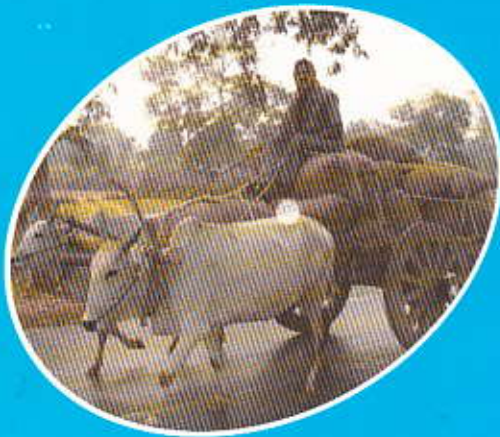




CHHATTISGARH LIVESTOCK DEVELOPMENT AND BREEDING POLICY 2008



LIVESTOCK DEVELOPMENT DEPARTMENT
GOVERNMENT OF CHHATTISGARH

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Abbreviation

NPCBB	:	National Project on Cattle and Buffalo Breeding
ASCAD	:	Assistance to State for Control of Animal Disease
JKNGOS	:	JK Non-government Organisation
MIS	:	Management Information System
HID Cell	:	Human Institutional Development Cell
NDDB	:	National Dairy Development Board
CSLDA	:	Chhattisgarh State Livestock Development Agency
DRDA	:	District Rural Development Agency
NGO	:	Non-government Organisation
AHD	:	Animal Husbandry Development
SHG	:	Self Help Group
DFID	:	Department for International Development
NABARD	:	National Bank for Agriculture & Rural Development
WTO	:	World Trade Organisation
AI	:	Artificial Insemination
NDRI	:	National Dairy Research Institution
ICAR	:	Indian Council of Agricultural Research
PTD	:	Participatory Technology Development
KVK	:	Krishi Vigyan Kendras
KGK	:	Krish Gyan Kendras
ATMA	:	Agricultural Technology Management Agency
MANAGE	:	National Institute of Agricultural Extension Management
VLW	:	Village Level Workers
AVFO	:	Assistant Veterinary Field Officer
CPR	:	Common Property Resource
LN2	:	Liquid Nitrogen
APC	:	Agricultural Production Commissioner
GOI	:	Govt. of India
FMD	:	Foot and Mouth Disease
PPR	:	Peste de petits ruminants
HS	:	Hemorrhagic Septicemia
BQ	:	Black Quarter

CHHATTISGARH LIVESTOCK DEVELOPMENT POLICY

1. The Context:

Born on November 1, 2000 Chhattisgarh is one of the youngest states of Indian Union. The State is committed to the welfare of its people by building up a dynamic and progressive economy with social justice and equal opportunity for all. About 80 percent of State's population lives in rural areas¹, largely dependent on agriculture and allied activities for livelihood. The State thus accords high priority to agriculture and rural development.

The Chhattisgarh economy² has grown at an annual rate of over 8% during 2000-01 to 2004-05 (at 1993-94 prices), benefiting millions of poor in the State. The percentage of the population below poverty³ line has declined drastically from 45 in 1999-2000 to 41 in 2004-05. The rural poor comprise 79% of the total poor in the State.

Agriculture (including crops, livestock, fisheries, forestry and mining) is the main source of livelihood for the rural people in the State. The sector contributes about one-third to the State's gross domestic product (GDP), and engages over 70% of the labour force⁴. The sector grew at an annual rate of over 6% between 2000-01 and 2004-05. Agriculture is practiced on 35% of the geographical area, and is largely rainfed. Rice is the main crop occupying about 70 % of the area, but has poor yields. The rural economy in the State is dominated by small farmers (<2ha) comprising over 75 percent of the total farm households⁵. The average size of land holdings in the State is 1.4ha, and is likely to decline with increasing population pressure. Under such a scenario, crop production alone cannot provide an adequate livelihood to the majority rural population.

Livestock could emerge as an important source of income and employment for the rural poor. They act as a buffer against income shocks of crop failure which is a frequent phenomenon in Chhattisgarh. Livestock provide a continuous stream of outputs and thus income from livestock helps consumption smoothening. Species like poultry, goat, sheep and pigs are of short-generation interval, have a high prolificacy rate and require less land, investment and operational expenses and are better suited to the resource endowment of the poor. Cattle and buffalo are an important source of manure and draught power, which are vital to improving crop production and environment.

Chhattisgarh is rich in livestock wealth. In 2005/06 it had 81.5 lakh cattle, 18.9 lakh buffaloes, 21.2 lakh goats, 2.1 lakh sheep, 5.1 lakh pigs and 71.7 lakh poultry birds. Livestock sector contributes

¹ Census of India, 2001.

² Growth rates in GDP and agricultural GDP are based on data compiled from the website (<http://mospi.nic.in>) of the Ministry of Statistics and Programme Implementation, Government of India.

³ Poverty estimates for 2004-05. Press Information Bureau, Government of India, March 2007. The poverty estimates are based on uniform recall period.

⁴ Information related to area, production, livestock population and labor force are from <http://chhattisgarh.nic.in>

⁵ Information on land and livestock ownership are from NSS Report No. 492. National Sample Survey Organization, the Ministry of Statistics and Programme Implementation, Government of India.

about 23 percent to the value of agricultural sector output. A majority of the rural households possesses one or another species of livestock. The distribution of livestock holdings is more equitable as compared to land, indicating that the poor have more opportunities in livestock production than in crop production (Box 1). Livestock however are low-producing. Milk yield of cow as well as of buffalo is about half of the national average⁶. Low yield is due to a lack of adoption of technology, feed scarcity and inadequate animal health services. For instance, only 3% of the in-milk cows in the state belong to crossbreds, much less compared to the national average of 22%. Similarly, the livestock units per veterinarian in the State are about 36000 as compared to the national average of about 8000.

Nevertheless with appropriate technological, institutional and policy support livestock sector has considerable potential for growth and thereby could be an important pathway for poverty reduction. Rapid economic growth as being witnessed in the State, is causing a shift in the food consumption basket in favour of livestock products, which offers considerable scope to raise livestock production and productivity.

Box 1: Opportunities for the Poor in Livestock Production

There are considerable opportunities for the poor to augment their income and employment through livestock production. Sustained income growth and rising urban population are causing a change in the food consumption pattern in favour of high-value commodities like fruits, vegetables, milk, meat, eggs and fish. Between 1983 and 1999 per capita milk consumption in India increased by 70% and meat consumption by 45% as against a decline of 12% in cereal consumption. In Chhattisgarh per capita consumption of milk and meat in 1999 was only 22 and 27% of the country's average partly because of a lack of local supplies⁷. Nevertheless, with robust economic growth and increasing urbanization demand for livestock products in the State is likely to increase faster in the near future. Small farmers have a higher stake in livestock production as they control 88% of the poultry, 67% pigs and small ruminants, 59% cattle and 57% buffaloes. The growth in livestock production is driven by markets. It is a promising opportunity for the poor to participate in the market economy and improve their livelihood.

Realizing the importance of livestock in enhancing agricultural growth and poverty reduction the Government of Chhattisgarh with support from CALPI and CARD commissioned a number of studies encompassing various dimensions of livestock economy in 2005-06 to examine the growth prospects and operational constraints, and to recommend policies to improving efficiency, sustainability and equity in the livestock sector. The proposed policy framework is based on these background documents, group participatory meetings with policy makers, consultations with animal husbandry professionals in public and private sectors, civil society organizations and farmers, and dissemination workshops.

⁶ Information on crossbreds, animal health services and yield are from Basic Animal Husbandry Statistics 2006, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India.

⁷ Based on data extracted from electronic database on consumption expenditure supplied by the NSSO.

2. Goals of the Livestock Policy

The proposed policy envisions livestock sector growth with a human face. It has a renewed focus on improving the livelihood and self-reliance of the poor and other underprivileged sections of the rural society through sustainable development of livestock. The over-arching goals of the new livestock policy therefore shall be to:

- 2.1 **Enhance growth of livestock sector by improving efficiency in production, service delivery systems, marketing and processing to build up a self-sustained livestock economy that enhances income and employment opportunities, and food and nutrition security of the large masses and absorbs risks of crop failure.**
- 2.2 **Empower the underprivileged, especially women and resource poor rural households to participate in the livestock production process to reduce poverty and social economic inequalities.**
- 2.3 **Minimize negative externalities of modernization of livestock sector to ecology through appropriate technological, institutional and policy interventions. Conserve and develop the indigenous livestock and poultry bio-diversity in situ preferably with community participation.**
- 2.4 **Ensure that the process of modernization takes place within the confines of the cultural and religious ethos of the society.**
- 2.5 **Promote the existing scope, potential of livestock as per the needs and requirements of the different agro-climates.**

3. Livestock Policy Framework

Livestock production in Chhattisgarh is by and large in the domain of smallholders and is subsistence-oriented. The proposed livestock policy has a pro-poor focus and is equally committed for growth of private sector to meet the increasing demand for livestock products. It identifies the following thrust areas for government intervention:

- 3.1 **Enable more rural and peri-urban households to use and enhance livestock production as a viable livelihood option which can ensure improved income, balanced family diets and generate employment.**

Subsistence farmers and small holders are in general not equipped to adopt new technologies since their livelihood set-up is more about minimizing risks and increasing survival strategies. Improvements can be made when basics such as access to animal health and extension services, credits and markets are secured.

- 3.1.1 Thus equip and empower the small holder fe/male farmers in small groups with appropriate skills and linkages to maximize returns from market force and reduce poverty. The focus shall be

- Re-organise input service delivery system under the public sector for farmers in subsistence farming systems and small holders in transition through special beneficiary oriented schemes.

- Risk reduction in livestock production should be a priority through the introduction of risk mitigation efforts.
 - Reduce risks of adopting new technologies, by offering to poor fe/male farmers technology options, from which they are able to choose and test for enhanced integration and success.
- 3.1.2 **Promote and support grass root level participatory bodies** such as Self Help Groups, Producers Cooperatives, Breeding associations, Village Committees and Voluntary organizations. They can be the organic link between the smallholders and Animal Husbandry department where thorough extension support knowledge, technologies, skills including inputs can be shared.
- 3.1.3 The basic learnings emerging from the sector studies and situational analysis suggest that **an enabling institutional and policy environment is indispensable** for improving the living conditions of the poor through livestock sector interventions and positive mind set namely interested in working with the poor, the marginalized. So ensure access to poor smallholder farming community to low cost skills and knowledge through appropriate organizations that they themselves manage.
- 3.2. **Improve livestock producers' access to animal health services by strengthening and restructuring the public delivery system and forging private sector participation.**
- Access to quality animal health services is crucial to protect livestock against disease. Animal health services in the State are in the public domain and are under utilized and under developed. There is a need to improve infrastructure and the delivery system.
- 3.2.1 Prioritize diseases based on their damage potential, probability of occurrence and importance to the poor, and initiate disease management programs accordingly.
- 3.2.2 Lay emphasis on risk and cost benefit consideration in animal health policy and promote low cost disease treatment and control strategies including ethno-veterinary practices emphasize preventive vaccination and other measures of infectious diseases and parasites control (ecto and endo parasites).
- 3.2.3 Initiate research to enhance scientific base of cow urine therapy and promote use of such indian systems of medicine as per need.
- 3.2.4 Continue strengthening services especially in areas such as disease control and eradication, zoonotic disease control, food safety and quality control mechanisms.
- 3.2.5 Develop disease free zones for diseases that cause heavy losses, and are contagious and zoonotic in nature
- 3.2.6 Emphasize preventive and control measures for the diseases relevant for animals kept by poor livestock keepers.
- 3.2.7 Introduce and strengthen disease surveillance, monitoring and reporting system at all levels.
- 3.2.8 Introduce cost-recovery for public animal health services for activities that generate private benefits. The revenue generated can be used to improve quality of services.
- 3.2.9 Initiate the process of privatization those services that do not fall in the category of public goods by creating an enabling environment for private animal health service providers

- 3.2.10 Promote mobility of veterinarians and auxiliary staff for effective delivery of services and extension activities.
- 3.2.11 Encourage public-private partnership in production of low-cost vaccines, multiple disease vaccines and biologicals of quality standards.
- 3.2.12 Promote effective cold chain system for vaccines and biologicals from production line to farmer's door.
- 3.2.13 Develop a cadre of trained para veterinary village workers, who can further train and assist livestock producers in identification of diseases, their causes of spread and preventive measures to enable them to shed superstitions and participate in disease control programs.
- 3.2.14 Enforce the Indian Veterinary Council Act with proper interpretation of the legal and regulatory measures essential for effective delivery of veterinary services.
- 3.2.15 Place effective emergency response mechanism to tackle new and infectious diseases.
- 3.2.16 Enforce regulatory mechanisms to minimize menace of stray animals in urban areas.
- 3.2.17 Encourage private veterinary services for pets.

3.3 Promote accessibility of farmers to quality breeding services. Enhance capacity of the breeding system to improve productivity of livestock through appropriate breeding policy and plan by integrating traditional and modern approaches and technologies across the full range of available production systems within the agro climate zones.

The state shall promote overall increase in production and productivity of milk, meat, egg, wool and draft power within a well planned cost return structure through implementation of suitable genetics and breeding plan.

- 3.3.1 Follow the National Policy frame in cattle and buffalo genetic improvement and prepare breeding plans for Chhattisgarh taking into consideration the farmers needs, market and agro climate. It shall have:
 - *Genetic improvement of important livestock breeds shall be through selective breeding.*
 - *Non-descript low producing populations should be improved by up-grading with other superior indigenous breeds or crossbreeding.*
- 3.3.2 Establish seed stock of Sahiwal, Gir and Red Sindhi breed with qualitative superior bulls and bull mothers to form nucleus germplasm pool of high productivity cattle.
- 3.3.3 Survey Livestock and poultry genetic resources of Chhattisgarh for further action as per national guidelines taking into consideration the farmers needs, market and agro climate.
- 3.3.4 Expand and strengthen the infrastructure for artificial insemination, improve its efficiency and effectiveness using frozen semen technology for breeding cattle and buffaloes of the state.
- 3.3.5 Promote Natural Service (NS) through breeding bulls in remote areas.
- 3.3.6 Devise and plan rapid genetic improvement of cattle and buffaloes through new technologies.

- 3.3.7 Introduce high-producing breeds for breed improvement programs initially in the regions that are better endowed with feed and fodder and animal health services, and then gradually increase their spread to other regions but place appropriate infrastructure in place first.
- 3.3.8 Utilize and conserve the sheep and goat genetic resources and effect breed improvement through selective breeding. Facilitate AI in goat using semen from superior breeding bucks.
- 3.3.9 Promote cross breeding of local pig stock with exotic breeds in areas endowed with better feed and management practices and identify best characteristics fit native pigs and evolve local breed through intensive selection. Promote pilot testing for identification of suitable breeds.
- 3.3.10 Set up / promote autonomous bodies for production and supply of breeding stock as well as breeding services for all species at the district level.
- 3.3.11 Provide support to farmers to improve calf survival rate, management of high level genetics initially and when the breed improvement system starts working efficiently introduce cost recovery for the breeding inputs and services
- 3.3.12 Encourage private sector participation in production and distribution of breeding inputs and breeding services.
- 3.3.13 Encourage specialized breeders amongst the progressive farmers for commercial breeding of sheep, goat, pigs and poultry.
- 3.3.14 Promote 'Restocking of livestock through special schemes' for moving in better breeding stock into smallholder households and dovetailing it with organized market linked group activities.
- 3.3.15 Encourage transparent private sector participation in conservation, maintenance and distribution of breeding inputs.
- 3.3.16 Establish a 'Livestock Development Board' to cover all species of livestock with the aim to coordinate and monitor genetic conservation and breed improvement programs and achieve a balance across species.

3.4 Encourage the growth on the basis of the demand of livestock products viz. milk, egg, meat and draft accommodating structural changes in the livestock sector in a balanced way; such that all species of livestock are allowed to grow and develop in proportion to their growth intensity and potential to enhance livelihoods.

Development of the livestock sector in India and Chhattishgarh is skewed towards cattle and buffaloes. Commercial poultry sector with initial support from the government is fast growing under the private sector. This sector also requires Policy support for further growth.

The sheep, goat, pigs and backyard poultry are most valuable species of livestock to all groups of farmers in rural area of Chhattisgarh . and are a viable option for improving rural incomes and reducing poverty as brought out in the preamble of this document. The new thrust on sustainable food and nutrition security shall give higher priority to small animals and poultry in food security programme, while continuing the thrust on large animals.

- 3.4.1 Balance specie-wise budget outlay as per livelihood implications and target area of interest and opportunity.
- 3.4.2 Government interventions should be such so as to promote smallholder livestock development.
- 3.4.3 Departmental interventions should focus on skill development, self-reliance and appropriate technology for farmers.
- 3.4.4 Support private sector growth and modernization in the sector on growing demand and based on existing and envisaged market force.
- 3.4.5 Vertical integration/coordination of smallholders for improved access to services, technologies and markets.

3.5 Improve livestock producers' access to financial services including institutional credit and insurance to enhance their capacity to invest in livestock and cope up with unforeseen calamities

The poor need credit to for acquisition of animals, construction of animal sheds, purchase of equipment, and meet operational expenses. Livestock sector including poultry shares 5.8% in the long-term institutional credit advanced to agricultural sector in the state.

- 3.5.1 Influence lending institutions to correct lending bias lending against livestock by de-linking livestock credit from collateral requirements,
- 3.5.2 Influence lending institutions to enhance coverage so as to reach to unserved backward regions on low transaction costs, where credit requirements among livestock farmers are high.
- 3.5.3 Influences lending institutions to provide short-term loans for livestock production as in the case of crop production by enhanced representation of the Department in institutionalized forums aiming at augmenting credit delivery.
- 3.5.4 Up-scale credit schemes like Kisan Credit Cards for animal husbandry that are more flexible in procedures, access and repayment of credit, and are better suited to smallholders.
- 3.5.5 Integrate community based institutions like Panchyats, Self Help Groups (SHGs), livestock user groups with micro finance institutions (NGO's) to ensure preparedness for livestock based micro enterprise & provision of credit.
- 3.5.6 Promote livestock insurance schemes to protect the livestock producers against risks of natural calamities and diseases
- 3.5.7 Encourage evolution of community-based risk-coping mechanisms with public, private sector and livestock producers as share holders.

3.6 Improve production of livestock products; ensure access to market through institutional policy and encouraging processing and marketing of livestock products through cooperatives and private sector support.

Livestock and livestock products markets and information system in the State are under-developed, acting as barriers to improve and commercialize livestock production.

- 3.6.1 Develop and nurture vertical and horizontal linkages with dairy cooperatives and contract farming mechanisms in all aspects from production to marketing.
 - 3.6.2 Promote commodity specific or multi-commodity livestock cooperatives initially in the niche production regions and the major urban demand centers to enable producer's to transit from subsistence to commercial production.
 - 3.6.3 Revive defunct cooperative through financial assistance from the government.
 - 3.6.4 Provide more autonomy to cooperatives decentralizing management to members
 - 3.6.5 Amend and implement Agriculture Produce Market Committee Act to on the lines of 'Modal Marketing Act' of the Government of India to enable agribusiness and marketing firms to directly source raw material from the producers through institutions like contract farming.
 - 3.6.6 Encourage agro-processors and poultry farmers to expand production/ processing facilities through incentives such as assured supply of electricity, and reduction in market fees, levies, entry tax, etc.
 - 3.6.7 Encourage livestock owners to form 'Producers' Associations' at the grassroot level to improve their bargaining power vis-à-vis agribusiness/marketing firms and service providers and to enhance their capability in pre- and post production operations.
 - 3.6.8 Develop local markets for live animals especially sheep and goats with facilities such as shelter, drinking water, veterinary facilities, and sanitation and security arrangements. Use revenue generated through market fees and taxes for improving market infrastructure.
 - 3.6.9 Strengthen market information system and enhance information flow to livestock producers to enable them to understand the market demand, supply and prices.
 - 3.6.10 Develop other infrastructure such as roads and storage to promote livestock based industries.
- 3.7 Ensure ecological and environmental sustainability and enhance positive interactions between livestock and environment in the process of modernization of livestock sector through appropriate policies and programs.**
- 3.7.1 Create awareness among the livestock producers about the costs and benefits of livestock to environment.
 - 3.7.2 Assess the livestock carrying capacity of different agro-ecologies and develop livestock production systems accordingly.
 - 3.7.3 Assess the nutrient assimilation capacity of land in different regions, and emphasize use of organic manure (dung) and other environment friendly technologies such as bio-fertilizers and vermicompost to as a source of nutrients.
 - 3.7.4 Encourage use of animal power in agriculture by providing farmers with low cost animal-drawn machines and equipments.
 - 3.7.5 Promote technology packages for organic farming developed locally by farmers, CBO's and others.
 - 3.7.6 Devise efficient means and regulations for disposal of animal waste in urban and peri-urban livestock production systems.

3.8 Lay special emphasis to enhance contribution of livestock and livestock sector to reduce poverty among the poor, women and underprivileged sections of the society especially in the underdeveloped regions.

With support and knowledge, the poor have the potential and strength to bring about necessary changes in their own livelihood patterns. The smallholder farmers need to become competitive in economic terms at cost of production to sustain the onslaught of commercial farming system and are the future challenge. Under the situation, it is encouraged to forge optimal production systems which strengthening the entire livelihood system and not push for maximum production.

- 3.8.1 Develop with farmers and promote livelihood intensive efficient systems/models of livestock production befitting resource endowments of the poor and the local conditions.
- 3.8.2 Enhance capability of the poor producers through technical, technological, information and skills to improve their competitiveness vis-à-vis large commercial producers, and finally to improve their scale of production as to enable them to escape poverty.
- 3.8.3 Initiate special credit and insurance schemes for the poor and underprivileged.
- 3.8.4 Encourage marginalized sections to organize themselves into 'producers' associations' to take advantage of scale economies and improve bargaining power.
- 3.8.5 Ensure that agribusiness firms sourcing raw material through institutions, such as contract farming, do not exclude smallholders.
- 3.8.6 Encourage women to increasingly participate in livestock production and marketing especially in dairying.
- 3.8.7 Establish decentralized extension and training systems to create awareness, improve livestock production through transfer of technology to the farmers.
- 3.8.8 Establish a Livestock Management Extension and Training Institute to train officers of Livestock Department with coordination to existing training institutions like AVFO Training Centers and University.
- 3.8.9 Extension, Research and Farmers linkage to be strengthened.

3.8.10 For poverty alleviation special emphasis to be laid on the following:

- 3.8.10.1 Species of livestock kept by the poor are sheep, goat, village pigs and backyard poultry, thus promote use of local adopted, more resistant breeds.
 - *use simple breeding methods for genetic improvement.*
 - *control diseases that particularly affect these species in smallholder situations, such as Peste de petits, ruminants (PPR), Swine Fever, Ranikhet disease, Fowl pox in poultry and internal parasitic diseases.*
 - *low cost anthelmintics to control internal parasites,*
 - *introduce appropriate breeding techniques such as Natural Services in far flung areas*
- 3.8.10.2 Agro-ecologies in which poor people live (marginal areas) need more research on using animals in nutrient cycling (agro-forestry, rotation, manure management etc.),
 - *Gocher land (CPR) management system,*
 - *development of fodder packages that give high yield per hectare of high quality feed*
 - *dual purpose crop species (biomass and grain)*
 - *including multi purpose trees for marginal lands: food, fodder, timber/shade/green manure, etc.*

3.8.10.3 Products and processes adapted to the delivery and marketing system of the poor will integrate simple technological advancement to promote long shelf-life products such as dried meat, household processing of milk like curd, chena, butter and ghee.

3.8.10.4 Integrated farming system to develop technologies for low input farming systems,
● *including improving low quality fodder*
● *energy re-cycling through increased biomass production,*
● *reduction of nutrient losses to increase production efficiency.*

There is another scenario, where gradually peri-urban poor small holder producing unit will witness changes in livestock production practices. They will move from a local multi specie livestock activity to one increasingly market oriented and vertically integrated business.

3.9 Improve feed and fodder resource by capacitating livestock producers and local bodies through provision of information, skills, technologies and management.

3.9.1 Government land is to be distributed to the poor landless farmers as some access to land is important to own and manage livestock. Legalization of tenancy with long-term lease rights will also enable the poor to own livestock.

3.9.2 Promote dual-purpose crops, leguminous fodder crops as intercrops and forage production on rice bunds and multi-utility fodder trees.

3.9.3 Encourage farmers to intensively use available rice straw by improving its quality through technical and technological interventions such as chaffing and urea treatment.

3.9.4 Improve management of common grazing lands to enhance their productivity and remove encroachments on such lands by promoting users' associations and participation of Panchayati Raj Institutions and civil society organizations. If needed, assist these institutions through financial, technical and legal backstopping.

3.9.5 Promote 'community fodder banks' to overcome fodder scarcity in lean seasons.

3.9.6 Improve villagers' access to forests for fodder collection. Restrictions on grazing in forests needs clear guidelines.

3.9.7 Promote Private sector and cooperative base manufacturers to produce and market balanced compound cattle and poultry feed.

3.9.8 Support and promote higher production of Hybrid maize, soybeans, and oilseed crops etc which are used in compound feed ingredient to meet the market demand.

3.9.9 Focus balancing micro and micronutrient requirements in the nutrition of livestock and poultry to optimize production.

3.10. Strengthen livestock research and its linkages with extension system to improve livestock producers' knowledge and access to new developments in research

Continuous generation and dissemination of technologies is central to sustain growth in livestock production. The State has enormous plant and animal biodiversity that can be gainfully utilized for livestock development through research.

3.10.1 Increase investment in animal science research which is grossly under-funded at present with special reference to cataloging traditional germ-plasm of Chhattisgarh.

3.10.2 Prioritize livestock research in terms of species, regions and programs to improve efficiency of research.

- 3.10.3 Promote need-based participatory research taking into consideration the concerns of various stakeholders including producers (productivity-enhancement and cost-effectiveness), consumers (tastes and preferences) and industry (shelf-life and processing attributes).
- 3.10.4 Integrate traditional and modern approaches to improve livestock productivity across the full range of production systems.
- 3.10.5 Develop, update, standardize and disseminate husbandry practices for low input smallholder livestock production.
- 3.10.6 Develop an exhaustive inventory of feed resources available locally and for formulation of cheap livestock rations.
- 3.10.7 Develop thermostable poultry (Ranikhet disease and fowl pox), pig (Swine fever), sheep and goat (Peste de Petits and Contagious ecthyma) viral disease vaccines which can be used by oral / nasal routes. It shall eliminate the cold chain dependency; especially to reach in inaccessible rural villages where mostly poor live.
- 3.10.8 Development of a cost effective polyvalent Bluetongue vaccine and anthelmintics.
- 3.10.9 Encourage multi-disciplinary research and collaboration among research institutions within and outside the State.
- 3.10.10 Improve the process of dissemination of doable new technologies to the users through public extension system, civil society organizations and mass media.
- 3.10.11 Promote Pashu Vigyan Kendras on lines of KVK at District level to disseminate modern technological packages and appropriate rearing practices for livestock. Furthermore link them up with ATMA institutions.
- 3.10.12 Existing Auxiliary staff to link up with livestock user groups for effective delivery of livestock extension services.
- 3.10.13 Follow a bottom-up rather a top-down approach for technology dissemination based on the needs of stakeholders, taking into consideration the production conditions in different agro ecologies, characteristics of the farming systems.
- 3.10.14 Promote new models of dissemination such as distance learning mechanisms, farmers' field schools involving different stakeholders i.e. research institutes, extension department, civil society organizations, input dealers, service providers and livestock producers.

3.11 Restructure and re-energize existing organizational and institutional set-up in the livestock sector to improve its efficiency; and promote new institutional models to accelerate the growth of livestock sector.

Since inception the department of Animal Husbandry has delivered animal clinical medicine and disease prevention measures. In due course of time, the livelihood and commercial production of livestock became more relevant with genetic improvement of large animals through artificial insemination. In order to meet these changes, the department has devised alternate strategies in service delivery. However studies revealed that lack of mobility has been the major constraint for efficient service delivery at the door step of farmers.

- 3.11.1 Improve staff skills in management, working with communities and additional skills in project planning, implementation monitoring/evaluation and documentation.
- 3.11.2 Enhance the effectiveness of services, through development of process and organization skills within staff in addition to technical knowledge. Familiarity with participatory processes, existing community based institutions, other sectoral schemes and programmes, community mobilization skills and models are important elements in the tool kit of an effective delivery system.
- 3.11.3 Renew an openness to new opportunities for collaboration for improvement of livestock situation in the state. Liaison with Research institutions, Universities, GOI and bilaterals/multi laterals on key issues, especially staff and farmer development.
- 3.11.4 Function as a key liason point and regulate commercial and private sector development in Livestock development. **Establish regular linkages with fodder seed markets, meat and egg market, concentrate feed manufacturers and pharmaceutical firms.**

At the institutional level

Livestock in the State is largely in the hands of smallholders. However, a new class of entrepreneurs (organized farms) are emerging and follow principles of high-techn animal husbandry and thus demands better access to newer technologies, and quality services. This policy seeks to provide a framework within which both these trends can be supported in the interest of protecting and augmenting the livelihoods of the poor and facilitating the economic development of the state.

- 3.11.5 Establish functional linkages and forge synergy through a supportive administrative framework to further the objectives of the livestock sector policy with important line departments like Panchayati Raj, Tribal Affairs, Rural Development, Forest and Agriculture down to the village level. More specifically establish linkages on the following issues:
 - **Agriculture:** On fodder seed production, multiplication and distribution. Research and introduction of dual purpose crops.
 - **Forest Department:** Integration of livestock in Joint forest management programme.
 - **Rural Development Department:** Introduction of schematic and beneficiary oriented programmes to address poverty by induction of livestock in small farming systems with special reference to BPL, SC & ST. Develop special schemes and input packages sourcing technical support from the AHD.
 - **Department of Tribal Welfare:** Work in tandem with the Department of Animal Husbandry to propagate livestock development schemes focusing on animals that are critical to the livelihoods of the tribal people.
 - **Panchyati Raj:** Initiation of mini and micro grassroot works, through development of gochar lands and agro forestry.
 - **Watershed:** Upacale watershed programs to mitigate drought-induced risks to livestock. Fodder production should be an integral part of the watershed program. The Department of Animal Husbandry shall effectively liaise with the main watershed implementing agency.
 - **State Agriculture University:** Capitalize on the available technologies and knowledge resources for enhancement of extension services and research.
- 3.11.6 Strengthen the state public services with decentralization and private sector and NGO participation.

- 3.11.7 Develop and promote functional institutional designs to promote livestock specific to the needs of the small farmer especially smallholder Backyard Poultry as also the sheep and goat sub-sector.
- 3.11.8 Establish a Joint Planning and Review Committee of key stakeholders in the dairy sector, namely the Department of Animal Husbandry GoCG, National Dairy Development Board, Raipur Dugd Sangh and Go Seva Ayog so as to provide a formal platform for an integrated approach to dairy development.
- 3.11.9 Consolidate all breed development and AI operations within the Chhattisgarh State Livestock Development Agency (CSLDA) and equip the agency to operate through business plans on a cost benefit basis.
- 3.11.10 Strengthen Dairy Development programmes through enhanced collaboration with Milk Co-operatives and Raipur Dugdha Sangha and other Milk Union for promotion of dairy as well as a producer owned commercial enterprise.
- 3.11.11 Establish functional Linkages with Veterinary College, Anjora and Dairy Technology College, Raipur for technical inputs and guidance. Strengthen BILDP as the knowledge and technical centre for small animals.
- 3.11.12 Facilitate formation of District Level Committee's on livestock resource development and establish functional linkages with the AH District Training and Extension for convergence and joint action.
- 3.11.13 Set up a district Level Committee on livestock resource development to defuse breeding and animal health services in the districts and monitor the development and funds generated from user fees.
- 3.11.14 Under the Go-seva Ayog, strengthen the capacities of Goshalas to:
- *Function as centers for cattle improvement and hubs for research and show casing of best rearing practices.*
 - *Provide home to destitute animals*
 - *develop as a centre for milk production*
 - *Promote production of 'Go Mutra' Based Insecticides and organic manure (natural manure and vermin compost)*
 - *As a model of alternate energy, promote Gobar Gas Plants*
- 3.11.15 **Government has to lay focus to the following as well:**
- a. *Restructure AHD without reducing exiting positions.*
 - b. *Strengthen the department progressively to build its core competence areas and slowly decentralize delivery of services; both veterinary care and artificial insemination.*
 - c. *Structuring institutions and decentralization of Trainings and Extension and reach up to block/village level.*
 - d. *Modernizing/Computerizing some of the activities like MIS Reporting System, Documentation and public liaison system etc.*
 - e. *Promote contract farming system and enact State policy on Contract Farming.*
 - f. *Promote Private Enterprises in Livestock sector with suitable policy support.*
 - g. *Ensure access to Animal Health Services through both public and private Animal Husbandry Services.*
 - h. *Ensure access to Breeding Services on long term basis through decentralization of operations.*

LIVESTOCK BREEDING POLICY

Objective:

1. Genetic Improvement of local livestock through selective breeding, upgrading, cross breeding to ensure the availability of milch and draught animals.
2. Rearing and distribution of improved bulls and bull calves for natural services and A.I. purposes.
3. Genetic improvement of local small animals and poultry through up gradation to insure sufficient production of eggs and meat in the state.
4. Expansion and strengthening of breeding infrastructure to propagate elite germ-plasm by using modern reproductive technology.
5. Conservation of important indigenous breed and promotion to breeder association, Goshala etc.
6. Castration of local male and their subsequent replacement by the elite male in phased manner.

Breeding Policy:

Breeding policy of livestock is proposed to improve the native cattle, buffaloes, sheep, goat, pig and poultry.

Upgrading up local cattle will be done with Sahiwal, Gir, Red Sindhi, Tharparker, Kankrej, Ongole and in buffalo with Murrah and Surti.

Cross breeding on demands is to be followed in areas adjoining cities and towns where producers get remunerative price for pure milk irrespective of fat percentage by selling directly to the consumers and also in areas where assured irrigation facilities available for green fodder production.

Wherever cross breeding with exotic blood is adopted, the level of exotic blood should be maintained between 50-62.5% and not more than this limit in any case keeping in view the climatic condition of state.

Two exotic breeds will be used for breeding in Chhattisgarh viz. Jersey & Holstein. Under the breed improvement programme local male which are not reared for breeding purpose must be castrated and their subsequent replacement (as per availability) by elite male in a phased manner is proposed, so that number of non-descript livestock can be reduced by checking indiscriminate breeding.

To preserve and propagated well defined breeds consent/ permission should be obtain by local Veterinary Officer/Deputy Director of district to keep a bulls for natural services. The permission shall be granted only after satisfaction, that particular bull will not adversely affect the existing livestock quality and the bull should be as per the breeding policy.

Area wise and species wise proposed breeding policy is as below Cattle :

S.No.	Area	District	Proposed breeding
01	Rural area	All District	Upgradation with milch breed like Sahiwal/Gir/Redsindhi Up gradation with Dual purpose breed like Tharparker/Ongole/Kankrej/Haryana
02	Semi urban area	All District	Cross Breeding with half bred of Jersey / Holstein. Up gradation with milch breed like Sahiwal/Gir/Redsindhi
03	In urban area	All District	1. Cross breeding with Jersey and Holstein. Cross Crossing and rotational crossing in F-2 generation 2. Out Crossing with Indigenous milch-breed (Sahiwal/Gir/Redsindhi) 3. Up gradation with milch breed (Sahiwal Gir/Redsindhi)

Buffalo : Use of Murrah breed is proposed in organized farms and up gradation of local buffalo with Murrah/ Surti breed.

Goat : Upgradation of local goat with Jamunapari/ Barbari/ Black- Bengal/ Sirohi breeds.

Sheep : Up gradation of local sheep with Rambolliet and in hilly area with Pashmina breed.

Pig : Upgradation of local pig with Middle white Yorkshire/Russian Charmukha/ Krishnashire breed.

Poultry : 1 – In Jagdalpur, Dantewada, Bijapur, Kanker and Narayanpur Districts, propagation of Assel breed being a local popular breed and propagation of Japanese quail, Turkey and Guinea fowl is proposed.

2 - In rest districts W.L.H. for egg production and for dual purpose (egg and meat) the crosses of W.L.H., R.I.R. and Australorp and breeds like Vanraj, Giriraj, Japanese quail, turkey, Guinea fowl are to be promoted.

Duck : Use of Khaki Campbell is recommended for improvement of local duck.

Rabbit : Use of Chinchilla / Angora/ Grey Giant is recommended.

Selection of Breeding Sire:

Till sufficient numbers of progeny tested bulls are not available to carry out Cattle Development Programme in the state, bulls having high production potentiality should be selected on the basis of their dams yield. Information regarding performance of full sib and half sib of the potential bulls should also be possibly taken in to consideration during selection of sires.

Minimum standard of breeding bull of different breeds proposed for Natural Service & A.I :-

For Milch Breed:

S.No.	Breed	Minimum Dam's Yield (305 days)		
		For Natural Service (in kg.)	For Artificial Insemination (in kg.)	
			First lactation	Maximum Production
1	Gir	1400	2400	3000
2	Sahiwal	1600	2400	3000
3	Red Sindhi	1300	2000	2500
4	Jersey	3500	3000	3750
5	Holstein	3500	4500	5600
6	Murrah	1500	2400	3000
7	Surti	1300	1600	2000

For Dual Purpose Breed:

S.No.	Breed	Minimum Dam's Yield(270 days)		
		For Natural Service (in kg.)	For Artificial Insemination (in kg.)	
			First lactation	Maximum Production
1	Kankrej	1300	2000	2500
2	Ongole	1000	1100	1600
3	Tharparker	1300	2000	2500

Before selection of sire, all the bulls should be tested for sexually transmissible diseases (STD) & disease free bull will only be allowed for breeding. MSP issued by AHD, GOI should be strictly followed.

Frozen Semen :

Quality Frozen semen production to be ensured with in the state as per policy provisions. Production of frozen semen as per breeding policy & strengthening of frozen semen production center must be ensured. It will be mandatory for all agencies involved in catering of breeding services in the state to procure frozen semen from state production unit i.e. Frozen Semen Bull Station [FSBS]. Prior permission of DAH will be obtained if procurement of frozen semen is required from outside the state. It must be ensured by Director of Veterinary Services that the semen which will be used for A.I. should be free from sexually transmitted diseases, will have high genetic potentiality and from the recognized institution.

It should be ensured by Director that the semen being procured must be free from sexually transmitted diseases, will have high genetic potentiality and of the recognized institution preferably ISO certified.

To avoid inbreeding and to perform proper progeny testing in the field, the breeding bull should be grouped in three groups according to the agro climatic zone, ensuring the supply of semen on the rotational basis.