalahandi) and Salapada (Keonjhar) are being strengthened through Special SGSY Infrastructure fund for ensuring availability of quality buck for breeding. The training facility will also be created inside the farm for skill based training to the farmers.

1.8.3 Training Institutes:

- ***Veterinary Officers' Training Institute:***

Training Block with 2 Conference Hall, Mini conference room, Lecture Theatres, Library and Recreation Room.

12 well furnished double bedded rooms with dining hall and recreation facilities.

- ***Livestock Inspectors Training Institute (Bhanjanagar, Bolangir & Chiplima)***

Training Hall, Laboratory and 100 bedded Hostel

- ***Frozen Semen Bank, Cuttack***

A training Hall and 50 bedded hostel, dining and laboratory.

- ***Fodder Training Centre, Pipili***

A training hall cum hostel for 25 trainees.

- ***District Training Centres***

Presently, 12 District training centres are functioning. The rest 18 centres do not have buildings. However, the training programmes are being organised at the District level by making local arrangement.

1.8.4. SOCIETIES:

The Orissa Livestock Resources Development Society (OLRDS) has been constituted to take care of the breeding activities in the state. The Society for Livestock Health care namely, Society for Prevention of Animal Diseases (SPAD); Training and extension namely,i.e., Society for Management of Information, Learning and Extension (SMILE); and District Livestock Resources Development Society (DLRDS) have been constituted by the Government of Odisha. The SMILE primarily coordinates training activities of the Animal Husbandry Department. The DLRDS with the multidisciplinary team at the district level takes decision in a participatory manner for area specific planning in ARD Sector and dovetailing of funds from various sources. The Society for Prevention of Cruelty to Animals (SPCA) takes up Animal welfare activities in the state. The Societal mode gave lot of functional autonomy to carry out distinct functions.

While preparing the State Plan, some other important factors have been considered which are as follows:

1.9 SECTOR IMPORTANCE & CONTRIBUTION:

Livestock Production has always been an integral part of the rural livelihood systems in Odisha, all through the known history of the state. The predominant farming system in Odisha is the mixed crop-livestock farming system and over 90 per cent of all farms of all categories conform to this farming system. The livestock wealth of Odisha is impressive in numbers across all species, constituting a natural resource base with immense livelihood implications, even though their productivity levels are very low. Livestock holding in Odisha is equitable, as over 80 per cent of all livestock are owned by the marginal / small holders and the land less. Some 80 per cent of all rural households own livestock of one species or the other, or a combination of some of them and cattle being the most popular and therefore the preponderant species. Apart from generating employment and income, it also provides products like milk, meat, egg, bone, skin, hide, offal, manure (dung) and draught power. The developments in the sector contributed to women empowerment in a big way.

Although, Animal Husbandry is a prime occupation for many farm households, this sector continues to suffer due to weakness of its physical infrastructure and facilities.

Some of important sectoral issues are –

1. Agriculture alone is not remunerative for which emphasis is being shifted to livestock and poultry farming for additional income. Large numbers of physical infrastructure facilities were created in the past. The cost of maintenance of all these infrastructures facilities is being met from State Plan Budget, which is grossly inadequate. As a result, most of the farms and veterinary institutions are in very bad shape. Therefore, a substantial amount should be allotted for maintenance of existing infrastructure to carry out planned activities.

2. The present plan allocation for animal health care is nominal. Considering the high cost of medicines and consumables, the Department hardly could spend only Rs.2/- per animal annually. The allocation of funds for animal health care need to be enhanced.

3. There has been an increasing awareness for rearing pet animals in urban and semi-urban areas. Therefore, the veterinary hospitals at District and Sub-Divisional Headquarters should be manned by Specialists with modern machinery and equipment.

4. There is growing concern about increased stray dog population in urban areas, which causes more dog bite cases, thereby spreading rabies to human beings. Steps are to be taken for sterilization of stray dogs and post operative care by creating facilities like kennel and operation theatre.

5. Maintaining the quality of the livestock products as per the norms is of prime importance. There is a need to ensure the quality and safety of the produce by complying with phyto-sanitary regulations and avoid all potential hazards. The requirements of OIE and CAC standards are to be observed for International trade in animals and animal products.

Animal Husbandry Development in the State can be further augmented by creating new infrastructure and strengthening existing infrastructure, considering the need in the next 15 years. Some of the important infrastructure requirements are:

i) Setting up a new Sperm Station at Chipilima to produce high quality frozen semen.

ii) Establishment of an Embryo Transfer Technology Laboratory at Cuttack.

iii) Expansion of Sheep & Goat Farm at Chipilima.

iv) Expansion of Government Poultry Farms for maintaining parent stock to meet the hatching egg requirement of Poultry Hatcheries.

v) Strengthening of Fodder Farms to produce sufficient planting materials for fodder development.

vi) Strengthening of Orissa Biological Products Institute, Bhubaneswar for production of vaccine to meet the State requirement.

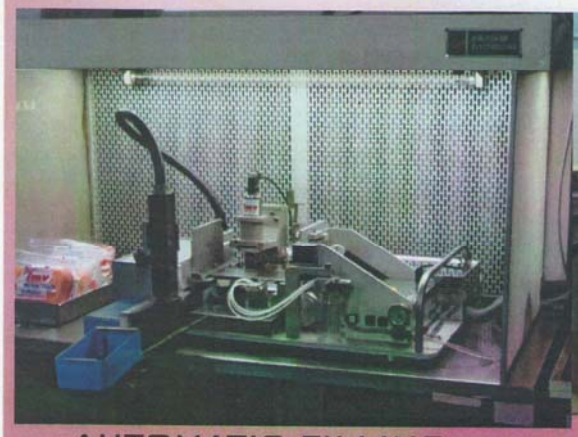
vii) Establishment of Goat Frozen Semen Bank at Chipilima.

viii) Strengthening of Bull Mother Farms.

ix) Modernization of Animal Diseases Research Institute, Phulnakhara, Cuttack, Regional Investigation Laboratories and District Diagnostic Laboratories to handle epidemics and emerging diseases.

x) Setting up of a sophisticated referral laboratory at ADRI

CHAPTER - 2



AUTOMATIC FILLING
SEALING AT FSB

DIC MICROSCOPE
AT FSB CUTTACK

2.0 DAIRY DEVELOPMENT

2.0.1 INTRODUCTION:

This

The chapter outlines the vision for the dairy development in the state. The vision encompasses genetic up-gradation of indigenous cattle, maintenance of exotic blood level in crossbreds through inter-se-mating, post insemination support services, proper management of cross bred progeny, economic feeding, assured marketing and research & developmental activities.

2.0.2 GOAL:

- Increase milk production from 1.5 million MT to 4.8 million MT by 2020.

- Enhance sale of milk by OMFED to at least from 1 to 2 million litres per day by 2020.

2.0.3 SWOT ANALYSIS OF DAIRY SUB – SECTOR IN ODISHA:

Strengths:

- Wide network of field institutions with logistics
- Highly technically competent Human resources
- Existence of fodder and seed production govt. farms
- Orissa Livestock Resources Development Society (OLRDS)
- Frozen Semen Bank (FSB) with donor bulls
- Existence of Animal Disease Research Institute (ADRI) at State level, Clinical Investigation Laboratory (CIL) at Regional level, District Diagnostic Laboratory (DDL) at Dist level and Field Diagnostic Laboratory (FDL) at field institutions.
- Orissa Biological Products Institute (OBPI**)** **–**Producing adequate doses of vaccines.
- Training opportunities available at state and district level
- Existence of Govt. LBD farms

Weaknesses:

- Vacancies at field level
- Inadequate mobility facility
- Inadequate supervision & guidance thereby poor follow-up
- No uniformity in extension methodology
- Less attention towards fodder production & promotion.
- Inadequate publicity
- Inadequate infrastructural facilities for both office & quarters at field level
- Meager traveling allowance and no mobile phone recharge facility
- Production capacity of Semen doses at FSB is inadequate as per future requirement
- Blanket approach for provision of AI services
- Emphasis on clinical investigation at field level is low
- Non availability of Subject Matter Specialists in all the districts
- All areas do not have organized milk market.
- Production cost is high Low productivity of animals and high cost of production
- Less land available for fodder development
- Non-utilization of green / dry fodder as input
- Poor feeding Practice Slow growth of milk production and sales
- No organized buffalo farming

Opportunities:

- Consciousness among farmers regarding Artificial Insemination Milk Shed.
- Existence of Milk route for marketing of milk
- Existence of Milk co-operative societies for marketing of milk
- NREGS assisted fodder production
- Paddy & pulse cropping pattern contributes to dry fodder.
- Scope for convergence with allied departments and other agencies for dovetailing of funds.
- Credit linkage with banks
- SHGs under different anti poverty programmes (Dairy as key activity)
- Huge breedable cattle population
- Ever increasing demand for milk & milk products

Threats:

- Recurrent Natural calamities.
- Outbreak of viral diseases
- Reduced grazing area
- Increasing cost of feed ingredients and medicine
- All areas of the state are not conducive for Dairy Development
- Existence of large number of stray bulls
- Increasing trend of ambient temperature (Global worming)
- Migration of labour
- Farmers losing interest in dairy farming owing to high cost of production and un-remunerative price un-remunerative price
- New and emerging diseases
- High aflatoxin level in milk
- New sanitary and phyto-sanitory restrictions in importing countries

TABLE-2.1 District wise Projection of Milk Production by 2020 (in TMTs)

	District	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1	Balasore	77	84	93	104	116	129	144	160	177	195	212
2	Bhadrak	60	66	73	82	91	101	112	125	139	152	166
3	Bolangir	59	64	72	80	90	100	111	124	137	150	165
4	Subarnpur	32	35	39	44	49	54	59	67	75	82	93
5	Cuttack	152	167	184	206	229	256	285	317	352	386	424
6	Jagatsinghpur	107	117	130	145	162	181	202	224	248	272	303
7	Jajpur	64	67	74	83	92	103	115	128	142	155	170
8	Kendrapara	48	53	58	65	72	80	90	100	111	122	132
9	Dhenkanal	53	59	65	72	81	91	101	112	123	136	148
10	Angul	43	47	52	58	65	72	80	89	99	109	119
11	Ganjam	112	123	136	151	168	188	209	233	257	283	308
12	Gajapati	21	23	26	28	31	34	39	44	49	54	59
13	Kalahandi	49	54	60	66	74	81	91	102	113	123	135
14	Nawapara	16	18	19	21	24	26	29	32	35	38	41
15	Keonjhar	52	57	64	71	79	88	98	109	120	133	145
16	Koraput	53	59	65	72	81	91	101	112	123	136	148
17	Malkangiri	51	56	63	70	77	87	97	108	119	131	144
18	Nawarangpur	24	26	28	31	35	39	44	49	55	60	65
19	Rayagada	48	53	58	65	72	80	90	100	111	122	132
20	Mayurbhanj	91	100	110	123	137	152	170	189	210	231	251
21	Phulbani	24	26	28	31	35	39	44	49	55	60	65
22	Boudh	24	26	28	31	35	39	44	49	55	60	65
23	Puri	123	135	150	167	186	208	231	256	285	313	341
24	Khurda	117	128	142	157	176	196	218	243	269	298	323
25	Nayagarh	27	29	33	38	41	46	51	57	62	68	78
26	Sambalpur	43	47	52	58	65	72	80	89	99	109	119
27	Bargarh	96	106	117	130	145	162	180	201	222	244	266
28	Deogarh	12	13	16	18	21	24	23	26	29	32	34
29	Jharsuguda	21	23	26	28	31	34	39	44	49	54	59
30	Sundargarh	53	59	65	72	81	91	101	112	123	136	148
	TOTAL	**1752**	**1919**	**2127**	**2368**	**2639**	**2945**	**3277**	**3651**	**4042**	**4446**	**4860**

TABLE-2.2 Existing Artificial Insemination Infrastructures of Odisha

		INTENSIVE AREA			POTENTIAL AREA			OTHER AREA		TOTAL		
Sl.No.	**District**	**Dept.**	**Omfed**	**Private**	**Dept.**	**Omfed**	**Private**	**Dept.**	**Pvtt.**	Dept	Omfed	Pvt
2	Balasore	40	32	33	68	29	53	19	10	127	61	96
3	Bargarh	50	145	12	61	0	26	25	20	136	145	58
4	Bhadrak	36	65	27	49	0	34	0	0	85	65	61
5	Bolangir	71	39	11	28	0	8	36	22	135	39	41
6	Boudh	5	11	1	7	0	12	34	6	46	11	19
7	Cuttack	111	163	48	73	0	55	0	0	184	163	103
8	Deogarh	0	0	0	4	0	2	16	14	20	0	16
9	Dhenkanal	17	12	0	34	0	0	49	60	100	12	60
10	Gajapati	17	9	0	15	0	0	15	25	47	9	25
11	Ganjam	58	29	12	93	2	38	93	47	244	31	97
12	Jagatsinghpur	92	214	50	9	0	41	0	0	101	214	91
13	Jajpur	52	25	55	33	0	29	0	25	85	25	109
14	Jharsuguda	0	0	0	15	12	6	23	16	38	12	22
15	Kalahandi	58	57	15	53	0	32	15	11	126	57	58
16	Kendrapara	58	74	33	15	4	12	15	44	88	78	89
17	Keonjhar	42	38	8	51	0	18	28	24	121	38	50
18	Khurda	35	31	10	76	0	45	0	5	111	31	60
19	Koraput	20	25	6	48	0	0	58	34	126	25	40
20	Malkangiri	20	43	5	13	0	0	0	5	33	43	10
21	Mayurbhanj	112	1	36	155	0	60	95	8	362	1	104
22	Nawapara	15	22	9	18	0	13	20	7	53	22	29
23	Nawarangpur	42	54	16	20	0	10	0	3	62	54	29
24	Nayagarh	33	19	9	23	0	27	16	3	72	19	39
25	Phulbani	0	0	0	12	0	2	30	25	42	0	27
26	Puri	61	154	24	61	58	50	2	12	124	212	86
27	Rayagada	13	5	5	63	0	4	4	6	80	5	15
28	Sambalpur	30	20	0	51	0	3	11	31	92	20	34
29	Subarnpur	13	27	4	17	0	11	17	6	47	27	21
30	Sundargarh	0	0	12	57	0	22	77	26	134	0	60
	Total	**1110**	**1338**	**449**	**1260**	**105**	**636**	**741**	**519**	**3111**	**1443**	**1604**

PART – I

2.1 DAIRY PRODUCTION

2.1.1 INTRODUCTION:

Dairying has played a prominent role in strengthening India's rural economy. It has been recognized as an instrument of change to bring about socio-economic transformation. The vast potential of dairying in employment generation & poverty alleviation is well recognized. Dairying provides sustainable income round the year irrespective of nature of land.

Dairying in Odisha holds enormous potentialities for transforming rural economy and is expected to be instrumental in achieving more than 4% rate of growth in the overall value of agricultural out put along with other livestock sectors in the Eleventh Plan. The adult female bovine population of the state as per 2003 livestock census was 44.18 lakh. The milk production in Odisha is mainly from the Cattle and Buffaloes. During 2008-2009, 1598.05 TMT of milk was produced in the State. To uplift the economy of the state, it is essential to improve the genetic makeup of the existing bovine population for higher milk production. The only way to improve the quality of animal is crossbreeding with temperate dairy breeds/ upgrading the existing non descript cattle with high yielding animals of potential indigenous breed using Artificial Insemination/ natural service.

The Orissa Livestock Resources Development Society (OLRDS) was established as a registered body, on 25.10.2000 under the Societies Registration Act-1860 vide Registration No. 21074/213, 2000-01 as per the guidelines of the National Project for Cattle & Buffalo Breeding (NPCBB). The OLRDS functions as a nodal agency for the supply of quality breeding inputs to the Artificial Insemination (AI) centers inclusive of the Department of Animal Husbandry (AHD), Dairy Cooperative Societies (DCS), private AI workers of the NGOs & other Private AI Workers. Along with this, the OLRDS also provides natural breeding services for both cattle & buffaloes by provision of breeding bulls for natural services.

2.1.2 MISSION

- ❖ To make dairying a viable livelihood option for small, marginal farmers and landless persons
- ❖ To achieve self sufficiency in milk production
- ❖ To enhance per capita availability of milk

2.1.3 STRATEGY

A. Quality animals with high genetic potential will be concentrated in Intensive areas having Milk Societies where surplus milk is being collected. The existing artificial insemination centres will be strengthened and the programme will be taken up on a massive scale. Special attention will be given to cover the maximum number of indigenous breedable animals which are available in Intensive areas (40% of the villages) under AI programme.

B. For future dairy development in the adjoining potential areas in and around the milk route, AI services will be provided along with natural service. In the inaccessible and remote areas where infrastructure is not developed, breeding bulls will be stationed for up-gradation of local indigenous cattle and buffalo through natural service.

C. Availability of good quality semen will be done by producing progeny tested / high pedigree bulls.

D. Modern breeding techniques like Embryo Transfer Technique (ETT) for bull production will be adopted.

E. Fodder cultivation and use of fodder will be promoted on priority basis in a massive way as an economic activity so as to reduce the cost of production of milk.

F. OMFED societies will procure milk from the farmers and arrange all support services in the intensive areas. The AH Department will provide back up support services. Similarly, in the potential areas, the department will take major role in providing breeding services along with other support services.

G. The Department and OMFED will jointly implement the Calf Rearing Programme (CRP) for rearing CB female calves born out of artificial insemination.

H. Breeding strategy to suit regional resource endowment eg:- Irrigated areas to maintains high yielding exotic ones; Dry areas may opt for hybridization with improve local breeds.

I. Outside the intensive and potential areas, AI services will be provided only on demand depending on the availability of local market for sale of milk.

2.1.4 SUGGESTED POLICY

Location specific policy for different zones is required. Focused approach for cross breeding will be adopted in intensive areas and potential areas. In non potential area, emphasis will be given for draft animal production. Production of milch animal in non-potential areas will be promoted if local market is available.

Priority will be given for insemination of CB animals in intensive & potential area. The CB semen of high pedigree should be procured from outside. Simultaneously, efforts will be made to produce good CB bulls by using Embryo Transfer Technology (ETT) and Field Performance Recording System (FPRS).

2.1.5 GOAL

- Doubling the cross breed population by 2020.
- Coverage of indigenous animals under organized breeding will be enhanced from 12 % to 50 % by 2020.
- Increase in average milk production of crossbred cows from 5 lits to 8 lits by 2020.
- Increase in milk production from 1.5 million MT to 3 million MT in the next five years and 4 million MT by 2020.
- Enhance sale of milk by OMFED to at least from 1 to 1.5 million litres per day in the next 5 years and 2 million MT by 2020.

2.1.6 INTERVENTIONS NEEDED

A. Cross Breeding:

The State has formulated its breeding policy vide resolution dated 8th March 1982, which was also notified in the State Gazette vide No. 4585-IV9/82 FYAH dated 2.4.1982 and which is in vogue till date. The Government of Odisha, Fisheries & Animal Resources Development Department vide letter No. 7978/FARD dated 29.4.99 has issued guidelines for

effective implementation of the breeding policy. Following are the important features of the breeding policy:

i) Crossbreeding with Holstein Frisian semen is to be undertaken in the specific pockets like urban areas and places having elite farmers limiting the exotic inheritance to 50%.
ii) Crossbreeding with Jersey is to be adopted through out the State limiting the exotic inheritance to 50%.
iii) Interested and elite farmers are to be given scope to develop and maintain crossbred animals up to the level of 62.5% of exotic blood.
iv) Facilities for breeding with Hariana for upgrading the local cattle should be made available throughout the State for which Hariana semen shall be made available at all AI centres.

The State has 4329 functional AI centres and during 2008-2009. 10.27 lakh AI were performed in the State. Thus, 20.5% (taking consumption of 2.5 FS straws per conception and average calving interval of 1.7 years) of the breedable female bovine population is under AI coverage. It is projected to make 23 lakhs AI by the year 2016 so as to increase the CB cow population in the State.

The intensive, potential and other areas of the state have been identified for different positive interventions so as to concentrate breeding activities through AI in these areas. Therefore, there is need for a planned relocation of the AI centers as per the demand of the people and suitability of the locality for intensive/ future development. Some of the AI centers of Department and OMFED will have to be closed, where there is overlapping.

Basing on the available and expected breedable population in the first and tenth year (plan period), the numbers of animals to be covered and the expected numbers of Artificial Inseminations to be done is projected. Due to the variation in genetic make up, reproductive performances, system of rearing, management and feeding practices among the three types of breedable animals (crossbred, indigenous and buffaloes), the number of animals which will come to heat for breeding will vary. Accordingly, the projections are made.

The coverage of breedable populations under organized breeding (AI & Natural Service at bull centers) is expected to be 50% in first year which may increase to 80% by the end of tenth year and under AI the coverage is expected to increase from 36% in 2009-10 to 58% by the end of 2019-20.

B. Strengthening of AI Network:

The Artificial Insemination activity in Odisha is primarily taken up by the state Animal Husbandry department and Milk Societies. Apart from it, the educated unemployed, mostly the rural youths, act as private Artificial Insemination workers (Gomitras) in inaccessible areas. Suitable arrangements have been made to provide doorstep services to the farmers to breed their animals. From the district plans made by concerned district authorities of the department and the Milk Unions, it is observed that there is need for opening of some new Artificial Insemination centers in some areas for better coverage of animals.

C. Production of Quality Semen:

The Frozen Semen Bank Khapuria, Cuttack is the only unit for production and supply of quality semen to the whole state with a capacity of producing twelve lakh doses of semen every year. The bio-security measures and setting up of one andrology laboratory is being taken up under RKVY Programme. The Frozen semen bank will be under management control of OLRDS for smooth operation. It is also proposed to establish one Embryo transfer technology (ETT) laboratory. This will help in production of CB bull for cross breeding. In cross breeding programme, the F_1 generation cows need to be inseminated with good quality CB Bull semen to improve the productivity. This genetic gain can be achieved by importing embryo from outside or CB Bulls. It is also necessary to use superior quality pure Jersey semen for inseminating indigenous animals. This has to be procured from other semen stations of the country or imported.

It is thought that the only semen production unit will not be able to cater the whole State for supply of required semen in future. Therefore, it has been proposed to establish a new semen center at Chipilima, Sambalpur under Rural Infrastructure Development Fund (RIDF) with a production capacity of fifteen lakhs.

D. Logistics Related to Breeding:

The Orissa Livestock Resources Development Society, functioning at the Directorate of AH & VS is the state implementing agency is responsible for supply of inputs to the field AI centers. Required quantity of breeding inputs like liquid nitrogen, semen straws, sheaths and other related items are being supplied in time to these institutes so that the availability services to the farmers is ensured.

The supply of logistics and other inputs to the MPCS with AI facility is being monitored by the concerned District Milk Unions.

The district -wise availability of different logistics like cryo-containers and AI guns in departmental AI centers and their requirements has been ascertained.

Two horizontal road containers are presently available at the Frozen Semen Bank, Cuttack for procurement of Liquid Nitrogen (LN) from outside. Presently, Bharat Oxygen Company (BOC) is supplying liquid nitrogen. Thirteen vertical storage containers have been installed in 13 district headquarters to meet the need of LN of the adjacent districts. This reduces the evaporation loss and cost of the transportation of LN to those districts from FSB, Cuttack. Some more vertical storage containers are proposed to be installed at different locations in coming years. For smooth distribution of liquid nitrogen within the district, mini transport vehicles are required in all districts.

Sufficient numbers of transport containers (TA-55) are not available in each district for transportation of LN from the district headquarters to the field institutions at regular intervals. Each field AI institution require biological containers in shape of BA-35 or BA-20 and also mobile containers like YDS-3 or BA-3 for storage and transportation of semen straws. As per the District requirement, the AI input for coming 10 years has been calculated. However, after the redistribution of existing equipment as a result of closing down of some of the existing AI centres, the actual need might undergo little change.

E. Cross bred Bull Production Programme for Semen Production through FPRS and FPTP

As the population of cross bred female cattle in the state is increasing every year, it has been decided to take up the production of crossbred breeding bulls to maintain their blood level (50%) in subsequent generations. Elite cross bred cows according to their productive capacity have been identified through Field Performance Recording System (FPRS). The male calves born out of AI of these cows with proven sire semen will be selected as donor bulls. Two thousand such cows have been selected for insemination with semen of proven sires.

Moreover, the CB bulls so selected as donors will be further put under Field Progeny Testing Programme (FPTP) for their evaluation and estimation of breeding values basing on which, they will be utilized as sires for future bull production.

TABLE- 2.3 TEN YEAR PLAN FOR CROSS BREEDING PHYSICAL TARGETS

Sl. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	**Breedable Female coverage in lakhs**										
1.1	Breed. Female coverage by AI	14.93	16.74	18.89	20.46	23.05	23.86	24.49	24.70	24.78	25.08
1.2	Breed. female coverage by **NS**	0.90	1.52	2.03	2.53	3.04	3.57	4.04	4.53	5.04	5.54
Total Breed. Female Coverage (AI + NS)		15.83	18.26	20.92	22.99	26.09	27.43	28.53	29.24	29.82	30.62
2.5	**Cross Breeding**										
2.5.1	**Strengthening of AI network -new centres**	1039	923	942	964	980	980	1001	1015	1027	1047
2.5.2	**Production of Semen**										
	New Semen station		1								
	Embryo transfer technology laboratory		1								
	Strengthening of sperm station,Sperm Station, Cuttack	1	1	1	1	1	1	1	1	1	1
	Running cost for FSB	1	1	1	1	1	1	1	1	1	1
2.5.3.	**Bull production Programme**										
	Cows to be put for FPRS	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
	Procurement of CB Bulls	70	70	50	50	50	50	50	50	50	50
	Progeny testing (No of Bulls to be tested)	10	20	20	20	20	20	20	20	20	20
	Strengthening of Bull mother Farms	2	3								
	TA-55	150	150	150	200	200	200	200	240	150	150
	YDS-3	700	450	400	300	500	300	500	300	300	300
	BA-20	20	20	20	20						
	BA35	200	200	100	100	200	200	200	200	200	100
	AI Guns	1300	1300	1300	700	700	800	400	300	300	300
	Semen Straw Required in lakhs	13.9	15.7	17.9	20.1	22.1	24.4	25.7	26.4	26.7	26.9
	High pedigree/ Pure Jersey semen in lakhs	0.7	0.9	0.7	0.9	0.9	1.0	0.9	1.0	0.9	0.9
	Sheath Required in lakhs	16	18	20	23	25	28	29	30	30	31
	Liquid Nitrogen Required in lakh litres	17.6	19.9	22.3	25.2	27.5	30.5	31.9	32.9	33.1	33.4

TABLE-2.4 TEN YEAR PLAN FOR CROSS BREEDING FINANCIAL REQUIREMENTS

(Rs. In Lakhs)

Sl. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2.5	**Cross Breeding**										
2.5.1	**Strengthening of AI network –new centres**	616	561.4	555.5	560.7	559.3	556.9	562.1	566	569.8	576.5
2.5.2	**Production of Semen**										
	New Semen station	400	400	599							
	Embryo transfer technology laboratory	100	46								
	Strengthening of sperm station,Sperm Station, Cuttack	2	2	2	3	3	3	3	3	3	3
	Running cost for FSB	3	3	3	3	3	3	3	3	3	3
2.5.3.	**Bull production Programme**										
	Cows to be put for FPRS	10	10	10	10	10	10	10	10	10	10
	Procurement of CB Bulls	7	7	5	5	5	5	5	5	5	5
	Progeny testing(No of Bulls to be tested)	80	160	160	160	160	160	160	160	160	160
	Strengthening of Bull mother Farms	60	90								
	TA-55	12	12	12	16	16	16	16	19.2	12	12
	YDS-3	15.4	9.9	8.8	6.6	11	6.6	11	6.6	6.6	6.6
	BA-20	0.7	0.7	0.7	0.7	0	0	0	0	0	0
	BA35	10	10	5	5	10	10	10	10	10	5
	AI Guns	13	13	13	7	7	8	4	3	3	3
	Semen Straw	166.8	188.4	214.8	241.2	265.2	292.8	308.4	316.8	320.4	322.8
	High pedigree/ Pure Jersey semen	21	27	21	27	27	30	27	30	27	27
	AI Sheath	32	36	40	46	50	56	58	60	60	62
	Liquid Nitrogen	141	159	178	201	220	244	255	263	265	267
	Total Cost	**1689**	**1735.5**	**1828**	**1293**	**1347**	**1401**	**1433**	**1456**	**1454.8**	**1463**

TABLE-2.5 Total Outlay Rs. in lakhs

Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1. NPCBB	715	740.4	732.5	738.7	737.3	734.9	740.1	744	747.8	754.5
2. State Budget	474.5	549.15	496.5	553.9	609.4	666.2	692.5	711.8	707.03	708.3
3. RIDF – NABARD	500	446	599	0	0	0	0	0	0	0
Total	**1689**	**1735.5**	**1828**	**1293**	**1347**	**1401**	**1433**	**1456**	**1454.8**	**1463**

The State Animal Husbandry department in co-ordination with the supporting agency like OMFED will jointly carry out the programme to make it more extensive for the benefit of cattle owners. A new semen station will be established to meet the demand for semen straws of the state. For establishing the new semen station, technical assistance from reputed agencies like KLDB, NDDB, and BAIF will be adopted as per our need. Moreover, with the initial support from a reputed consultant, one Embryo Transfer Technology laboratory will be set up at Cuttack for the production of bull. Further, OLRDS will ensure the supply of required inputs to the field AI institutions regularly for effective delivery of breeding services to the farmer in time.

2.1.7 UP-GRADATION THROUGH NATURAL SERVICE

A number of bull centers exist at different locations for upgrading the local cattle and buffaloes. The breeds preferred by the farmers of the state are primarily Haryana, Red Sindhi for cattle and Murrah for buffloes. It is planned to procure these bulls from their native tracts and supply to the hosts selected by the Breeders Association of the proposed locality, where those will be stationed.

Physical and financial layout for the Natural Service Programme is mentioned below-

TABLE-2.6 TEN YEAR PLAN FOR NS - PHYSICAL TARGETS

	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2.1.4	Natural Service										
	Total no of Breeding Bulls required	1506	1027	853	831	848	884	791	816	845	831
	No of Breeder's Association to be organised	1506	1027	853	831	848	884	791	816	845	831

TABLE- 2.7 TEN YEAR PLAN FOR NS FINANCIAL TARGETS

(Rs.in lakhs)

		Ten Year Plan (Rs.in lakhs)									
	Planned Activities	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2.1.4	Natural Service										
	Total no of Breeding Bulls required	301.2	205.4	170.6	166.2	169.6	176.8	158.2	163.2	169	166.2
	No of Breeder's Association to be organised	15.06	10.27	8.53	8.31	8.48	8.84	7.91	8.16	8.45	8.31
	Total	316.26	215.67	179.13	174.51	178.08	185.64	166.11	171.36	177.45	174.51

Source – **NPCBB Funds**

2.1.8 SELECTIVE BREEDING

A. Survey &and Characterization:

Survey and Physical Characterization of Binjharpuri, Motu, Khariar and Ghumusuri have been carried out as per the NBAGR recommended guidelines and monographs have been published. It has been decided that necessary steps would be taken for improvement and conservation of 4 types of cattle namely, Binjharpuri, Motu, Khariar and Ghumusur through selective breeding in their native tracts. The survey and physical characterization of Chilika and Kalahandi buffalo have been taken up jointly by the OLRDS and Orissa Veterinary College. The survey and physical characterization of rest of the breeds i.e., Jeerangi, Manda and Parlakhemundi are under progress.

B. Conservation & Improvement of Indigenous Cattle & Buffalo Breed:

Some native germplasms of cattle and buffaloes of Odisha are termed to be superior in respect of some characters like resistance to diseases, adaptatibility, draught power, feed conversion, maternal ability and proportion of constituent of solids in milk in comparison to the improved variety of cattle and buffaloes. Socially and culturally, they are also closely associated with the farming system of our state since long.

To preserve these valuable native germ plasm, pure breeding through nominated crossing is required to prevent from further dilution of their genetic potentiality. Therefore, steps are being taken to assess and improve the productivity of these animals through selective breeding which will be beneficial for a large group of socially weaker section of people, who depend upon these animals for their livelihoods.

In Open Nucleus Breeding System (ONBS), 200 elite mothers would be chosen and farmers would be selected to maintain 8 animals each in their natural environments in a cluster. The depression of genetic potentialities of the population will be controlled by exchange of genetic material by replacing and culling of bulls.

Four breeds of cattle namely Binjharpuri, Khariar, Motu and Ghumusari and five breeds of buffaloes namely Kalahandi, Paralakhemundi, Monda, Jirangi and Chilika have been selected for further improvement through ONBS.

TABLE-2.8. Physical and financial layout for the Selective Breeding Programme

TEN YEAR PLAN FOR Selective Breeding PHYSICAL TARGETS										
	Planned Activities	Ten Year Plan								
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Selective Breeding										
1	Survey and Characterization of Cattle & Buffalo Breed	2	1								
2	Improvement of Ghumusari Cattle & Buffaloe Breed	1	2	2	2	3					

TABLE – 2.9. TEN YEAR PLAN FOR SELECTIVE BREEDING FINANCIAL TARGETS

	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Selective Breeding										
1	Total no of Breeding Bulls required	8.28	4.14	0	0	0	0	0	0	0	0
2	No of Breeder's Association to be organised	112	224	224	224	336	0	0	0	0	0
	Total	120.3	228.14	224	224	336	0	0	0	0	0

Sources of Fund:

State plan/ RIDF

PART-II

2.2 SUPPORT SERVICES FOR DAIRY DEVELOPMENT

2.2.1 MARKETING:

OMFED, the nodal agency in the state for Dairy Development is providing round the year marketing facility at the farmer's door step. The marketable surplus milk at the village level is procured by the society everyday both in the morning & evening round the year.

The creation of dairy infrastructure is essential so as to procure good and hygienic milk, chilling/ processing and marketing of milk & milk products to the Semi-urban & Urban consumers.

Physical and financial layout for the chilling infrastructure

TABLE – 2.10 TEN YEAR PLAN FOR PROCUREMENT & PROCESSING PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	**Chilling Infrastructure**										
2	E.M.T.	372	331	363	354	353	284	335	286	338	289
3	Milko Analyser	42	23	23	18	20	23	20	22	23	24
4	AMCS	66	39	45	47	29	44	48	35	34	31
5	Road Milk Tanker(2kl)	16	7	12	7	9	11	5	8	8	10
6	Road Milk Tanker(5kl)	0	10	9	4	7	9	3	2	7	7
7	Road Milk Tanker(9kl)	1	1	3	6	3	3	3	4	3	6
8	Road Milk Tanker(14kl)	1	0	2	2	1	3	1	2	1	4
9	Chaff Cutter	1035	706	607	560	612	671	714	743	780	809
10	Milking Machine	142	145	146	151	193	231	282	305	339	381
11	Small SS can	16113	16200	14363	14050	15392	16316	17450	17970	20052	22294
12	Supply of Milk Can (40 Ltr)	2581	2978	2983	2803	3161	3272	3364	3196	3775	3673
13	Bulk Cooler 5.Kl	6	207	104	1	2	3	5	2	4	4
14	Bulk Cooler 2.Kl	10	5	6	9	10	13	7	6	7	11
15	Bulk Cooler 1.Kl	42	20	20	22	32	21	31	20	20	25
16	Society Building	462	390	377	373	421	427	449	429	411	458

TABLE-2.11 TEN YEAR PLAN FOR PROCUREMENT & PROCESSING FINANCIAL TARGETS

(Rs. In lakhs)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	**Chilling Infrastructure**										
2	E.M.T.	93.0	82.8	90.8	88.5	88.3	71.0	83.8	71.5	84.5	72.3
3	Milko Analyser	50.4	27.6	27.6	21.6	24.0	27.6	24.0	26.4	27.6	28.8
4	AMCS	79.2	46.8	54.0	56.4	34.8	52.8	57.6	42.0	40.8	37.2
5	Road Milk Tanker(2kl)	128.0	56.0	96.0	56.0	72.0	88.0	40.0	64.0	64.0	80.0
6	Road Milk Tanker(5kl)	0.0	100.0	90.0	40.0	70.0	90.0	30.0	20.0	70.0	70.0
7	Road Milk Tanker(9kl)	12.0	12.0	36.0	72.0	36.0	36.0	36.0	48.0	36.0	72.0
8	Road Milk Tanker(14kl)	18.5	0.0	37.0	37.0	18.5	55.5	18.5	37.0	18.5	74.0
9	Chaff Cutter	517.5	353.0	303.5	280.0	306.0	335.5	357.0	371.5	390.0	404.5
10	Milking Machine	177.5	181.3	182.5	188.8	241.3	288.8	352.5	381.3	423.8	476.3
11	Small SS can	64.5	64.8	57.5	56.2	61.6	65.3	69.8	71.9	80.2	89.2
12	Supply of Milk Can (40 Ltr)	671.1	774.3	775.6	728.8	821.9	850.7	874.6	831.0	981.5	955.0
13	Bulk Cooler 5.Kl	120.0	4140.0	2080.0	20.0	40.0	60.0	100.0	40.0	80.0	80.0
14	Bulk Cooler 2.Kl	150.0	75.0	90.0	135.0	150.0	195.0	105.0	90.0	105.0	165.0
15	Bulk Cooler 1.Kl	510.3	243.0	243.0	267.3	388.8	255.2	376.7	243.0	243.0	303.8
16	Society Building	693.0	585.0	565.5	559.5	631.5	640.5	673.5	643.5	616.5	687.0
	TOTAL	**3284.9**	**6741.5**	**4728.9**	**2607.0**	**2984.5**	**3111.8**	**3198.9**	**2981.0**	**3261.4**	**3594.9**

TABLE- 2.12 Source of funds (Rs. In Lakhs):

SOURCE OF FUND	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	Total
RKVY	656.98	1348.3	945.78	521.4	596.91	622.36	639.79	596.2	652.3	718.98	7298.962
CMP	328.49	674.148	472.89	260.7	298.45	311.18	319.89	298.1	326.1	359.49	3649.481
RLTAP	492.74	1011.22	709.33	391.1	447.68	466.77	479.84	447.15	489.2	539.24	5474.2215
IDDP	1314	2696.59	1891.6	1043	1193.8	1244.7	1279.6	1192.4	1305	1438	14597.924
OTHERS	328.49	674.148	472.89	260.7	298.45	311.18	319.89	298.1	326.1	359.49	3649.481
OWN SOURCE	164.25	337.074	236.44	130.4	149.23	155.59	159.95	149.05	163.1	179.75	1824.7405
TOTAL	**3285**	**6741.5**	**4729**	**2607**	**2985**	**3112**	**3199**	**2981**	**3261**	**3595**	**36494.81**

2.2.2 ASSISTANCE TO FARMERS FOR REARING OF CB FEMALE CALVES

It is experienced that a number of crossbred female progenies born out of AI delay to reach the age of sexual maturity or are unable to sustain due to want of proper nutrition. There will be 1,40,000 nos. of calves to be covered under the Scheme. The farmers who are not able to maintain the CB female progenies properly will get assistance to rear the CB female progenies. Each beneficiary will receive feed amounting to Rs.7645/- and another Rs.500/- towards de-wormingdeworming and insurance. The Scheme will be implemented jointly by OMFED and Department. The State level Monitoring Unit will function at the Directorate of AH & VS.

The female CB calves will be selected based on the following criteria.

i. Progeny born out of Frozen semen artificial insemination done in desi/ graded/ non-descript animals
ii. AI calves available with the MPCS members in the milk route
iii. CB progenies born from the CB animals available with BPL farmer
iv. Progenies born from the elite cow owners covered under field performance recording programme (FPRP)

Balanced feeding with de-worming and vaccination will ensure the survivability of the female cross bred calves up to the motherhood. 1,40,000 poor dairy cow owners will get livelihood opportunity from dairy farming in the State. This will also have demonstrative effect to other dairy cow owners by which the CB progenies will be given proper care and management. Additional milk yield expected from 1,40,000 animals will be 7 lits. X 1,40,000 = 9,10,000 lits/ day.

TABLE-2.13 TEN YEAR PLAN FOR FEMALE CALF REARING PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2.3	Calf Rearing										
	1st batch	30000									
	2nd batch		50000								
	3rd batch			30000							
	4th batch				20000						
	5th batch					10000					

TABLE-2.14: FEMALE CALF REARING FINANCIAL TARGETS (in Rs. Lakhs)

TEN YEAR PLAN FOR FEMALE CALF REARING FINANCIAL TARGETS											
S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2.3	Calf Rearing										
	1st batch	573	1163.4	557.1	0	0	0	0	0	0	0
	2nd batch	0	955	1939	928.5	0	0	0	0	0	0
	3rd batch	0	0	573	1163	557.1	0	0	0	0	0
	4th batch	0	0	0	382	775.6	0	0	0	0	0
	5th batch	0	0	0	0	191	0	0	0	0	0
	Insurance and medicine cost	150	250	150	100	50	0	0	0	0	0
	Total	723	2368.4	3219	2574	1574	0	0	0	0	0

Total Financial requirement = Rs. 10458.1 lakhs
Source: RKVY

2.2.3 USE OF INFORMATION & COMMUNICATION TECHNOLOGY (ICT) FOR LIVESTOCK BREEDING

Planning & follow-up of the breeding programme is very important for success of the different interventions. It is proposed to use ICT for building a strong Management Information System (MIS).

Sub-activity-1: Identification of breedable animals and working bullocks

Initially the breedable CB animals and graded murrah in the intensive area will be ear tagged with barcode. The female CB calves which are proposed to be covered under Calf Rearing Programme (CRP) will be ear tagged.

In the second phase, deshi animals and bullocks of intensive area and breedable cattle, heifer and working bullocks will be covered in the potential areas.

In the third phase rest of few animals inclusive of breedable cattle, heifer and working bullocks will be covered.

It is proposed to cover 13 million cattle & buffalo population in the programme.

The cost of tagging one animal will be @ Rs.15/- and the total cost will be Rs.11.25 crores. The data base could be uploaded to NDBB server. The necessary technical assistance will be taken from NDDB.

Sub-activity-2: Breeding Information System

IT based programme will be developed for efficient monitoring of the dairy development programme of the state. Based on certain assumptions, programming will be done. The information on farmer and animal will be collected properly. Updating of real time data will be made by making the data base dynamic. The efficiency of the breeding service delivery can be improved by introducing "Breeding Management Information System" (BMIS). A suitable module will be developed for the purpose.

TABLE-2.15 TEN YEAR PLAN FOR I.C.T. APPLICATION PHYSICAL TARGETS

Sl. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Identification of animal by ear tagging	20	40	70							
2	Development of Breeding Information Management System Package	1	0	0	0	0	0	0	0	0	0
3	Computer and peripherals (all intensive, potential blocks, districts)	(200 +30) 230	114 block								

TABLE-2.16 TEN YEAR PLAN FOR I.C.T. APPLICATION FINANCIAL TARGETS

Sl. No.	Planned Activities	Ten Year Plan								
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Identification of animal by ear tagging	300	600	1050	0	0	0	0	0	0	0
2	Development of Breeding Information Management System Package	10	0	0	0	0	0	0	0	0	0
3	Computer and peripherals	92	45.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	TOTAL	402	645.6	1051	0.5	0.5	0.5	0.5	0.5	0.5	0.5

	Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	NPCBB	10	0	0	0	0	0	0	0	0	0
2	State Budget	392	645.6	1051	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Total	402	645.6	1051	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2.2.4 HEALTH CARE:

For maintenance of sustainable productivity and reproductive capacity of the dairy animals of state, interventions through health care is another aspect which is very much required to be focused upon by the department. Suitable service delivery system in order to maintain optimum health status of the animals is basically rendered by the state AH department through preventive vaccination, first aid, control of parasites, organization of health camps, creation of awareness among the animal rearers. Disease diagnostic units like the Animal Disease Research Institutes and Clinical Investigation Laboratories at state level and District Diagnostic Laboratories at district level have played important role for diagnosis of various diseases for optimum treatment and control. A strong field network for providing health services to animals of the state is being operated upon by the Veterinarians and the Paravets working at block and GP level. Inputs in shape of first Aid medicines and instruments is being supplied to the field institution by the department.

It has been proposed to organize maximum number of animal health, infertility treatment camps and heat synchronization camps at various places of the state by the department to manage the reproductive health status of cattle and buffaloes. It will help to cover maximum number of breedable animals under AI and make aware the farmers for better management of their animals.

It has been emphasized to deworm all the progenies born out of AI at regular intervals for their better growth and production. The Field Diagnostic Laboratories functioning at VD level are provided

with certain minimum inputs for conducting the faecal sample examinations for adult animals and treat accordingly. It has been planned to deworm at least 50 lakhs of adult and 10 lakhs of calves in first year which will be increased to 90 lakhs of adult and 30 lakhs of calves for subsequent years.

The detail Physical and financial lay out is given in Chapter – 6 (VETERINARY SERVICE DELIVERY)

2.2.5 CASTRATION OF MALE CALVES

Stray bulls with deformities are a serious threat to the genetic up gradation programme in the state. Due to ignorance and blind beliefs among the rural farming community, a number of bull calves are being let as stray animals at young age. Therefore, steps have to be taken by the department to castrate the young bull calves just after weaning. The field institutions have prepared calendars for taking up mass castration programme in their respective areas. During first year, it is planned to castrate 0.7 lakhs of young bulls before they are let outas stray animals. It is also planned to construct 6 Gosadans/ animal shelters to rehabilitate stray bulls regionally.

The detail Physical and financial lay out is given in Chapter – 6 (VETERINARY SERVICE DELIVERY)

2.2.6 EXTENSION SERVICES

A. Farmers' training and awareness

Farmers' Training programmes are organized at village, GP and block levels for improving the knowledge of the livestock farmers in regard to scientific management of animals in breeding, disease control and promotion of fodder. Sufficient number of posters, leaflets, charts, posters and other extension materials is to be supplied to the field institutions for creation of awareness among the farming community.

Calf rallies, shows, wall paintings are planned to be conducted extensively all over the state. Besides, TV ads at regular intervals to sensitize the farmers for cattle and buffalo management is also mentioned in the plan.

Training to the herdsmen, exposure

A number of herdsmen are available who usually takes the animals of different cattle owners of the village for grazing. They are the real care taker of the animals for the whole day. They are well versed about some of the common symptoms of heat. They can be trained on some additional aspects of heat detection and can be used as informer for doing artificial insemination. Moreover, they are

familiar with some common disease symptoms and practice the herbal remedies using local herbs as well as other indigenous and innovative methods. This traditional knowledge system is relayed from generation to generation by words of mouth. This knowledge system offers animal healing solutions at very low and affordable cost to the poor farmers. The poor farmers mostly rely on these informal healers because they treat the animals using local herbs. The drawback with these animal healers is that they are not aware of the modern health management system such as Worm infestation, scientific animal feeding practices and common first aid. Their approach at the time of critical stage like disease outbreak, parturition, control of stray bull menace, management of common property resources etc. fails to provide solace to the people. These herdsmen are required to be trained.

Exposure visit for the farmers to outside the state are some other interventions which are also prioritized. In addition to it, it is further planned to award three lead dairy farmers of each district every year to encourage dairying in rural areas.

The detailed Physical and financial lay out is given in Chapter – 6 (VETERINARY SERVICE DELIVERY)

B. Cattle Insurance

Emphasis is given to cover all the cross bred and graded cattle and buffalo to include them under cattle insurance scheme. The owners of the cattle and buffaloes will be directly benefited out of the scheme in case of any sudden eventuality causing loss to the lives of their stock. It is planned to cover all the districts under this programme after observing the results obtained in some districts like Cuttack, Jagatsinghpur, Puri and Sambalpur where the programme was initially taken up on pilot basis.

The detailed Physical and financial lay out is given in Chapter – 6 (VETERINARY SERVICE DELIVERY)

2.2.7 TRAINING

Training programs for the Vets, Paravets, Private AI Workers is being carried out regularly by the department under NPCBB to refresh their knowledge on animal breeding and reproduction. It is planned to conduct more number of such training programmes on a regular basis. Moreover, the MPCS AI workers will also be included to improve their skill on Artificial Insemination. Training on Frozen Semen Artificial Insemination Technology will be continued for the new AI workers entering the field.

To improve the knowledge of field Vets and Para vets, who work as grass root level extension workers on **fodder production**, it is proposed to conduct training on Promotion of Fodder Cultivation and pasture development for them regularly. At least 100 personals are to be trained every year in five batches in a recognized institute of the State.

The detail Physical and financial lay out is given in Chapter – 7 (TRAINING & HRD)

2.2.8 FEED & NUTRITIONAL MANAGEMENT

The estimated availability of green fodder and the dry fodder per year from all sources is 16121.750 TMT and 31203 .66 TMT respectively for the entire state. The present short fall is 48.4% for green fodder and 23.5% for dry fodder.

Sub – Activity : 1 Mineral Mapping & Ration Balancing

The use of local feed ingredient and scientific formulation to fulfil nutritional requirement will be taken up through ration balancing programme. All the MPCS will have ration balancing programme. Each MPCS will cover about 4-6 villages. The S/W developed by NDDB can be customised as per the availability of feed ingredients in our state. The analysis of the nutritional content of different types of feed ingredients can be done by the S/W for formulation of ration at MPCS level. The cost for preparation of the S/W will be approximately 1.5 lakhs.

Mineral mapping and applied nutrition programme will be taken up. The dairy animals should be supplemented with improved nutrition by taking up mineral mapping.

It is felt essential to introduce feeding of by-pass protein for increasing productivity. The feed manufacturer will be encouraged to prepare by-pass protein. The rice bran available in the state should be utilized for feeding cattle.

Table No 2.17 TEN YEAR PLAN FOR NUTRITIONAL MANAGEMENT PHYSICAL TARGETS

Sl. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Ration Balancing S/W	1									
2	Strengthening of existing Feed Plant (By pass protein)		1	0	0	0	0	0	0	0	0
3	GIS mineral mapping	1	1								
4	Strengthening of Mineral Mixture Plant		1	0	0	0	0	0	0	0	0

Table-2.18 FINANCIAL REQUIREMENT FOR NUTRITIONAL MANAGEMENT

in lakh Rupees

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Ration Balancing units at DCS level	150									
2	Strengthening of existing Feed Plant (By pass protein)		100								
3	GIS mineral mapping	5	5								
4	Strengthening of Mineral Mixture Plant		20								
	TOTAL	155	125								

Table 2.19 Source

Nutrition management	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
State Plan	155	125								

It is proposed to involve more number of farmers to raise fodder on their own land. Extensive measures will be taken to cover land in intensive and potential areas under fodder. Steps will be taken to cover 5000 -6000 hectors of land every year under perennial and seasonal fodder. About 1000 hectors Gochar and private or common land is to be developed under Pasture Development every year under GLGR or NREGA. Pasture development programme will be taken up with active participation of MPCS and other community based organizations.

Each farmer will be provided with necessary inputs for Demonstration of Perennial type in irrigated area and seasonal fodder during kharif and rabi in rainfed area.

Further, forty thousand tonnestones of crop residues including paddy and non-paddy will be enriched and ensiled to improve nutritive value of these residues for better assimilation and meeting the energy requirement of the cattle and buffaloes. Azola cultivation will be taken up in an extensive manner in MPCS area. At least 800-1000 farmers will be identified every year and possible support will be provided to farmers to raise the pits.

The use of local feed ingredient and scientific formulation to fulfil nutritional requirement will be taken up through ration balancing programme. Every MPCS will have ration balancing programme.

Mineral mapping and applied nutrition programme will be taken up. The dairy animals should be supplemented with improved nutrition by taking up mineral mapping.

It is felt essential to introduce feeding of by-pass protein for increasing productivity. The feed manufacturer will be encouraged to prepare by-pass protein. The rice bran available in the state should be utilized for feeding cattle.

Balanced cattle feed (BCF) will be popularized among the farmers through a carefully designed extension programme (assuming 1 Kg. cattle feed consumption per two Kg. of milk).

The Departmental Fodder farms will be strengthened to meet the planting material requirement. Seed programme will be taken up through Seed Growers Programme.

The detail Physical and financial lay out is given in Chapter – 4 (Fodder)

2.2.9 MONITORING & SUPERVISION

Though various programmes and schemes are being implemented by the department in different districts, improper monitoring and supervision hinders the success of programme. The minimum requirements like vehicles, computers and peripherals, internet, faxes for supervision and follow up of dairy development activities will be provided to each district.

District level seminars will be conducted every year by involving all district level authorities and Panchayati Raj institutes working in collaboration with the department..

2.3. OUTPUT

The breedable bovine population of Orissa includes a number of crossbred, indigenous cattle and buffaloes. The present breedable population of the state is around forty five lakhs with more than eighty percent being indigenous; and it is expected that by the end of tenth year, the total number of breedable animals may not change much with a presumption that there will be a substantial increase in genetically improved crossbred and there may be some reduction in the number of indigenous animals. It was observed that there was a decrease in indigenous and increase in crossbred population from 1995 to 2003 (as per the census data). It is also obvious that, the farmers will prefer to rear less number of high productive than more number of low productive animals. Therefore, it is projected that there will be a growth rate of crossbred animals by 5 – 6 % every year and by the end of 2020, 20 lakhs of crossbred cows will be available. The growth of indigenous cattle will reduce. In case of buffaloes, it is expected that there will be growth of 1.5% of their population every year due to their acceptance by the farming community in regard to percentage of fat in buffalo milk.

It is expected that around 75% of crossbred cows will come to heat in a year and 90% of them will be covered under AI. Due to longer inter-calving and service periods in indigenous breedables, it is expected that about 40-50% of them will come to heat, out of which 50 -60 % of animals will be covered under AI. The rest of animals may remain unnoticed for heat symptoms or be bred by the stray bulls. In buffaloes, as most of them are seasonal breeders and there is difficulty to detect heat among them, it is expected that about 40% of them may come to heat, out of which 20-40% will be available for AI. The number of breedable animals to be available for breeding and covered under Artificial Inseminations is mentioned in the table year -wise.

It is projected that around 7.3 lakhs of breedable animals will be covered and the number of Artificial Inseminations will be around 13.17 lakhs during 2009-10, which will gradually be enhanced to 25.2 lakhs by the end of 2019-20. Out of 13.17 lakhs of AI during 09-10, it is projected that around 11 lakhs of AI will be achieved in intensive and potential areas which will be increased to 20 lakhs by the end of 2019-20 out of 25.2 lakhs. It is considered that an animal will be inseminated on an average of 1.8 times for conception. Moreover, the semen straw requirement for 2009-10 will be around 14.64 lakhs, which may increase to 27.9 lakhs by 2019-20 taking into considerations that 10% of extra straws will be required to meet the loss during thawing and processes at field level.

,Proper follow up will be made for the inseminated cows. All the cows will be examined for pregnancy by the inseminator par rectally with in 90 days of insemination. The result will be recorded in the insemination register. Later on, a team of experts will have to verify the recordings of the inseminator by reexamining the inseminated animals. The owners of the animals confirmed for pregnancy are to be advised for proper care and management of the pregnant cow regarding feeding, health care etc. All the calves born out of Artificial Inseminations are to be recorded in Progeny Born register for each cow.

District level seminars will be conducted every year by involving all district level authorities and Panchayatraj institutes working in collaboration with the department.

The detail Physical and financial lay out is given in Chapter – 5 (SERVICE DELIVERY)

TABLE - 2.20 DETAILED CALCULATION FOR PROJECTED MILK PRODUCTION FOR NEXT TEN YEARS

MILK PRODUCTION	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Total AI in Intensive Area in lakhs			7.10	7.23	7.59	7.93	8.23	8.86	9.10	9.46	10.02	10.44	11.09
Calves born from AI @ 35% in lakhs			2.84	2.89	3.03	3.17	3.29	3.54	3.64	3.78	4.01	4.18	4.43
Total AI in Potential Area in lakhs			4.0	5.3	5.9	6.4	6.8	7.6	8.2	8.2	8.5	8.5	8.6
Calves born from AI @ 35%			1.4	1.8	2.0	2.2	2.4	2.7	2.9	2.9	3.0	3.0	3.0
Total AI in other Area			2.1	2.4	3.3	4.6	5.4	6.6	6.6	6.8	6.2	5.8	5.4
Calves born from AI @ 30%			0.6	0.7	1.0	1.4	1.6	2.0	2.0	2.0	1.9	1.7	1.6
Total New AI Centres				793	824	860	885	903	921	940	954	967	980
Total AI Centres			6158	6951	7775	8635	9520	10423	11344	12284	13238	14205	15185
Total AI in lakhs	8.94	10.23	13	14.9	16.7	18.9	20.5	23.0	23.9	24.5	24.7	24.8	25.1
Total Calves from AI in lakhs	3.6	3.9	5	5.5	6.1	6.8	7.3	8.2	8.5	8.7	8.8	8.9	9.1
Total NS	1612	1792	2500	92860	154480	205660	255520	306400	359440	406900	455860	506560	556420
Total Calves I n lakhs	0.01	3.91	4.89	5.93	6.85	7.81	8.58	9.71	10.27	10.74	11.12	11.44	11.84
Female AI Calves	1.80	1.95	2.44	2.73	3.04	3.39	3.65	4.09	4.24	4.35	4.42	4.45	4.53
Converted to Heifers @ 70% (born 3yrs back)			1.26	1.37	1.70	1.91	2.13	2.37	2.56	2.86	2.97	3.05	3.09
Death & Disposal @ 20%			0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6
Female graded calves	0.00	0.01	0.01	0.23	0.39	0.51	0.64	0.77	0.90	1.02	1.14	1.27	1.39
Additional CB Cows in Milk			1.01	1.09	1.36	1.53	1.70	1.90	2.05	2.29	2.37	2.44	2.47
Total CB Cows in milk		3.5	4.51	5.60	6.96	8.49	10.19	12.09	14.14	16.43	18.80	21.24	23.71
Addl graded Cows in Milk			0.00	0.00	0.01	0.16	0.27	0.36	0.45	0.54	0.63	0.71	0.80
Additional Daily Production from New Cows@ 5 Lits/Day			5.04	5.46	6.82	7.65	8.50	9.49	10.23	11.45	11.87	12.19	12.37
Additional Daily Production from upgraded Cows@ 1.5 Lits/Day			0.005	0.006	0.008	0.244	0.406	0.540	0.671	0.804	0.944	1.068	1.197
Total Additional Milk TMT per annum			153.87	166.72	208.19	240.78	271.73	305.86	332.33	373.80	390.69	404.26	413.84
Total Milk Production, TMT		1598	1751.87	1918.59	2126.78	2367.55	2639.28	2945.14	3277.47	3651.27	4041.96	4446.22	4860.06

TABLE- 2.21 District -w-wise Breedable Population in Different Zones

Sl No	Name of the District	No of Blocks covered under Intensive zone	GPs under Intensive zone	Villages under Intensive zone	No of Blocks covered under Potential zone	GPs under Potential zone	Villages under Potential zone
1	Angul	6	23	37	6	76	156
2	Balasore	4	98	957	6	155	1337
3	Bargarh	4	70	219	5	114	588
4	Bhadrak	5	101	521	4	92	722
5	Bolangir	6	78	248	4	57	137
6	Boudh	3	10	23	3	23	340
7	Cuttack	10	202	1160	4	140	806
8	Deogarh				1	9	51
9	Dhenkanal	2	14	29	5	34	49
10	Gajapati	2	16	46	3	21	88
11	Ganjam	21	96	166	22	263	554
12	Jagatsinghpur	8	168	1111	6	29	180
13	Jajpur	5	120	664	2	76	0
14	Jharsuguda				4	35	147
15	Kalahandi	8	50	139	2	50	133
16	Kandhamal				8	27	162
17	Kendrapada	5	118	697	2	40	232
18	Keonjhar	3	65	465	9	104	745
19	Khurda	2	29	187	8	139	1167
20	Koraput	5	20	34	9	62	135
21	Malkangiri	7	38	83	7	51	135
22	Mayurbhanj	6	102	907	13	189	2148
23	Nawarangpur	10	42	90	10	44	107
24	Nayagarh	7	40	60	8	168	1556
25	Nuapada	4	85	678	6	125	870
26	Puri	5	29	86	5	35	132
27	Rayagada	6	30	42	4	45	61
28	Sambalpur	3	16	88	7	63	470
29	Sonepur	2	23	99	6	39	317
30	Sundargarh				12	45	87
	Total	**149**	**1683**	**8836**	**191**	**2350**	**13612**

TABLE – 2.22 PERSPECTIVE PLAN - Economic upliftment through Genetic Upgradation of Cattle / Buffaloes

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Breedable Population	**4528700**	4596631	4665580	4618924	4572735	4527008	4527000	4527000	4527000	4527000	4527000
CB Population (3.5% increase/ Yr)	576533	596712	617597	639213	661585	684741	708707	733511	759184	785756	813257
Ind Population	3502525	3543532	3584751	3509531	3433916	3357875	3326636	3294456	3261298	3227128	3191915
Buffalo (1.5% increase/ Yr)	449642	456386	463232	470181	477233	484392	491658	499033	506518	514116	521828
CB available for AI (75 %)	432400	447534	463198	479410	496189	513556	531530	550134	569388	589317	609943
Ind available for AI (40-50%)	1401010	1417413	1433900	1438908	1545262	1678938	1663318	1647228	1630649	1613564	1595958
Buff available for AI (40%)	179857	182555	185293	188072	190893	193757	196663	199613	202607	205646	208731
Total animal available for breeding	2013267	2047501	2082391	2106389	2232345	2386250	2391511	2396975	2402644	2408527	2414632
CB Percentage of coverage through AI 80-90 %)	345920	358027	370558	407498	421761	436522	451800	467613	483980	500919	518451
Ind Percentage of coverage through AI (25-50 %)	350253	425224	501865	575563	649010	755522	798393	823614	815324	806782	797979
Buff Percentage of coverage through AI (20-40 %)	35971	45639	55588	65825	76357	77503	78665	79845	81043	82259	83492
Animals to be covered through AI	732144	828890	928011	1048886	1147128	1269547	1328858	1371073	1380347	1389960	1399923
AI to be done (1.8 times of animals)	1317859	1492001	1670420	1887996	2064831	2285184	2391945	2467931	2484625	2501928	2519861
Semen doses required(10% extra)	**1464288**	**1657779**	**1856022**	**2097773**	**2294256**	**2539094**	**2657717**	**2742145**	**2760695**	**2779920**	**2799845**
Breedable Average % of coverage through AI	36%	40%	45%	50%	51%	53%	56%	57%	57%	58%	58%
Breedable % of coverage through NS	14.00%	18.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
Total Coverage through organised breeding	50%	58%	67%	72%	73%	75%	78%	79%	79%	80%	80%

TABLE-2.23 District wise requirement of AI Infrastructure

Name of the District	TA-55 Existing	TA-55 Required	YDS-3 Existing	YDS-3 Required	BA-20 Existing	BA-20 Required	BA35 Existing	BA35 Required	AI Guns required (new)	AI Guns required (replacement)	High pedigree semen	Castrator
Angul	60	55	140	120	40	0	120	130	250	250	1500	500
Balasore	36	115	223	115	0	0	127	115	115	225	1500	115
Bargarh	0	442	0	170	0	0	0	190	128	370	30000	200
Bhadrak	60	40	194	90	0	0	94	180	122	200	50000	290
Bolangir	50	50	147	76	17	0	123	166	570	200	30000	195
Boudh	0	45	0	55	0	20	0	35	90	0	2000	200
Cuttack	62	86	185	358	50	65	130	10	196	300	16000	400
Deogarh	22	4	37	7	4	0	20	2	0	40	285	10
Dhenkanal	59	20	100	3	8	0	100	0	100	40	4400	100
Gajapati	0	10	0	100	0	0	0	50	60	100	0	110
Ganjam	224	30	459	560	0	0	73	35	2	200	50000	290
Jagatsinghpur	0	20	0	1200	0	0	0	60	15	540	600000	165
Jajpur	0	8	0	23	0	0	0	31	0	146	4900	245
Jharsuguda	42	13	31	60	2	0	35	23	15	100	500	50
Kalahandi	0	60	0	80	0	0	0	75	150	300	5000	200
Kendrapara	0	95	0	95	0	0	0	55	30	300	9000	250
Keonjhar	47	48	92	50	36	0	62	40	71	100	1700	100
Khurda	0	86	0	86	0	0	0	86	86	117	3500	207
Koraput	62	100	88	140	0	0	0	50	5	190	3000	350
Malkangiri	16	70	32	60	0	0	35	40	17	106	0	114
Mayurbhanj	0	30	0	90	0	0	0	60	0	80	2000	200
Nawapara	15	60	50	20	15	0	0	30	25	30	500	90
Nawarangpur	0	20	0	30	0	0	0	35	135	42	1000	55
Nayagarh	95	130	120	130	15	0	75	45	50	70	100	50
Phulbani	42	15	0	0	0	0	52	1	60	20	5000	500
Puri	42	16	191	80	16	0	58	32	60	472	30000	95
Rayagada	43	33	99	38	19	0	66	45	70	96	0	65
Sambalpur	0	30	0	30	0	0	0	30	0	25	0	0
Subarnpur	0	30	0	30	0	0	0	30	0	25	0	150
Sundargarh	134	30	0	160	0	0	0	90	75	200	7000	285
Total	**1111**	**1791**	**2188**	**4056**	**222**	**85**	**1170**	**1771**	**2497**	**4884**	**858885**	**5581**

ACTIVITY SUMMARY

Name of the programme: Dairy Development

Number of Beneficiaries or employment generated:

The 10 lakh new CB cows produced out of Artificial insemination will give full time employment to 5 lakh farmers.

1.18 lakhs beneficiaries

424.8 lakhs man days per year

Physical Output :

- More than 80% of breedable population will be covered under the organized breeding program
- Increase in semen production from 10 lakhs to 30 lakhs doses
- Production of 100 CB donor bulls every year
- Improvement of four indigenous cattle and five native buffalo breeds through selective breeding.
- Establishment of more than 5000 natural service centres through breeders forum in areas where infrastructure development is inadequate.
- Increase in milk production to 4.9 million tons by next 10 years.
- Increase in number of A.I. to 25 lakhs by end of 2020..
- 140000 no. of calves will be covered under calf rearing scheme within five years
- 10 lakhs of additional CB cows will be produced during the year 2020.

OUTCOME:

- The per capita availability of milk will be increased from 102 grams to 260 gms per day.

Implementing agency:

The State Animal Resources Development Department will be implementing the programme through OLRDS in collaboration with OMFED, NABARD, Department of Agriculture/ Dairy and Animal Husbandry, Govt. of India and other developmental agencies including livestock rearers of the state.

TABLE- 2.25 TOTAL LAYOUT FOR DAIRY DEVELOPMENT

Dairy Development

(Rs. in Lakhs)

Components	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
Cross Breeding	1689.47	1735.55	1827.93	1292.59	1346.75	1401.00	1432.64	1455.80	1454.83	1462.72	15099.27
Up-gradation through Natural Service	316.26	215.67	179.13	174.51	178.08	185.64	166.11	171.36	177.45	174.51	1938.72
Selective Breeding	120.28	228.14	224.00	224.00	336.00	0.00	0.00	0.00	0.00	0.00	1132.42
Total Chilling Infrastructure Sub Plan Cost	3284.91	6741.48	4728.88	2607.03	2984.53	3111.78	3198.94	2980.99	3261.36	3594.91	36494.81
Female Calf Rearing	723.00	2368.40	3219.10	2573.90	1573.70	0.00	0.00	0.00	0.00	0.00	10458.10
Use of ICT for Livestock Breeding	402.00	645.60	1050.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	2101.60
Nutritional Management	155.00	125.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280.00
Total Investment	**6690.92**	**12059.84**	**11229.54**	**6872.53**	**6419.56**	**4698.93**	**4798.19**	**4608.65**	**4894.13**	**5232.64**	**67504.92**

Sources	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
NPCBB	1161.54	1184.21	1135.58	1137.21	1251.38	920.49	906.21	915.31	925.25	928.96	10466.14
State Plan	1021.472	1319.747	1546.978	554.3862	609.9486	666.653	693.0408	712.346	707.5267	708.7723	8540.87
RIDF	500	446	599	0	0	0	0	0	0	0	1545
RKVY	1379.98	3716.70	4164.88	3095.31	2170.61	622.36	639.79	596.20	652.27	718.98	17757.06
CMP	328.49	674.15	472.89	260.70	298.45	311.18	319.89	298.10	326.14	359.49	3649.481
RLTAP	492.74	1011.22	709.33	391.05	447.68	466.77	479.84	447.15	489.20	539.24	5474.222
IDDP	1313.96	2696.59	1891.55	1042.81	1193.81	1244.71	1279.58	1192.40	1304.54	1437.96	14597.92
OTHERS	328.49	674.15	472.89	260.70	298.45	311.18	319.89	298.10	326.14	359.49	3649.481
OWN SOURCE (OMFED)	164.25	337.07	236.44	130.35	149.23	155.59	159.95	149.05	163.07	179.75	1824.741
Total:	**6690.92**	**12059.84**	**11229.54**	**6872.53**	**6419.56**	**4698.93**	**4798.19**	**4608.65**	**4894.13**	**5232.64**	**67504.92**

CHAPTER - 3

CHAPTER -3
3.0 SMALL ANIMAL DEVELOPMENT

3.1 Major Goals

- ❖ Doubling the meat production from the present level of 62 TMT to 104 TMT in coming ten years
- ❖ Augmenting the productivity of small ruminants by 4-6 Kgs live body weight

3.2 Background

Small animal rearing is a primary source of livelihood for poor people and a significant contribution to animal protein is being met through meat. Goat is accepted as the "Poor man's cow" because it acts as the shock absorber in the scarcity period and fulfill the desired need. In Odisha, goats are reared mainly for meat purpose. Goat produces about 43.544 TMT meat per year (2008-09), which is about 70% of the total animal meat production (62.139TMT). Sheep sub-sector is very much popular because they are good grazers and that is why the small holding is seen in many a place where the family keep cows and buffaloes. Sheep is the shock absorber in the scarcity period and fulfill the desired need. In Odisha, sheep are reared mainly for meat purpose. Sheep sub -sector produces about 10.341 TMT meat per year (2008-09), which is about 17% of the total animal meat production (62.139TMT). The average meat production per goat in Odisha is only 8.95 Kgs

Small ruminant production is perceived as having the greatest potential to meet the growing demand for meat and meat products. It is, in this context, very much essential that concerted efforts are made for small ruminant development for augmenting meat production to fulfill the rising demand for meat in the State.

3.3 Resources, Potential and Present Status of Development

There are 5.97 million goats in Orissa, 24.78 per cent of the total livestock population. Goats are distributed all over the state. The population of sheep is 1.75 million. Sheep and goat are reared mostly by the poorer section of the society in our state. The sheep and goat graze mainly on the common property resources and the production cost is almost negligible.

In Orissa, apart from many non-descript types of goat, two distinct breeds of goats i.e. Black Bengal, Raighar, Maraguda and Ganjam breeds are reared in many areas of our state. In Western Orissa, mostly Black Bengal breed is reared, which is well known for its superior meat and skin quality and higher twinning percentage. But farmers do not get higher returns due to its low adult body weight, which is about 20 Kgs on an average and low quantity of milk, which is sometimes insufficient enough to meet the nutritional demand of their kids.

The sheep of Orissa are mostly non-descript apart from Kendrapada, Ganjam and Bolangir breeds, which are confined to the central, southern and western districts of the state. Bolangir breed is small in body size. The average meat production per sheep slaughtered is only about 10 kgs.

In order to meet the requirement of meat, it is imperative that a comprehensive perspective plan for development of small ruminant sector of the State is formulated to increase the present level of average productivity of small ruminant from 10-12 kg meat to 15 Kgs.

3.4 SWOT Analysis for Small Animal Rearing

Basing on the district data and inputs, a comprehensive SWOT analysis of the small animal sector is given below.

Strengths

- Wide network of field institutions with logistics
- Highly technically competent Human resources
- Orissa Biological Production institute (OBPI**)** -Producing adequate doses of vaccines.
- Existence of Govt. Goat farms.
- Small animals can thrive in Drought situation.

Weaknesses

- Inadequate mobility facility
- Inadequate supervision & guidance thereby poor follow-up
- No uniformity in extension methodology
- Inadequate publicity

- No infrastructure for Goat AI
- Less importance is being given to goat /sheep sector in comparison to Dairy sector
- Inadequate De-worming and vaccination programmes
- Negligible training programmes on goat management for field staff
- Convergence concept not institutionalized.
- Primitive Breeding practices leading to inbreeding
- No organized market
- Low acceptability of sheep meat

Opportunities

- In almost all the villages, people have the experience of rearing small animals
- NREGS assisted fodder production
- Scope for convergence with allied departments and other agencies for dovetailing of funds.
- SHGs under different anti poverty programmes (Goat /sheep as key activity)
- Sizeable small animal population
- There is huge demand for meat.
- Disposal of goats/sheep during crisis is very easy

Threats

- Recurrent Natural calamities.
- Reduced grazing area
- High cost of feed and medicine
- Migration of labour

3.5 Strategy

3.5.1 Strengthening of departmental Goat/ sheep farms for production of good quality Breeding Buck / rams for supply.

3.5.2 Upgradation of local stock by ensuring availability of good breeding males to the small animal rearers.

3.5.3 Maintenance of proper health to reduce the mortality.

3.5.4 Artificial Insemination in Goat for quick genetic gain in offspring.

3.5.5 Ensure production of quality semen by setting up new Goat Frozen Semen Bank

3.5.6 Research work like selective breeding, Open Nucleus Breeding System and Biotechnological applications in small ruminant development.

3.5.7 Creation of Special Cell for small animal development

3.6 Action Plan - Sheep & Goat Production

Sub-activity -1: Organised Breeding in Goats and Sheep

A. Background:

A two-fold increase in meat production from the small ruminant sector of Orissa is envisaged in the next few years. This will be possible only if the genetic up-gradation programme is taken up and the productivity is also augmented to a minimum level 15 kg dressed meat per animal.

The aim of breeding of goat and sheep in Orissa is to increase the adult body weight of these animals so that our farmers get more meat per animal, so also increase the milk production in does /ewes to reduce the mortality in new born.

The state has about 3 million breedable Does. In order to cover one million breedable does through up-grading, we need minimum 20,000 bucks, which need to be replaced every 4-5 years as the breeding life spans of both male and female goats are very short and people prefer to castrate their good bucks to fetch more money in the market instead of keeping them for breeding purpose.

There are about 1.1 million breedable ewes in Orissa. Initially, it is planned to cover 2 lakh breedable sheep under cross breeding, for which 4000 number of rams will be required, moreover it will need replacement after 4-5 years.

B. Proposed Programme

It is proposed to upgrade 1 million breedable females out of available 3 million goats; and 2 lakh sheep out of 1.1 million breedable sheep. The breeding buck/ ram will be supplied to the farmers for taking up upgrading programme.

It is proposed to create new infrastructure to house 2000 pure bred Beetal goats and about 2000 off-springs at Goat Farm, Chipilima with the aim to producing 1000 Nos. of bucks per year. The rest will be supplied by procuring bucks from outside. These bucks will be supplied to the farmers to upgrade their goats. Similarly, the sheep farm, Chipilima will be expanded to produce 300 nos. of ram per annum by maintaining 1000 female and 25 male pure stock of Malpura and Ganjam breed. The rest will be supplied by procuring rams from outside.

It is proposed to supply 40,000 breeding bucks and 4,000 rams for genetic upgradation of local goat and sheep. Farmers' interest groups (Breeders' Forum) will be constituted in different localities involving the farming communities and for supply of improved varieties of breeding bucks like Sirohi, Beetal, Jamunapari and Barbari bucks and Malpura and Sonadi rams as per the physical performances of the animals and geographical situations.

Table:3.1 Total buck requirement of districts (Beetal+ Sirohi+ Janunapari+ Barbari+ Bengal+ Boer)

Sl. No	**Breed**	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
1	Beetal	1537	1637	1382	1443	1612	1604	2211	1801	1816	1852	16895
2	Barbari	341	213	208	156	104	10	6	305	83	258	1684
3	Jamunapari	311	308	246	355	372	553	517	106	191	148	3107
4	Sirrohi	875	854	773	762	621	840	908	920	943	1414	8910
5	Boer	105	106	104	112	162	196	153	148	191	165	1442
6	Black Bengal	200	200	200	200	200	200	200	200	200	200	2000
	Total	3369	2570	2244	2378	2612	2759	3240	2708	2672	2788	26570

TABLE NO – 3.2. TEN YEAR PLAN FOR GOAT & SHEEP UPGRADATION PHYSICAL TARGETS

(Breeding Buck/ Rams Nos.)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Genetic Upgradation										
	No of Breeding Bucks										
	Beetal	1537	1637	1382	1443	1612	1604	2211	1801	1816	1852
	Sirrohi	875	854	773	762	621	840	908	920	943	1414
	Jamunapari	311	308	246	355	372	553	517	106	191	148
	Barbari	341	213	208	156	104	10	6	305	83	258
	Black Bengal	200	200	200	200	200	200	200	200	200	200
	Boer Cross bred	105	106	104	112	162	196	153	148	191	165
	Total Bucks	**3369**	**3318**	**2913**	**3028**	**3071**	**3403**	**3995**	**3480**	**3424**	**4037**
	No of Breeding Rams										
	Malpura	511	468	564	459	511	468	624	482	704	373
	Sonadi	220	151	67	188	220	151	138	349	82	226
	Kendrapada	70	70	70	70	70	70	70	70	70	70
	Bolangir	28	28	28	28	28	28	28	28	28	28
	Total Rams	**829**	**717**	**729**	**745**	**829**	**717**	**860**	**929**	**884**	**697**

TABLE – 3.3 TEN YEAR PLAN FOR GOAT UPGRADATION FINANCIAL TARGETS

(Rs in lakhs)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Breeding Bucks	134.8	132.7	116.5	121.1	122.8	136.1	159.8	139.2	137	161.5
2	No of Breeding Rams	33.2	28.7	29.2	29.8	33.2	28.7	34.4	37.2	35.4	27.9
	Total	**167.96**	**161.38**	**145.66**	**150.9**	**155.96**	**164.78**	**194.2**	**176.36**	**172.36**	**189.38**

TABLE - 3.4. Source

Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
SGSY Infrastructure/ Watershed/ External aided project/ peripheral development	167.96	161.42	145.72	150.92	156.04	164.82	194.20	176.40	172.36	189.38
Total	167.96	161.42	145.72	150.92	156.04	164.82	194.20	176.40	172.36	189.38

Sub-activity -2: Artificial Insemination in goats

Genetic improvement of goats through Artificial Insemination is planned for quick genetic gain in crossbreds. It is proposed to establish 3060 AI centers (as per the district projections) for goats, in some selected pockets of the state on cluster basis with 10 numbers of AI centers per cluster. Each centre will cover around 100 breedable does. The required infrastructure, inputs and training to Vets and Paravets will be provided.

TABLE–3.5 TEN YEAR PLAN FOR GOAT UPGRADATION THHROUGH AI-PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
2	Establishment of AI Centre for goats	433	469	338	440	230	308	185	175	286	196

TABLE – 3.6 TEN YEAR PLAN FOR GOAT UPGRADATION THROUGH AI FINANCIAL TARGETS

(Rs in lakhs)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	AI Centre	51.96	56.28	40.56	52.8	27.6	36.96	22.2	21	34.32	23.52
	Total	**51.96**	**56.28**	**40.56**	**52.8**	**27.6**	**36.96**	**22.2**	**21**	**34.32**	**23.52**

TABLE – 3.7. SOURCE:

Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
State Budget	51.96	56.28	40.56	52.8	27.6	36.96	22.2	21	34.32	23.52
Total	**51.96**	**56.28**	**40.56**	**52.8**	**27.6**	**36.96**	**22.2**	**21**	**34.32**	**23.52**

Sub-activity -3: Establishment of Goat Frozen Semen Bank

To meet the semen requirement for does for Artificial Insemination, a semen bank will be established at Chipilima. Donor Bucks with higher genetic merit in term of body weight and production like Boer, Sanen, Jamunapari, Beetal, Sirohi and some others will be maintained at buck station for collection and distribution of semen. It is projected to produce one lakh of semen doses every year by the proposed semen station.

TABLE - 3.8 TEN YEAR PLAN FOR GOAT SEMEN BANK- PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Establishment of Goat Frozen Semen Bank	1									

Table No 3.9 TEN YEAR PLAN FOR GOAT SEMEN BANK - FINANCIAL REQUIREMENT

- (Rs in lakhs)											
Sl. No.	**Planned Activities**	**Ten Year Plan**									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Establishment of Goat Semen Bank	524									

Source**……. RIDF Assistance**

Sub-Activity-4: Conservation of native goat and Sheep breeds through selective breeding

The small animal resources of Orissa, especially sheep and goats are unique for their characters like high prolificacy and meat quality, which hardly found in any other small animal breeds of the world. The marbling meat quality of Bengal type goat and rate of multiple births in Kendrapada sheep are limited in these two breeds only. These valuable genetic qualities need to be preserved and propagated through selective breeding.

Open Nucleus Breeding System (ONBS) of improvement of a particular breed is very useful as it is carried out in the native tract of that breed. The animal rearers' cooperation is very essential for establishing an ONBS. A nucleus flock by selecting best breeding males and females from different flocks will be maintained at the locality. Males produced through nominated crossing of these males and females will be selected as per their physical characters and supplied to the farmers to breed the females of their flocks. The nucleus stock will be kept open for induction of better males or females to avoid inbreeding. Moreover, a superior flock maintained by a farmer can be utilised for production of breeding males by crossing the males from the nucleus flock with its females. It is an useful method of pure breeding which helps to maintain the genetic uniformity in the population. This method of breeding system also helps to carry out different developmental activities in the locality by an extension worker.

Some of the small animal breeds with their home tract and population which are selected for improvement are-

TABLE- 3.10

Name of the breed	Home tract	Population
Raighar	Raighar, Umerkote blocks and adjacent areas in Nabarangpur district	30,000
Maraguda	Nuapada Disrtict, Kalahandi, Khaprakhol Bock of Bolangir, Padampur Subdivision	3,27,000
Bengal	Keonjhar, Mayurbhanj, Nilagiri Sub- Division of Balasore	11,23,000
Ghumusar	Bhanjanagar and adjoining areas of Ganjam district	1,60,000
Narayanpatna	Narayanpatna of Koraput	20,000
Malkangiri	Malkangiri Dist	50.000
Kendrapara (Kuzi)	Kendrapada, Jagatsinghpur, Cuttack	30,000
Ganjam	Ganjam, Khordha Gajapati and Phulbani District	1,00,000
Koraput	Koraput, Nabarangpur, Malkangiri and Rayagada	1,0000

Table- 3.11 TEN YEAR PLAN FOR CONSERVATION OF SMALL ANIMALS- PHYSICAL TARGETS

TEN YEAR PLAN FOR CONSERVATION OF SMALL ANIMALS-

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	**Selective Breeding(Goats)**										
	Survey & Characterization	4	2								
	Selective Breeding through ONBS		2	4							
2	**Selective Breeding(Sheep)**										
	Survey & Characterization(Breed)	2	1								
	Selective Breeding through ONBS(Breeds)		1	2							

TABLE -3.12 TEN YEAR PLAN FOR CONSERVATION OF SMALL ANIMALS- FINANCIAL REQUIREMENT

TEN YEAR PLAN FOR CONSERVATION OF SMALL ANIMALS - (Rs in lakhs)											
S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	**Selective Breeding(Goats)**										
	Survey & Characterization	16.56	8.28	0	0	0	0	0	0	0	0
	Selective Breeding through ONBS	0	144.9	289.8	0	0	0	0	0	0	0
2	**Selective Breeding(Sheep)**										
	Survey & Characterization	8.28	4.14	0	0	0	0	0	0	0	0
	Selective Breeding through ONBS	0	72.46	144.9	0	0	0	0	0	0	0
	Total	24.84	229.78	434.7	0	0	0	0	0	0	0

Table No 3.13 Source of Funding:

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Central Scheme - Conservation of Threatened Breed/ State Plan	24.84	229.78	434.7	0	0	0	0	0	0	0
Total	**24.84**	**229.78**	**434.7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Sub – Activity -5: Development of existing goat/sheep farms

It is proposed to expand Chipilima Goat breeding Farm to produce 1000 nos. of bucks per annum by maintaining 2000 female and 50 male pure stock of Beetal breed. The Sheep Breeding Farm will be expanded to maintain 1000 female and 25 male pure stock of Malpura and Ganjam breed to produce 300 nos of ram per year. Cross breeding of indigenous stock with improved breed for genetic upgradation will be taken up to upgrade the existing stock.

The breeds maintained by the farmers are selected on the basis of their suitability for their socio-economic environment. Farmers may be encouraged to maintain good breeding animals of the same breed. This will also improve the productivity of the animals. The Government sheep and Goat breeding Farms will be strengthened to produce breeding males for natural service.

The critical intervention in small ruminant farming is availability of quality breeding male, which will be ensured by strengthening the Departmental small animal farms at different places to produce and meet the demand of the breeding male. The locally suitable breeds like Beetal, Sirrohi, Malpura, Bolangir, Black Bengal, Ganjam will be maintained at the farms.

TABLE-3.14 Location of the Departmental Sheep & Goat Farms

Name of the District	Goat Breeding Farm	Sheep Breeding Farms
Bolangir	Deogaon	Deogaon
Kalahandi	Jaring	
Keonjhar	Salapada	
Kandhamal	Dadapaju	
Sambalpur	Chipilima	Chipilima
Sundargarh	Kuanrmunda	

TABLE- 3.15 TEN YEAR PLAN FOR GOAT AND SHEEP FARM DEVELOPMENT- PHYSICAL TARGETS

TEN YEAR PLAN FOR GOAT AND SHEEP FARM DEVELOPMENT- PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Expansion of Goat Farm	1									
2	Expansion of Sheep farm	1									
3	Revolving Fund for Chipilima Sheep & Goat Farms	1									
4	Farm Development	5	5	5	5	5	5	5	5	5	5

TABLE- 3.16 TEN YEAR PLAN FOR GOAT AND SHEEP FARM - FINANCIAL TARGETS

(Rs in lakhs)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Expansion of Goat Farm	438									
2	Expansion of Sheep farm	138									
3	Revolving Fund for Chipilima Sheep & Goat Farms	53									
4	Recurring Expenses for farm management	8	8	8	8	8	8	8	8	8	8
	Total	**637**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**

TABLE – 3.17 SOURCE:

Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
State Budget	**61**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
RIDF	**576**									
Total	**637**	**48**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**

Sub – Activity -6: Establishment of Biotechnology Centre

Odisha is having good genetic resources relating to high prolificacy in sheep. These breeds namely, Kendrapada is found in Kendrapada, Kujang, Paradeep, Ersama areas. The characteristics of this breed have already been studied by Odisha Veterinary College. The goat varieties found in Odisha are also having twinning/ triplet characteristics. The establishment of Biotechnology Centre at Chipilima, Sambalpur will be helpful for further study and improvement in body weight in these breeds through appropriate nutritional, genetic interventions.

TABLE - 3.18 TEN YEAR PLAN FOR ESTABLISHMENT OF BIOTECHNOLOGY CENTRE - PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Establishment of Biotechnology Centre		01	01							

TABLE -3.19 TEN YEAR PLAN FOR ESTABLISHMENT OF BIOTECHNOLOGY CENTRE - FINANCIAL TARGETS

(Rs in lakhs)

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Establishment of Biotechnology Centre		50	120							

TABLE – 3.20 Source of Funds:

Source of Fund	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CS Scheme - "Integrated Development of Small Ruminants and Rabbits"		50	120							
Total		**50**	**120**							

Sub – Activity -7: Improvement of marketing facility

The sale of small animal is not a major constraint. The animals are sold in the village itself. The farmers have their own choice of fixing the rate of the animal while selling. Interference of other farmers while taking decision on sale is negligible. There is much domestic demand for meat of goats. Traders from different parts of urban area visit the individual village for purchase of animals and sale at high cost in the city.

The appropriate age and body size are the important criteria for fetching good price. The goat keepers are able to dispose their live animals for local consumption and for urban market at their own village.

There is a requirement of organized market at a common place i.e., haat. The service providers suggested that the valuation of the live animals based on the exact weight should be practiced by the farmers. There is a need to establish linkage with corporate houses for production and marketing of small animal. The service providers require to be updated with the details of market forces so as to advise the farmers to maximize the profit.

TABLE -3.21 TEN YEAR PLAN FOR GOAT MODEL MARKET YARD - PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Improvement of Village Haat/ Sundries		5	5	5	5	5	5			

TABLE - 3.22 TEN YEAR PLAN FOR MODEL MARKET YARD - FINANCIAL TARGETS

(Rs in lakhs)											
S. No.	Planned Activities	Ten Year Plan									
		10-11	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
1	Improvement of Village Haat/ Sundries		150	150	150	150	150	150			
	Total		150	150	150	150	150	150	**0**	**0**	**0**

TABLE 3.23 SOURCE:

Source of Fund	**10-11**	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
External aided Project/ State Plan		150	150	150	150	150	150	**0**	**0**	**0**
Total		150	150	150	150	150	150	**0**	**0**	**0**

Sub – Activity -8: Community Insurance Scheme for Goat

Under the Community Insurance Scheme, the farmer will receive 75% of the pre determined market value of the animal for death. For example, if the market value of the goat is Rs.1000, the sum assured for the farmer will be fixed as Rs.750. Thus the premium payable in a year is Rs.75/- or an amount equivalent to 7.5% of the market value of the goat insured. If the goat dies during the insurance period, the compensation assured for the farmer is Rs.750 or 75% of the pre determined market value of the goat. The scheme is to be managed by the Breeders' Forum.

The activity will be initially taken up on pilot basis in two blocks of the state and based on the learnings, the same will be replicated in other areas. Fifty breeder fora will be actively involved. The Breeders' Forum will get revolving fund @ Rs.10,000/- initially to implement the scheme.

TABLE – 3.24 TEN YEAR PLAN FOR COMMUNITY INSURANCE - PHYSICAL TARGETS

S. No.	Planned Activities	Ten Year Plan									
		10-11	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
1	No of Breeders' Forum to be involved		50	50	50						

TABLE - 3.25 TEN YEAR PLAN FOR COMMUNITY INSURANCE - FINANCIAL TARGETS

TEN YEAR PLAN FOR COMMUNITY INSURANCE - FINANCIAL TARGETS (Rs in lakhs)											
S. No.	Planned Activities	Ten Year Plan									
		10-11	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
1	Amount		5	5	5						
	Total		5	5	5	0	0	**0**	**0**	**0**	**0**

TABLE - 3.26 Source of Funds:

Source of Fund	**10-11**	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
State Plan/ Watershed/ Others		5	5	5			0	0	0	0
Total		**5**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**0**

3.7 Support Services

The major concern for economic small animal rearing by the farmers is high mortality at different ages. It is observed that the mortality rate among the small animals is as high as 38%, which can be reduced by rendering proper health care measures like de-worming, preventive vaccination and proper treatment to affected animals. It is proposed to cover at least 90% of total small animals under vaccination and other activities like mass deworming will be taken in a massive manner for improving the small animal resources of the state. The major interventions in term of support services are as follows-

At least 80% of the total population of the small animal of the state will be covered under the mass deworming programme, which will not only reduce the mortality of the animal but also increase the live body weight. The detail deworming camps and the animals to be covered under deworming has been projected in the project to cover 80 % of population.

In the same way, all the small animals will be covered under mass vaccination scheme maximum up to 80% of the total population.

The small animals are vulnerable to diseases, parasitic infestation, accidents and injuries and farmers sustain great loss. In order to mitigate the risk, insurance of the animals against death is essential in the state of Odisha. Therefore to compensate farmers' loss due to mortality and to encourage for further rearing of the animal, insurance should be a focused programme.

3.8 Extension Programme

Scientific development is going on day by day and accordingly all the stake holders of the small animal should be updated on the recent development for the change growth. Accordingly, the capacity development programme on small animal rearing shall be given emphasis on focused way.

Different activities like induction of goats, through antipoverty and self employment programmes like SGSY, KSK, and health camps, capacity building, awareness camps, organization of gramya krisak manch, exposure visits through ATMA are being carried out in the state for livelihood support of the rural poor. Apart from these programme, it has been proposed to implement some of the central schemes, under which the following activity will be taken up.

1. Conservation of germane of goat
2. Strengthening and revival of potential goat breeding farms and their corporatization
3. Creation of open nucleus breeding flocks in collaboration with farmers
4. Improvement of high fecundity breeds and exploitation of fecundity gene to improve productivity in indigenous breeds

In the programmes, Intensive Cluster Development and Venture Capital Fund will flow. As proposed in the programme, the potential areas for sheep/ goat in Odisha are given below for selection of cluster.

TABLE -3.27 Creation of Cluster

Sl. No	Name of the District	Name of the Cluster	Name of the Species
1	Mayurbhanj	Jasipur	Goat
2	Keonjhar	Keonjhar	Goat
3	Nuapada	Darlipada	Goat
4	Khurdha	Balugaon	Goat
5	Dhenkanal	Kankadahada	Goat
6	Kendrapada	Kendarpada	Sheep
7	Bolangir	Bolangir	Sheep
8	Ganjam	Bhanjanagar	Sheep

3.9. Action Plan - Pig Production

Background

Pigs are mostly reared by poorer sections of the people in Odisha. Pig rearing has been the traditional occupation and important supplementary source of income of the people belonging to weaker strata. In several parts of our state, especially in tribal area, pig meat is an important source of food. Pig development through scientific care and management can help improving the economic condition of the weaker sections to some extent. There is also scope for commercial pig rearing nearer to urban area as adequate quantity of hotel wastes is available which can be utilized as feed.

The present high demand for animal protein warrants intensifying of efforts for improvement and multiplication of meat producing animals. The pigs are having biological advantages like faster growth, high prolificacy, shorter generation interval and high feed conversion ratio (FCR). They can play an appreciable role in contributing to supply of animal protein (pork). Rural people sell pork in their own areas because pork is highly demanded among the poor families due to low cost.

At the State level, there is 1.6 pigs per 100 persons. The size of the pig farm depends on the availability of resources for foraging. Development of the pig sector will need attention in the following area.

Sub-activity -1: Organised Breeding in Pig

Pig rearing is the most neglected sector of the Department. Due to the unorganized breeding pattern of the pig by the farmers, this sectors has not grown to the desired extent. Therefore to increase the body weight and to enhance the marketability, organized breeding in this sector is highly essential. The local breed available with the farmer may be crossbred with the exotic variety of boar to increase the production and productivity.

Sub-activity -2: Health care

The major problem among the pig is mortality among the piglets. This happens due to the poor motherhood of the sow. Therefore, more and more awareness and input on scientific knowledge can be imparted to the pig farmers to minimize the mortality. Apart from this, proper deworming and vaccination should be carried out in regular interval.

Sub-activity -3: Infrastructure

Small animal sector needs special attention for the development of the farmers. There is lacking adequate infrastructure in this sector, which needs to be developed. A pig farm located in the Chiplima, Sambalpur can be revived and an exotic variety of the pig may be maintained so that the male piglet produced would be distributed to the poor farmers

Sub-activity -4: Processing Plant

The pigs are sold in the village itself. Therefore sale is not a major constraint. As the process of urbanizations is growing day by day in the state, there is heavy demand of pork. Although the farmers have their own choice of fixing the rate of the animal while selling, organization of market in this sector will help the poor pig rearer. Private players will be encouraged to set up a modern Processing plant.

TABLE - 3.28 TEN YEAR PLAN INTERVENTION & ACHIEVEMENT - PIG DEVELOPMENT

	Planned Activities	**Ten Year Plan**									
		10-11	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**
A	Genetic Upgradation										
I	No of Breeder's Forum to be constituted	327	274	324	308	308	274	342	312	323	299
II	No of Breeding Boars										
	Yorkshire	327	274	324	308	308	274	342	312	323	299
	No of pig to be dewormed twice/ Yr	3610	3610	3610	3610	3610	3610	3610	3610	3610	3610
C	**Training**										
I	Breeder's Society Management for one day - no of batches	20	20	20	20	20	20	20	20	20	20
III	Training Refresher training on pig management to farmers for 1 day – no. of batches	20	20	20	20	20	20	20	20	20	20

TABLE- 3.29 TEN YEAR PLAN INTERVENTION & ACHIEVEMENT - PIG DEVELOPMENT - FINANCIAL PROJECTION

TEN YEAR FINANCIAL PROJECTION											
											(Amount in Rs. Lakhs)
Sl	Action Item	PROPOSED									
No		**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
A	Genetic Upgradation										
I	Breeding Boar	39.24	32.88	38.88	36.96	36.96	32.88	41.04	37.44	38.76	35.88
B	Support service delivery										
I	No of PIG to be dewormed twice/ Yr	1.8051	1.8051	1.8051	1.8051	1.8051	1.8051	1.8051	1.8051	1.8051	1.8051
C	Training										
I	Breeeder's Society Management for one day - no of batches	1	1	1	1	1	1	1	1	1	1
III	Refresher training on pig management to farmers for 1 day – no. of batches	1	1	1	1	1	1	1	1	1	1
	Total	43.05	36.69	42.69	40.77	40.77	36.69	44.85	41.25	42.57	39.69

TABLE - 3.30 Source of Fund:

	2010-11	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
State Plan	43.05	36.69	42.69	40.77	40.77	36.69	44.85	41.25	42.57	39.69
Total	**43.05**	**36.69**	**42.69**	**40.77**	**40.77**	**36.69**	**44.85**	**41.25**	**42.57**	**39.69**

TABLE - 3.31 DETAILED CALCULATION FOR PROJECTED MEAT PRODUCTION FOR NEXT TEN YEARS												
MEAT PRODUCTION	**09-10**	**10-11**	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**	**Total**
Total AI in Goats		43300.0	46900.0	33800.0	44000.0	23000.0	30800.0	18500.0	17500.0	28600.0	19600.0	306000.0
Progenies born from AI @ 25%		10825.0	11725.0	8450.0	11000.0	5750.0	7700.0	4625.0	4375.0	7150.0	4900.0	76500.0
Total NS by breeding bucks/rams		159920.0	153400.0	137680.0	142920.0	148000.0	156800.0	186200.0	168360.0	164320.0	181360.0	1598960.0
Progenies born from NS @ 70 %		127936.0	122720.0	110144.0	114336.0	118400.0	125440.0	148960.0	134688.0	131456.0	145088.0	1279168.0
Total progenies		138761.0	134445.0	118594.0	125336.0	124150.0	133140.0	153585.0	139063.0	138606.0	149988.0	1355668.0
Converted to adults @ 70 %		97132.7	94111.5	83015.8	87735.2	86905.0	93198.0	107509.5	97344.1	97024.2	104991.6	948967.6
Additional Meat in TMT avg 4-6 Kg per animal		4	4	3	4	3	4	4	4	4	4	38
NS by Breeding Boars - 30 services/Yr		9810	8220	9720	9240	9240	8220	10260	9360	9690	8970	92730
No of progenies @ avg 10 piglets/ Sow		98100	82200	97200	92400	92400	82200	102600	93600	96900	89700	927300
Total progenies converted to adults		58860	49320	58320	55440	55440	49320	61560	56160	58140	53820	649110
Additional Meat avg 4 Kg per animal in TMT		2	2	2	2	2	2	2	2	2	2	32
Total meat production from sheep, Goat & Pig	**62.14**	68.38	74.12	79.77	85.50	91.19	96.89	103.65	109.79	116.00	122.35	192.77

TABLE - 3.32 SMALL ANIMAL DEVELOPMENT- FINANCIAL OUTLAY (Rs. in Lakhs)

Sl. No.	Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
1	**GOAT PRODUCTION**											
2	No. of Breeding Bucks/ Rams	134.76	132.72	116.52	121.12	122.84	136.12	159.8	139.2	136.96	161.48	1361.52
3	Expansion of Goat Farm	438	0	0	0	0	0	0	0	0	0	438.00
4	Revolving fund for chipilima goat farm	40	0	0	0	0	0	0	0	0	0	40.00
5	AI Centre	51.96	56.28	40.56	52.8	27.6	36.96	22.2	21	34.32	23.52	367.20
6	Goat semen Bank	524	0	0	0	0	0	0	0	0	0	524.00
7	Selective Breeding	0	0	0	0	0	0	0	0	0	0	0.00
8	Survey & Characterization	16.56	8.28	0	0	0	0	0	0	0	0	24.84
9	Selective Breeding through ONBS	0	289.84	144.92	0	0	0	0	0	0	0	434.76
10	Farm management - recurring expenses	6	6	6	6	6	6	6	6	6	6	60.00
11	Establishment of Biotech Centre	0	50	120	0	0	0	0	0	0	0	170.00
12	Market Yard development	0	150	150	150	150	150	150	0	0	0	900.00
13	Support to Breeders Forum	0	5	5	5	0	0	0	0	0	0	15.00
	Sub Total	**1211.28**	**698.12**	**583.00**	**334.92**	**306.44**	**329.08**	**338.00**	**166.20**	**177.28**	**191.00**	**4335.32**
	SHEEP PRODUCTION											
1	No. of Breeding Bucks/ Rams	33.2	28.7	29.2	29.8	33.2	28.7	34.4	37.2	35.4	27.9	317.70
2	Selective Breeding											
3	Expansion of Sheep Farm, Chipilima	138	0	0	0	0	0	0	0	0	0	138.00
4	Survey & Characterization	8.28	4.14	0	0	0	0	0	0	0	0	12.42
5	Selective Breeding through ONBS	0	72.46	145	0	0	0	0	0	0	0	217.46
6	Farm management - revolving Fund	13	0	0	0	0	0	0	0	0	0	13.00
7	Recurring Expenses	2	2	2	2	2	2	2	2	2	2	20.00
	Sub Total	**194.48**	**107.30**	**176.20**	**31.80**	**35.20**	**30.70**	**36.40**	**39.20**	**37.40**	**29.90**	**718.58**
	PIG PRODUCTION											
1	Genetic Upgradation	39.24	32.88	38.88	36.96	36.96	32.88	41.04	37.44	38.76	35.88	370.92
2	Support service delivery	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	18.05
3	Training	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	20.00
	Sub Total	**43.05**	**36.69**	**42.69**	**40.77**	**40.77**	**36.69**	**44.85**	**41.25**	**42.57**	**39.69**	**408.97**
	Total	**1448.81**	**842.11**	**801.89**	**407.49**	**382.41**	**396.47**	**419.25**	**246.65**	**257.25**	**260.59**	**5462.87**

ACTIVITY SUMMARY

Name of the programme: SMALL ANIMAL DEVELOPMENT

Outlay	Rs in lakhs
Goat production	3997.32
Sheep production	707.58
Pig production	408.97
Total	**5113.87**

Number of Beneficiaries or employment generated:

1.2 lakhs Beneficiaries
372.78 lakhs man days per year

Physical Output:

Componenents	Nos
Improved Bucks	34038
Improved Rams	7936
Improved Boars	3091
AI Centers for Goats	3060
Production of Goat Semen doses per year	100000
Goat Semen Bank	01
Conservation & Improvement	
Goat Breeds	06
Sheep Breeds	03
Establishment of Biotechnolgical Center	01
Farms to be developed for buck production	06
Farms to be developed for ram production	02
Establishment of Market Yards	30
Breeders For a for community insurance	150

Outcome:

Enhancement of meat productivity from 10 kg to 15 kg per animal
Enhancement of meat production from 62.1 TMT to 192.7 TMT

Implementing agency :

`The State Animal Resources Development Department will implement the programme in 10 years.

TABLE - 3.33 SOURCE OF FUNDS:

Sl. No.	Source	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year	Total
1	RIDF	1100.00										1100.00
2	Central Scheme - Integrated development of small ruminants & rabbits	0	50	120								170.00
3	Central Scheme - Conservation of Threatened Breed	24.84	374.72	289.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	689.48
4	SGSY Infrastructure/ Watershed/ External aided project	167.96	189.56	166.00	177.32	169.84	183.30	205.30	186.90	189.52	201.14	1836.84
5	State Plan	156.01	227.83	225.97	230.17	212.57	213.17	213.95	59.75	67.73	59.45	1666.55
	Total	**1448.81**	**842.11**	**801.89**	**407.49**	**382.41**	**396.47**	**419.25**	**246.65**	**257.25**	**260.59**	**5462.87**


Banaraj poultry bird - the
aspiration of masses being
fulfilled by IPDP,BBSR

CHAPTER - 4

CHAPTER – 4.0 POULTRY DEVELOPMENT

4.1 Background

Poultry development in the State has taken a quantum leap in the last three decades; 70% of the poultry products and eggs are consumed in urban and semi urban areas. Poultry products like egg and chicken constitute a primary source of animal protein. Poultry sub-sector in Orissa has made significant progress over the years providing employment and income to the rural youth. The backyard poultry also play a vital role in the livelihood of millions of poor people particularly tribals.

The State Level Apex Committee constituted for poultry development under the Chairmanship of the APC-cum-ACS, Orissa has been convened at regular intervals to address different impediments of the poultry sector. The State Government has declared Poultry as Agriculture in 2005.

The Govt. of Orissa has taken the lead role in the country to declare poultry as agriculture to encourage poultry production in the State. This step will enable our poultry farmers to avail various incentives as being offered to agriculture.

As per 2003 Livestock Census, the total poultry population including duckery in the State was 189.94 lakhs. The commercial egg production works out to 22 lakh eggs per day during the year 2008-09. While Ganjam district accounts for 24% of the total egg production, Khurda stands second with 10% of eggs produced in the state. Egg production from ducks is about 0.5 lakh per day.

The growth of layer sector in the State is not up to the desired level. Though the agro climatic condition of the State is conducive for poultry farming, yet the growth rate was very slow for various reasons. The Govt. is giving more thrust to facilitate egg production through certain initiatives and policy decisions. The increase in egg production of the State not only will

eradicate the protein hunger of the State but also can create huge employment opportunities for people. The scope in this industry is enormous. The growth in Poultry industry will help in development of a number of supporting and allied industries like compound feed manufacturing, equipment and machinery, pharmaceuticals & biologicals. The Department of Fisheries & ARD has embarked upon an ambitious programme to produce 100 lakh eggs per day during the next 10 years period. Different Govt. Departments working on poverty alleviation programme have been facilitated with different schemes and projects for implementation. Introduction of egg in M.D.M programme further increases the scope of small & medium commercial layer farming.

4.2 VISION FOR POULTRY DEVELOPMENT

4.2.1 The State through a proactive policy measures will attract investors to set up commercial layer and broiler units to double the table egg and chicken meat production.

4.2.2. Orissa to emerge as a role model for others in backyard Poultry farming through scientific management and adoption of modern technologies.

4.3 STRATEGY

4.3.1 Running all the 10 Government Poultry Farms with optimum capacity utilization.

43.2. Ensuring operationalization of 48 Hatcheries set up under SGSY infrastructure Scheme with both backward and forward linkage.

4.3.3 Set up at least two Poultry Estates to encourage entrepreneurs for establishing Poultry Units.

4.3.4. Promoting backyard dual purpose small poultry units along with Chick rearing Unit for rearing of chicks for initial 3 weeks.

4.3.5. Training of community members on poultry management particularly vaccination

4.3.6. Conservation of native germplasm.

4.3.7. Initiating steps for contract farming of Maize.

4.3.8. Training of farmers and Veterinary staffs.

4.4. GOAL:

- Increase egg production from 42 lakh to 100 lakh eggs per day
- To popularize poultry rearing as a profitable, low-cost backyard activity among 3 lakh rural poor

4.5 SWOT Analysis of the sector

Strength:

- Shorter gestation period.
- Available technology for backyard poultry rearing is adaptable in context of rural poor.
- Cultural familiarity of poor to fowl rearing, hence easy acceptance.
- Favourable Government policy measures.
- Good network of AH institutions.
- Poultry and poultry products constitutes an important component of human diet in most of the developing countries of the world. The consumption is also increasing at a rapid rate due to low fat content, easy availability & cost effectiveness.
- Poultry is the least cost alternative next to fish only & produces more of animal protein from the same amount of feed as compared to milch cow, sheep, Goat & Pig.
- Two eggs provide 160 calories of energy constituting more than 20% of the daily requirement of proteins, Vit A, D & B12, Riboflabin, folic acid, Panthothenic acid, Phosphorus and Iodine along with fat.
- According to nutritional Advisory committee of India, at least half an egg should be made available to an average individual which workout to be 180 eggs/ annum.
- Poultry farming require less area with high and quick return than any other animal husbandry and agriculture activities.

Weakness:

- Price fluctuation.
- Highly capital intensive.
- Slow adoption of automation in production system.
- Unhygienic wet market slaughter.

Opportunity:

- Demand for poultry meat is increasing with rise of income and health consciousness
- Increasing demand of egg.
- Availability of land at an affordable price.
- Consumer preference for white meat with low Cholesterol content over red meat.

Threat:

- Outbreak of disease like “Bird Flu”.
- WTO: exposing the local industry to open competition.

4.6 GOAL:

- Increase egg production from 30 lakh to 100 lakh eggs per day.
- To popularize poultry rearing as a profitable, low-cost backyard activity among 3 lakh rural poor

Interventions required for the sector:

- Encouraging Private sector led commercial poultry production
- Promotion of backyard sector to enhance productivity and production

4.7 Encouraging Private sector led commercial poultry production

A. Commercial Broiler Production

Presently, about 4600 broiler farms are in operation. The size of the broiler farms ranges from 1,000 birds to 10,000 birds per week. Broiler placements are to the extent of 9 to 10 lakh per week. Annual broiler meat production comes to 46.8 TMT and the per capita availability is 1.8 kg. per annum.

There is good potential for small scale broiler farming which can create employment opportunities to the rural mass. Since, urbanization and industrialization has increased the demand for broiler meat, it is proposed to enhance broiler production by establishing farms either through own fund or bank finance in coming years. The Department will encourage the entrepreneurs to avail assistance through APICOL. The physical and financial projections are as follows.

TABLE – 4.1 TEN YEAR PLAN FOR COMMERCIAL BROILER – PHYSICAL TARGET

	Action Item		PROPOSED									
		Existing	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Poultry Production - Commercial											
I	No of broiler farms to be established @ Avg cap 1000 nos. in 10 chain	4579	200	210	240	280	250	180	160	150	140	200

TABLE – 4.2 TEN YEAR PLAN FOR POULTRY DEVELOPMENT FINANCIAL TARGETS

	Action Item		PROPOSED (Rs. in Lakhs)									
		Unit cost	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Poultry Production - Commercial											
I	No of broiler farms to be established @ Avg cap 1000 nos in 10 chain	1.1	220	231	264	308	275	198	176	165	154	220

TABLE – 4.3 SOURCES

Commercial Broiler Production		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
KSK – Capital investment subsidy		55	58	66	77	69	50	44	41	39	55
Bank Loan / Private investment		165	173	198	231	206	149	132	124	116	165
Total:		220	231	264	308	275	198	176	165	154	220

B. Commercial Layer Farms

Presently, about 66 numbers including Broiler Breeder farms & Commercial Layer farms having 28.6 lakh birds are running in the State. The size of these Commercial layer farms are ranging from 15,000 birds to 1, 50,000 birds. The total table egg production assuming 80 % production comes to 22 lakhs per day.

The present demand for table eggs is 64 lakh per day (including the requirement for Mid Day Meal programme) vis-a-vis availability of 22 lakh eggs from commercial layer units.

4.8 Action Plan

Sub – activity – 1: Establishment of one Poultry Estate

One Poultry Estate at Mayurbhanj is proposed to be established on experimental basis under Central Scheme to promote Poultry farming in the State. This will enable the entrepreneurs to set up different commercial layer/ broiler units in the State. If this is successful more such estates will be set up in different districts.

Sub – Activity – 2: Encouragement of Private Investment for setting up layer unit

It is the fastest growing sector, which registered an average growth rate of 15 % per annum in Orissa during last 3 years. The egg availability per year per head in Orissa is 32 eggs as compared to national average of 42 eggs. The Government of Orissa has created suitable conditions for enabling the process for the growth of poultry sector through various policy and other measures, which in turn is boosting the growth. The initiatives are as follows.

I. Poultry has been declared as Agriculture vide Resolution No. 27560/Agril., dt. 10.08.2005.
II. OERC has reduced the power tariff for poultry farms from Rs.4/- per unit to Rs.1.10 /unit.
III. Finance Department has already issued VAT exemptions on poultry feed, feed supplements and additives.
IV. State Level Apex Committee on poultry development constituted to ensure better co-ordination.
V. Additional increase in demand of egg through introduction of MDM programme.

In order to produce 100 lakh egg production per day in coming 10 years, additional 45 lakh layer capacity will be created in the form of setting up new layer unit and expansion of existing units. The egg production from the commercial sector is expected to be enhanced from present production of 22 lakhs per day to 59 lakhs per day by 2020. The backyard sector will produce 41 lakhs egg per day. The total investment will be around 225 crores.

Sub – Activity – 3: Exemption of Tax for poultry Products

The commercial Poultry units are to be given some more incentives like exemption of 1 % Entry tax, 1 % Market Tax on egg, day old chicks and broiler birds , 4 % VAT on Maize & Broken rice through reimbursement. The reimbursement of VAT amount is calculated based on Poultry Feed composition @ 3 kg. balanced feed per bird per month, where the composition of balanced poultry feed is of 40% maize & 20% broken rice in composed poultry feed.

TABLE 4.7 CALCUATION OF VAT, ENTRY TAX & MARKET TAX REIMBURSEMENT

	Present	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Birds number (in lakh)	28.6	33.1	37.6	42.1	46.6	51.1	55.6	60.1	64.6	69.1	73.6
Feed/bird/Yr - 36 Kg (in lakh Kg)	1029.6	1191.6	1353.6	1515.6	1677.6	1839.6	2001.6	2163.6	2325.6	2487.6	2649.6
Maize – 40 % (in lakh Kg)	411.84	476.64	541.44	606.24	671.04	735.84	800.64	865.44	930.24	995.04	1059.84
Cost of Maize @ Rs. 11/- (Rs. In lakh)	4530.24	5243.04	5955.84	6668.64	7381.44	8094.24	8807.04	9519.84	10232.64	10945.44	11658.24
VAT - Maize 4 % (Rs. In lakh)	181.2096	209.7216	238.2336	266.7456	295.2576	323.7696	352.2816	380.7936	409.3056	437.8176	466.3296
Broken rice - 20% (in lakh Kg)	205.92	238.32	270.72	303.12	335.52	367.92	400.32	432.72	465.12	497.52	529.92
Cost of broken rice @ Rs. 8/-(Rs. In lakh)	1647.36	1906.56	2165.76	2424.96	2684.16	2943.36	3202.56	3461.76	3720.96	3980.16	4239.36
VAT on broken rice 4 % (Rs. In lakh)	65.8944	76.2624	86.6304	96.9984	107.3664	117.7344	128.1024	138.4704	148.8384	159.2064	169.5744
Total VAT (Rs. In lakh)	247.104	285.984	324.864	363.744	402.624	441.504	480.384	519.264	558.144	597.024	635.904
Chicks – layer number (in lakh)	14.3	16.55	18.8	21.05	23.3	25.55	27.8	30.05	32.3	34.55	36.8
Chick – broiler number (in lakh)	450	451	452	453	454	455	456	457	458	459	460
Cost of chicks (25/-, 12/-) (Rs. In lakh)	5757.5	5825.75	5894	5962.25	6030.5	6098.75	6167	6235.25	6303.5	6371.75	6440
Egg(nos.in lakh)	22	23	24	25	26	27	28	29	30	31	32
Cost of eggs (Rs. In lakh)	20075	20987.5	21900	22812.5	23725	24637.5	25550	26462.5	27375	28287.5	29200
Total broiler birds in lakh Kg	637.5	637.5	637.5	637.5	637.5	637.5	637.5	637.5	637.5	637.5	637.5
Broiler birds cost @ Rs. 50/- per kg. (Rs. In lakh)	31875	31875	31875	31875	31875	31875	31875	31875	31875	31875	31875
Entry Tax 1 % (Rs. In lakh)	577.075	586.8825	596.69	606.4975	616.305	626.1125	635.92	645.7275	655.535	665.3425	675.15
Market Tax 1 % (Rs. In lakh)	577.075	586.8825	596.69	606.4975	616.305	626.1125	635.92	645.7275	655.535	665.3425	675.15
Total exemption required (Rs. In lakh)	1401.254	1459.749	1518.244	1576.739	1635.234	1693.729	1752.224	1810.719	1869.214	1927.709	1986.204

TABLE – 4.4 TEN YEAR PLAN FOR COMMERCIAL EGG PRODUCTION PHYSICAL TARGETS

Sl No	Action Item	Existing	PROPOSED									
			10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Poultry Production - Commercial											
II	No of Commercial Farms to be set up (appx 45000 cap)	41	10	10	10	10	10	10	10	10	10	10
III	Establishment of Poultry Estate		1									
IV	Exemption of VAT & Entry Tax											

TABLE – 4.5 TEN YEAR PLAN FOR COMMERCIAL EGG PRODUCTION FINANCIAL TARGETS

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Poultry Production - Commercial										
II	No of Commercial Farms to be set up (appx 45000 cap)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
III	Establishment of Poultry Estate	200									
IV	Exemption of VAT & Entry Tax	833.4	850.6	875.6	896.7	905.9					
	Total	**2533**	**2351**	**2376**	**2397**	**2406**	**1500**	**1500**	**1500**	**1500**	**1500**

TABLE – 4.6 SOURCE OF FUND

No		PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
I	KSK – Capital investment subsidy	250	250	250	250	250	250	250	250	250	250
II	Bank Loan / Private investment	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
III	State share for Poultry Estate (PE)	50									
IV	Central Sponsored Plan Scheme for PE	150									
V	State Budget for reimbursement of VAT & Entry Tax	833.4	850.6	875.6	896.7	905.9					
	Total:	**2533**	**2351**	**2376**	**2397**	**2406**	**1500**	**1500**	**1500**	**1500**	**1500**

4.9 Backyard Poultry Farming

4.9.1 Introduction

The growth in Poultry sector has been mainly restricted to commercial poultry. Rural Backyard Poultry contributing nearly 30% to the national egg production is the most neglected one, in spite of the fact that their poultry eggs and meat fetch a much higher price than that from commercial poultry. 70% of the poultry products and eggs are consumed in urban and semi urban areas and the rural consumption is quite low. The private sector is not inclined to go to the rural areas. For the poorest of the poor and the landless farmers, the major issues are food security and risk spreading through subsidairy income, which are not addressed by the private sector. Backyard Poultry is a potent tool for up-liftment of the poorest of the poor, requiring hardly any infrastructure with bare minimum night shelter facility set-up. Thus enriching small farmer and landless labour families through a more holistic and self-reliant approach not only in terms of improvement of income, employment, childcare, shelter to the family and nutritional status but also in terms of fostering community development, gender empowerment and protection of environment.

The traditional backyard poultry was less remunerative than modern backyard poultry practices which encourage rearing of low input technology birds that grow at a faster rate and produce more eggs, yet phenotypically similar to Deshi birds. Organized Backyard poultry can be a means of eradication of rural poverty and protein hunger to a great extent. Promotion of this sector not only brings the state to a great extent of sufficiency in egg and chicken meat production but also can strengthen the rural economy.

Backyard poultry is an age old practice in rural Orissa which generates additional income to the poor households, specifically Tribal & S.C. communities. Almost 60% of the rural and 100 % of Tribal & S.C households is rearing backyard poultry in Orissa. Backyard poultry is quite high acceptance in tribal areas.

About 80 percent of the State population is residing in rural area. They earn their livelihood through agriculture and its allied activities. More over the agro climatic condition is

not very much conducive for agriculture round the year. Agriculture only provides about 100 to 120 days employment to the rural mass. Because of scanty land holding, land fragmentation and seasonal activity, agriculture is not able to provide full employment to the rural work force which in turn creates disguised unemployment. To combat such a serious issue, only agriculture allied activities like Animal Husbandry & Poultry Farming are the real weapons.

It may also be mentioned that groups of small rural producers cater to the needs of consumers who have a specific preference for coloured birds and brown-shelled eggs, both of which are mostly produced in the rural sector/ Backyard poultry. This constituting a source of subsistence income as a subsidairy occupation by taking up coloured bird units ranging from 5 to 20 birds per family in their backyards.

Lack of amenities for brooding, suitable night shelters etc. primarily in cold and rainy season result in high mortality. To reduce mortality, there should be mother units or Chick Rearing Units which are run by small scale entrepreneur who will rear the chicks and also help in providing the backyard poultry rearers with 4 week/one month old chicks so as to minimize the loss, such units could be run by SHGs/individuals. The training on poultry will be more intensive and services be provided at their doorstep of the beneficiaries.

Present status:

By induction of low input technology birds like Vanaraj, Giriraja, Girirani, Gramalaxmi, Krishilayer, Gramapria, CARI Gold, Kalinga Brown, can produce 120 – 140 eggs per annum, which will substantially increase the income of farming community. Out of total poultry population of 189.95 lakhs, as per the census 2003, backyard poultry population constitutes around half of the total poultry population of the State. 63% of the owners of the backyard poultry are Scheduled Tribes, 17% Scheduled Castes and rest 20% owned by OBCs and other communities. Small holdings containing less than 10 birds per unit is a common feature of rural Orissa. Main interest of the poultry farmers having backyard poultry is not production of eggs as returns are very low from sale of eggs. They hatch all their eggs and sale them as birds.

Department of AH has strengthened 10 poultry/ duck farms (8 poultry farms and 2 duck farms) under Centrally Sponsored Scheme, “Assistance to State Poultry / Duck breeding farms”. Presently 12,000 numbers of birds are in lay and is expected to produce 9.99 lakhs day old chicks.. Under RKVY funding all these 8 State Poultry Farms are going to enhance their bird capacity to another 16000 Parent stock will produce 23, 33,184 of viable day old chicks. after induction of 1st batch of parent stock under RKVY to the existing capacity.

48 numbers of District poultry hatcheries need supply of hatching eggs of low input technology birds which will further boost the backyard poultry. Each such hatchery will produce 2.2 lakhs Day Old Chicks of low input technology per year to meet the demand of backyard poultry. They will supply day old chicks of low input technology birds to Chick Rearing Unit and other interested farmers.

Presently, 12,000 number of birds are in lay and the expected production is 16,80,000 hatching egg @ 140 eggs/ bird and 9.99 lakhs viable day old chicks @ 70% hatchability with 2% extra, and 2% grade out / crippled chicks on egg set basis. Where the capacity of the State Poultry farms are enhanced by another 16000 Parent stock a total of 39, 20,000 hatching eggs and 23,33,184 viable day old chicks will be produced.

Action Plan

Sub – activity – 1: Expansion of the Departmental Poultry Farm for rearing of parent layer unit

The departmental poultry breeding farms will be expanded to rear parent stock layer birds for production of hatching eggs. The hatching eggs will be supplied to the Hatcheries for production of day old chicks. In addition to this, the Special Poultry Unit Chipilima, Sambalpur will be expanded to rear 45,000 capacity of low input technology Parent stock under RIDF funding. In the next phase, 20,000 bird capacity layer unit will be established at Angul for

production of hatching eggs. Thus the total capacity of the layer stock parent bird will be 93,000 and 1.2 crore hatching eggs will be produced per annum.

Sub – activity – 2: Chick Rearing Unit under Central scheme

It is proposed to set up chick rearing units to rear the day old chicks for 4 weeks before delivery to the farmers. Each State Poultry Farm (8 nos.) will feed hatching eggs to Poultry Hatcheries which will function as the Nucleus Farms (**NF**) for supply of Day-Old-Chicks to Chick Rearing Units (**CRU**). A specific number of CRUs will be attached to each NF in a phased manner, and the CRUs will function as nurseries for chick rearing and for providing common arrangements for getting chicks, feed, advisory services, marketing of eggs, male birds and cull birds. Suitable NGOs and SHGs may be involved in operating the Chick Rearing Units.

In 1st year 38 nos. of CRUs will be attached to 14 nos. of NF. In the 2nd year 88 nos. of CRUs will be attached to 34nos. of NFs. In the 3rd year 231 nos. of CRUs will be attached to 45 nos. of NFs. In the 4th year 294 nos. of CRUs will be attached to 56 nos. of NFs. (Refer Annexure- I)

The Chick Rearing Units will be of 2000 capacity and supply 4 week old vaccinated chicks to the beneficiary (20 chicks / unit) with feed and medicines, and also to market the eggs and the culled birds unless the beneficiary is able to sell the same locally. The Chick Rearing Units has also to periodically provide necessary back up services to the beneficiaries.

Each CRU is to cater 700 beneficiaries (old and new) per year. In this way in 1st year 30,000 nos., in 2nd year 45,000 nos., in 3rd year 1, 40,000 nos. and in 4th year 1,00,000 nos. of beneficiary will be covered under this scheme and 5th Year onwards, 2 Lakh units each having 20 birds will be set up.

In the first year 38 CRUs will receive 9, 99,936 nos. of day-old chicks. Like wise in 2nd year 88 CRUs will receive 23, 33,184 nos. of day-old chicks, in 3rd year 231 CRUs will receive

60, 82,944 nos. of day-old chicks, in 4th year 294 CRUs will receive 77, 49,504 nos. of day-old chicks from the link NFs and from 4th year onwards 77, 59,503 nos. of day-old chicks will be received by CRUs from the link NFs . After taking brooding care, vaccination, deworming and other allied health coverage activities for chicks and rearing it up to four weeks of age it will be supplied to individual farmers to ensure better survivability at farmer's level. In this manner the CRUs will supply 8,99,942 nos.,20,99,865 nos.,54,74,649 nos. and 69,74,553 nos. of 28 days old reared chicks to the beneficiaries.

Each Chick Rearing Unit has to rear 1100 chicks per batch in fortnight cycle. Every year one CRU will supply 24000 chicks to 600 beneficiaries. After meeting all costs of feed, medicines and labour costs, the mother unit will earn a margin of Rs.10/- per chick. Its annual net income will thus be Rs.1, 24, 208/- after repayment bank loan from 6th year.

The initial fixed cost to be incurred in setting up a Chick Rearing Unit will be Rs.5, 79, 000/- (Rs.5, 10,000/- consisting of poultry shed of area 2000 sq. feet with asbestos roof @ Rs.250/- per sq. ft. with rat proof projection of 1.5 ft. on top of the plinth); Rs. 5,000/- for electric fittings and purchase of other equipments, Rs. 10,000/- for cost of electric connection, Rs. 20,000/- for digging of bore well, Rs. 24,000/- for feeders and drinkers and Rs. 6,000/- for two nos. of cycles with proper attachments for carrying chicks and birds and Rs. 4,000/- other miscellaneous costs. The working capital requirement towards cost of chick, water, electricity etc. will be around Rs. 69, 816/-.So the total project cost will be Rs.6, 48,816, or say Rs.6.5 lakhs. 20% of this cost should be borne by the NGO setting up the mother unit, 20% as subsidy by Government, 30% interest free loan from NABARD through central grant for backyard poultry development and 30% as loan by banks. The loan will be repayable in ten years. The CRU will have to meet the annual interest and principal repayment burden from the gross profit leaving a net income of Rs. 1, 24,208/- per year after completion of project period of 10 years.

Sub – activity – 3: **Refresher training to the Farm People**

Time to time refresher training on different managemental aspects of the farm should be provided to the farm people (Poultry overseer, Livestock Inspector, Veterinary Technician, Field man Demonstrator, Farm Manager etc.) to infuse skill and efficiency. Such training programmes will be organised during lean season i.e. March to June of each year. The nos. of veterinarians involved in poultry farm activities require refresher's training. All total 340 personnel will be trained.

Sub – activity – 4: **Refresher Training to the Hatchery People**

Time to time refresher training on different managemental aspects of the hatchery should be provided to the hatchery people (Hatchery Operator, Hatchery worker etc.) to infuse skill and efficiency. Such training programmes should be devised during lean season i.e. March to June of each year. The number of hatchery operators requiring training is 54 over a period of 4 years

Sub – activity 5: Poultry training cum extension centers for training to beneficiaries @ 2 numbers from a 10 member Group:

The new beneficiaries before supply of 4 weeks chick will be imparted with some basic skills on poultry farming for one day. The skill up gradation will help in better management of the poultry birds in the backyard. Some of the community members will be trained on vaccination of poultry bird who will be poultry link worker at community level. The one day training will be organized at Panchayat level.

First year @ 5000 nos. of beneficiaries (2 members from each SHG) will be imparted training on backyard poultry rearing and management in 125 batches and each batch constituting 40 nos., before they are provided with chicks with an expenditure of Rs 11,700/- per batch total

expenditure (125 X 11,700/-)= Rs 14, 62,500/-. Likewise in 2nd @ 6600 nos, from 3,300 SHGs, 165 batches (165 X 11,700/-)= Rs. 19,30,500/- in 3rd from 9400 Groups,18,800 beneficiaries, 470 batches (470 X 11,700/-)= Rs. 54,99,000/- and in 4th year 8,200 beneficiaries from 4100 Groups., 205 batches (205X11,700/-)= Rs. 23,98,500/- expenditure on training to the beneficiaries is given below. The entrepreneur willing to start Chick Rearing Unit will be imparted with 3 days training at District level. They will be trained at Government Poultry Farm/ District Training Centre.

TABLE 4.8 Physical & Financial Target for Farmers Training

Sl. No.	Nos. of trainings to be conducted	Total entrepreneurs to be trained	Total Amount (In Rupees)
1st year	125 nos.	5000 nos.	14,62,500/-
2nd year	165 nos.	6600 nos.	19,30,500/-
3rd year	470 nos.	18.800 nos.	54,99,000/-
4th year	205 nos.	8,200 nos.	23,98,500/-
TOTAL	**965 nos.**	**38,600 nos.**	**112,90,500/-**

Sub – activity 6: Poultry training cum extension centers for training to members of the Chick Rearing Unit group:

Further, two person from 294 CRU unit will be trained on brooding and other management skill over a period of 4 years. First year 2 batches, 2nd year 3 batches, 3rd year 7 batches and 4th year 3 batches with a total of 15 batches will be trained over a period of 4 years. (40 members per batch). Total expenditure on training to the entrepreneur is given below.

TABLE 4.9 Physical & Financial Target for Training of Chick Rearers

Sl. No.	Nos. of trainings to be conducted	Total entrepreneurs to be trained	Total Amount (In Rupees)
1st year	2 nos.	76 nos.	1,49,200/-
2nd year	3 nos.	100 nos.	2,23,800/-
3rd year	7 nos.	286 nos.	5,22,200/-
4th year	3 nos.	126 nos.	2,23,800/-
TOTAL	**15 nos.**	**588 nos.**	**11,19,000/-**

Sub – activity – 7: Setting up small backyard Units:

Backyard Units under different State government ongoing Schemes and Central schemes will be tapped to promote backyard poultry in the state. The village chickens provide readily harvestable animal protein to rural households. The participation of women in rural poultry contributes to human development both by increasing access for rural women to income and knowledge. Under Central Scheme, 3,15,000 nos of beneficiaries will be covered. After the scheme, the established units will continue to buy birds from Chick Rearing Units. Poultry units under ongoing Schemes also will be provided.

Backward Linkage to the rearing group:

1) They will be provided with good quality day-old chicks from the near by Govt. hatchery.

2) The rearing group will be provided with necessary infrastructural and working capital support from the Govt. of Orissa excluding land on which CRU will be established

3) The rearing group members will be provided with technical knowledge and skill up gradation training at the farm level free of cost.

4) They will be provided with all sorts of technical help by the field Veterinarians of the concerned area from time to time.

5) The concerned Vety. Asst. Surgeon will pay regular visit to the unit and take necessary steps for better maintenance of health of chicks. And he will ensure sending of feed samples regularly to the Feed Testing/Analytical Laboratory for ascertaining the quality of feed.

6) The Department will look forward to provide all sorts of help from the on going schemes.

7) Poultry help line telephone number will be maintained at Chief District Veterinary Officers level (Poultry Nodal Officer of the district) of each district to resolve problems arising at rearing group level. Similar help line for the state will be maintained at the Directorate level also.

Forward Linkage to the Rearing Unit:

1) The concerned District Administration will take care of the sale of 4 wks. Old chicks along with the members of the chick rearing group. 'Mission Shakti' will also be associated.

2) At no time there will be hurdling of chicks in the farm due to scarcity of sale.

3) Also the District Administration, AH&VS, Orissa will take the members as working experts in imparting training to the local farmers of the concerned area regarding skill up gradation, so that there will be good rapport between the local farmers and the rearing group members which will help in marketing in due course of time.

The support service like vaccination and health care by Department will be ensured.

TABLE 4.10 Physical target

Action Item	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Backyard Poultry Production										
Establishment Parent stock layer Unit - 45000	1									
Establishment Parent stock layer Unit - 20000			1							
Revolving fund for parent stock layer farms	5	5	5							
Recurring cost for 10 Government Farms	10	10	10	10	10	10	10	10	10	10
Set up Chick rearing Unit	38	88	231	294						
Set up backyard Unit @ 20 X 2 birds each (CSP)	30000	45000	140000	100000						
Set up backyard Unit @ 20 X2 birds each (Other)					5000	5000	5000	5000	5000	5000
Cumulative supply of chicks (old & new)2 times 20 chicks to each farmer (assuming some old units will be closed after CSP scheme)	900000	2250000	5550000	7200000	3200000	200000	200000	200000	200000	200000
Training										
Refresher training to farm people - batches	1	2	3	4						
Training to CRU entrepreneurs - batches	2	3	7	3						
Training to Hatchery personnel - batches	1	1	1	1						
Setting up poultry training cum extension link worker	5	5								
Training of farmers - 40 per batch	114	150	543	339						

TABLE 4.11 Financial Requirement

Backyard Poultry Production	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Establishment Parent stock layer Unit - 45000	1722	0	0	0	0	0	0	0	0	0
Establishment Parent stock layer Unit - 4000	0	0	880	0	0	0	0	0	0	0
Revolving fund for parent stock layer farms	100	100	100	0	0	0	0	0	0	0
Recurring cost for 10 Government Farms	20	20	20	20	20	20	20	20	20	20
Set up Chick rearing Unit	228	300	858	378	0	0	0	0	0	0
Set up backyard Unit @ 20 birds each (CSP)	1020	1530	4760	3400	0	0	0	0	0	0
Set up backyard Unit @ 20 birds each incl chicks (Other)	0	0	0	0	170	170	170	170	170	170
Training										
Refresher training to farm people	0.506	1.012	1.518	2.024	0	0	0	0	0	0
Training to CRU entrepreneurs	1.492	2.238	5.222	2.238	0	0	0	0	0	0
Training to Hatchery personnel	0.5	0.5	0.5	0.5	0	0	0	0	0	0
Setting up poultry training cum extension link worker	20	20	0	0	0	0	0	0	0	0
Training of farmers - 40 per batch	57.684	75.9	274.758	171.534	0	0	0	0	0	0
Total :	**3170.2**	**2049.7**	**6900.0**	**3974.3**	**190.0**	**190.0**	**190.0**	**190.0**	**190.0**	**190.0**

TABLE 4.12 SOURCES OF FUND

	SOURCES - Backyard Poultry	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	RKVY										
2	RIDF	1722.0	0.0	880.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Watershed					68.0	68.0	68.0	68.0	68.0	68.0
4	Microproject					34.0	34.0	34.0	34.0	34.0	34.0
5	ATMA/ DRDA					34.0	34.0	34.0	34.0	34.0	34.0
6	OCTMP					17.0	17.0	17.0	17.0	17.0	17.0
7	OIIAMP					17.0	17.0	17.0	17.0	17.0	17.0
8	Private Source - backyard unit	390.0	585.0	1820.0	1300.0	0.0					
9	CP- Backyard Poultry	80.2	99.7	282.0	176.3	0.0	0.0	0.0	0.0	0.0	0.0
10	CP- Backyard Poultry subsidy	630.0	945.0	2940.0	2100.0	0.0					
11	Chick rearing unit subsidy	45.6	60.0	171.6	75.6	0.0					
12	Bank loan/Own source	182.4	240.0	686.4	302.4	0.0	0.0	0.0	0.0	0.0	0.0
13	State Budget	120.0	120.0	120.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
	Total:	**3170.2**	**2049.7**	**6900.0**	**3974.3**	**190.0**	**190.0**	**190.0**	**190.0**	**190.0**	**190.0**

Sub – activity – 5: **Conservation of Native Germplasm**

Odisha is having good poultry genetic resources and some varieties namely, Hansli, Vezaguda, Phulwari, Kalahandi are important due to their high socio – economic importance to the people in general and tribals in particular. Profiling of important breeds like Hansli, Vezaguda, Phulwari, Kalahandi and Dhinki will be taken up. Subsequently, steps are to be taken up for conservation and improvement of these breeds in their native tracts.

Conservation of the local poultry breeds will have a positive impact on the rural economy in the region. The preservation of these local genetic resources will highlight on conservation point of view that builds upon the cultural legacy of area, and also offer consumers a source of high quality products.

TABLE 4.13 Physical target

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Conservation & Improvement of local Breed										
II	Survey & Characterization	4	2								
III	Selective Breeding through ONBS		2	4	3						

TABLE 4.14 Financial Targets

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Conservation & Improvement of local Breed										
II	Survey & Characterization	15.6	7.8	0	0	0	0	0	0	0	0
III	Selective Breeding through ONBS	0	67.32	134.6	101	0	0	0	0	0	0
		15.6	75.12	134.6	101	0	0	0	0	0	0

The total cost amounting to Rs. 326.34 lakhs will be availed from Central Scheme – Conservation of threatened Breed.

TABLE 4.15 ABSTRACT - POULTRY DEVELOPMENT

POULTRY DEVELOPMENT											
											(Rs. in Lakhs)
Particulars	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
Commercial Broiler Production	220.00	231.00	264.00	308.00	275.00	198.00	176.00	165.00	154.00	220.00	2211.00
Commercial Layer Production	2533.42	2350.56	2375.58	2396.66	2405.90	1500.00	1500.00	1500.00	1500.00	1500.00	19562.12
Backyard Poultry Production	3090.00	1950.00	6618.00	3798.00	190.00	190.00	190.00	190.00	190.00	190.00	16596.00
Training of farmers & other link workers	80.18	99.65	282.00	176.30	0.00	0.00	0.00	0.00	0.00	0.00	638.13
Conservation & Improvement of local Breed	15.60	75.12	134.60	101.00	0.00	0.00	0.00	0.00	0.00	0.00	326.32
Total:	**5939.2**	**4706.3**	**9674.2**	**6780.0**	**2870.9**	**1888.0**	**1866.0**	**1855.0**	**1844.0**	**1910.0**	**39333.6**

TABLE 4.16 SOURCES OF FUND

SOURCES	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
RIDF	1722.0		880.0								2602.0
Other Projects (Watershed, OCTMP, ATMA, Micro-project etc.)	0.0	0.0	0.0	0.0	170.0	170.0	170.0	170.0	170.0	170.0	1020.0
Bank Loan/ Private Investment	1987.4	2248.3	3954.4	3083.4	1456.3	1398.5	1382.0	1373.8	1365.5	1415.0	19664.5
CSP	905.8	1104.7	3393.6	2351.9	0.0	0.0	0.0	0.0	0.0	0.0	7755.9
CP	15.6	75.1	134.6	101.0	0.0	0.0	0.0	0.0	0.0	0.0	326.3
State Budget	1003.4	970.6	995.6	916.7	925.9	20.0	20.0	20.0	20.0	20.0	4912.1
KSK – Capital investment subsidy	305.0	307.8	316.0	327.0	318.8	299.5	294.0	291.3	288.5	305.0	3052.8
Total:	5939.21	4706.33	9674.18	6779.95	2870.902	1888	1866	1855	1844	1910	39333.6

ACTIVITY SUMMARY

ACTIVITY SUMMARY

Name of the programme: POULTRY DEVELOPMENT

Number of Beneficiaries or employment generated :

1. Expected employment opportunity creation in the form of man-days @ 1 hour/beneficiary/day at farmers level – 500,00,000 lakh mandays and employment to 1.88 lakh farmers.
2. Expected employment opportunity creation in the form of man-days at CRU level – 600 person
3. Commercial broiler units will provide employment to 5000 person and commercial layer unit will provide employment to 1000 person.

Physical Target :

Total egg production from the back yard sector will be Additional 6 lakh eggs/ day

Egg production from commercial layers will be 59 lakhs per day

Poultry meat production will be 100 TMT per annum.

Implementing agency :

The State Animal Resources Development Department is the major agency for implementation of the programme in collaboration with Watershed Mission, Panchayat Raj, NABARD and plan assistance from GoI and state plan. Private players will invest for setting up commercial broiler and layer unit.

TABLE 4.17 SOURCES OF FUNDING

SOURCES	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	Total
RIDF	1722.0		880.0								2602.0
Other Projects (Watershed+ Microproject)	0.0	0.0	0.0	0.0	170.0	170.0	170.0	170.0	170.0	170.0	1020.0
Bank Loan/ Private Investment	1987.4	2248.3	3954.4	3083.4	1456.3	1398.5	1382.0	1373.8	1365.5	1415	19664.5
CSP	905.8	1104.7	3393.6	2351.9	0.0	0.0	0.0	0.0	0.0	0.0	7755.9
CP	15.6	75.1	134.6	101.0	0.0	0.0	0.0	0.0	0.0	0.0	326.3
State Budget	1003.4	970.6	995.6	916.7	925.9	20.0	20.0	20.0	20.0	20.0	4912.1
KSK – Capital investment subsidy	305.0	307.8	316.0	327.0	318.8	299.5	294.0	291.3	288.5	305.0	3052.8
Total:	5939.21	4706.33	9674.18	6779.9	2870.9	1888	1866	1855	1844	1910	39333.6

Annexure – 1

Parameters	Present	1st phase expansion	2nd phase expansion	3rd phase (probable)
Laying capacity of 8 Govt Farms (in Nos.)	12,000	16,000	45,000	20,000
Egg Production / annum @ 140 eggs/layer/year (in Nos.)	16,80,000	39,20,000	102,20,000	130,20,000
Hatching egg Supply to Hatchery (deducting 12 eggs as pullet eggs/bird g and 3% crack eggs i.e 140 – (12+4) = 124 eggs per bird (in Nos.)	14,88,000	34,72,000	90,52,000	115,32,000
Chick production @ 70% @ Total Egg Set basis (in Nos.)	10,41,600	24,30,400	63,36,400	80,72,400
Total viable chicks for sale (deducting 2% as grade out/ crippled chicks and 2% Extra chicks) @ 96% (in Nos.)	9,99,936	23,33,184	60,82,944	77,49,504
Chick rearing Unit capacity 2000 birds cap				
Rearing 28 days				
Cycle - 2 weeks interval				
Requirement for CRU - 2200 nos./month				
CRU will supply 2000 chicks /month				
Annual requirement of chicks for each CRU is 26,400 nos.				
CRU unit feeding (in Nos.)	38	88	231	294
Hatchery - 50- 80% capacity utilization - 1-2 lakh (in Nos.)	14	34	45	56
Linking to CRU (in Nos.)	3	3	5	5
No of beneficiaries to be covered - new	25,000	52,079	1,65,092	101,643
No of beneficiaries to be covered – old	--	12,500	26,039	82,546
Total nos. of beneficiaries	25,000	64,578	191,131	187,793
Nos. of SHG groups addressed (10 members/group) – old	-	12,500	26,039	82,546
Nos. of SHG groups addressed (10 members/group) – new	25,00	52,07	16,509	10,164
Total SHG groups addressed	25,00	52,07	16,509	10,164
Total nos. of expected egg production from backyard poultry sector in lakhs. First batch beneficiary @ 45 eggs/bird/annum for 8 birds 2nd year onwards @ old – 90 eggs X 16, new – 45 eggs X 8 (nos in lakhs)	90.00	478.80	903.60	1980.00
Total amount of expected poultry meat production from backyard poultry sector in MT Meat prdn. /bird – 1.5 kg @ 16 birds in case of new + @ 24 (16 male + 8 cull) birds in case of old	600	1692	4044	6060
Expected employment opportunity creation in the form of man-days @ 1 hour/beneficiary/day at farmer's level.	11,40,625	26,46,250	69,35,000	88,05,625
Expected employment opportunity creation in the form of man-days at CRU level @ 4 hours X 2 persons per day.	13,870	32,120	84,315	107,310

Annexure - II

SCHEME FOR REARING UNIT

Importance of rearing Unit:

1) To avoid chick mortality at the farmers' level as utmost care is required during brooding of chicks.

2) There is no facility at the farm level to rear the day-old chicks for the farmers.

3) Intermediate group should be evolved to take care of the chicks at the farmers' level.

4) Chick rearing group should act as a linkage between the farm and the farmers.

5) The members of the chick rearing group will take care of the health of the chicks with the consultance of the concerned Vety. Asst. Surgeon and also provide feed back to the concerned farm.

6) During the course of rearing the chicks the members of the Chick rearing group have the expertise on poultry farming, so that they can start a poultry farm individually.

Backward Linkage to the rearing group:

8) They will be provided with good quality day-old chicks from the near by Govt. Poultry Hatchery.

9) The rearing group members will be provided with technical knowledge and skill up gradation training at the farm level on free of cost.

10) They will be provided with all sorts of technical help by the field Veterinarians of the concerned area time to time.

11) The concerned Vety. Asst. Surgeon will pay regular visit to the unit and take necessary steps for better maintenance of health of chicks. And he also sends the feeds regularly to the Feed Testing Laboratory for ascertaining the quality of feed.

12) The Department will look forward to provide all sorts of help from the on going schemes.

Forward Linkage to the Rearing Unit:

4) The concerned District Administration will take care of the sale of 4 wks. Old chicks along with the members of the chick rearing group.

5) At no time there will be hurdling of chicks in the farm due to scarcity of sale.

6) Also the District Administration, AH&VS, Orissa will take the members as working experts in imparting training to the local farmers of the concerned area regarding skill up gradation, so that there will be good rapport between the local farmers and the rearing group members which will help in marketing in due course of time.

Salient features of the scheme:

- Total area requirement – 12180 carpet sq. ft
- Total floor space required – 2040 carpet sq. ft (Poultry Shed)
- Total rooms – 10 nos. (17' x 10' each)
- Corridor (Varanda) – 4' x 85'
- One side of the Corridor will be utilized for storing the feed, medicines etc.
- There will be another free area of 30' from each side of the Poultry Shed.
- Construction should be done in such a way that the floor of the Poultry shed and 3 feet height of side wall should be cemented and other part will be brick and mud.
- Varanda side wall should be 4' height and others wire netted.
- The doors should be wire netted.
- There should be two wire netted windows in each room of size 4' x 3'
- Side wall height should be 9' and centre height is 13'
- Plinth should be 3' height from the floor and there is rat proof provision.
- Stairs should be 1.5' away from the margin of the rat proof.
- Space requirement per chick for 28 days(4 wks) – 0.75 sq. ft /chick

FEED CONSUMPTION

- Per bird consumption of feed for 1st week – 12 gm
- Per bird consumption of feed for 2nd week, 3rd wk & 4th wk – 30 gm
- Total feed consumption / chick/4 wk – 714 gm.
- Crude protein content of the feed – 22%
- Metabolizable energy content of the feed – 3300ME

LABOUR REQUIREMENT

- Two nos. of labourers are required. One man day will be required per day for management. Two nos. of labourers are required during vaccination & disinfection.

- Total man days required per year –

  (i) Vaccination: 23 x 3 x 2 = 138 man days

  Disinfection: 23 x 2 = 46 man days
  Management: 250 man days per year
  Total (1st year): 434 man days

  (ii) Vaccination: 24x3x2=144 man days

  Disinfection: 24x2=48 man days
  Management: 245 man days
  Total Man Days (2nd-10th yr): 437 man days

- In one month of rearing the farmer will get 2 days of time to disinfect his farm. From these 2 days one day will be spent for cleaning and disinfection and the other day will be required to keep the room vacant (low strength fumigation as in other room's chicks will be there).

LAND REQUIREMENT

- The entrepreneur should provide the required land. And he will also develop the land for farming.

FINANCIAL REQUIRMENT:

- The entrepreneur will get all the fixed capital and recurring capital as Bank loan without any mud gage.

- He will get recurring capital for one month only. Then after he will incur all his expenditure from the sale proceedings of chicks.

- Necessary credit linkage will be made by the Department.

ABOUT THE SCHEME:

- There will be 23 batches in the 1st year. But then after there will be 24 batches per year.
- Feed consumption of birds will be 714 gm/chick/4 weeks
- Chick mortality rate will be @ 10% up to 4wks.

- Cost of feed will be Rs. 20/- per kg including transportation. Cost of feed is so high as the crude protein and metabolizable energy content of pre starter and starter feed is too high. In the initial stage of life it will be better to provide high protein feed to boost up their growth and to maintain balance between different ingredients required for the body.

- Expenditure towards cost of feed in the1st year is Rs.3, 45,576/ = (11 months X 2200 chicks X 0.714 gm/chick x Rs. 20/- per kg) and from 2nd year onwards is Rs.3, 76,992/- (12 months X 2200 chicks X 0.714 gm/chick x Rs20/- per kg of feed) on basis of monthly one batch.

- Expenditure towards the cost of chick is Rs. 3,14,600/= in 1st year(2200 chicks x Rs13/- chick X 11 months) and in the subsequent year it will be Rs.3,88,080/- (2200 chicks x Rs13/- per chick X 12 months).

- Expenditure towards medicine and vaccine will be Rs. 3/- per chick. The vaccination schedule followed will be

Sl. No	Name of the vaccine	Dose	Days	Route of application
01	Lasota vaccine	One drop	07 days	Intra nasal
02	Gumboro vaccine	One drop	14 days	Intra nasal
03	Lasota booster vaccine	One drop	28 days	Intra nasal

Medication Schedule for the chicks

1) Day of arrive of chick – Electrolyte solution
2) Day 2 – Electrolyte solution/ vitamin solution
3) Day 3 to day5 – Antibiotics
4) Day 6 – Coccidiostat
5) Day 7 – Vitamin A solution
6) Then after give 2 days antibiotics, 2 days vitamin and one day coccidiostat in every week.
7) This schedule may be changed according to situation.

- Expenditure towards cleaning and disinfection of rooms is Rs. 24,200/- in 1st year and Rs. 26,400/- in the subsequent year.
- Contingent for miscellaneous expenditure in 1st year is Rs. 11,000/- and Rs12,000/- in the subsequent year.

- Period of Rearing = 28 days / 40 ks.
- Cycle period = 15 days
- Total floor space required = 1650 sq. ft 1700 sq.ft of 850 sq. ft pens for 2200 Chicks in twobatches @ 1100 nos per batch @ 0.75 sqft / chick.
- Total floor space 1700 + 340 = 2040 carpet Sq. ft along with Corridor 340 sqft (85' X 4` Corridor)

Capital Expenditure

A.	**Fixed capital**	
	Construction of shed 2040 sq. ft @Rs 250/- per sq ft	5,10,000
	Cost of electricity connection	10,000
	Digging of dug well with all accessories	20,000
	Electric fittings and other equipments	5,000
	Purchase of cycle (2 nos.) with necessary fittings	6,000
	Feeder drinker	24,000
	Miscellaneous expenditure	4,000
	Sub total	**5,79,000**
B.	**Recurring Capital**	
	Purchase of 2200 no.s of chicks @ Rs13/- per Chick	28,600
	Feed for 2200 no.s of chicks for 4 wks @ 714 gm / bird/ 2200 no.s @ Rs 20/= per kg (including transportation)	31,416
	Medicine & vaccination @ Rs 3/ - per chick	6,600
	Distirfectant @ Rs1/- per chick	2,200
	Miscellaneous	1,000
	Sub total	**69,816**
Total		**6,48,816**
Or say the Recurring Capital Expenditure		**6,50,000**

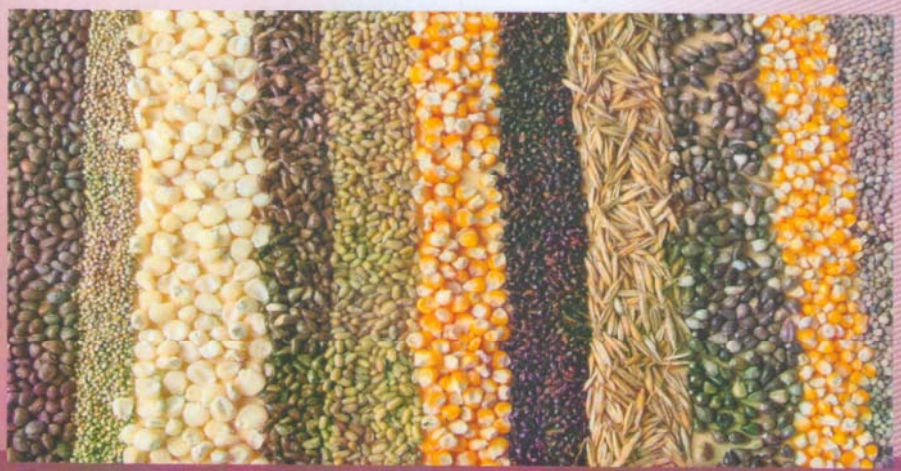
ABSTRACT OF THE SCHEME

Sl No.	**Particulars**	
01	Total Area	12180 sq.ft
02	Total poultry Shed area	2040 sq.ft
03	Total number of Entrepreneurs of rearing group	02 nos.
04	Total Project cost	Rs 6,48,816/-
05	No of cycle per month	02 nos.
06	No of chicks per cycle	1100 nos.
07	Period between cycles	15 days
08	No of days chicks reared	28 days
09	Chick mortality in 4 weeks	10%
10	Cost of feed per kg including transportation	Rs 20/-
11	Cost of day old chick	Rs 13/-
12	Amount of feed consumed per chick in 4 weeks	0.714 kg.

13	Period of disinfection between batches	02 days
14	Total man days evolved in 10 years	4367 man days
15	Nos. of vaccine given per batch	03 nos.
16	Cost of vaccine & medicine per chick	Rs 3/-
17	Cost of disinfectants per chick	Rs 1/-
18	Nos of chicks distributed per year	24000 nos.
19	Nos. of beneficiaries benefited per year @ 20 chicks per beneficiary from a CRU	600 nos.
20	Entrepreneur's benefit – 1st year	Rs. 60,594/-
	2nd year	Rs. 33,893/-
	3rd year	Rs. 37,007/-
	4th year	Rs. 40,121/-
	5th year	Rs. 43,236/-
	After 5th year	Rs. 1,24,208/-

Return										
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
i) Sale of chick @ Rs 40/-each (2000 chicks)	920,000	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000
ii) Sale of gunny bags	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
iii) Sale of litter	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	9,22,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000
Expenditure										
i) Feed cost	3,45,576	3,76,992	3,76,992	3,76,992	3,76,992	3,76,992	3,76,992	3,76,992	3,76,992	3,76,992
ii) Cost of chick	3,14,600	3,43,200,	3,43,200,	3,43,200,	3,43,200,	3,43,200,	3,43,200,	3,43,200,	3,43,200,	3,43,200,
iii) Med & Vaccine	72,600	79,200	79,200	79,200	79,200	79,200	79,200	79,200	79,200	79,200
iv) Disinfectants	24,200	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
v) Mise	11,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Total	767,976	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792
ECONOMICS										
i) Profit	9,22,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000	9,62,000
ii) Expenditure	767,976	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792	8,37,792
iii) Gross profit	1,54,024	1,24,208	1,24,208	1,24,208	1,24,208	1,24,208	1,24,208	1,24,208	1,24,208	1,24,208
iv) Bank loan return	64974	64974	64974	64974	64974	64974	64974	64974	64974	64974
v) Interst @ of 8%	51979	46781	41583	36385	31188	25990	20792	15594	10396	5198
vi) 4 + 5	116953	111755	106557	101359	96162	90964	85766	80568	75370	70172
vii) Net profit/Year	37071	12453	17651	22849	2.8E+08	33244	38442	43640	48838	54036
viii) Net Profit/month	3089	**1038**	**1471**	**1904**	1413	2770	3204	3637	4070	4503

CHAPTER -5



CHAPTER – 5

5.0 Fodder Development

5.1 Background

Fodder plays a vital role in animal production & its productivity. Feeding contributes 70% of the production cost of any animal product. The feed is sourced from the following two categories.

i) Concentrate feed

ii) Roughages

   a) Green fodder

   b) Dry crop residue

Two-third of the animal feeding is done through roughages. In our State, the major source of roughages is crop residue and green derived from grazing. Cultivated fodder for animal feeding is yet to be practiced by the livestock keeper. The present feeding management practices has restricted the production potentiality of the livestock including the Cross Bred.

As per the demarcation of Dairy development area, in the intensive zone of the State CB animals are mainly reared for milk production, which are maintained with concentrate feeding. The rise of cattle feed prices has increased the production cost of milk and the farmers adopt a discriminate feeding of the CB milk animals adjusting to the cost of feed ingredients. Thus, the production potentiality of CB animals is not exhibited to the optimum.

Special focus will be given for promoting green fodder cultivation and feeding of enriched crop residues to dairy animals in the intensive and potential milk production zone of the State. In addition to it, care has been taken to promote pasture development in the entire State to support the nutritional requirement of large animal as well as the small animal.

5.2 Resources, Potential & Present Status Of Development

The State is in deficit of 48.4% of green fodder and 23.5% of dry fodder. Out of the total large animal, CB is 6.7%, which contributes 34.9% to the State milk production. These animals need attention for its proper feeding. Cross breeding has been accepted in specific pockets having organized milk marketing system and the resource base for bio mass production is high in the irrigated pockets. In few dry land areas, the cropping intensity is also high, where legumes are cultivated after paddy. This production system has supported the milk production in the intensive zone by CB animals.

At present, fodder development is taken up by supply of fodder mini kit seeds for seasonal cultivation and perennial root slips for long term fodder production. The farmers are provided with 67,000 nos, of seasonal kits by the GoI and 4.5 lakh nos. of perennial root slips during 2009-10. In addition to it, pasture development programme has been initiated out of Central assistance through the Panchayats in a limited area, where common grazing lands are available. The improvement of crop residue has also been taken up under Central assistance in a limited area. Azolla has been promoted for its cultivation and feeding by the landless CB livestock owners.

The Animal Husbandry Department is having 20 fodder farms, where planting material ie; grass root slips for perennial and seeds for seasonal fodder crop is produced in a very limited quantity matching to the budgetary provision for the sector.

5.3 SWOT ANALYSIS OF FODDER SECTOR IN ODISHA

Strengths:

- Availability of technically competent Human resources for fodder at district level
- Existence of fodder and seed production govt. farms
- Perennials fodder cultivation have been gaining acceptance
- Existence of mix-farming system

Weaknesses:

- Training infrastructure for fodder at state and district level not available.
- Inadequate communication facility
- Inadequate supervision & guidance thereby poor follow-up
- Less priority towards fodder production & promotion.
- Inadequate publicity for fodder cultivation
- Inadequate infrastructural facilities for both office & quarters at field level
- Non availability of Subject Matter Specialists in all the districts
- Non availability of certified planting materials and fodder seeds.

Opportunities:

- Farmers are having crossbred productive animals.
- Existence of Milk co-operative societies for marketing of milk
- DRDA assistance available for fodder production.
- Paddy & pulse cropping pattern contributes to dry fodder.
- Scope for convergence with allied departments and other agencies like ATMA for dove tailing of funds.
- Dairy finance has an inbuilt component for fodder cultivation.
- Increasing cost of cattle feed.
- Availability of fodder production technology for different agro-climatic situations.

Threats:

- Recurrent Natural calamities.
- Less inclusion of green / dry fodder as feed input for production.
- Encroachment of grazing (Gochhar) land

5.4 Vision 2020

A forage based production system will be adopted by the farmers for maintaining all the CB animals by deriving 50% of their feeding requirement from greens and 20% from quality

crop residue. The rest 30% sourced from grain by-products and concentrate feed & the optimum production potentiality of the CB animals is exploited.

5.5 Goal

- Increase the area of fodder cultivation from present 10,000 hectares to 60,000 hectares.
- Increase utilization of crop residue by 50,000 MT per year.

5.6 SUGGESTED POLICY

80% of the green requirement of the CB animal in the intensive zone to be produced through perennial fodder crops and the rest 20% through seasonal fodder crops. In the potential zone 20% of green will be produced from perennial fodder crops and 80% from seasonal.

This strategy has been taken considering to the irrigation potential available in the intensive zone and the current fallow land available in the potential zone.

The pasture development programme will be taken up through group involvement on the common property resources such as gochar land, waste land and the outer slopes of the canal bunds of the irrigation canals.

The Animal Husbandry Department is having a limited technical man power for the fodder sector. This limited technical man power can be utilized by updating their knowledge on technology application through training and orienting their working towards expanding the knowledge base in an extension network.

The individual farmers and groups such as MPCS, Pani Panchayats, Breeder's Forum, SHGs taking up dairy and small animal production are to be provided with training for transfer of technology by creating trainers from amongst them, the lead farmers and group functionaries.

Other line department taking up fodder related activities under Watershed Mission and areas specific programmes under ITDA, Forestry sector to be sensitized and trained for technology adoption related to fodder and pasture development in a network mode.

The non paddy crop residue available in surplus such as Maize Stover in Nawarangpur district, Ground Nut plants in Jajpur, Khurda, Bargarh & Nuapara district are to be processed as dry fodder blocks for supply in the deficit area. This activity can be taken up in a PPP mode with the assistance of NABARD & the CSP scheme of GOI.

For technology identification and its application in the field, it is necessary to have micro level feeding management study involving the research group of the forage station of OUAT and the Animal Nutrition Department of the OVC with the OMFED and lead farmer group. The fodder wing may lead in constituting a State level working committee for the purpose. Govt. may also consider for the proposed fodder development society to carry forward the new technology transfer in a network mode involving different agencies and departments.

5.7 STRATEGY:

1. The fodder development programme will be incentivised in the milk shed area for increasing the area of green fodder cultivation.
2. Fodder demonstrations and training will be imparted to the farmers and groups for adoption of technology on fodder production and its utilization.
3. Quality planting materials and certified seeds will be produced by the Departmental Farms and Seed Growers.
4. Ensure involvement of MPCS, Gram Panchayat, Panipanchayat & interest groups in community based Fodder cultivation programme

5.8 ACTION PLAN

Sub – activity – 1 Strengthening of Departmental Fodder Farms for Production of Planting material

To meet the planting material requirement for the above area, it is proposed to strengthen the existing 20 fodder farms of the state for production of 640 lakh nos. of perennial grass root slips and 2350.4 quintals of certified seeds of seasonal fodder crops per year in these farms. In addition to it, under seed grower programme certified seeds of seasonal fodder crops for 16,000 mini kits will be produced through growers. The programme of strengthening fodder farms has

been suggested under RIDF for infrastructure development and one time grant under State plan to meet the recurring expenditure.

TABLE - 5.1 **Departmental Fodder Farms and its area**

Sl No	***Name of the Dist***	***Name of the Farm***	***Area to be covered in Ha***		
			Nursery For Root slip	***Fodder Seed Production***	***Total***
1	Cuttack	Sagadi	2	4.4	6.4
2	do	Gatirout-Patana	2	0	2
3	Kendrapada	Barimula	3.6	0	3.6
4	Khordha	Laxmisagar	2	0	2
5	Puri	Pipili	2.4	0	2.4
6	do	Hansapada	2	2.8	4.8
7	do	Kakatpur	2	3.6	5.6
8	Bhadrakh	Bahudarada	3	0	3
9	Ganjam	Saru	2	0	2
10	Mayurbhanj	Kathapal	2	17	19
11	Keonjhar	Salapada	2	20	22
12	Bargarh	Mahakhand	2.8	0	2.8
13	do	Ainthapali	3	0	3
14	do	Haldipali	3.2	4.8	8
15	Sambalpur	Chiplima	20	180	200
16	Jharsuguda	Badamal	2	0	2
17	Sundargarh	Kuarmunda	2	18	20
18	Anugul	Panchamahal	2	16	18
19	Nuapada	Tarbod	2	18	20
20	Koraput	Randapalli	2	9.2	11.2
	15 District	**Total**	**64**	**293.8**	**357.8**

TABLE -5.2 Physical Targets

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Strengthening of Fodder Farms										
II	No of Farms to be strengthened	1	14	5							
III	Area to be covered in Hectors.	200	86.6	71.2							
	Production of Root slips in lakhs nos.	200	340	100							
	Production of Seed in Quintal	1440	420.8	489.6							
	Production of Sapling in thousand nos.	20	28	10							

TABLE - 5.3 Financial Requirements

Sl No	Action Item	PROPOSED (Rs. in Lakhs)									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Strengthening of Fodder Farms										
II	Strengthening of Fodder farms for planting material production.	254.2	548.2	239.48							

TABLE - 5. 4 Source of Fund

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
RIDF	200.6	502	219.4							
State Plan	53.6	46.2	20.1							0
Total	254.2	548.2	239.5							0

Sub-activity – 2 Promotions of Seed Growers

Availability of fodder seeds for fodder cultivation at farmer's field is an important issue. The existing department fodder farms will be strengthened for production of foundation & certified seeds. The foundation seeds will be further multiplied by the certified seed growers to increase the availability of seeds suitable for different agro-climatic zones. These seeds will be utilized for promoting fodder demonstration in farmer's field under RKVY programme. The total

requirement for taking up proposed activity will be Rs. 64 lakhs over a period of 4 years. This will be taken up under CSP Scheme. The state share will be 4 lakhs each year and central funding will be 12 lakhs each year.

TABLE -5.5 Physical target

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Fodder Seed Growers Programme										
II	No of units to be set up	30	30	30	30						
III	No of farmers to be involved	300	300	300	300						
IV	Certified Seeds to be produced each Year in Qtls	642	642	642	642						

TABLE 5.6 Financial Targets

Sl No	Action Item	PROPOSED (Rs in lakhs)									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Fodder Seed Growers Programme										
II	Setting up Seed Grower Unit	16	16	16	16						

TABLE -5.7 Source of Fund (CSP)

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Central share	12	12	12	12						
State share	4	4	4	4						0
Total	16	16	16	16						0

Sub-activity – 3 Training of Field staff and other stakeholders

One State level fodder training center for filed level officers and the lead farmers (trainers) needs to be established at Pipili fodder farm, which has been suggested under the strengthening of fodder farms. Facilities for day long training will be created at each fodder farm for the farmers training on fodder related technology dissemination. The Physical and Financial projections are given in Chapter – 7 (Training & HRD).

Sub-activity – 4 Assistance to Farmers for fodder cultivation in their field

It is proposed to assist 512,000 units each covering an area of 0.1 hect. of perennial and seasonal fodder cultivation in farmers' field under RKVY programme in coming 5 years. The purpose is to encourage farmers for fodder production and its feeding for economic milk production under different agro climatic situation of the state so that dairy farmers will practice cultivating fodder as a crop in the existing cropping system. The programme will be continued with state plan funding after 5 years to assist another 640,000 units.

It is expected that through demonstrative effect, other farmers of the village will also take up fodder cultivation. In the intensive zone, 80 % of the green requirement will be sourced from perennial fodder crops and 20 % through seasonal fodder crops. In the potential zone, 20 % of the green requirement will be sourced from perennial fodder crops and 80 % will be through seasonal fodder crops. Accordingly, promotion of fodder cultivation will be taken up in association with DCS.

A. Perennial:-

Under this programme, livestock keepers as individual or in group having irrigation facility & cross bred / improved livestock will be provided with Perennial grass root slips matching to the soil & land class. This will include Napier Bajra Hybrids, Humedicola, Congo signal, Signal, Para etc. to raise perennial fodder plots in their own land over an area of 0.1

hector as a demonstration to provide green fodder on a long term basis. It is proposed to cover 80 % of the perennial demonstration plots in the intensive area & 20 % in the potential milk production area. The required root slips will be raised in the departmental fodder farms which have been programmed for strengthening under RIDF. Each fodder farm will be earmarked for production of root slips of the grasses suitable for the specific agro climatic situation.

B. Seasonal:

Under this programme, livestock keepers as individual or in group having cross bred / improved livestock will be provided with certified seeds to grow seasonal fodder crops within the grain cropping. Seeds of different fodder crops ie; Maize, Sorghum, Bajra, Cow pea, Rice bean during Kharif & Oat, Berseem during Rabi season matching to the soil & land class will be supplied to raise fodder plots in their own land over an area of 0.1 hector as a demonstration to harvest green fodder in a short period without disturbing the normal grain cropping. It is proposed to cover 80 % of the seasonal demonstration plots in the potential area & 20 % in the intensive milk production area. The required certified seeds will be produced in the departmental fodder farms & through registered seed growers which have been programmed under RIDF. & CSP. Each fodder farm will be earmarked for production of foundation / certified seeds suitable for the specific agro climatic situation.

TABLE - 5.8 Physical target for Assistance to Farmers

Sl	Action Item	PROPOSED									
No	Assistance to farmers for fodder cultivation	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Perenial - in Hectre	2200	4500	4374	5500	5500	2000	2000	2000	2000	2000
ii.	Seasonal (Kahrif) - Area in Ha	2100	4000	6000	7011	5726	10000	10000	10000	10000	10000
iii.	Seasonal (Rabi) - Area in Ha	800	800	900	900	900	800	800	800	800	800
iv.	No of batches to be trained 20 farmers/ batch	3000	3000	3000	3650	3980	1000	1000	1000	1000	1000
v	Requirement of Root slips in lakh	440	900	874.8	1100	1100	400	400	400	400	400
vi	Requirement of Seed in Qtl	1450	2400	3450	3956	3313	5400	5400	5400	5400	5400

TABLE - 5.9 Financial Targets for Assistance to Farmers

Sl	Action Item	PROPOSED (Rs. IN LAKHS)									
No	Assistance to farmers for fodder cultivation	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Perenial	176	360	349.92	440	440	160	160	160	160	160
ii.	Seasonal (Kahrif) -	58.8	112	168	196.308	160.328	280	280	280	280	280
iii.	Seasonal (Rabi) -	22.4	22.4	25.2	25.2	25.2	22.4	22.4	22.4	22.4	22.4
iv.	Training of Farmers	60	60	60	73	79.6	20	20	20	20	20
v.	Monitoring and Supervision	4.87	6.8	8.74	10.67	12.61	2	2	2	2	2
	Total	**322.07**	**561.2**	**611.86**	**745.178**	**717.738**	**484.4**	**484.4**	**484.4**	**484.4**	**484.4**

TABLE -5.10 Source of Fund

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
RKVY	322.07	561.2	611.86	745.178	717.738					
State Plan	0	0	0	0	0	484.4	484.4	484.4	484.4	484.4
Total	**649.01**	**1129.2**	**1232.46**	**1501.03**	**1448.09**	**970.8**	**970.8**	**970.8**	**970.8**	**970.8**

Sub-activity – 5 Development of Pasture land

In the existing practice, the cattle are allowed for grazing in the available pasture land. In some cases, farmers collect grass from the bunds and waste land to feed their animals. The nutritional level of the pasture land is depleting very fast due to over grazing with decreased edible plant population. There is a need to rejunivate & maintain these pasture land with nutritionally rich improved species having self sowing ability so that the availability of quality pasture for the animals is ensured. 2 Ha per group) involving 10 % of the identified groups per Year under ongoing programme of NREGA/ GLGR.

The improved Pasture Legume seeds & Grass root slips / seeds as well as Seeds & the Fodder tree Saplings will be raised & made available from the identified farms for the specific agro ecological situation. These will include pasture legumes species of Stylo. Centro, Siratro, Desmodium etc, & under pasture grasses species Guinea, Bracheria, Pennisetum, Rhodes, Andropogon etc. For fodder tree sapling of leguminous tree such as Subabool, Babool, Mulberry, Sirisa, Dimiri, Sesbania, Ingadulsis & bushes of Zizyphus, Hedge Lucerne etc.

It is proposed to take up pasture development programme to cover additional area of 1000 hectors per year totaling to 10, 000 hectors (3 % of the recorded reserved permanent pasture) in coming 10 years. The Pasture development will be taken up through MPCS & Gram Panchayat or Pani panchayat, VSS/ SHG and Breeder's Forum for small animal in Private land/ Other common land, Waste land, Canal bunds etc.

The improved Pasture Legume seeds & Grass root slips/ seeds as well as Seeds & the Fodder tree Saplings will be raised & made available from the identified farms for the specific agro ecological situation. These will include pasture legumes species of Stylo. Centro, Siratro, Desmodium etc, & under pasture grasses species Guinea, Bracheria, Pennisetum, Rhodes, Andropogon etc. For fodder tree sapling of leguminous tree, such as Subabool, Babool, Mulberry, Sirisa, Dimiri, Sesbania, Ingadulsis & bushes of Zizyphus, Hedge Lucerne etc. will be considered.

TABLE - 5.11 Physical Targets for Pasture Development

Sl	Action Item	PROPOSED									
No		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Pasture development in Hectres	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Table- 5.12 Financial Targets for Pasture Development

Sl	Action Item	PROPOSED (Rs. IN LAKHS)									
No		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Pasture development	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Table- 5.13 Source of Fund

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
NREGA (PR Dept)	500	500	500	500	500	500	500	500	500	500
GLGR (CP)	500	500	500	500	500	500	500	500	500	500
Total	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**

Sub-activity –6 Demonstration on enrichment of crop residues and alternate source of Feed

Farmers to be assisted each year to enrich / ensile 40 TMT of crop residue per year in the intensive and the potential zone to process for its quality maintenance and better preservation through enrichment of the crop residue and ensiling of the excess greens produced during the rainy season. Azolla cultivation in the backyard of the farmer will be encouraged to supplement concentrate feed.

The non paddy crop residue available in surplus ie; Maize Stover in Nawarangpur district, Ground Nut plants in Jajpur, Khurda, Bargarh & Nuapara district to be processed as dry complete feed blocks for supply in the deficit area. This activity can be taken up by selected entrepreneurs in a PPP mode with the assistance of NABARD & the CSP scheme of GOI.

Table - 5.14 Physical Target for Demonstration on enrichment of crop residues and alternate source of feed

Sl	Action Item	PROPOSED									
No	Demonstration	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Non Paddy in tons	20000	20000	20000	20000	20000	20000	20000	20000	20000	20000
Ii.	Paddy Straw Qty, Tons	20000	20000	20000	20000	20000	20000	20000	20000	20000	20000
iii.	Azolla Pit promotion in villages (Numbers)	800	800	600	400	400	400	400	400	400	400
1	Complete Feed Block Units	1	1	1	1	1	1	1	1	1	

TABLE -5.15 FINANCIAL TARGETS FOR DEMONSTRATION ON ENRICHMENT OF CROP RESIDUES AND ALTERNATE SOURCE OF FEED

Sl No	Action Item Demonstration	PROPOSED (Rs. IN LAKHS)									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
i.	Non Paddy	30	30	30	30	30	30	30	30	30	30
ii.	Paddy Straw	30	30	30	30	30	30	30	30	30	30
iii.	Azolla Pit promotion	10	10	7	5	5	5	5	5	5	5
iv.	Complete Feed Block Units	80	80	80	80	80	80	80	80	80	80
	Total	150	150	147	145	145	145	145	145	145	145

TABLE -5.16 SOURCE OF FUND

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CP	16	16	16	16	16	16	16	16	16	16
Bank Loan	64	64	64	64	64	64	64	64	64	64
ATMA	40	40	40	40	40	40	40	40	40	40
OMFED Own source	8	8	5	4	4	4	4	4	4	4
Other devt projects	22	22	22	21	21	21	21	21	21	21
Total	150	150	147	145	145	145	145	145	145	145

TABLE - 5.17 COMPONENET WISE FINANCIAL OUTLAYS

FODDER DEVELOPMENT

(Rs. in Lakhs)

Sl. No.	Particulars	Ten Year Plan										Total
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	
A	Strengthening of Fodder Farms	254.20	548.20	239.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1041.90
B	Fodder Seed Growers Programme	16.00	16.00	16.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00
C	Assistance to farmers for fodder cultivation	322.07	561.20	611.86	745.18	717.74	484.40	484.40	484.40	484.40	484.40	5380.05
D	Development of Pasture land	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	10000.00
E	Demonstration	150.00	150.00	147.00	145.00	145.00	145.00	145.00	145.00	145.00	145.00	1462.00
	Total:	**1742.27**	**2275.40**	**2014.36**	**1906.18**	**1862.74**	**1629.40**	**1629.40**	**1629.40**	**1629.40**	**1629.40**	**17947.95**

TABLE - 5.18 SOURCE OF FUNDS

Sources	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
RKVY	322.07	561.20	611.86	745.18	717.74	0.00	0.00	0.00	0.00	0.00	2958.05
RIDF	200.60	502.00	219.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	922.00
State Plan	79.60	72.20	46.10	25.00	21.00	505.40	505.40	505.40	505.40	505.40	2770.90
CSP	12.00	12.00	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00
CP	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	5160.00
NREGA	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	5000.00
Other Projects (ATMA,Watershed etc)	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	400.00
Omfed own source	8.00	8.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	49.00
Credit - Bank loan	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	640.00
Total:	1742.27	2275.40	2014.36	1906.18	1862.74	1629.40	1629.40	1629.40	1629.40	1629.40	17947.95

ACTIVITY SUMMARY

Name of the programme: **FODDER DEVEOPMENT**

Number of Beneficiaries or employment generated: 10 lakhs of beneficiaries

Physical Output :

Production of 235 MT of foundation/ certified fodder seeds

58000 fodder tree saplings and 640 lakhs of perennial grass root slips as planting materials per year from Govt. farms.

60,000 hectres will be brought under fodder cultivation.

Production of 256 MT of certified fodder seeds per year by registered seed growers.

200 lakh MTof green fodder will be produced per year.

Outcome

Fodder based Dairy farming will be a viable activity.

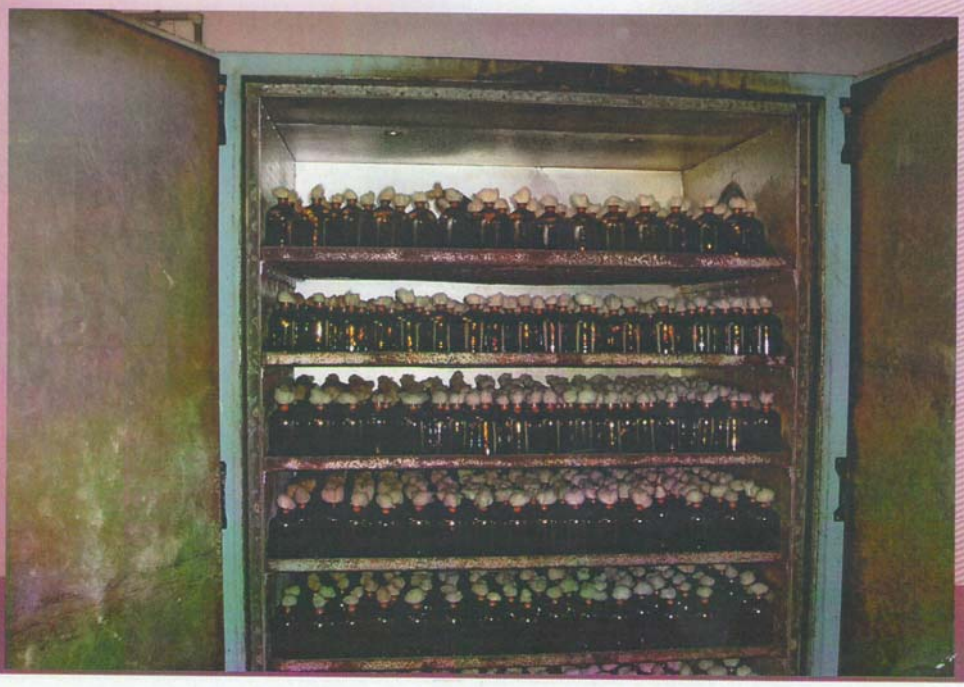
Implementing agency :

The State Animal Resources Development Department is the major agency to implement the programme in association with dairy cooperative societies (OMFED), Department of Agriculture, Watershed Mission, Panchayat Raj, NABARD, OUAT, Seed Certification Agency and plan assistance from GoI and state plan.

TABLE - 5.19 SOURCE OF FUNDS

Sources	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	Total
RKVY	322.07	561.20	611.86	745.18	717.74	0.00	0.00	0.00	0.00	0.00	2958.05
RIDF	200.60	502.00	219.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	922.00
State Plan	79.60	72.20	46.10	25.00	21.00	505.40	505.40	505.40	505.40	505.40	2770.90
CSP	12.00	12.00	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00
CP	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	5160.00
NREGA	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	5000.00
Other Projects (ATMA,Watershed etc)	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	400.00
Omfed own source	8.00	8.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	49.00
Credit - Bank loan	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00	640.00
Total:	1742.27	2275.40	2014.36	1906.18	1862.74	1629.40	1629.40	1629.40	1629.40	1629.40	17947.95

CHAPTER - 6



CHAPTER - 6

6.0 VETERINARY SERVICES DELIVERY

6.1 BACKGROUND:

The Fisheries & Animal Resources Development Department (F & ARD) is exclusively responsible for the development of Fishery & Livestock sector.

The Principal Secretary is the Chief Executive of the Government Department in the Secretariat. There are two separate Directorates for two different sectors.

The Director heads the Department of Animal Husbandry & Veterinary Services (DAH &VS) of Odisha at State level and is assisted by Addl. Director, Joint Directors, Deputy Directors and other administrative staff. The Chief District Veterinary Officer (CDVO) is the head of district administration and he is assisted by Addl. District Veterinary Officer (ADVO) & Nodal Officer.

The Sub-Division is headed by a Sub-Divisional Veterinary Officer (SDVO) and at Block level, Veterinary Hospitals/ dispensaries are there, which are manned by Veterinary Assistant Surgeons (VAS) and Additional Veterinary Assistant Surgeons (AVAS). As per the government guide lines, the senior most Veterinarian among them at the hospital/ dispensary would hold the post of VAS. The VAS/ AVAS working in block will have supervisory responsibilities for separate GPs, which are distributed amongst them. All of them perform same roles as regards looking after the treatment of animals, extension, other development works such as antipoverty and Animal Husbandry extension programmes of the government for their GPs. Majority of the blocks have more than one Veterinary dispensary depending on the geographical size and livestock population of the area.

Gram Panchayats are the unit for provision of all Veterinary services including livestock extension activity. As per the policy, each panchayat should have one Livestock Aid Center

(LAC) which is to be manned by Livestock Inspector (LI) and in some places assisted by one attendant.

6.2 PRESENT STATUS:

The department has 540 Veterinary Hospitals/ Dispensaries in 314 blocks and 2939 LACs in 5263 gram panchayats supported by 30 Chief District Veterinary Officers (CDVOs) and 41 Sub Divisional Veterinary Officers (SDVOs) to provide livestock services in 51657 villages.

The Department of Animal Husbandry & Veterinary Services in Odisha with vast net work of different institutions and human resources provides all the necessary services in the sector, implements all development programmes, schemes and projects. Moreover, this department has regulatory functions.

Majority of the services provided by the department are at the house hold, village, GP and Block level. Such service provisions are being made available at field level departmental institutions such as LAC and Veterinary Dispensaries. Other institutions such as Frozen Semen Bank (FSB), Odisha Biological Products Institute (OBPI), Animal Diseases Research Institute (ADRI), Veterinary Officers' Training Institute (VOTI) etc. are located at different places**.** All such above institutions have specialized tasks and have separate identities, but the overall goal is to ensure better services at the community level.

The services demanded by individual livestock producers are different. These services differ both between and within production systems, and are likely to change with time. Consequently, the success of any service provider is dependent on his/her ability to respond to the specific, and sometimes, changing user's needs.

Existing infrastructure for animal health care delivery is sub-optimal and therefore inherently inefficient. In particular, rural non-commercial producers have less access than their commercial producer counterparts. To ensure greater efficiency and equity of access, there is a need to re-organise existing veterinary service delivery mechanism.

The various Services offered by the Department have no standard procedure and being provided in a non uniform basis. Further, there is considerable difference in skill level of the personnel working at the cutting edge, for which there is lot of variations in the service quality. In fact, compared to many other state departments, Animal Resources Department is more constrained and restrained by the meager budget provision. As a consequence, most of the services offered are on adhoc basis. The Animal Resources Development Sector is an investment sector. For the Department to deliver good governance and to provide better services, SOPs will have to be defined.

The following Veterinary Services are being provided by the department:

A. TREATMENT

Objective: To provide the ailing livestock and poultry birds timely and adequate treatment all over the state through field institutions.

B. DEWORMING

Objective: To ensure all the livestock population of the state to be free from endo & ecto parasites through regular deworming so as to improve the health condition.

C. PREVENTIVE MEASURES

Objective: To protect the livestock against contagious disease(s) by routine vaccination.

D. DIAGNOSTIC MEASURES:

Objective: To ensure prompt and accurate diagnosis of disease/ causative agents so as to minimize morbidity, mortality and economic loss.

E. SURVEILLANCE MEASURES:

Objective: To strengthen the early warning system (EWS) by proper investigation and collection of information for detection of possible disease occurrence.

F. EMERGING DISEASES: (Goat Pox, Swine Flu, Bird Flu)

Objective: To remain in preparedness by providing adequate training to the field functionaries, farmers and to strengthen the disease diagnostics services so as to meet any eventuality

G. DISASTER MANAGEMENT:

Objective: **T**o provide prompt and timely service by active involvement in the process of rescue, relief and rehabilitation in the event of calamities

H. FROZEN SEMEN BANK (FSB):

Objective:

1. To ensure production and regular supply of quality semen to field AI institutes for taking up Artificial Insemination activity
2. To ensure uninterrupted supply of LN2 to all the AI centres of the State.

I. ORISSA BIOLOGICAL PRODUCTS INSTITUTE (OBPI):

Objective:

To ensure production and regular supply of quality vaccines to field institutes for taking up preventive measures in livestock and poultry.

J. ANIMAL DISEASES RESEARCH INSTITUTE (ADRI):

It is the only state level disease diagnostic institute for the animals situated at Phulnakhra.

Objective:

1. To diagnose and suggest suitable steps for treatment, prevention and control of animal diseases.

2. To carry out disease surveillance of animals all over the state.
3. To collect various samples from different areas routinely for examination and sensitivity tests in laboratories available here.
4. To impart need based training to vets and paravets of the state to carry out the Animal Husbandry activities effectively in their area.

6.3 GOAL:

- ❖ To protect 80% of livestock and birds against the contagious diseases
- ❖ To run all 30 district diagnostic laboratories for diagnosis of disease
- ❖ To upgrade all 540 field diagnostic laboratories for clinical examinations
- ❖ To upgrade 58 sub – divisional level Hospitals with modern diagnostic facilities

6.4 STRATEGY:

1. Availability of services by establishment of the required infrastructure in field level service institutions
2. Up-gradation of the diagnostic laboratories towards accurate diagnosis of diseases for prompt action
3. Provide animal welfare measures to rehabilitate the old, destitute, stray animals

6.5 Action Plan

6.5.1. Livestock Health Care:

A. Preventive Vaccination:

Preventive measures are taken by Department through vaccination against the disease like HS, BQ, FMD, Anthrax in large animals; PPR, Goat Pox, HS and Rabies in Small animals; RD & FP in poultry.

A centralized vaccine production unit (Odisha Biological Product Institute) located at Bhubaneshwar is the primary institute for production of vaccine and biologicals. A satellite wing of OBPI is situated at Berhampur for production of vaccines against Anthrax and RD.

It is proposed to take up the preventive vaccination in livestock and bird so as to cover 80% of the total population in a systematic manner. As per the yearly calendar, routine vaccination will be carried out in the field against the major contagious diseases like Haemorrhagic Septicemia, Black Quarter, Foot & Mouth Disease, Peste des Petits Ruminants, Enterotoxaemia, Goat Pox, Ranikhet Disease and Fowl Pox. In endemic areas, Anthrax and Theileriasis vaccine will be used. Further, strengthening of OBPI will be taken up for production of bacterial and viral vaccines as per the requirement.

Sub – Activity -1: Routine Herd Immunisation

Prevention of disease is being successfully tried out by the Department through vaccination of livestock and birds. Efforts will be taken to cover at least 80 % of the population to reduce the disease occurrence. This will result in maintaining the productivity and overall production from livestock.

Sub – Activity -2: Improvement of Supply Chains:

The Supply chain management system of the Department is rudimentary and largely adhoc. The service delivery needs to be demand driven and accountable to bring rural development through Animal Husbandry. The Department is realising the need to develop and implement a comprehensive Supply Chain Management System to address the needs of all stakeholders, particularly the end users. Therefore, it is proposed to streamline the Supply Chain Management System for overall improvement of organisation efficiency in the following areas.

I. Managing Transportation of Medicines / Vaccines / Equipments

The input supply mechanism needs to be systematic in order to ensure timely supply and availability as per the requirement. One of the important factors for supply of inputs from the production upto the delivery point is transportation. Therefore, it is planned to provide vehicle for inter district and intra district supply of the input.

II. Maintenance of Cold Chain facility

The veterinary biologicals need to be stored properly in order to maintain the quality and potency of the vaccine. It is planned to ensure the cold chain upto the grass root level.

III. Vaccination Kits

Vaccination kit comprising of syringe, needle, cotton will be provided for vaccination work.

TABLE: 6.1 Physical Target

Sl No	Action Item	PROPOSED									
	Veterinary Health Care	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Preventive Vaccination in lakhs doses	417	503	576	626	661	831	831	861	881	901
2	Strengthening OBPI	1	1	1							
3	Recurring cost for Vaccine production	1	1	1	1	1	1	1	1	1	1
4	Refrigerator to Sub-Divisional Vety. Hospitals-320 lrs	40	18								
5	Mini refrigerators to LACs	1500	1000	400							
6	Bottle chiller 100 lits	60	58								
7	Vehicle for vaccine transportation	10	10	10							
8	Vaccination kit in lakhs	10	12	14	15	16	17	17	17	18	18

TABLE: 6.2 Financial Targets

Sl. No.	Action Item	PROPOSED (Rs. in Lakhs)									
	Veterinary Health Care	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Preventive Vaccination in lakhs	687.00	826.00	922.00	992.00	1057.00	1117.00	1117.00	1202.00	1207.00	1212.00
2	Strengthening OBPI	1200.00	2500.00	800.00							
3	Recurring Cost – vaccine production	80.00	90.00	100.00	100.00	120.00	120.00	120.00	120.00	120.00	120.00
4	Refrigerator to Sub-Divisional Vety. Hospitals-320 lrs	10.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Mini refrigerators to LACs	75.00	50.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6	Bottle chiller 100 lits	60.00	58.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Vaccination kit in lakhs	192.00	240.00	284.00	304.00	316.00	332.00	332.00	344.00	352.00	360.00
	Vehicle for vaccine transportation	41.00	41.00	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**2345.00**	**3809.00**	**2167.00**	**1396.00**	**1493.00**	**1569.00**	**1569.00**	**1666.00**	**1679.00**	**1692.00**

TABLE: 6.3 Source of Fund

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CSP 75:25-ASCAD Central fund	659.25	799.50	904.50	972.00	1029.75	1086.75	1086.75	1159.50	1169.25	1179.00
State share	219.75	266.50	301.50	324.00	343.25	362.25	362.25	386.50	389.75	393.00
State Plan/ Other	266.00	243.00	161.00	100.00	120.00	120.00	120.00	120.00	120.00	120.00
RIDF	1200.00	2500.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**2345.00**	**3809.00**	**2167.00**	**1396.00**	**1493.00**	**1569.00**	**1569.00**	**1666.00**	**1679.00**	**1692.00**

B. Curative Treatment for ailing animals:

The Vets, Paravets render Health Care services to the livestock. The facilities and inputs in shape of first aid medicines, chemicals and equipments are to be available for provision of better services. The services related to treatment of Livestock are:

- Organization of health camps at different places in regular interval for mass treatment.
- Infertility treatment camps are conducted at least once in a month at every A.I Institute or Elite villages.
- Under controlled breeding programme, heat synchronization camps are being organized at regular basis.
- Health Care measures on emergencies like accidents, Natural calamities, flood cyclone, fire & electrical hazards are also being provided by the department on priority basis.

- In some cases like occurrence of metabolic diseases (Hypocalcaemia, acidosis, hypomagnesaemia etc) and so also some reproductive disorders like dystokia, prolapse of genitalia and placental retention immediate doorstep services are being attended to.
- Department Officers also attend the health camps organized by different agencies other than the department.
- In animal parks and sanctuaries, the departmental technical persons engage themselves for the treatment of wild lives.

Action Plan

Sub – Activity 1: Upgradation of Sub – Divisional Veterinary Hospitals

It is proposed to declare all the District, Sub-Division, Municipality and NAC level Veterinary health care units i.e. existing dispensaries as Hospitals and accordingly it is proposed to strengthen these units to enable them to provide advanced services.

The Hospitals are to be equipped with modern equipments for improving the animal health care services to the farmers. The Hospitals can be equipped with the following equipments like X-Ray with Mobile Facility, Endoscope, Ultrasound machine to attend the emergencies like fracture of limbs, dislocations of joints, obstructions and traumatic reticulitis and pericarditis. The clinical laboratory will also be adequately equipped.

Sub – Activity 2. Availability of minimum equipments, furniture and medicine

The livestock, both small and large will be treated at Veterinary dispensary and LAC. The life saving drugs and other common medicines will be available at the institution level. It is expected that 5 % of total livestock will be attended every year.

Sub – Activity 3. Creation of Physical facility by constructing/ repairing of Dispensary building and LAC building

Out of 540 Veterinary Dispensaries located at different places in the state, the existing buildings of most of the proposed hospitals are not in proper condition. Steps are to be taken to remodel these buildings to make them suitable for delivering services. The office, outpatient wards, in-patient wards, dispensing unit, laboratories, rooms for the sophisticated diagnostic equipments, stores, animal rest shed, treatment shed, postmortem hall are to be constructed or

renovated with suitable provisions. Moreover, the premises are to be protected with boundary wall to avoid encroachment or trespassers.

It is proposed to construct one LAC in each Gram Panchayat. Therefore, 3295 new LACs will be constructed in coming 5 years. Another 450 nos. of Veterinary Dispensaries will be constructed.

Sub – Activity 4. Organisation of camps

Organization of camps like general health camp, Fertility camp and heat synchronization camps will be organized to treat the animals at the doorstep of the farmers. This will also create confidence amongst the farmers. Deworming camps for both small and large animals will be organized to reduce parasitic infestation. These camps will contribute for enhancement of productivity. Parasitic infestation in livestock and poultry hinder a lot for the growth and production.

Sub – Activity 5. Mobile Veterinary Services in KBK/ Naxalite prone areas

This envisages more focused and specialized attention for doorstep mobile service delivery. The Mobile Veterinary Service (MVS) units will be placed in 70 selected blocks of 8 KBK districts. The proposal shall be implemented by the concerned CDVOs under the supervision of the Directorate of AH & VS, Odisha, Cuttack.

Support through Mobile Veterinary Service:

Objectives:

The proposed proposal primarily aims at providing mobile veterinary services and enabling the livestock owners to improve their livelihood.

- To examine the general health condition and to treat the livestock
- To provide “On the Spot” free veterinary service to the sick animals
- To detect the common diseases prevalent in the area
- To provide doorstep artificial insemination service / vaccination service
- To motivate people to adopt appropriate modern technology for improving the productivity

Sub-Activity – 6 Upgradation of Diagnosis and Treatment Facilities

Implementation of massive cross breeding programme for upgrading the native germ plasm of cattle & buffalo, mushrooming of broiler industries all over the state, formation of SHGs keeping sheep & goat in large scale in farm condition etc. need more veterinary health services due to the emergence of various disease, which unless attended timely with proper diagnostic aids may affect the economy of the entire state like the present emerging disease 'BIRD FLU'.

Efforts were undertaken at the Govt. level to control these diseases by developing suitable diagnostics for precise & quick diagnosis to streamline the treatment and immuno-biologicals for prevention. Still there is need to develop more sensitive & reliable diagnostics and immuno-biologicals for immediate diagnosis and effective control of the newly emerging diseases along with the existing ones, which may also pose health hazards for general publics in addition to the livestock population because of zoonosis.

Therefore, research support is essential for developing & upgrading the existing diagnostics technologies and production of immuno-biologicals against various diseases of livestock and poultry.

An effective diseases diagnostic network for animal diseases has been set up by the department through out the State.

It is proposed to take up measures to upgrade the diagnostic laboratories in the State at all 4 levels. The Diagnostic equipments and kits will be available at different level. The basic health care measures are to be ensured at the service institution level to address the livestock health care problems. Supply of essential equipments like Automatic Centrifuge machine, Haemocytometer, P.M. Kit, Embryotome set, Probang, Haemoglobinometer, Stain kit at Veterinary dispensary level will improve the existing facility for easy diagnosis of disease. The Livestock aid centres are located at Panchayat level and render livestock services. Supply of microscope at Livestock aid centre (LAC) level will enable for examination of faecal sample, skin scrapings, blood protozoan for disease diagnosis and treatment for early recovery and dispensing, thus to maintain the livestock productivity. Providing microscope to the LACs will help for microscopic examination of faecal sample and other samples before treating the animals.

In the modern world, there exists a big challenge to dispose of biomedical wastes in a scientific manner. Today, many Infectious Emerging Diseases (IEDS) are coming up with serious consequences posing a life threat to both livestock as well as human population. In order to curb such deleterious situation, we may emphasize more decontamination and disposal of biomedical wastes. At present, the surest mean to dispose of all such wastes can be made effectively by the process of incineration, which requires an incinerator of smaller capacity to be commissioned in every district headquarter.

In addition, with the advent of use of disposable syringes even in livestock sector, its proper disposal after use although it is non biodegradable is to be done. The needles are to be destroyed by needle destroyer and the syringes can be suitably disposed of by a process of incineration. This will derive enormous amount of financial benefit indirectly through better livestock health and more benefit from livestock and poultry farming activities.

TABLE: 6.4 Physical Target – Curative Treatment

TEN YEAR PLAN INTERVENTION & ACHIEVEMENT (Phy in lakhs)											
Sl No	**Action Item**	**PROPOSED**									
	Curative Treatment	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Up-gradation of Sub-divisional Hospitals	20	20	18							
2.1	Furnishing of VD/LAC	500	500	500	500	500	500	500	500	500	500
2.2	Equipments to VD	240	300								
2.3	Bio – medical waste treatment units	20	20	18							
2.4	Needle destroyers	200	200	82							
2.5	Equipments to LACS	500	1000	1439							
2.6	Treatment at VD	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
2.7	Treatment at LAC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
3.1	General Health Camps	463	463	463	463	463	463	463	463	463	463
3.2	Heat Synchronisation camp	100	100	100	100	100	100	100	100	100	100
3.3	Fertility Camp	382	212	212	212	212	212	212	212	212	212
3.4	Deworming - (LA+SA)	50	60	70	70	80	90	90	90	90	90
4	**Physical Facility improvement**										
4.1	Construction of furnished VD Building	0	50	50	50	50	50	50	50	50	50
4.2	Repair of VD	60	50	50	50	50	50	50	50	50	50
4.3	Repair of LAC	200	200	200	200	200	200	0	0	0	0
4.4	New Livestock aid centres	500	500	700	750	845	0	0	0	0	0
5	Cattle Insurance - milch animal in lakhs	2	3	3	3						
6	**Mobile Veterinary services**	18	17	9	5	4	4	4	3	3	3

TABLE: 6.5 Financial Target – Curative Treatment

TEN YEAR PLAN INTERVENTION & ACHIEVEMENT (Fin. in lakhs)											
Sl No	**Action Item**	**PROPOSED**									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Upgradation of Subdivisional Hospitals	800.00	800.00	720.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	Furnishing of VD/LAC	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00
2.1	Equipments to VD	288.00	360.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.2	Bio – medical waste treatment unit	60.00	60.00	54.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Needle destroyer	40.00	40.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Equipments to LACS	250.00	500.00	720.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Treatment at VD	108.00	108.00	108.00	108.00	108.00	108.00	108.00	108.00	108.00	108.00
2.3	Treatment at LAC	43.20	43.20	43.20	43.20	43.20	43.20	43.20	43.20	43.20	43.20
2.4	General Health Camps	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
3.1	Heat Synchronisation camp	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
3.2	Fertility Camp	19.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
3.3	Deworming - Small animal	2000.00	2400.00	2800.00	2800.00	3200.00	3600.00	3600.00	3600.00	3600.00	3600.00
3.4	Physical Facility improvement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Repair of VD	180.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
4.1	Repair of LAC	300.00	300.00	300.00	300.00	300.00	300.00	0.00	0.00	0.00	0.00
4.2	New Livestock aid centres	2000.00	2000.00	2800.00	3000.00	3380.00	0.00	0.00	0.00	0.00	0.00
4.3	Cattle Insurance	750.00	750.00	750.00	750.00						
4.4	Mobile Veterinary services	108.00	102.00	54.00	30.00	24.00	24.00	24.00	18.00	18.00	18.00
	Total	**7220.20**	**7898.20**	**8800.20**	**7466.20**	**7490.20**	**4510.20**	**4210.20**	**4204.20**	**4204.20**	**4204.20**

TABLE: 6.6 Source of Funds -

Sl. No	Source	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	(10 %)Peripheral fund	80	80	72	0	0	0	0	0	0	0
1	KBK Grant/RLTAP	160	160	144	0	0	0	0	0	0	0
1,2.1	State Plan	810	810	754	250	250	250	250	250	250	250
2.2	State Plan	638.00	960.00	790.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.3 & 2.4	State Plan	151.20	151.20	151.20	151.20	151.20	151.20	151.20	151.20	151.20	151.20
3.1	Watershed/Other Projects	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
3.1	State Plan	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
3.2 &3,3	NPCBB	779.00	771.00	771.00	771.00						
3.4	State Plan	1000	1200	1400	1421	1621	1821	1821	1821	1821	1821
3.4	Other Projects	1000	1200	1400	1400	1600	1800	1800	1800	1800	1800
4	RLTAP	744	735	975	1035	1149	135	45	45	45	45
4	State Plan	1736	1715	2275	2415	2681	315	105	105	105	105
5	KBK Grant/RLTAP	108.00	102.00	54.00	30.00	24.00	24.00	24.00	18.00	18.00	18.00
	Total	**7220.20**	**7898.20**	**8800.20**	**7487.20**	**7490.20**	**4510.20**	**4210.20**	**4204.20**	**4204.20**	**4204.20**

6.5.2. DISEASE SURVEILLANCE

Animal Disease Research Institute and the CILs take up regular diseases surveillance activities at field by collecting different sample for different diseases from endemic pockets. Experts from the above institute move to suspected or affected areas for diagnosis and controlling of diseases.

Action Plan

Sub – activity – 1 - Regular surveillance in endemic areas

It is proposed to take up regular surveillance measures. One software will be developed to forecast various diseases. The disease surveillance bulletin will be published at State and district level to assess the diseases pattern. One state Epidemiological Unit will function at ADRI.

TABLE: 6.7 Physical Targets

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
A	Surveillance Unit	1	1	1	1	1	1	1	1	1	1

TABLE: 6.8 Financial Requirements

Sl No	Action Item	PROPOSED in Lakhs									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Surveillance Unit	10	10	10	10	10	10	10	10	10	10

TABLE: 6.9 Source of funds:

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CSP 75:25-ASCAD Central fund	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
State share	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

6.5.3. Control of Emerging Diseases

Control and containment of the diseases like Anthrax, FMD, Bird Flu and Mastitis is important for optimum production of the livestock.

Sub activity – 1 Control of FMD

In the year 2007-08, under FMD networking unit, an ICAR coordinated programme, all the 30 districts of the state were covered under FMD surveillance work through collection of 3000 serum samples. All the suspected samples were sent to the Project Directorate on FMD, IVRI, Mukteswar, Uttaranchal, the results of which are awaited. In the mean while, in the same year 34 lakhs doses of FMD vaccine were utilized in the state for vaccination of susceptible animals in the endemic areas to control occurrence of FMD. Similarly, sero-monitoring work against FMD will also be taken up in near future to assess the sero conversion rate of vaccine utillised in the field.

Sub activity – 2 Control of Anthrax

It is reported in 14 Districts viz. Bargarh, Cuttack, Deogarh, Dhenkanal, Jharsuguda, Koraput, Kandhamal, Kalahandi, Keonjhar, Khurda (N.Kanan), Malkangiri, Mayurbhanja, Sundargarh, Nuapada are endemic areas for Anthrax.

By analysing the last 10 years data, it is evident that it is not so easy to control the infection as the diseases occur sporadically. Another interesting feature is many of the deaths are occurring which is not reported due to poor communication network and awareness of people on Anthrax. Hence, a comprehensive long term programme for five years is proposed to control and contain the Anthrax to a great extent.

Sub activity – 3 Control of Mastitis

Mastitis control can increase the total production and quality of the milk to a great extent. The strengthening of department field institutions to diagnose mastitis and to provide necessary treatment will ensure the enhanced return from Dairy Farming.

At LAC level, there should be provision of conducting MCMT test (Milk California Mastitis Test). Accordingly, all the 2939 LACs are to be provided with paddles and MCMT reagents for conducting the test. The milk sample found positive must be sent to the nearest the Veterinary Dispensary for further testing and necessary confirmation.

At Veterinary Dispensary level, the milk samples suspected for Mastitis collected from LAC level will be subjected to total Leucocyte count test and electrical conductivity test. For conducting electrical conductivity test, there is requirement of Mastitis Detector.

Sub activity – 3 Control of Bird Flu

In the recent past, AI has made successful entry in to the neighboring State of West Bengal (W.B) covering almost the entire state and the virus was found entrenched in the soils. Reports also indicate the possible entry of the virus into the state of W.B. from Bangladesh. These facts substantiate the possible threats of occurrence of AI in our state in future.

It is proposed to be in readiness to combat any untoward incident.

TABLE: 6.10 Physical Target – Control of Emerging Diseases

Sl. No.	Action Item	PROPOSED									
	Control of Emerging diseases	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	FMD Control	1	1	1	1	1	1	1	1	1	1
2	Anthrax Control	1	1	1	1	1	1	1	1	1	1
3	Mastitis Control	1	1	1	1	1	1	1	1	1	1
4	Bird Flu control	1	1	1	1	1	1	1	1	1	1
5	Strengthening of ADRI , 26 DDLs & 4 CILs	1	26	4							

TABLE: 6.11 Financial Requirements - Control of Emerging Diseases

Sl. No.	Action Item	PROPOSED in Lakhs									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	FMD Control	10.00	10.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2	Anthrax Control	60.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
3	Mastitis Control	401.00	641.00	641.00	641.00	641.00					
4	Control of Bird Flu	50.00	5.00	5.00							
5	Strengthening of ADRI , DDL & CIL	435.00	390.00	400.00							
	Total	**956.00**	**1086.00**	**1091.00**	**685.00**	**685.00**	**44.00**	**44.00**	**44.00**	**44.00**	**44.00**

TABLE: 6.12 Source of funds:

Source	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CSP 75:25- ASCAD Central fund	1.50	1.50	1.50							
State share	0.50	0.50	0.50							
ICAR/other project	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
CMP	846.00	641.00	641.00	641.00	641.00					
State Plan	115.00	430.00	120.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Total	**966.0**	**1076.0**	**766.0**	**685.0**	**685.0**	**44.0**	**44.0**	**44.0**	**44.0**	**44.0**

6.5.4. Animal Welfare Measures

Sub activity – 1 Establishment of Gosadan

The stray animals particularly bulls are creating a lot of impediments for organized breeding programme. Sometimes, they are not taken proper care for which they become sick and debilitated. These animals can be brought in to Goshala to minimize harm to these mute animals, as they also have a right to live in dignity.

Sub-activity – 2 Setting up Kennel

It is proposed to construct facilities for post operative care of dogs during ABC programme. Three Municipal Corporations and 15 Municipalities with over population of stray dogs are identified to undertake birth control operations in the state. It has been calculated that 151000 stray dogs are available in these 18 civic areas. An estimated amount of *Rs 4,50,00000/-* is required for construction/ renovation of kennels & operation theatres. The urban authorities will take up such activities.

Sub-activity – 2 Conducting Animal Birth Control Programme in Stray dogs

The stray or community dogs are a problem. The over population of stray dogs is spreading many zoonoses, of which Rabies is the dreaded one. Further, overcrowding is putting the stray dogs into starvation leading to their wildness. As a result, a lot of problems are witnessed like chasing after commuters, road accidents etc. This scenario is well observed in urban areas. There is a need to contain the population of these animals in an ethical manner.

OBJECTIVE:

The objectives of Animal Birth Control Programme are as follows.

- To minimize the population of stray dogs
- To Control the incidence of Rabies through vaccination
- To reduce the stray dog related menaces
- To protect the stray dogs from cruelty
- To Create awareness in the society

It is proposed to take up ABC programme for reproduction control in dogs. The stray dogs will be picked up, neutered, vaccinated against rabies and released in the respective areas from where they had been captured.

Animal Resources Development Department, Govt. of Orissa will utilize its resources in civic areas of the state to implement the programme. The standard operating procedures laid down by Animal Welfare Board of India (AWBI) will be maintained to carry out ABC

programme. Financial assistance for recurring expenditure of sterilization process is to be provided by urban bodies from time to time. The states run SPCA and other Animal Welfare Organizations are required to sensitize the public regarding usefulness of ABC programme and their role in animal welfare activities of the state.

Sub – activity – 4 Sensitisation of Common Public on Animal Welfare

It is proposed to take up Steps Sensitization campaign to stop the animal sacrifice before the Deity. The drawing/ Essay/ Debate competition will be organized in the Schools and Secondary colleges to aware the students.

TABLE No 6.13 Physical Target - Animal Welfare

Sl. No.	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Construction of Goshala and management	2	2	2	2	2					
2	Construction of Kennel	6	4	4	4						
3	ABC Operation in lakhs	.3	.3	.3	.3	.3	.3				
4	Sensitisation on Animal Welfare	1	1	1	1	1	1	1	1	1	1

TABLE No 6.14 Financial Requirements

Sl. No.	Action Item	PROPOSED in Lakhs									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Construction of Goshala and management	200	200	200	200	200	50	50	50	50	50
2	Construction of Kennel	150.00	100.00	100.00	100.00						
3	ABC Operation in lakhs	150	150	150	150	150					
4	Sensitisation on Animal Welfare	4	4	4	4	4	4	4	4	4	4
	Total	504.0	454.0	454.0	454.0	354.0	**54**	**54**	**54**	**54**	**54**

TABLE No 6.15 Source of funds:

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
TFC	200	200	200	200	200					
AWBI/URBAN	150.0	100.0	100.0	100.0	150.0					
URBAN BODY	120	120	120	120	120					
State Plan	4	4	4	4	4	54	54	54	54	54
Total	**504.0**	**454.0**	**454.0**	**454.0**	**354.0**	**54**	**54**	**54**	**54**	**54**

TABLE No 6.16 Veterinary Service Delivery Lay out

(Rs. in Lakhs)

Sl. No.	Financial Requirement	Ten Year Plan										Total
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	
1	Veterinary Health Care	2345.00	3809.00	2167.00	1396.00	1493.00	1569.00	1569.00	1666.00	1679.00	1692.00	19385.00
2	Curative Treatment	7220.20	7898.20	8800.20	7466.20	7490.20	4510.20	4210.20	4204.20	4204.20	4204.20	60208.00
3	Surveillance Unit	20.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	155.00
4	Control of Emerging diseases	956.00	1086.00	1091.00	685.00	685.00	44.00	44.00	44.00	44.00	44.00	4723.00
5	Animal Welfare Measures	504.00	454.00	454.00	454.00	354.00	54.00	54.00	54.00	54.00	54.00	2490.00
	Total	**11045.20**	**13262.20**	**12527.20**	**10016.20**	**10037.20**	**6192.20**	**5892.20**	**5983.20**	**5996.20**	**6009.20**	**86961.00**

TABLE No 6.17 SOURCES OF FUND:

Veterinary Service Delivery	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	Total
NPCBB	779	771	771	771	0	0	0	0	0	0	3092
RIDF	1200.00	2500.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4500
State Plan	5593.35	6006.85	6498.85	4900.35	5426.60	3129.60	2919.60	2943.85	2947.10	2950.35	43316.5
CSP	674.25	810.75	915.75	983.25	1041.00	1098.00	1098.00	1170.75	1180.50	1190.25	10162.5
CP	401.00	641.00	641.00	641.00	641.00	0.00	0.00	0.00	0.00	0.00	2965
TFC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Biju KBK/RLTAP	1012	997	1173	1065	1173	159	69	63	63	63	5837
Peripheral development Fund	80	80	72	0	0	0	0	0	0	0	232
AWBI/URBAN	300.00	250.00	250.00	250.00	150.00	0.00	0.00	0.00	0.00	0.00	1200
Others (ICAR/Watershed Mission/ External aided Project)	1005.60	1205.60	1405.60	1405.60	1605.60	1805.60	1805.60	1805.60	1805.60	1805.60	15656
TOTAL	11045.2	13262.2	12527.2	10016.2	10037.2	6192.2	5892.2	5983.2	5996.2	6009.2	86961

ACTIVITY SUMMARY

Name of the programme: **SERVICE DELIVERY**

Outlay	Rs in lakhs
Veterinary Health Care	19385.00
Curative Treatment	60208.00
Surveillance Unit	155.00
Control of Emerging diseases	4723.00
Animal Welfare Measures	2490.00
Total	**86961.00**

Physical Outlay :

Physical Outlay 2010 - 2020	Nos
Health Care Services	
Strengthening OBPI	**01**
Preventive Vaccination in lakhs doses	7647
Vehicle for vaccine transportation	30
Vaccination kit in lakhs	154
Curative Treatment	
Up-gradation of Sub-divisional Hospitals	58
Physical Facility improvement	
Construction of furnished VD Building	450
Repair of VD	510
Repair of LAC	1000
New Livestock aid centres	3295
Mobile Veterinary services	72
Surveillance Unit	10
Control of Emerging diseases	
Cattle Insurance	11 lakh
Construction of Goshala and management	10
Construction of Kennel	16
ABC Operation & immunization of dogs (in lakhs)	18
Sensitisation on Animal Welfare	10

Outcome : Reorganization of this sector will strengthen the mechanism and ensure better service delivery to the livestock owners.

Source of funds:

Sourcing of Funds	Rs in Lakhs
CSP 75:25- ASCAD Central fund	10046.25
State share	3348.75
State Plan/ Other	1490.00
RIDF	4500.00
(10 %)Peripheral fund	232.00
KBK Grant/RLTAP	464.00
State Plan	4124.00
State Plan	2388.00
State Plan	1512.00
Watershed/Other Projects	56.00
State Plan	84.00
NPCBB	3092.00
State Plan	15726.00
Other Projects	15600.00
RLTAP	4953.00
State Plan	11557.00
KBK Grant/RLTAP	420.00
CSP 75:25- ASCAD Central fund	116.25
State share	38.75
CSP 75:25- ASCAD Central fund	0.00
State share	1758.00
ICAR/other project	0.00
CMP	2965.00
State Plan	0.00
TFC	0.00
AWBI/URBAN	450.00
URBAN BODY	750.00
State Plan	1290.00
Total	**86961.00**

Implementing agency :

The State Animal Resources Development Department is the major agency to implement the programme in association with Watershed Mission, Panchayat Raj, NABARD,KBK assistance, ICAR, AWBI, Urban bodies and plan assistance from GoI and state plan.


BLOCK LEVEL TRAINING PROGRAMME
ON COMMUNICATION ACTIVITIES
AND
DATE-17.11.2008 ,BLOCK BAHALDA

CHAPTER - 7

CHAPTER- 7

HUMAN RESOURCES DEVELOPMENT

7.1 INTRODUCTION

Training and extension are two important elements of capacity-building. Training for the ARD sector is a continuous process as in any other sectors.

It is always been very interesting to explore why people behave differently at different times, situations and circumstances. Such unpredictability of the behavior is of significant importance in an organizational environment because all organizational activities are carried out through coordinated efforts of people.

The fulfillment of organizational objective therefore, would depend upon how best and how effectively they cooperate in utilizing their skills and efforts. Their effectiveness would depend upon their ability and the leadership provided. Besides, it would also depend upon their motivation behind their efforts.

The effectiveness and success of Animal Husbandry Department depends on the officers responsible for providing leadership in planning, organizing, coordinating, controlling or directing and others who actually use their skills and efforts in performance of the task. Moreover, in ARD sector farmers' opinion and involvement plays a crucial factor. As in other development sector, in ARD too the final decision rests with the livestock owners. The decision of the owner is normally influenced by many factors such as, Choice, capability, opportunities, needs, culture, ego and problems. However, many farmers are willing to take up new & challenging entrepreneurship in livestock sector for their livelihood provided they are convinced and assured of profit. Such stage shall arise only when they have access to all the required and useful information, uninterrupted quality services followed by regular and remunerative marketing facility.

Therefore, it is felt that a concerted effort will be made to revamp the Training & Extension system in the department for capacity development of all levels of staff of the department and to provide appropriate extension service at regular intervals can broaden the customer base for livestock development. Investment in Human Resource development (HRD) will be the key for laying the foundation of a sustained developmental process in the ARD sector.

7.2 PRESENT STATUS

The extension programmes and activities of the Animal Husbandry Department (AHD) of Odisha is not very systematic and uniform.

The formal linkages between AHD and other organizations such as Orissa Veterinary College, APICOL, Watershed Mission, Panchayat Raj Department, Water Resources Department etc. though exists but it is very weak. Therefore the flow of information and recommendations for the extensionists is limited.

Under different programmes on an average every year 50000 nos.. of farmers undergo different training programmes in the state.

Apart from the above, other training programmes for farmers at village and block level are being organised at village level with the assistance from DRDA, Water shed, ATMA, Water Resources etc

It has been observed that in order to achieve the objectives and manage the successful outcomes of the animal husbandry programmes, the capacity to adapt to changing technology and scientific advancement, the primary and the secondary stakeholders need to be trained appropriately and regularly to carry out the desired activities.

In order to carry out the development and training functions of Department, a new society is constituted as SMILE (Society for Management of Information, Learning & Extension). The Society along with apex training center VOTI will support, advise and guide the functioning of all the departmental training institutes of AHD. The departmental training centres at regional and district level will be involved in organizing various training programme.

VETERINARY OFFICERS' TRAINING INSTITUTE (VOTI):

It is the State level training institute located at Bhubaneswar for imparting training to the Veterinarians of the state.

In view of the preceding observations, it is suggested that the Department sets up a committee of distinguished Subject Matter Specialists to advise on the formulation of SOPs. This is expected to influence the policy makers to invest in the Sector.

All the Veterinary Dispensaries will be equipped with modern diagnostic facilities. The Veterinary Hospitals at Sub-divisional headquarters will be developed as a ideal Dispensary with all modern facilities.

The service delivery requirement has been assessed for each sub – sector and those are very essential to safeguard the livestock wealth. The service delivery is to be improved through provision of required inputs.

The Department Veterinary Officers are trained at Veterinary Officer's Training Institute and Frozen Semen Training Institute. Presently, the training at the district level is being organized through make-shift arrangement or by hiring facilities.

There are 3 Regional Training Centres (Bhanjanagar, Bolangir, Chipilima) and 12 District level Training Centres functioning to cater the capacity development of the field staff and livestock owners.

7.3. VISION

"The department shall bestow maximum importance on staff dimensions of the organization by protection of staff dignity, ensuring satisfaction of growth and development of the organization as well as providing career opportunities."

7.4 STRATEGY

7.4.1 The department shall initiate a series of reform measures in its structure, systems and strategy to strengthen the extension services so as to improve its efficiency and effectiveness.

7.4.2 Training will be seen as critical input to make human resources more competent and confidant so as to face the challenges to accelerate the process of development.

7.4.3 Operationalise all the 37 Training Institutes with optimum capacity utilization.

7.4.4 Explore and create promotional avenues for all levels.

7.4.5 Recruitment or out sourcing of personnel to ensure uninterrupted service delivery

7.5 SWOT Analysis of Sub sector-HRD

Strengths:

- Competent technical human resources
- Existence of training institutes at State level, regional level and District level.
- Existence of Veterinary Information Beaueureo, Society for Management of Information, Information and Extension (SMILE).
- Existence of many experienced, talented and committed staff.
- In almost all the emergency period in the past, AH field staff with the appropriate guidance from superiors has succeeded in combating the situations.

Weaknesses:

- No proper training policy and thereby training is not seen as a critical input by some officers.

- Subject Matter Specialists (SMS) have not been proportionately placed at specialized institutions, farms and in districts.
- No uniformity in extension methodology
- Inadequate Publicity for the on-going and proposed programmes.
- Exposure trips are limited to a very few.
- Out of the three "R" i.e. Recruitment, Retention and Retrenchment, weakest link is retention. There is no visible attempt to appreciate and give recognition to good workers in the field.

Opportunities:

- Policy to recruit & promote staff
- Good consultancy firms to make a study and seek suggestions to recast job charts for all levels of officers.

Threats:

- Rapid diversification, better career opportunities and promotional prospects of other state govt. departments compels the AHD staff to compare & brood.
- Ineffective or non existing regulatory functions with field level officers affects

7.6 Action Plan

Strengthening SMILE

The Society for management of information, learning and extension (SMILE) is constituted under the aegis of the Government of Orissa. SMILE will exclusively be responsible to ensure smooth implementation, monitoring and evaluation of training functions of the Department.

At present, the extension system is not uniform. Moreover, in the meanwhile, the programmes and expectation have multiplied.

In order to strengthen the extension system, any new model cannot be superimposed on the existing structure of the organisation. Necessary changes will be brought out in the structure and functioning of the management to facilitate new approach and make it operational.

Reorganisation of SMILE:

The Society for Management of Information, Learning and Extension (SMILE) is a Government of Orissa (GoO) initiative to streamline training activities on Livestock Development. The Society is registered on dated 19.05.2007 under the Societies Registration Act, 1860 (Registration No. is 22416/06 of 2007-08). The financial year 2007-08 is the inception year.

It is proposed to strengthen SMILE with placement of one CEO. The Veterinary Information Bureau (VIB) of the Department will be merged in the Society, which will be exclusively look after publicity and development of IEC material.

The core team of SMILE will closely work with the "Training & Extension Unit" of each District. The nodal officer and his/ her team will be exclusively responsible for implementation of all training & Extension programme in their respective district. Such teams of the district will report administratively to CDVO and functionally to SMILE for training and extension activities.

SMILE will have a functional unit at each district for conducting Training & coordination of extension activities. At the district level, one technical officer along with 2 LIs will be entrusted with the responsibility to coordinate training activities and keep liaison with the SMILE for the purpose of planning, organising, monitoring and evaluation. He will support for organization of Seminar and Workshop at state/ District and regional level. SMILE will formulate curricula, ToT programme and other activities for improving training system, take up networking with District Unit for flow of information and organization of training programmes. Networking and liaisoning with District level NGOs will be done to conduct awareness programme at village level. Each District Unit will select suitable NGOs for implementation of extension activities as per need. The District team along with the selected NGO shall make a situation analysis, prioritize the actions to be taken in intensive areas followed by other important areas.

The society will hire of consultants for undertaking impact study of various training programme and other extension programme. They will have flexibility to initiate actions aimed at development of the training activities for farmers at grass root level for capacity building of primary stake holders.

Functionaries:

The Director AH & VS is the President of the Society and one CEO hired from open market will be engaged on contractual basis for better coordination and smooth functioning. The support staff of 2 Clerks, one accountant and menials will be either from the department or outsourced.

Proposed Programme

SMILE will be strengthened by re-organizing structure and functions to carry out the field level training programmes of the Department in a systematic manner. About 40 Officers and 10 support staff will be deputed to SMILE. Other required support staff for different training institute and District training unit will be engaged on contractual basis.

TABLE No 7.1 **Financial requirement - strengthening SMILE**:

Rs. In lakhs

Sl. No	**Action points**	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Strengthening of SMILE	50	60	70	70	70	70	70	70	70	70

Source of funding

State Budget.

A. Sub – Activity -1 : Capacity building of Veterinary Officers

There are about 900 numbers of Veterinarians working in the Department. They have multiple roles to perform such as provision of technical services, advisory services, training and managerial functions. There are 41 SDVOs, 30 CDVOs, 14 Deputy Directors who are in supervisory role. Presently, the Officers training are being organized at Veterinary Officer's Training Institute (VOTI) and Frozen Semen Bank, Cuttack.

It is proposed to organize the following training programmes for veterinary officers. The external resource persons may be invited. Different training modules will be designed which are as follows:

1. Refreshers Training Programme for Professional efficiency.

Feeding Fodder and Nutrition management
Livestock Breeding
Animal Health Care
Wild Life management
Control and containment of Emerging diseases
Livestock and Environment Interaction
Livestock Farm Management

2. Managerial Training Programme for senior level officers

Project Planning, Implementation, Monitoring and Evaluation
Change management
Human Relations Skill
Sustainable Development: Concept and Issues
Rural Development
Community Institution Development for Extension

3. Social Skill/ Soft Skill development

Training of Trainers
Principles of Extension and Communication
Extension Management

4. Induction Training

Induction Training Programme for newly recruited officers

TABLE No 7.2 PHYSICAL TARGET FOR CAPACITY BUILDING OF VETERINARY OFFICERS

Physical	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Training of Veterinary Officers										
Refreshers Training Programme for Professional efficiency.	45	45	45	10	10	10	10	10	10	10
Managerial Training Programme for senior level officers	3	3	3	3	3	3	3	3	3	3
Social Skill/ Soft Skill development	5	5	5	5	5	5	5	5	5	5
Induction Training	2	2	2	2	2	2	2	2	2	2

TABLE No 7.3 FINANCIAL REQUIREMENT:

(Rs. In lakhs)in Lakhs)

Financial	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Training of Veterinary Officers										
Refreshers Training Programme for Professional efficiency.	31.5	31.5	31.5	7	7	7	7	7	7	7
Managerial Training Programme for senior level officers	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Social Skill/ Soft Skill development	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Induction Training	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Total	**36.75**	**36.75**	**36.75**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**

TABLE No 7.4 SOURCE OF FUNDS

	Source	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	ASCAD	25	25	25							
2	NPCBB	6.5	6.5	6.5							
3	STATE	5.25	5.25	5.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25
	Total	**36.75**	**36.75**	**36.75**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**	**12.25**

B. Sub – Activity -2 : Training of Paravets

There are about 3000 numbers of Paravets working in the field. They are working at the cutting edge who are responsible for catering the basic Animal Husbandry services at the community level. Presently, refresher training on Animal Health care and Livestock Breeding and Microscopical Examination is being organised. They need to be regularly trained to update their knowledge and skill.

It is proposed to conduct the following training programmes for them.

1. Refreshers Training Programme for Technical efficiency.

Fodder Production
Animal Diseases and its control
Livestock Breeding
Sample collection and dispatch.
Small animal Development
Backyard Poultry production
Microscopy

2. Social Skill/ Soft Skill development

Basic Extension Skill
Social Mobilisation

3. Basic Course for Livestock Inspectors

The selected livestock Inspectors undergo 10 months basic course at Departmental Training Institute before engagement in the field. The Course curricula and the schedule is regularly being revisited. It is proposed to recruit about 3000 nos of Livestock Inspectors in coming 5 years. The training of these personnel will be conducted.

TABLE No 7.5 PHYSICAL TARGET FOR TRAINING OF PARAVETS

	Physical										
	Training of Para Veterinary Staff	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Refreshers Training Programme for Professional efficiency.		50	50	50	10	10	10	10	10	10
	Social Skill/ Soft Skill development		15	15	15	5	5	5	5	5	5
	Basic Course for Livestock Inspectors - nos		200	300	300	300	300	300	200		

TABLE No 7.6 FIANACIAL REQUIREMENT

Rs. in Lakhs FOR TRAINING OF PARAVETS

	Financial										
	Training of Para Veterinary Staff	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Refreshers Training Programme for Professional efficiency.	25.00	25.00	25.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Social Skill/ Soft Skill development	5.25	5.25	5.25	1.75	1.75	1.75	1.75	1.75	1.75	1.75
	Basic Course for Livestock Inspectors	90.00	135.00	135.00	135.00	135.00	135.00	90.00	0.00	0.00	0.00
	Total	**120.25**	**165.25**	**165.25**	**141.75**	**141.75**	**141.75**	**96.75**	**6.75**	**6.75**	**6.75**

TABLE No 7.7 SOURCE OF FUNDS

	Source	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	ASCAD	17.00	17.00	17.00							
	NPCBB	8.00	8.00	8.00							
	STATE	95.25	140.25	140.25	141.75	141.75	141.75	96.75	6.75	6.75	6.75
	Total	**120.25**	**165.25**	**165.25**	**141.75**	**141.75**	**141.75**	**96.75**	**6.75**	**6.75**	**6.75**

C. Other Stakeholders Training

i. Programme for Fodder Officers

Refreshers Training Programme fodder technology will be imparted to Fodder wing staff.

ii. Programme for other actors

Special tailor made Courses will be offered for other stake holders associated with Livestock Development. It is proposed to conduct the following programmes for them.

- ❖ Role of NGOS in AH Development progarmme
- ❖ Entrepreneurship Development Training
- ❖ Herdsman Training
- ❖ Breeders Forum Training
- ❖ Ethno-veterinary Practice
- ❖ Goat rearers (Nomads) skill upgradation

TABLE No 7.8 Physical Targets – Training on AHD issues

Training of Other stakeholders	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Fodder Officer training -3 day	4	4	4	4	4	4	4	4	4	4
Role of NGOS in AH Development progarmme - 1 day	2	2	2	2	2	2	2	2	2	2
Entrepreneurship Development Training	30	30	30	30	30	30	30	30	30	30
Herdsman Training- 1 day	30	30	30	30	30	30	30	30	30	30
Breeders Forum Training -1 day	40	40	40	40	40	40	40	40	40	40
Ethno-veterinary Practice- 3 days	10	10	10	10	10	10	10	10	10	10
Goat rearers (Nomads) skill upgradation - 2 days	2	2								

TABLE No 7. 9 Financial Requirements – Training on AHD Issues:

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Fodder Officer training	0.20									
Role of NGOS in AH Development progarmme	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Entrepreneurship Development Training	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Herdsman Training	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Breeders Forum Training	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Ethno-veterinary Practice	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Goat rearers (Nomads) skill upgradation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**17.0**	**16.8**	**16.8**	**16.8**	**16.8**	**16.8**	**16.8**	**16.8**	**16.8**	**16.8**

TABLE No 7.10 SOURCE OF FUNDS

Source of Funds	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
STATE	13.60	13.44	13.44	13.44	13.44	13.44	13.44	13.44	13.44	13.44
Other Sources	3.4	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36
Total	**17.00**	**16.80**	**16.80**	**16.80**	**16.80**	**16.80**	**16.80**	**16.80**	**16.80**	**16.80**

Other HRD ISSUES

There are some Institutions in the Animal Husbandry Department like ADRI, FSB, OBPI, Training institutes, Livestock farms etc. who are assigned with specialized functions. They need to update their knowledge and skill at regular intervals to match with changing technology and approach. It is proposed to training programmes for each of such personnel and exposure visits for department Officers to refresh their knowledge and skill.

Reform measures in its structure, systems and strategy will be taken up to strengthen the training and extension services. A strong MIS with networking and collaboration amongst all the stakeholders in livestock development will be focused. On line tailor made certificate courses on Veterinary topics will be offered to different stake holders. A policy to be formulated for officers and staff deputed on emergency duty for their shelter, transport and duration of duty. An unambiguous transfer policy to be formulated for placement of SMS in all the districts and

specialised institutes. All the branch heads and section heads to develop clear objectives of all the activities/ projects or programmes related to their responsibilities and distribute it to all the implementers. SMILE to develop a suitable extension methodology and all need based extension materials with the assistance from VIB. The need based course curricula and other teaching materials will be developed. A new culture of appreciating good workers on an annual basis can be introduced to keep the staff well motivated.

TABLE No 7.11 Physical Targets

	Physical	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Exposure visits	50	50	50	50	10	10	10	10	10	10
2	Reorganisation of HRD in AHD	1	1	1							

TABLE No 7.12 Financial Requirements

Rs. in lakhs

	Financial	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Exposure visits	5.00	5.00	5.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00
2	Reorganisation of HRD in AHD	10.00	20.00	10.00							
	Total	**15.00**	**25.00**	**15.00**	**5**	**1**	**1**	**1**	**1**	**1**	**1**

TABLE No 7.13 Source of Funds

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
STATE PLAN	15.00	25.00	15.00	5	1	1	1	1	1	1
Total	**15.00**	**25.00**	**15.00**	**5**	**1**	**1**	**1**	**1**	**1**	**1**

Training Infrastructure development

In order to establish a training system for conducting need based training programme for the actors involved in the livestock development activities, availability of training infrastructure is a pre-requisite.

Presently the training at the district level is being organized through make-shift arrangement or by hiring facilities, which does not help in creating a favorable learning environment. Moreover there is no scope to arrange any residential facility for the participants at district level which prevents the district level resource persons to pursue the skill based practical training programmes.

Although 3 Regional Training Centres (Bhanjanagar, Bolangir, Chipilima) and 12 District level Training Centres are functioning, it is inadequate to cater the present and future demand of capacity development of the field staff and livestock owners. It is therefore proposed to establish the training infrastructure in all 30 districts with residential facility depending on the requirements. New construction of training centre, where necessary and dormitory for accommodation of the participants will be constructed. The existing Departmental training centres require some repair and renovation. As per the requirement, the repair and renovation of the buildings will be taken up.

The availability of modern teaching aids like LCD, Computer, VCD, T.V. and other equipments will be ensured at the district training centres.

TABLE No 7.14 Physical Target – Training Infrastructure

	Action item	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Training Infrastructure	4	18	2							

TABLE No 7.15 Financial Requirements – Training Infrastructure

Rs. in lakhs

	Financial	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	Training Infrastructure	96.00	648.00	22.00							
	Total	96.00	648.00	22.00							

TABLE No 7.16 Source – Training Infrastructure

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
STATE PLAN	96.00	648.00	22.00							
Total	96.00	648.00	22.00							

7.7. Extension

Proposed Activities:

The farmers involved in Animal Husbandry activity will be given an opportunity to undergo capacity development programme on Livestock management. It is proposed to cover 1 lakh farmers every year under various Schemes. Farmers' meet, on-farm training and demonstration on different aspects of animal husbandry will be organised at the village level, which is essential for sustainable livestock development.

Farmers Training programmes will be focused at three levels (i) the unemployed youth and entrepreneurs (ii) women SHG groups (iii) and other farmers rearing livestock and bird

Training programmes will be organised mostly at the Grampanchayat and village levels. The training programmes will be effectively linked with the parallel programmes of different departments of the district, for tapping the available additional funding resources for mutual benefits.

Capacity building efforts will pay particular attention to the needs of women in order to ensure that their skills and experience are fully used in their day-to-day AH related activities. Skill upgradation will be given priority particularly in preparation of milk by products and other economic activities as per the availability of local raw materials, to provide alternative livelihood to the people.

Further, it is proposed to identify and include lead farmers from different sub-sectors of ARD to offer different tailor made courses so as to involve them in farmer to farmer extension.

The following capacity building programme for farmers will address the following major aspects based on the need.

A. Dairy Development

- Feeding and nutrition management
- Fodder cultivation
- Care & management of dairy animals
- Clean Milk Production
- Preparation of milk by products

B. Small Animal Development

- Genetic upgradation
- Care & management of kids, lambs and piglets
- Feeding procedures
- Marketing of Small animal (Age, rate, season, festivals)

C. Back yard Poultry Management

- Care and management of poultry birds
- Brooding Procedure
- Vaccination schedule
- Hatchery management
- Vaccination Skill

TABLE No 7.17 Physical Target for Extension Activities

TEN YEAR PLAN INTERVENTION & ACHIEVEMENT (In lakhs)

4	**Extension**	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
4.1	Farmers Training on care and management- No of batches (20/batch)	628	628	628	628	628	628	628	628	628	628
4.2	Farmers' training on Fodder cultivation No of batches (20/batch)	130	130	130	130	130	130	130	130	130	130
4.3	Extension materials like leaf let in nos	15160	15160	15160	15160	15160	15160	15160	15160	15160	15160
4.4	Extension materials like Posters in nos	143950	143950	143950	143950	143950	143950	143950	143950	143950	143950
4.5	Extension materials like Charts in nos	143950	143950	143950	143950	143950	143950	143950	143950	143950	143950
4.6	Extension materials like Booklets in nos	12560	12560	12560	12560	12560	12560	12560	12560	12560	12560
4.7	Extension Aids-CD players	540	540	540	540	540	540	540	540	540	540
4.8	Vehicle for mobility for 10 days /block per yr	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140
4.9	Calf Rally 2 per each intensive block & 1 per each potential	499	499	499	499	499	499	499	499	499	236
4.1	Exhibitions/Fair/ Shows @ 2 per district	60	60	60	60	60	60	60	60	60	60
4.11	Wall Paintings 5 per LAC	14695	14695	14695	14695	14695	14695	14695	14695	14695	14695
4.12	TV Ad per yr in nos	120	120	120	120	120	120	120	120	120	120
4.13	No of Farmers to be sent for Exposure visit	500	500	500	500	500	500	500	500	500	500

TABLE No 7.18 Financial Requirement – Extension activities

TEN YEAR PLAN INTERVENTION & ACHIEVEMENT (In lakhs)

Sl No	Action Item	PROPOSED									
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
4	**Extension**										
4.1	Farmers Training on care and management- No of batches (20/batch)	125.6	125.6	125.6	125.6	125.6	125.6	125.6	125.6	125.6	125.6
4.2	Farmers' training on Fodder cultivation No of batches (20/batch)	26	26	26	26	26	26	26	26	26	26
4.3	Extension materials like leaf let in nos	0.6064	0.6064	0.6064	0.6064	0.6064	0.6064	0.6064	0.6064	0.6064	0.6064
4.4	Extension materials like Posters in nos	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58
4.5	Extension materials like Charts in nos	71.975	71.975	71.975	71.975	71.975	71.975	71.975	71.975	71.975	71.975
4.6	Extension materials like Booklets in nos	3.768	3.768	3.768	3.768	3.768	3.768	3.768	3.768	3.768	3.768
4.7	Extension Aids -CD players	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
4.8	Vehicle for mobility for 10 days /block per yr	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14
4.9	Calf Rally 2 per each intensive block & 1 per each potential	24.95	24.95	24.95	24.95	24.95	24.95	24.95	24.95	24.95	11.8
4.1	Exhibitions/Fair/ Shows @ 2 per district	12	12	12	12	12	12	12	12	12	12
4.11	Wall Paintings 5 per LAC	146.95	146.95	146.95	146.95	146.95	146.95	146.95	146.95	146.95	146.95
4.12	TV Ad per yr in nos	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
4.13	No of Farmers to be sent for Exposure visit	20	20	20	20	20	20	20	20	20	20
	Total	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**496.82**

TABLE No 7.19 Source of Funds:

Sl. No.	Source	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
1	Watershed/Other Projects	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2	ATMA	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3	State Plan	499.97	499.97	499.97	499.97	499.97	499.97	499.97	499.97	499.97	486.82
	Total	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**509.97**	**496.82**

7.8 Activity Summary

Physical Outlay :

Physical Outlay	Nos
Training for Veterinarians (Batches)	305
Training for Paravets (Batches)	285
Basic Training (LIs)	1900
Training of Other stakeholders (batches)	1164
HRD issues	
Exposure visits	260
Re-organisation of HRD in AHD	1
Training Infrastructure development	26
Extension	
Training for farmers, extension materials, TV Ads, calf rallies, exposure to farmers, shows etc	As mentioned

Output:

- Knowledge and skill up-gradation at various levels.
- Improved delivery of extension services.
- Improved production, conservation of resources and policy planning and implementation.
- Increased appreciation of inter-departmental linkages and coordination.
- Better management and information system.
- Better impact assessment for mid-course corrections through monitoring and evaluation.
- Revitalizing the training and extension components of Animal Husbandry sector.
- Increased income and livelihood options of various farmers associated with Livestock activities

Implementing Agency **:** **Animal Resources Development Department**

TABLE No 7.20 ABSTRACT HUMAN RESOURCES DEVELOPMENT

(Rs. in Lakhs)

Particulars	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
Strengthening of SMILE	50.00	60.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	670.00
Training of Veterinary Officers	36.75	36.75	36.75	12.25	12.25	12.25	12.25	12.25	12.25	12.25	196.00
Training of Paravets	120.25	165.25	165.25	141.75	141.75	141.75	96.75	6.75	6.75	6.75	993.00
Training of Other stakeholders	17.00	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	168.20
Other HRD Issues	15.00	25.00	15.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	66.00
Training Infrastructure	96.00	648.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	766.00
Extension	509.97	509.97	509.97	509.97	509.97	509.97	509.97	509.97	509.97	496.82	5086.54
Total Investment	**844.97**	**1461.77**	**835.77**	**755.77**	**751.77**	**751.77**	**706.77**	**616.77**	**616.77**	**603.62**	**7945.74**

TABLE No 7.20 SOURCE OF FUNDS

Sourcing of Funds	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	**Total**
NPCBB	14.5	14.5	14.5	0	0	0	0	0	0	0	43.5
ASCAD	42.00	42.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	126
RIDF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
State Plan	275.10	891.94	265.94	242.44	238.44	238.44	193.44	103.44	103.44	103.44	2656.06
State Plan-ext	499.97	499.97	499.97	499.97	499.97	499.97	499.97	499.97	499.97	486.82	4986.544
Watershed/Other Projects	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	50
ATMA	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	50
Other Source	3.40	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	33.64
Total:	**844.97**	**1461.77**	**835.77**	**755.77**	**751.77**	**751.77**	**706.77**	**616.77**	**616.77**	**603.62**	**7945.74**

FIVE YEAR PERSPECTIVE PLAN

PHYSICAL OUTPUT

A. Dairy Development

- More than 80% of breedable population will be covered under organized breeding
- Increase in semen production from 10 lakhs to 27.9 lakhs
- Production of 100 CB donor bulls every year
- Strengthening of A.I.network in intensive and potential areas.
- Improvement of four indigenous cattle and five native buffalo breeds through selective breeding.
- Upgradation of 58 sub divisional level dispensaries to hospitals.
- Establishment of more than 8000 natural service centres through breeders forum.
- Increase in milk production to 3 million tons by next 5 years.
- Increase in number of A.I. to 25 lakhs by end of 2020..
- 140000 no. of calves will be covered under calf rearing scheme within five years
- 4.7 lakhs of additional CB cows will be produced during the year 2020.
- 1.18 lakhs additional employment will be generated on execution of the project.
- The sub-sector will generate additional employment of 424.8 lakhs man days per year

B. Small Animal Development

- Enhancement of meat productivity from 10 kg to 15 kg per animal through genetic improvement and support services.
- Production of 1000 breeding bucks(Beetal) per year for upgradation of local stock.
- Supply of 40000 breeding bucks and 20000 breeding rams to the farmers with in the project period.
- Strengthening of 8 departmental small animal farms for buck and ram production.
- Establishment of 3050 goat AI centers on cluster approach

- Production of one lakh semen doses for AI in goats every year by the semen production unit.
- Improvement of native three sheep and five goat breeds through Open Nucleus Breeding System.
- The sub-sector will generate additional employment of 372.78 lakhs man days per year.

C. Poultry Development

- Total egg production from the back yard sector will be 200 millions per annum
- Creation of man days through backyard poultry will be 80.48 lakhs (1 hr/day/unit)
- Employment generation through chick rearing unit will be 1.28 lakhs
- Over ten years the number of beneficiaries under back yard will be around 30 lakhs

D. Fodder Development

- On strengthening of existing 20 government fodder farms, it will produce 235 MT of certified fodder seeds, 58000 fodder tree saplings and 640 lakhs of perennial grass root slips as planting materials.
- In addition to it under seed growers programme, 1200 registered growers will produce 256 MT of certified fodder seeds per year.
- Demonstration of 75000 plots under perennial and seasonal fodder in farmers' field
- Development of 10000 hectors of pasture land every year on community action
- Establishment of 300 private seed growers every year for next four years.
- Establishment of 10 complete feed block units through private entrepreneurs
- On execution of the programme the additional fodder production will be 1, 93,000 MT per year.
- The sub-sector will generate employment for 9, 74,370 man days per year.
- Under enrichment and ensiling 40000 MT of crop residues will be enriched/ preserved for feeding during lean period.
- As an alternate feed resource five thousand Azolla pits will be developed in the back yard of landless farmers for supplementation protein diet for the livestock

Table-8.1 Sector Abstract

Sector Abstract	Ten Year Plan										Total
Sub - Sector	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	
Diary Development	6690.9	12059.8	11229.5	6872.5	6419.6	4698.9	4798.2	4608.6	4894.1	5232.6	67504.9
Small Animal Development	1448.8	842.1	801.9	407.5	382.4	396.5	419.2	246.6	257.2	260.6	5462.9
Poultry Development	5939.2	4706.3	9674.2	6780.0	2870.9	1888.0	1866.0	1855.0	1844.0	1910.0	39333.6
Livestock Service Delivery	11045.2	13262.2	12527.2	10016.2	10037.2	6192.2	5892.2	5983.2	5996.2	6009.2	86961.0
Fodder Development	1742.3	2275.4	2014.4	1906.2	1862.7	1629.4	1629.4	1629.4	1629.4	1629.4	17947.9
Human Resources Development	845.0	1461.8	835.8	755.8	751.8	751.8	706.8	616.8	616.8	603.6	7945.7
	27711.4	34607.6	37082.9	26738.1	22324.6	15556.8	15311.8	14939.7	15237.7	15645.4	225156

TABLE – 8.2 Source of Funds

SOURCE	Diary Development	Small Animal Development	Poultry Development	Livestock Service Delivery	Fodder Development	Human Resources Development	TOTAL
RIDF	1545	1100	2602	4500	922	766	11435
State Plan	8540.87	1666.551	4912.121	43316.5	2770.9	6876.604	68083.55
CSP	10466.14	0	150	13254.5	48	43.5	23962.14
CP	18247.41	859.48	7932.246	2965	5160	0	35164.13
RKVY	17757.06	0	0	0	2958.046	0	20715.11
NREGA (PR Dept)	0	0	0	0	5000	0	5000
Other devt projects	0	0	0	232	0	0	232
OMFED Own source	1824.741	0	0	0	49	0	1873.741
NPCBB	0	0	816	15656	0	83.64	16555.64
RLTAP	0	0	3052.75	0	0	0	3052.75
SGSY Infr	5474.222	1836.84	0	5837	0	0	13148.06
ATMA	0	0	204	0	400	50	654
Urban body	0	0	0	1200	0	126	1326
KSK subsidy	3649.481	0	0	0	0	0	3649.481
Bank Loan/ Private Source	0	0	19664.45	0	640	0	20304.45
TOTAL	67504.92	5462.871	39333.57	86961	17947.95	7945.744	225156

FIVE YEAR PERSPECTIVE PLAN

The Perspective Plan of the ARD Sector Sector in Orissa for the next five years (2010-11 to 2015-16) is based on the 10 year comprehensive Plan for the Sector. The total layout is Rs. 1309 crores.

The five year Perspective Plan encompasses the following major aspects for development of the ARD sector in the State.

- Special focus to the dairy development activities in the Intensive Dairy Zone by ensuring integrated services like AI, Fodder cultivation, marketing, post insemination advisory services.
- Production of Quality Frozen semen and augmenting the total Frozen semen production by establishing a new Semen Bank.
- The cross breeding programme through Artificial insemination will be scaled up to 2.2 million per annum to double the milk production.
- The milk production will be enhanced from 1.5 million MT to 3 million MT in the next five years.
- The procurement and marketing milk by OMFED will be enhanced to 1.5 million litres per day.
- All 20 Departmental fodder farms will be strengthened to produce sufficient planting material for fodder development
- Steps will be taken to procure good pedigree CB semen from reputed Sperm stations and Embryo Transfer Technology (ETT) laboratory will be set up to produce CB bull.
- Under NPCBB programme, Progeny Testing Programme will be taken up.
- The female CB calf rearing programme will be taken up.
- The availability and deficiency minerals in different areas will be mapped by using GIS S/W.
- Ration balancing and enrichment of crop residue will be taken up at DCS level.

- Fodder cultivation programme at farmers field will be incentivised.
- The disease diagnostic facility will be strengthened.
- The indigenous breed development/ conservation programme will be taken up as a joint venture of OVC & Department.
- The Departmental Bull Calf rearing centre at Livestock Breeding Farms will be strengthened to facilitate rearing of high pedigree progeny tested (bull calves)
- The genetic upgradation programme will be taken up in sheep and goats with improved breeding males.
- The performance of crossbreds will be enhanced through Artificial Insemination in goats.
- A new Goat Frozen Semen Center will be established.
- Deworming and Vaccination in small animals will be taken up in massive manner covering at least 90% of the population.
- Efforts will be taken for conservation and improvement of the native sheep and goat breeds for their unique genetic character.
- Research and development in small animals thorough establishment of one Biotech-center under central scheme.
- Policy incentive measures will be provided to encourage private players for setting up commercial layer and broiler units.
- The departmental poultry farms will be strengthened to rear 4000 parent stock parent stock layer units for production of hatching eggs to meet the requirement of hatcheries.
- The special poultry unit, Chipilima will be expanded to rear 45000 laying capacity parent stock to supply hatching eggs to the hatchery units.
- Under central scheme back yard poultry farming will be taken up in a massive manner by covering about 5 lakh farmers @ 5 farmers in a village.
- Self employment opportunity will be created for unemployed youths for setting up 294 Chick Rearing Units in and around the poultry hatcheries.
- The service delivery facility will be improved by upgrading the physical facilities for diagnosis and treatment of livestock and birds.

- A special programme will be taken up for deworming of livestock.
- Control and containment of emerging diseases like bird flu, anthrax, mastitis, theleriasis and FMD will be taken up to improve the productivity of livestock and birds.
- New Livestock Aid Centers will be opened to provide livestock services.
- Demonstration of 75000 plots under perennial and seasonal fodder in farmers' field will be done every year.
- Development of 10000 hectors of pasture land every year on community action
- Establishment of 300 private seed growers every year for next four years will be done to produce 256 MT of certified fodder seeds per year.
- All the Veterinary Officers will be given training on various aspects (200 batches) for Knowledge and skill up-gradation.
- Improved delivery of extension services will be made by ensuring availability adequate extension aids.
- Increased appreciation of inter-departmental linkages and coordination will be made.
- Better management and information system.
- Increased income and livelihood options of various farmers associated with Livestock activities

TABLE No 9.1 Dairy Development

					(Rs. in Lakhs)	
Particulars	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
Cross Breeding	1689.47	1735.55	1827.93	1292.59	1346.75	7892.28
Up-gradation through Natural Service	316.26	215.67	179.13	174.51	178.08	1063.65
Selective Breeding	120.28	228.14	224.00	224.00	336.00	1132.42
Total Chilling Infrastructure Sub Plan Cost	3284.91	6741.48	4728.88	2607.03	2984.53	20346.83
Female Calf Rearing	723.00	2368.40	3219.10	2573.90	1573.70	10458.10
Use of ICT for Livestock Breeding	402.00	645.60	1050.50	0.50	0.50	2099.10
Nutritional Management	155.00	125.00	0.00	0.00	0.00	280.00
Total Investment	**6690.92**	**12059.84**	**11229.54**	**6872.53**	**6419.56**	**43272.38**

TABLE No 9.2 **Sourcing of Funds**

	1st Year	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
RKVY	1379.98	3716.70	4164.88	3095.31	2170.61	14527.47
RIDF	500	446	599	0	0	1545.00
State Plan	1021.472	1319.747	1546.978	554.3862	609.9486	5052.53
CP	1642.46	3370.74	2364.44	1303.52	1492.26	10173.42
NPCBB	1161.54	1184.21	1135.58	1137.21	1251.38	5869.92
Other Projects (ATMA,Watershed etc)	328.49	674.15	472.89	260.70	298.45	2034.68
Omfed own source	164.25	337.07	236.44	130.35	149.23	1017.34
RLTAP	492.74	1011.22	709.33	391.05	447.68	3052.02
Total:	**6690.92**	**12059.84**	**11229.54**	**6872.53**	**6419.56**	**43272.38**

TABLE No 9.3 SMALL ANIMAL DEVELOPMENT

	GOAT PRODUCTION	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
1	No. of Breeding Bucks/ Rams	134.76	132.72	116.52	121.12	122.84	627.96
2	Expansion of Goat Farm	438	0	0	0	0	438
3	Revolving fund for chipilima goat farm	40	0	0	0	0	40
4	AI Centre	51.96	56.28	40.56	52.8	27.6	229.2
5	Goat semen Bank	524	0	0	0	0	524
6	Selective Breeding	0	0	0	0	0	0
7	Survey & Characterization	16.56	8.28	0	0	0	24.84
8	Selective Breeding through ONBS	0	289.84	144.92	0	0	434.76
9	Farm management - recurring expenses	6	6	6	6	6	30
10	Establishment of Biotech Centre	0	50	120	0	0	170
11	Market Yard development	0	150	150	150	150	600
12	Support to Breeders Forum	0	5	5	5	0	15
	Sub Total	**1211.28**	**698.12**	**583.00**	**334.92**	**306.44**	3133.76
	SHEEP PRODUCTION						0
1	No. of Breeding Bucks/ Rams	33.2	28.7	29.2	29.8	33.2	154.1
2	Selective Breeding						0
3	Expansion of Sheep Farm, Chipilima	138	0	0	0	0	138
4	Survey & Characterization	8.28	4.14	0	0	0	12.42
5	Selective Breeding through ONBS	0	72.46	145	0	0	217.46
6	Farm management - revolving Fund	13	0	0	0	0	13
7	Recurring Expenses	2	2	2	2	2	10
	Sub Total	**194.48**	**107.30**	**176.20**	**31.80**	**35.20**	544.98
	PIG PRODUCTION						0
1	Genetic Upgradation	39.24	32.88	38.88	36.96	36.96	184.92
2	Support service delivery	1.81	1.81	1.81	1.81	1.81	9.0255
3	Training	2.00	2.00	2.00	2.00	2.00	10
	Sub Total	**43.05**	**36.69**	**42.69**	**40.77**	**40.77**	203.9455
	Total	**1448.81**	**842.11**	**801.89**	**407.49**	**382.41**	3882.6855

TABLE No 9.4 Source

		1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
1	RIDF	1100.00					**1100.00**
2	Central Scheme - Integrated development of small ruminants & rabbits	0	50	120			**170.00**
3	Central Scheme - Conservation of Threatened Breed	24.84	229.80	434.84	0.00	0.00	**689.48**
4	SGSY Infrastructure/ Watershed/ External aided project	219.92	217.70	186.28	203.72	183.64	**1011.26**
5	State Plan	104.05	199.69	205.69	203.77	198.77	**911.95**
	Total	**1448.81**	**842.11**	**801.89**	**407.49**	**382.41**	3882.6855

TABLE No 9.5 FODDER DEVELOPMENT

Sl. No.	Particulars	Five Year Plan					
		1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
A	Strengthening of Fodder Farms	254.20	548.20	239.50	0.00	0.00	1041.90
B	Fodder Seed Growers Programme	16.00	16.00	16.00	16.00	0.00	64.00
C	Assistance to farmers for fodder cultivation	322.07	561.20	611.86	745.18	717.74	2958.05
D	Development of Pasture land	1000.00	1000.00	1000.00	1000.00	1000.00	5000.00
E	Demonstration	150.00	150.00	147.00	145.00	145.00	737.00
	Total:	**1742.27**	**2275.40**	**2014.36**	**1906.18**	**1862.74**	9800.95

TABLE No 9.6 SOURCING OF FUNDS

	Fodder Development	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	Total
i.	RKVY	322.07	561.20	611.86	745.18	717.74	2958.05
ii.	RIDF	200.60	502.00	219.40	0.00	0.00	922.00
iii.	State Plan	79.60	72.20	46.10	25.00	21.00	243.90
iv.	CSP	12.00	12.00	12.00	12.00	0.00	48.00
v.	CP	516.00	516.00	516.00	516.00	516.00	2580.00
vi.	NREGA	500.00	500.00	500.00	500.00	500.00	2500.00
vii.	Other Projects (ATMA,Watershed etc)	40.00	40.00	40.00	40.00	40.00	200.00
viii.	Omfed own source	8.00	8.00	5.00	4.00	4.00	29.00
ix.	Credit - Bank loan	64.00	64.00	64.00	64.00	64.00	320.00
	Total:	1742.27	2275.40	2014.36	1906.18	1862.74	9800.95

TABLE No 9.7 POULTRY DEVELOPMENT

(Rs. in Lakhs)

Particulars	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
Commercial Broiler Production	220.00	231.00	264.00	308.00	275.00	1298.00
Commercial Layer Production	2533.42	2350.56	2375.58	2396.66	2405.90	12062.12
Backyard Poultry Production	3090.00	1950.00	6618.00	3798.00	190.00	15646.00
Training of farmers & other link workers	80.18	99.65	282.00	176.30	0.00	638.13
Conservation & Improvement of local Breed	15.60	75.12	134.60	101.00	0.00	326.32
Total:	**5939.2**	**4706.3**	**9674.2**	**6780.0**	**2870.9**	29970.57

TABLE No 9.8**SOURCE OF FUNDS**

	1st Year	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
RKVY	0.00	0.00	0.00	0.00	0.00	0.00
RIDF	1722.00	0.00	880.00	0.00	0.00	2602.00
Watershed	0.00	0.00	0.00	0.00	68.00	68.00
Microproject	0.00	0.00	0.00	0.00	34.00	34.00
ATMA/ DRDA	0.00	0.00	0.00	0.00	34.00	34.00
OCTMP	0.00	0.00	0.00	0.00	17.00	17.00
OIIAMP	0.00	0.00	0.00	0.00	17.00	17.00
Private Source	390.00	585.00	1820.00	1300.00	0.00	4095.00
CS- Backyard Poultry	80.18	99.65	282.00	176.30	0.00	638.13
CS- Backyard Poultry subsidy	630.00	945.00	2940.00	2100.00	0.00	6615.00
Chick rearing unit subsidy	45.60	60.00	171.60	75.60	0.00	352.80
Bank loan/Own source	182.40	240.00	686.40	302.40	0.00	1411.20
State Budget	120.00	120.00	120.00	20.00	20.00	400.00
KSK – Capital investment subsidy	250.00	250.00	250.00	250.00	250.00	1250.00
Bank Loan / Private investment	1250.00	1250.00	1250.00	1250.00	1250.00	6250.00
State share for Poultry Estate (PE)	50.00	0.00	0.00	0.00	0.00	50.00
Reimbursement of VAT & Entry Tax - State Budget	833.4	850.56	875.58	896.66	905.90	4362.1
Central Sponsored Plan Scheme for PE	150.00	0.00	0.00	0.00	0.00	150.00
KSK – Capital investment subsidy	55.00	57.75	66.00	77.00	68.75	324.50
Bank Loan / Private investment	165.00	173.25	198.00	231.00	206.25	973.50
Central Scheme	15.60	75.12	134.60	101.00	0.00	326.32
Total:	**5939.2**	**4706.3**	**9674.2**	**6780.0**	**2870.9**	**29970.57**

TABLE No 9.9 Veterinary Service Delivery

Veterinary Service Delivery

Sl. No.	Financial Requirement	Ten Year Plan					
		1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
1	Veterinary Health Care	2345.00	3809.00	2167.00	1396.00	1493.00	11210.00
2	Curative Treatment	7220.20	7898.20	8800.20	7466.20	7490.20	38875.00
3	Surveillance Unit	20.00	15.00	15.00	15.00	15.00	80.00
4	Control of Emerging diseases	956.00	1086.00	1091.00	685.00	685.00	4503.00
5	Animal Welfare Measures	504.00	454.00	454.00	454.00	354.00	2220.00
	Total	**11045.20**	**13262.20**	**12527.20**	**10016.20**	**10037.20**	56888.00

TABLE No 9.10 **Sourcing of Funds**

Source	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
CSP 75:25- ASCAD Central fund	659.25	799.50	904.50	972.00	1029.75	4365.00
State share	219.75	266.50	301.50	324.00	343.25	1455.00
State Plan/ Other	266.00	243.00	161.00	100.00	120.00	890.00
RIDF	1200.00	2500.00	800.00	0.00	0.00	4500.00
(10 %)Peripheral fund	80	80	72	0	0	232.00
KBK Grant/RLTAP	160	160	144	0	0	464.00
State Plan	810	810	754	250	250	2874.00
State Plan	638	960	790	0	0	2388.00
State Plan	151.2	151.2	151.2	151.2	151.2	756.00
Watershed/Other Projects	5.6	5.6	5.6	5.6	5.6	28.00
State Plan	8.4	8.4	8.4	8.4	8.4	42.00
NPCBB	779	771	771	771	0	3092.00
State Plan	1000	1200	1400	1400	1621	6621.00
Other Projects	1000	1200	1400	1400	1600	6600.00
RLTAP	744	735	975	1035	1149	4638.00
State Plan	1736	1715	2275	2415	2681	10822.00
KBK Grant/RLTAP	108	102	54	30	24	318.00
CSP 75:25- ASCAD Central fund	15.00	11.25	11.25	11.25	11.25	60.00
State share	5.00	3.75	3.75	3.75	3.75	20.00
CSP 75:25- ASCAD Central fund	0.00	0.00	0.00	0.00	0.00	0.00
State share	555.00	445.00	450.00	44.00	44.00	1538.00
ICAR/other project	0.00	0.00	0.00	0.00	0.00	0.00
CMP	401.00	641.00	641.00	641.00	641.00	2965.00
State Plan	0.00	0.00	0.00	0.00	0.00	0.00
TFC	0.00	0.00	0.00	0.00	0.00	0.00
AWBI/URBAN	150.00	100.00	100.00	100.00	0.00	450.00
URBAN BODY	150.00	150.00	150.00	150.00	150.00	750.00
State Plan	204.00	204.00	204.00	204.00	204.00	1020.00
Total	**11045.20**	**13262.20**	**12527.20**	**10016.20**	**10037.20**	56888.00

HUMAN RESOURCES DEVELOPMENT						
Particulars	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
Strengthening of SMILE	50.00	60.00	70.00	70.00	70.00	320.00
Training of Veterinary Officers	36.75	36.75	36.75	12.25	12.25	134.75
Training of Paravets	120.25	165.25	165.25	141.75	141.75	734.25
Training of Other stakeholders	17.00	16.80	16.80	16.80	16.80	84.20
Other HRD Issues	15.00	25.00	15.00	5.00	1.00	61.00
Training Infrastructure	96.00	648.00	22.00	0.00	0.00	766.00
Extension	509.97	509.97	509.97	509.97	509.97	2549.85
Total Investment	**844.97**	**1461.77**	**835.77**	**755.77**	**751.77**	4650.05

TABLE NO 9.12 SOURCING OF FUNDS

	1st Year	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
NPCBB	14.5	14.5	14.5	0	0	43.50
ASCAD	42.00	42.00	42.00	0.00	0.00	126.00
RIDF	0.00	0.00	0.00	0.00	0.00	0.00
State Plan	275.10	891.94	265.94	242.44	238.44	1913.86
State Plan-ext	499.97	499.97	499.97	499.97	499.97	2499.85
Watershed/Other Projects	5.00	5.00	5.00	5.00	5.00	25.00
ATMA	5.00	5.00	5.00	5.00	5.00	25.00
Other Source	3.40	3.36	3.36	3.36	3.36	16.84
Total:	**844.97**	**1461.77**	**835.77**	**755.77**	**751.77**	4650.05

TABLE No 9.13 FIVE YEAR PERSPECTIVE PLAN LAY OUT

	Sector Abstract	**Five Year Plan (Rs. in Lakhs)**					
Sl. No	**Sub - Sector**	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**	**Total**
1	Dairy Development	6690.92	12059.84	11229.54	6872.53	6419.56	43272.38
2	Small Animal Development	1448.81	842.11	801.89	407.49	382.41	3882.69
3	Poultry Development	5105.782	3855.77	8798.598	5883.296	1965	25608.45
4	Livestock Service Delivery	11045.20	13262.20	12527.20	10016.20	10037.20	56888.00
5	Fodder Development	1742.27	2275.40	2014.36	1906.18	1862.74	9800.95
6	Human Resources Development	844.97	1461.77	835.77	755.77	751.77	4650.05
	Total:	26877.95	33757.08	36207.35	25841.45	21418.67	144102.51