CONFERENCE OF STATE MINISTERS OF ANIMAL HUSBANDRY & DAIRY DEVELOPMENT

11th DECEMBER 2004

VENUE : NATIONAL AGRICULTURE SCIENCE COMPLEX, PUSA, NEW DELHI

AGENDA ITEMS

Genetic Upgradation and National Project for Cattle & Buffalo Breeding

Introduction

As per the provisional figures of 2003 livestock census, India has 187.38 million cattle which is about 15% of the world cattle population. Out of the 187.38 million cattle, 22.63 million were crossbred, which is 12.07% of the total cattle population. Between 1997 and 2003, crossbred population increased by 12.6%. The states of Tamilnadu, Maharashtra, Kerala, Uttar Pradesh, Karnataka and Punjab account for about 60% of the crossbred cattle population. The country has 96.62 million buffalo population, which is about 56% of the world buffalo population. Between 1997 and 2003, the buffalo population increased by 7.5%. In spite of India's position as highest producer of milk, productivity per animal is very poor. It is only 987 Kgs/lactation as compared to the world average of 2038 Kgs/lactation. This is mainly due to poor level of nutrition as well as low genetic potential for milk production and health care.

National Project for Cattle and Buffalo Breeding

Genetic improvement is a long term activity and Government of India has initiated a major programme "National Project for Cattle and Buffalo Breeding" (NPCBB) from October 2000 over a period of ten years, in two phases each of five years, with an allocation of Rs 402 crores up to end of the 10^{th} plan. The project envisages genetic upgradation on priority basis. The project also has the focus on the development and conservation of important indigenous breeds. The mandate of the scheme is to :

(a) arrange delivery of vastly improved artificial insemination service at the farmer's doorstep;

(b) bring all breedable females among cattle and buffalo under organized breeding through artificial insemination or natural service by high quality bulls within a period of 10 years; and

(c) undertake breed improvement programme for indigenous cattle and buffaloes so as to improve the genetic make-up as well as their availability.

Components of the scheme

(i) streamlining storage and supply of liquid nitrogen by sourcing supply from industrial gas manufacturers and setting up bulk transport and storage systems;

(ii) introduction of quality bulls with high genetic merit;

(iii) promotion of private mobile service for doorstep delivery of AI;

(iv) conversion of existing stationary government centres into mobile centres;

(v) quality control and certification of bulls and services at sperm stations, semen banks and training institutions;

(vi) study of breeding systems in areas out of reach of AI; and

(vi) institutional restructuring by way of entrusting the job of managing production and supply of genetic inputs as well as liquid nitrogen to a specialized autonomous and professional State Implementing Agency.

Progress of the scheme

The 1st phase of the project started in October 2000 and participation during 2000-2001 was only limited to 5 States. Gradually the number of participating States increased reaching 26 by 2004. During the first four years, progress of the scheme was very slow as most of the States faced difficulty in constitution of viable State Implementing Agencies (SIA's) for implementation of the project as per the guidelines. Financial assistance to the tune of Rs 175 crores has been released to these States. During current financial year an amount of Rs 41.38 crores has been disbursed among the participating States.

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Present AI coverage and semen production

In terms of breeding infrastructure, we are the largest in the world with 64 frozen semen bull stations and more than 54,000 AI centres. Of these 60 functional frozen semen bull stations are producing 30 million frozen semen straws. Agency wise semen production is given below:

Agency	Semen Stations	No. of bulls	Semen Production (lac doses)
Government	47	1700	181.70
NDDB	2	198	39.40
Dairy Coop	9	332	54.70
NGO's/ Private	2	167	15.00
Total	60	2397	290.80

It may be seen that the Government plays an important role in the cattle and buffalo development programmes. Under the project it is envisaged that 60% of the breedable bovine population will be covered through AI and remaining 40% through natural service with the bulls of high genetic merit. For covering 60% of the bovine population with AI, about 66 million frozen semen straws will be required.

Achievements under NPCBB

During 1999-2000 over 20 million artificial inseminations were performed in the country. There were inadequacies in the system primarily due to the poor genetic quality of bulls used for semen production; inability to provide uninterrupted supply of liquid nitrogen; poor delivery of AI services; lack of professionalism in providing breeding services and absence of co-ordination and control over operations. These inadequacies led to substandard semen quality,

poor coverage and poor conception rates (less than 20%). Major achievements during initial years were :

(a) Constitution of State Implementing Agencies (SIA's) : Since inception of the project in Oct 2000, twenty-one SIA's have been constituted under the project. These agencies are implementing the project with professional approach. In case of small States who are unable to constitute viable SIA's, funds are released to the State Governments for implementation of the project. Major shortfall in the targets is due to non-participation by some of the important States like Bihar and Jharkhand and delay in participation by important States like Karnataka, Tamil Nadu (participating from 2003-2004), Gujarat, and Maharashtra (participating from current year). These states have the major chunk of bovine population.

(b) **Increase in coverage of breedable animals** : Semen production in the country has increased from 22 million straws (1999-2000) to 30 million straws (2003-04) and AI has increased from 20 million to 28 million. As per the impact analysis report submitted by NABARD for four states (Andhra Pradesh, Haryana, Uttranchal, and Madhya Pradesh), overall conception rate has increased from 20% to 35%. Coverage of the breedable bovine population has increased from 16% to 28%. State wise number of AIs done during the three years from 2001-02 to 2003-04 are as below :

(No. In lacs)

Andhra Pradesh	88.06	Karnataka	94.47	Sikkim	0.10
Arunachal Pradesh	0.06	Kerala	39.71	Tamilnadu	96.02
Assam	2.70	Madhya Pra.	13.83	Tripura	1.91
Bihar	1.46	Maharashtra	60.49	Uttar Prad.	52.23
Chattisgarh	4.53	Manipur	0.32	Uttaranchal	2.96
Gujarat	73.53	Meghalaya	0.79	W. Bengal	32.65
Goa	0.28	Mizoram	0.17	A&N Islands	0.23
Haryana	26.94	Nagaland	0.45	D&N Haveli	0.01
Himachal Pradesh	12.29	Orissa	12.85	Delhi	0.39

Jammu & Kashmir	35.20	Punjab	80.50	Chandigarh	0.38
Jharkhand	0.06	Rajasthan	17.96	Pondicherry	2.84

Initiatives taken under NPCBB

(a) Evaluation of semen stations : Most of the semen stations in the country produce poor quality semen with post- thaw motility up to 40% There is no legislation to govern the quality of frozen semen straws. Due to the poor quality of semen, conception rate in the country ranges from 20% to 45%. Semen is also responsible for introduction of infection among bovine population and is also the main cause of repeat breeding in the country. In developed countries conception rate is more than 50% (less than 2 straws per conception). Bulls of poor genetic make-up are maintained at many semen stations, which is responsible for poor genetic gain among the bovine population. Thus it was felt essential that evaluation of existing frozen semen bull stations may be taken up regularly in order to bring in qualitative improvement in semen production. Keeping this in view, the Department constituted a Central Monitoring Unit (CMU) in May 2004. The terms of reference were to:

(i) Review and revise minimum standards developed in consultation with experts for production of quality frozen semen straws as per the OIE guidelines/ international standards.

(ii) Evaluation of sperm stations all over the country and recommendation for continuation or continuation after strengthening or closure.

(iii) Submission of detailed reports to the Department soon after completion of each inspection.

Out of the 64 frozen semen bull stations in the country, CMU has evaluated 60 stations under the State Departments of Animal Husbandry / Livestock Development Boards, cooperatives, NGO's and private Agencies and submitted its status report in October 2004. Due to floods evaluation was not taken up in the states of Assam, Bihar and Meghalaya. The CMU has recommended

closure of 19 semen stations. Remaining 41 stations have been graded into four categories as per the facilities available for quality production as under:

A (Excellent semen station without deficiencies) :	2
B (Deficiency in one or two aspects of semen production) :	12
C (Deficiencies in many aspects of semen production) :	12
D (Deficiency in most of the aspects of semen production) :	15

After receipt of the status report from the CMU, the department decided to organize regional training programmes for the professionals working at the semen stations along with CEO's to rectify deficiencies mentioned in the status report and to adopt Minimum Standard Protocol (MSP) for semen production.

(b) Development of minimum standard protocol for semen production (MSP) : Uniform procedure in semen production is not followed in the entire country. Quality of the semen varies from State to State specially in terms of concentration per straw. There is no uniformity in the printing of the straws and quality of the bulls maintained at the semen stations. In order to produce frozen semen of uniform quality, the department has decided to develop Minimum Standard Protocol (MSP) for semen production in consultation with experts from BAIF, NDDB, NDRI (Karnal) and Central Frozen Semen Production and Training Institute (CFSP&TI), Hessarghatta. Instructions have been issued to all the States in May 2004 to follow MSP in semen production.

(c) ISO certification for semen stations : To ensure adequate quality of frozen semen straws for AI programme it has been decided that at least one semen station in each State should have ISO certification so that the farmers have faith in the AI programme. At present the semen stations with the Tamil Nadu Co-operative Milk Federation (TCMF) at Ooty, NDDB at SAG, Bidaj and BAIF at Pune are ISO certified. The semen stations located at Hissar (Haryana), Vizag (Andhra Pradesh), Mattupatty (Kerala), Nabha (Punjab), Haringhata (West

Bengal), Bassi (Rajasthan) and Hosur (Tamil Nadu) are also in the process of acquiring ISO certification.

(d) Testing of bulls used for semen production : No breeding programme can be successful unless it is backed by a proper health cover system. There are a number of diseases that are transmitted sexually (through natural mating, insemination, transfer of embryos etc.). One good bull can produce 1.2 to 1.5 lakh straws in his lifetime and therefore a bull infected with any of the sexually transmitted diseases (STDs) can infect an extremely large number of females. The major infectious and/or contagious diseases that cause a great concern relating to the reproductive and general animal health of the country are : Bovine Brucellosis, Bovine Tuberculosiss, Johnes Disease, Leptospirosis, Trichomoniasis, Infectitious Bovine Rhinotracheitis and Bovine Genital Campylo-bacteriosis. All the State farms and frozen semen bull stations do not follow uniform testing procedures and schedules for disease testing. It is essential that testing of the bulls is taken up by some external agency. The department has prepared a schedule for the disease testing of the bulls for all the sexually transmitted diseases (STDs) including wasting and zoonotic diseases like Tuberculosis and Johnes disease. Central Disease Diagnostic Laboratory (CDDL) and Regional Disease Diagnostic Laboratories (RDDLs) have been given the mandate to test all the breeding bulls and bull mothers of the semen stations, Embryo Transfer Technology Laboratories and private farms. RDDLs have started testing of the bulls and bull mothers in most of the States and infected bulls and bull mothers have been segregated for disposal. Under the scheme 'Assistance to States for control of Animal Diseases' (ASCAD) states have been requested to take up ring vaccination against FMD in a radius of 10 Km around frozen semen bull stations, farms and ET labs. It is also necessary that before introducing the bulls in the breeding programme Karyotyping or chromosomal study is carried out so that bulls suitable for breeding may be identified. All the semen stations have been requested to take up Karyotyping and to dispose of bulls with genetic defects.

(e) Bull production programme : Quality breeding bulls are not available in sufficient numbers in the country for replacement at the semen stations and for natural service. To ensure adequate supply of breeding bulls it is essential that field performance recording (FPR) programme and progeny testing programme are implemented systematically in the identified milk pockets of the country. Under the project, funds are released for taking up these programmes with a view to identifing superior germplasm in the milk pockets. Meetings and workshops with all the major States have been organized for ensuring an effective FPR programme under NPCBB and central herd registration scheme (CHRS). 200,000 animals of different breeds in different States will be brought under the FPR programme. The other initiatives being taken to meet the requirements of bulls are : (i) The standards and specifications of the bull mothers maintained at central cattle breeding farms have been revised as per the MSP. (ii) MOU between Karnataka Livestock Development Board and ET lab at CFSP&TI is under finalization. The elite bull mothers available with Karnataka and CFSP&TI are being propagated through ET to make available quality exotic / cross-bred bulls for AI programme. (iii) MOU between SAG, Bidaj and CCBF, Chiplima is under preparation to propagate elite Red Sindhi bull mothers through ET.

Problems and constraints in cattle and buffalo development

Cattle and buffaloes, the major constituents of our livestock population, are facing challenges, some of which are listed below, which need to be addressed promptly and adequately to bring in rapid improvement in bovine population.

(i) Limitations of feed resources both in qualitative and quantitative terms.

(ii) Lack of unified co-coordinating mechanism for breeding programme with database.

(iii) Non-adoption of a dynamic HRD strategy reflecting manpower requirements at central/State levels and need for skill upgradation.

(iv) Lack of long term breeding policy and strategy with projection of requirement of breeding inputs.

(v) Absence of mechanism for monitoring of focal points (AI centres, sperm stations, farms, breeding programme etc).

(vi) Lack of monitoring cell for certification of sperm stations and AI bulls including sourcing and use of quality bulls for breeding.

(vii) Absence of effective field-oriented conservation strategy for indigenous breeds.

(viii) Non-coordination of fund-flow for cattle and buffalo breeding programmes available from different schemes having livestock components.

(ix) Lack of Coordination between development programmes and R&D support in hitech areas (eg. embryo transfer technology and computer application for MIS).

(x) Absence of a programme focused exclusively on draught breeds.

(xi) No legislative backup for standardization and certification of semen stations or for identification and recording of the animals in the milk pockets.

(xii) Absence of an effective policy for conservation of dwindling indigenous cattle breeds.

(xiii) Lack of incentives to the farmers for rearing good quality animals.

(xiv) No insurance coverage to animals identified and registered under field performance recording programme.

(xv) Absence of effective extension network.

Expected benefits from National Project for Cattle & Buffalo Breeding Programme

(i) By the end of the phase-I it is envisaged to bring 70% of breedable bovine population under organized breeding programme.

(ii) Door step delivery of AI services to improve accessibility and conception rate has been adopted in participating States in contrast to the earlier system of taking the animals to stationary AI centres.

(iii) 14,000 private AI workers will be introduced by the end of the phase-I for door step delivery of AI. This will generate employment and ensure wider coverage.

(iv) State Implementing Agencies are managing breeding operations on scientific lines.

(v) In order to produce quality-breeding bulls to be used for breeding, large-scale screenings of elite animals from farmers' herds are being conducted.

(vi) Bulls earlier used for natural service are being gradually phased out and replaced with pedigreed bulls.

(vii) With the capacity for producing 66 million straws and assured supply of liquid nitrogen, AI network in India will be completely revamped after the phase-I.

(viii) Specific programmes are being undertaken to make available trained manpower to sustain the extended AI network.

(ix) Use of quality bulls and semen will result in progressive genetic improvement in the bovine population.

(x) Specific action to conserve animal genetic diversity among Indian cattle and buffalo breeds and to promote breeders' organisations is being undertaken in the breeding tracts in most of the States.

(xi) Although direct benefits will accrue to participating breeders, indirect benefits of breed improvement and higher productivity will percolate to resource-poor rural families at large.

Possibility of import of semen

At present, about 2400 bulls are being maintained by the bull stations for production of semen. The Karnataka Milk Marketing Federation is bringing 1500 HF bulls under progeny testing programme. These animals are of the third generation progeny of animals imported during 1996-97. The average milk rate is 30 litres per day and about 6000 litres per lactation. During this year they will have about 100 bulls ready to be distributed to the states. As these bulls have the benefit of traceability, these can be supplied to the states under NPCBB.

Karnataka may be thus able to supply a substantial part of the requirement of bulls to be used for production of semen. However, some State Governments/organisations have felt the need to import exotic germplasm. With the extension of the breeding programme and the artificial breeding network, a surge in the demand for the exotic germplasm is obvious. Accordingly, import of the germplasm has taken place in the past and the progeny of such germplasm are being maintained by most of the farms for producing bulls. It is found that the milk production of the imported animals especially from the HF breed is higher. However, the fat percentage is comparatively low and in certain cases do not conform to the Indian standards. A large number of live animals/germplasm was imported for cross breeding during 7th and 8th Plan. The Brown Swiss breed was not found to be successful and the farms in Karnataka had to be closed down. There are two exotic breeds presently being used for cross breeding i.e. Holstien Frisian (HF) and Jersey. The import and export of the cattle/buffalo germplasm including semen is under restricted list and is allowed against the licence issued by the Directorate General of Foreign Trade, Ministry of Commerce on the recommendation of this Department. From time to time, import of semen has taken place. Though the germplasm including semen is allowed for import, it is to be seen as to what type of germplasm would be required for cross breeding in a particular state keeping in view the breeding policy of that state. It is also extremely important to ensure that the bulls whose semen is imported are free from all diseases and that the health protocol for import is strictly complied with. The cost of imported semen, particularly from the point of view of affordability by farmers, is also an important consideration. (The cost of semen produced in the country ranges from Rs.10/- to Rs.12/- per straw. Import of almost similar type/standard of semen costs not less than Rs.90/-). Where there is a demand from the breeders, import is being allowed and recently during 2003, an organisation from Punjab was allowed to import semen from Canada.

In this connection, the agenda item on guidelines for the export/import of cattle/buffalo germplasm may also be seen.

Sheep and Goat Development

Introduction

As per 17th Livestock Census 2003, there are 181.88 million small ruminants in the country consisting of 61.78 million sheep and 120.10 million goat. In terms of population, India ranks second in the world in goats and third in sheep. More than 70% these two species are reared by the small/marginal farmers and landless labourers. Contribution of these species to the rural economy of India is estimated at Rs.2400 crores per annum. Together, they produce about 0.7 million tons of meat. Goats produce 3.7 million tons of milk which is about 4% of total milk produced in the country. It is also estimated that about 5 million families are engaged in various activities relating to rearing of sheep and goats and utilize their products. There are studies to show that flocks of small ruminants provide gainful employment of 184 to 437 man days per annum depending on the size of the flock. It has also been shown that irrespective of flock size women and children contribute to labour force to the extent of about 90%.

Roughly 7% of India's population is nomadic people comprising pastoral nomads and peripatetic nomads. Livestock, particularly small ruminants, form an important part of the household survival strategy of pastoral nomads and transhumants who have accumulated rich store of knowledge and expertise in shaping livestock breeds suited to their habitat and ecology. They are also a repository of knowledge of ethno-veterinary practices. It is necessary that steps are taken to improve the livelihood of the pastoral nomads and transhumants. Many States have participated in externally assisted projects studying the life and practices of such populations and livestock rearing practices by them. It will be worthwhile to share the experiences of such projects in various states.

Need for extension services

A large proportion of sheep and goat are reared by marginalized population. Formal extension agencies usually focus on large ruminants and are

concentrated in high potential areas. Therefore, small ruminant farming is largely without any extension support. Since livelihood of a large population of disadvantaged people depends on small ruminants, it is necessary to provide them with extension services aiming at :

(i) organisation of farmers into breeders association/self help groups/ producers' companies for the purpose of empowerment and elimination of middle man.

(ii) propagation of technology concerning productivity enhancement, value addition of products, processing and marketing to improve the returns as well as quality of products.

(iii) creation of a formal interface among Government Institutions, farming community dependent on small ruminants and other stakeholders.

The modalities for extension services and technology transfer and farmer's orientation need to be discussed.

Recognising sheep and goat as a viable option for poverty alleviation

Livestock based poverty alleviation programmes are heavily tilted towards dairying which is water intensive and dependent on irrigated fodder. Sheep and Goat provide an alternative in water deficient areas and such diversification may be supported and promoted in general and particularly in arid and semi-arid regions. Keeping in view popularity of goat meat in the domestic market, export prospects of sheep and goat meat and the fact that wool production in sheep is limited to temperate Himalayas and northwest India, it is necessary to shift the focus of sheep production from wool to mutton. This implies that each state should review its sheep and goat breeding policy, particularly with reference to choice of breeds, so that institutional capacities are geared up to production of desired genotypes. Documentation of life of pastoral nomadic and transhumant populations and livestock rearing practices by them will be useful to facilitate

chalking out survival strategies for adoption by threatened pastoral nomads as well as threatened breeds of livestock.

Sheep and goat meat export is registering a growth of 5%. They form 4.9% in quantity terms and 9.7% in value terms of total meat exports. The country produces about 0.7 million tons of sheep and goat meat. Preliminary estimates indicate that additional cost of chilling and transportation from rural abattoirs comes to Rs. 2.18/kg for sheep and goat as compared to additional cost of Rs. 4.03/kg when the same meat is produced in city abattoirs. Therefore, setting up rural abattoirs for sheep and goat is likely to provide forward marketing linkage for the farmers. Prospects of setting up the same for the benefit of farmers as well as consumers may be discussed.

It is contemplated to initiate a new scheme on small ruminant development in Tenth Plan. The components of the scheme should be in conformity with the requirements of the States. Accordingly, the States may articulate their requirements so far as elements of activities are concerned so that the same are incorporated in the new scheme. In this context, it will be desirable for the State Governments to carry out review and impact analysis of existing Government programmes for development of sheep and goat. They should also consider steps for augmentation of nutritional inputs, pasture development and grazing management.

Disease control

Control of mortality and morbidity due to the following diseases of sheep and goat are important for the owner : Sheep and Goat pox, Anthrax (in endemic areas), Haemorrhagic septicaemia, Brucellosis, Blue tongue, Foot & Mouth disease, Contagious caprine pleuro-pneumonia, Enterotoxaemia and other claustridial diseases, Para tuberculosis, contagious ecthyma etc. It will be worthwhile to discuss incidence and prevalence of these diseases, strategy to control / eradicate them as well as requirement and availability of diagnostic and vaccines concerning these diseases .

Piggery Development

Introduction

As per the latest Livestock Census, the pig population of the country increased from 13.29 million in 1997 to 14.14 million in 2003, with an annual growth rate of 1.25%. The increasing trend in pig population in the country is evident from its growth from 4.40 million in 1951 to 14.14 million in 2003, registering a growth of 219 %. The highest pig population is in Uttar Pradesh (26.79 lac) followed by West Bengal (13.01 lac). In the North-east region, the highest population is in Assam (12.62 lac) followed by Nagaland (6.44 lac). In the North-east, pork is treated as a staple food and demand for pork is high and exceeds the supply. Pig rearing is also a major source of subsidiary income for housewives, landless labourers as well as small and marginal farmers. Pork provides valuable animal protein.

Central Government scheme for piggery development

A Centrally sponsored Scheme "Assistance to States for Integrated Piggery Development" was started in the year 1991-92 and implemented during VIIth to IXth five year plan periods in almost all the states. The Department provided Rs.15.22 crore under the scheme during 1997-98 to 2001-02 for setting up of new pig breeding farms by State Governments, KVKs of Indian Council of Agricultural Research and also for strengthening of existing units. The scheme was, however, weeded out at the end of 9th Five Year Plan. As pig farming plays an important role in food security and rural economy, a need has been felt to have an integrated scheme on piggery development. The Parliamentary Standing Committee on Agriculture has also strongly recommended revival of this scheme. Accordingly, a study was entrusted to NABARD and they have recommended revival of a scheme of piggery development for countrywide adoption, which would require an outlay of the order of Rs. 120 crore and should have components relating to establishment of new or strengthening of existing great grand parent farms, nucleus herd farms, multiplier herd farms, feed production units, slaughter houses and marketing facilities; manpower development; and institutional restructuring. Possibility of convergence of the proposed scheme with schemes of Ministry of Food Processing Industries to provide forward marketing linkage to pig products needs to be explored.

Role of State Governments

State Governments have to determine the breeding policy for pigs. (NABARD report recommends that the exotic and native breeds should be kept separate and not crossed). They also have an important role to play in conservation of indigenous breeds of pigs. The States should also examine to what extent NGOs can be involved to propagate pig rearing as a commercially viable enterprise. Another point to be considered is the scope of field application of modern breeding (artificial insemination, embryo transfer) technologies for development of pigs.

Poultry Development

Introduction

The Indian poultry sector has undergone a thorough transformation from backyard rearing to commercial farming in a short span of three decades. Poultry is today one of the fastest growing segments with an output of 41 billion eggs and around 1260 million broilers. India ranks among the top four egg producing and top 12 broiler producing countries. The poultry sector provides direct or indirect employment to over two million people. About 30% of the total egg production in the country comes from highly unorganized rural backyard poultry. Poultry sector addresses, besides employment generation and subsidiary income increase, the other most important issue of providing nutritional security especially to the rural poor and plays an important role in gender empowerment and social upliftment. Further, landless labourers derive more than 50% of their income from livestock especially poultry. Within livestock also, while dairy needs some infrastructure support, poultry and small ruminants are mostly kept by the poorest of the poor.

Chicken and eggs, being comparatively inexpensive sources of animal protein, can make an important contribution towards improving diets in the country where the average level of nutrition is very low. Per capita availability is dismally low at 41 eggs and 0.9 Kg of poultry meat annually as against the world average of 147 eggs and 11 kg poultry meat per capita per annum. A target for achieving production of over 52 billion eggs by 2011-12, at a growth rate of 4.3%, has been visualized by the Government of India. To achieve this target, it will be necessary to provide impetus for poultry sector as a whole.

Major issues of the sector to be addressed

In India the poultry sector is two-pronged, organized (commercial) and unorganized (ranging from rural backyard poultry to small holder poultry). The former is a highly viable, commercially intensive system going through a paradigm shift from individual operations to integration and the latter is concerned with food security and subsistence farming. Therefore, to achieve the above target for overall development of poultry in the country, it is necessary to address the issues of both organized and unorganized sectors. Some of the issues relating to organized sector are as follows, while rural backyard poultry is discussed separately :

(i) **Treating poultry as "Agriculture"** : Poultry is a farming activity which should be classified as " Agriculture". At present it is not defined under Agriculture or Industry and therefore various benefits, especially with respect to sales tax, octroi, land & labour laws, electricity tariff etc. do not accrue to poultry farming, which are enjoyed by other agriculture produce. Hon'ble Agriculture Minister has written to all Chief Ministers on 2nd July, 2004 to consider this issue favourably.

(ii) **Standards/norms and regulatory framework :** The mushrooming of hatcheries, feed manufacturers, integrators etc. in poultry has undoubtedly given it the status of one of the fastest growing sectors in agriculture. However, the Government is concerned with issues of sustainable growth and ensuring a good remuneration to principal producers along with providing 'safe & wholesome' product to the consumer. It is desirable that 'standards' to achieve the above objectives be laid down at the earliest and norms already formed but hitherto considered voluntary may be given legal status on priority basis. Some of the steps, which may be considered, are as follows :

(a) Standard Operating Procedures (SOPs) for poultry farming practices : To ensure the quality and healthy chick supply to the farmers, enactment of a suitable law in respect of implementation of these SOPs is needed after the standards are formulated in consonance with the State policy. There is a need to monitor and regulate the hatcheries for quality of chicks in respect of vertically transmitted diseases especially salmonellosis and mycoplasmosis. It should be also mandatory to uniformly monitor the breeding flocks and randomly check hatcheries. The bio-security aspects may be given prime importance under this and suitable provisions may be made to ensure their strict implementation. The SOPs for retail outlets may be also be laid down for in-shop poultry processing facilities.This assumes importance in the wake of emerging diseases globally. The recent case of market crash due to panic created over Avian Influenza (HPAI) in other countries exemplifies the high risk factors involved in this area. Our dependence on imports of stocks, vaccines etc. has shown that India still has a long way to go before it can claim self-sufficiency in all spheres of poultry activities. Further, the bio-security aspects of poultry farming are often ignored in commercial ventures and are nearly non-operational in rural poultry.

(b) Feed standards : So far BIS and other agencies are only giving guidelines for poultry feed and feed ingredients. Besides these standards are voluntary. To ensure that the farmer gets value for his money, the minimal requirement of various types of feed need to be standardized and accurately labeled. This will

not only increase the level of awareness among producer farmers using the feed but also instill confidence in the quality of the product they are using. This will also help reduce chances of contamination, undesirable inclusions etc. and ensure mandatory testing of feed and encourage compliance with the maximum residue limits (MRLs). The feed standards have been developed by the DAH&D in consultation with the BIS, research organizations and the industry. The report is being put on Deptt.'s website shortly. Suggestions from the States are invited.

(c) Contract farming : Vertical integration and contract farming has changed the face of poultry production system especially in the southern region followed by the western and eastern regions of the country. The major emphasis is on assuring the contract farmers a deserving remuneration. However, it is desirable to have a regulation to protect the farmers' interest through a written agreement and by providing a dispute settlement mechanism. Some States have already taken initiative to frame contract farming laws in respect of horticulture and cash crops. Similar attention may be given to poultry contract farming.

(d) Food safety : To ensure safe food to the consumer it is necessary that besides the good farm and hatchery practices focus is placed on good processing practices on the principles of HACCP. Safety of poultry products may be ensured through the implementation of in shop hygiene maintenance for which protocols may be formulated in consultation with state municipal and other competent authorities.

Rural backyard poultry

The Government recognizes the potential of the unorganized sector, contributing to the tune of 30% of the total egg production and substantial poultry meat production in the country and is giving impetus to the rural backyard poultry. The Department is implementing a centrally sponsored scheme and a central sector scheme and is in the process of formulating a scheme for direct assistance to the beneficiaries. The details aer given below :

(i) Centrally sponsored scheme "Assistance To State Poultry Farms" : Under the scheme, one time assistance is provided to strengthen the State Poultry farms in terms of hatching, brooding and rearing of the birds with provision for feed mill and monitoring of quality and in-house disease diagnostic facilities. These farms are expected to maintain good quality parent stock of low input technology birds duly identified by this Department in consultation with ICAR and State Governments. Necessary in-built provision has been made for revolving fund for purchase of replacement breeding stock, feed ingredients, transportation, medicines and vaccines etc. The pattern of assistance is 100% in the case of North Eastern States including Sikkim whereas it is 80:20 in respect of other States between Centre and State respectively. Majority of the States assisted under the scheme are unable to adequately utilize the funds and the performance both in respect of physical and financial progress is generally far from satisfactory. One of the reasons is lack of timely release of funds by the State Governments to their Animal Husbandry Departments. It is requested that the State Governments may ensure that Technical Monitoring Committees are set up at the earliest and meetings are held to ensure satisfactory physical progress commensurate with financial progress. The States are also requested to furnish quarterly progress reports in the prescribed format.

(ii) Central sector scheme "Central Poultry Development Organizations" : Four Central Poultry Development Organizations at Chandigarh, Bhubaneswar, Mumbai and Hessarghatta and one Random Sample Poultry Performance Testing Centre at Gurgaon are concentrating their activities to bring about convergence of all poultry activities and to make available all the requirements of rural poultry farmers in their respective regions. Some of the major inputs provided are :

(a) Making available good quality low-input technology chicks of fowls;

(b) Diversification program through providing necessary inputs for other species like ducks, Japanese quail, G.F and Turkey;

(c) Strengthening of feed quality monitoring mechanisms through analysis of various feed/feed ingredients;

(d) Conducting training programmes for trainers, farmers, women beneficiaries, various public and private sector poultry organizations, NGOs, banks, cooperatives and foreign trainees etc.

(e) Conducting random sample tests for assessing the performance of stocks.

Advantages of these inputs and services particularly improved low-technology germplasm, feed ingredient analysis, training of farmers in all CPDOs as an extension activity and training of trainers in CPDO (Southern Region), Hessarghatta may be taken by the State Governments.

(iii) A newly envisaged scheme for rural backyard poultry : The Department is in the process of formulationg a scheme for direct assistance to beneficiaries for development of rural backyard poultry. The salient features of the proposal are :

(a) Outreach to the poorest of the poor is still restricted as the inputs for poultry rearing are not being provided to the really remote areas and also the backward and forward linkage weaknesses are not overcome. Another major reason for sluggish development is inadequate linking up with extension agencies to provide suitable technical back up at farmers' doorstep. Therefore, a more holistic approach is envisaged using a 3-tier approach. The pattern envisaged now will also cater to intermediate rungs of poultry farmers who will rear the chicks in mother units and also help in providing the backyard poultry rearers with 4-8 week old reared chicks so as to minimize the otherwise high chick mortality. Suitable NGOs may be involved for operating these mother units, as far as possible. At the backyard rearer level it is necessary that they may form self help groups (SHGs) as it can address the problems of their micro-financing as well as foster dependence for common cause on other members with common interest. The training will be more intensive and services will be provided at their doorstep. The formation of self-help groups will foster community development, gender empowerment and promote the concept

of ‘saving’ money amongst the poor to build self-confidence and social security in the long run.

1(b) It is important that for sustainability of a project, the economic viability must be taken into account. An exercise, involving as small as 20 birds in the backyard shows that even this can be viable but not always monitorable. Further, we need to ensure that whatever little surplus production is there should effectively be channelized into a well-defined marketing set-up. This will open vistas for expansion and upgradation of activities at the backyard level. For this a cluster approach is necessary.

(c) There is also a need to dovetail and coordinate other poultry development projects to work towards a common goal of strengthening all the spheres of backward and forward linkages and Research & Development associated with this sector. The present proposal envisages linkages with other development agencies and programs through interlinking networks between agencies/ programs and research institutes, State Agriculture Institutes/other ICAR Institutes etc.

(d) The skill and training dissemination as well as health care outreach are rather limited through the present Government Animal Husbandry and Veterinary set up. It is therefore necessary to work in close liaison with the District Rural Development Agencies (DRDAs) who may help in increasing the outreach of activities and help in extension through District/ Block Extension teams. Suitable Poultry Link Workers (PLWs), may be selected through mass contact programs and trained intensively for skill and service dissemination. This additional tier of workers will not only increase the outreach but will develop the necessary rapport within and between the villages through their link and help sort out common problems.

Suggestions are invited from the States on the concept paper which is available at the animal husbandry website: http://dahd.nic.in/

Breeding Policy

The States are requested to consider having a breeding policy for indigenous poultry and evolve measures to conserve native breeds like Karaknath, Aseel etc.

Livestock Health and Disease Control

Introduction

With improvement in the quality of livestock through launching of extensive cross breeding programmes, the susceptibility of these livestock to various diseases including exotic diseases has increased. In order to reduce morbidity and mortality, efforts are being made by the State/UT Governments to provide better health care through polyclinics/veterinary hospitals/dispensaries/ first-aid centres including mobile veterinary dispensaries. A network of 26,540 polyclinics/hospitals/dispensaries and 25430 veterinary aid centres (including stockmen centres/mobile dispensaries), which are supported by about 250 disease diagnostic laboratories are functioning in the States and UTs for quick and reliable diagnosis of diseases. Further, for the control of major livestock and poultry diseases by way of prophylactic vaccination, the required quantity of vaccines are produced in the country at 26 veterinary vaccine production units. The efforts of States/UTs for preventing/controlling of various animal diseases are being supplemented by way of providing central assistance during the Tenth Five Year Plan through the following components of the scheme on "Livestock Health and Disease Control":

(i) Assistance to States for Control of Animal diseases (ASCAD)
(ii) National Project on Rinderpest Eradication (NPRE) and
(iii) Foot and Mouth Disease Control Programme (FMD-CP)

Assistance to States for Control of Animal Diseases (ASCAD)

Under this component, assistance is provided to State/UT Governments for control of economically important diseases of livestock and poultry by way of

immunization, strengthening of existing State veterinary biological production units, strengthening of existing disease diagnostic laboratories and in-service training to veterinarians and para-veterinarians. The scheme is implemented on 75:25 Central:State sharing basis for immunization of livestock and poultry against economically important diseases, strengthening of State vaccine production centres and State disease diagnostic laboratories. 100% central assistance is provided for in-service training of veterinarians / para-veterinarians to upgrade their knowledge. Under this programme during 2003-04 about 400 lac vaccinations were carried out against a target of 140 lac and about 1040 lac vaccinations are expected to be carried out during 2004-2005 against a target of 630 lac. Besides this, the programme envisages collection of information on the incidence of various livestock and poultry diseases from States and UTs and compilation of the same for the whole country. The information so compiled is disseminated in the form of Monthly Animal Disease Surveillance Bulletins to all the States and UTs and also organizations like Office International Des Epizooties (OIE) and Animal Production and Health Commission for Asia and Pacific (APHCA). This information system has been harmonized in accordance with the guidelines of OIE. Utilisation certificates for substantial amounts released to the States/UTs are still awaited.

National Project on Rinderpest Eradication (NPRE)

Rinderpest is a highly infectious viral disease of cloven footed animals inflicting heavy mortality in bovine population as well as in small ruminants. The present National Project for Rinderpest Eradication (NPRE) was launched with effect from May, 1992 with assistance from EEC. The financial agreement with EEC expired on 31-7-98 and thereafter, the scheme is being implemented with domestic resources for continuing all the on-going activities of the project. During 10th Five year plan the Scheme is being continued as one of the components of the "Livestock Health and Disease Control". The main objective of the project is to eradicate Rinderpest and Contagious Bovine Pleuro Pneumonia (CBPP) by

strengthening the veterinary services across the Country and to obtain freedom from Rinderpest and CBPP infection following the pathway prescribed by Office International des Epizooties (OIE), Paris. The scheme is being implemented in all the States and Union Territories with 100% central assistance. The successful implementation of this project will yield major economic benefits to owners of livestock, particularly small, marginal farmers and landless labourers. Besides, the project is expected to give a boost to export of meat and other livestock products and expenditure on livestock health care programmes would substantially be reduced due to eradication of Rinderpest and CBPP from the country.

The whole country was declared provisionally free from Rinderpest with effect from 1st March 1998. The second stage " freedom from Rinderpest disease" for the country has been attained w.e.f. from 22.05.2004. The States are undertaking following activities for effective implementation of the scheme so as to reach the ultimate target of "Freedom from Rinderpest infection" :

(i) The active physical surveillance of all the villages in the country is being continued along with the stock route search.

(ii) The passive surveillance is being done by inspection of day book of all the veterinary hospital/dispensaries etc. to detect any hidden foci of Rinderpest.

(iii) The sero-surveillance programme is being undertaken in 1162 villages across the country as per a sampling frame. In the selected villages identification of eligible animals has been done and sera samples are being collected from these animals to subject these to further testing. This work is being carried out in three phases, Phase I : 01-11.01 to 31.10.02 , Phase II : 01-11.02 to 31.10.03 and Phase III: 01-11.03 to 31.10.04. On completion of this programme and based on the data generated, the dossier to seek freedom from Rinderpest infection for the country will be submitted to OIE.

(iv) Under National Animal Disease Emergency Plan, Early Warning and Response System has been initiated under this, National Animal Disease Emergency Committee (NADEC) has been set up at Government of India level and setting up of Animal Disease Emergency Committees (SADECs) is under way in the states.

The programme for eradication of Contagious Bovine Pleuro Pneumonia has been initiated in Assam, which is to be taken up jointly by Department of Animal Husbandry, Assam and Indian Veterinary Research Institute (IVRI), Izatnagar under the supervision of NPRE. Country has been declared provisionally free from CBBP w.e.f. October 2003.

With the stoppage of Rinderpest vaccination in the country, to control PPR, a Rinderpest like disease in sheep and goats, steps have been taken for development of indigenous vaccine against PPR. PPR vaccine has been developed at TANUVAS, Chennai under the aegis of NPRE. It has also developed at IVRI, Mukteshwar. Six biological production units in the states have been identified for production of PPR vaccine.

Foot & Mouth Disease Control Programme (FMDCP)

Under macro-management approach, a new component "Foot and Mouth Disease Control Programme" is being implemented with an outlay of Rs. 200 crore during 10th Plan in 54 specified districts in the country to control the Foot and Mouth Disease with 100% funding from the Central Government which includes the cost of vaccine and supporting expenses. However, the State Governments are providing manpower, infrastructure and logistic support. The major activities of the intensive programme is publicity and mass awareness campaign, orientation of the State functionaries for implementation of the scheme, identification of the target animals in the selected districts, sero-surveillance of animal population on random basis, mass vaccination, procurement of cold-chain equipments and vaccines.

About 270 lac vaccinations have been carried out during the first round in the year 2003-04 and about 550 lac vaccinations are expected to be carried out in second and third rounds during 2004-05.

Avian Influenza

Introduction

Bird Flu, a highly contagious viral disease caused by Ortho-Myxovirus, is also known as "Fowl Plague". There are three types of virus designated as "Types A, B, & C". Type A is responsible for influenza in pigs, equines and poultry, 'B' & 'C' are considered to be less pathogenic and not involved in the production of disease. Avian influenza is an air-borne disease. The epidemic disease is responsible for high mortality and is caused by influenza group of virus. In poultry disease is caused by two subtypes – virus of low virulence and high virulence capable of causing up to 100% mortality. Domestic birds including chickens, turkey, ducks, geese, guinea-fowl, pheasants and quails are hosts for the disease. Ducks yield more viruses than other groups and may act as reservoirs and carriers and spread the virus to chickens and turkeys. Under the field condition the virus is released in nasal secretions, conjunctival secretions and faeces of infected birds. Transmission is through direct or indirect contact including aerosol, exposure to virus- contaminated fomites. High concentration of virus is excreted in faeces and the chances of contamination of feed and water are high.

The signs of the disease are extremely variable and depend upon the species affected, age, sex, concurrent infections, type of virus, environmental factors etc. Highly pathogenic avian influenza in chickens or turkeys leads to sudden mortality, that may be 100% with in a few days. Other clinical signs include cessation of egg laying, respiratory signs including coughing, sneezing, rales, excessive lacrymation, pronounced depression, decreased feed consumption and emaciation, edema of head and face, cyanosis of unfeathered skin, nervous disorder and diarrhea. Few birds that survive the disease may act

as carriers. The less virulent virus may cause drop in egg production or complete cessation, respiratory distress, anorexia, depression, sinusitis and low mortality. Clinical symptoms are considered presumptive. Confirmed diagnosis is based on isolation and identification of virus. Diagnostic facilities are available at High Security Animal Disease Laboratory (HSADL), Bhopal.

Present Status

The disease was recorded in USA in the year 1993-94. Thereafter this was recorded in Australia, Pakistan, China, Mexico. In 1996, the disease was reported in Denmark, Netherlands, Nepal, UK, North Ireland, Australia and Pakistan. The disease has been reported from Australia, Italy, Hong Kong, Germany, Netherlands and Belgium. During the past few months outbreaks of bird flu have been reported in Vietnam, Indonesia, Laos, Cambodia, South Korea, Japan, China and Thailand. Most of these outbreaks were due to H5N1. The avian influenza virus from South Korea was diagnosed as H5N1 but it is not sure if it has affected humans as the virus has been found to be from different genetic source. In Pakistan, reports of outbreaks due to H7 and H9 subtypes of the virus have been reported but not H5N1. In Taiwan, a different strain (H5N2) has been reported. Other South East Asian countries have not reported the disease as yet. India is presently free from disease.

Impact on poultry industry

The poultry population world over is highly susceptible to HPAI caused by H5 and H7 subtypes of the virus. Usually, there is high mortality in the affected birds, even as high as 100%. In India the greatest impact would be on the economics of the poultry farming systems in which sizable population of the country is engaged on whole time basis. The impact on small stakeholders who have adopted poultry farming as a subsidiary occupation will be even worse. Such poultry farmers will be disinclined to continue this occupation after buffering huge losses. The depopulation procedures would involve a break in cycle of

poultry production thereby again adversely affecting the poultry farmers. The break in production cycle will also lead to lay-off of the farm workers thus directly affecting employment sector. This would also lead to adverse effect on the poultry feed mills and transporters involved in poultry sector. Imposition of ban on the movement of birds and their products would affect the trade, thus affecting both the farmers and the consumers alike. Compensation to farmers in case of depopulation will also put additional burden on Government exchequer.

Steps taken with regard to outbreak of bird flu (highly pathogenic avian influenza) in South East Asian countries

Bird flu (Highly Pathogenic Avian Influenza) has been reported in South/ South East Asian Countries. Till now there has been no report of any outbreak of bird flu from any state in India. In case of any major outbreak of suspected bird flu poultry diseases, the Indian Veterinary Research Institute (IVRI), Bareilly and all the regional laboratories have been asked to test the samples and also send the morbid material to High Security Animal Disease Lab (HSADL) at Bhopal for confirmation. Letters were issued to all Secretaries and the Directors of Animal Husbandry of the States/UTs on 21.01.04 asking them to be vigilant and alert to overcome the situation and report all suspected bird flu outbreaks to the RDDLs and send immediate report to Government of India. All quarantine stations have been alerted for taking necessary action and ensuring the testing of all imports. Imports of poultry and poultry products from countries having confirmed bird flu have been completely banned. The states have also been requested to activate the State Animal Disease Emergency Committee (SADEC) to tackle the situation should the need arise. The state governments have been requested to draw up a plan to monitor and regulate the movement of birds from one farm to other and inter-state movement.

The states have been issued detailed guidelines for prevention of spread of bird flu in the event of any outbreak and to take steps on the following lines:

(i) Stop immediately entry of new birds in the flock from outside sources and from sources of unknown diseases status.

(ii) Strict regulation of entry of personnel, material, visitors, vehicles etc. to an area affected by the disease.

(iii) Proper disposal of the culled birds and the droppings of the poultry should be undertaken by deep burial or incineration within the affected area.

(iv) No exchange of any material and personnel between different farms in the affected area.

(v) All the farms should adopt a vigilance system for early detection of suspected cases of the disease and for appropriate follow up action.

(vi) Any suspected case detected by the vigilance team should be reported to the farm authority and to the state veterinary department immediately.

(vii) In the event of detection of infection of the suspected disease in a flock, the entire operation of the farm in terms of marketing of produce like birds, eggs etc. should be stopped completely till the disease passes off.

(viii) State authorities should gear up the emergency response system as per exigencies by activating all the available machinery of the state.

Samples from suspected flocks were collected and sent to High Security Animal Disease Laboratory (HSADL), Bhopal for testing to rule out the possibility of the disease situation in the country. All samples have tested negative. The World Health Organisation (WHO) and Office International des Epizooties (OIE) have been informed about the disease situation of the country. Weekly update on the disease situation is put up on the Departmental website (www.dahd.nic.in) and till date there has been no report of any disease.

Conservation of Threatened Breeds of Small Ruminants

Introduction

In India, there are 42 breeds of sheep, 20 breeds of goat, six breeds of camel, six breeds of horses and ponies and three breeds of yak. Some of these have come in the category of threatened breeds over the years due to various reasons. Threatened breeds should be conserved not only for their potential economic use in future but also to maintain the bio-diversity of the country. India is a signatory to the State of the World Animal Genetic Resources (SoWAnGR), a process initiated by the Food & Agriculture Organization of the United Nations (FAO). Being a signatory to the treaty entails on the country to characterize, document and conserve indigenous breeds. It will now be necessary for the states to more vigilant towards breed extinction and get the existing varieties/ breeds studied by National Bureau of Animal Genetic Resources (NABGR).

Centrally Sponsored Scheme - Conservation of threatend breeds

The Government of India has initiated a new Centrally Sponsored Scheme for conservation of threatened breeds of small ruminants, equine, pig and pack animals from the first year of Tenth Five Year Plan with the objective of conserving and genetically upgrading those livestock breeds whose population has gone below 10,000 and which fall in the category of threatened breeds. Government of India is providing 100% grant under the scheme to the State Governments for scheme implementation through NGO's, professional institutions, state Government or its undertakings or through farmers' participation. The cost of live elite animals, construction/ renovation of sheds, cost of feed/fodder/medicines and labour for two years, establishment of laboratory, holding of shows/seminars/symposia and publicity, farmers training

and evaluation of the scheme are the components of the scheme. The projects sanctioned so far under the scheme relate to the following :

(i) Horses - Kathiawadi Horse in Gujarat, Gray Sindhi Horse in Punjab and Marwari Horse in Rajasthan.

(ii) Yak - Yak in Himachal Pradesh and Hazi Yak in Sikkim.

(iii) Sheep - Bandur sheep in Karnataka.

(iv) Goat - Malabari goat in Kerala, Long Haired Goat in Nagaland and Black Bengal Goat in Tripura.

(v) Pig- Dome and Mali Pigs in Tripura and Zovawk Pig in Mizoram and Ghoongro Pig in West Bengal.

A total amount of Rs. 5.53 crore has been released so far for these projects.

Role of State Governments

The State Governments have to play an important role in the identification of threatened breeds in the states so that the breeds/varieties so identified can be studied by National Bureau of Animal Genetic Resources. It is also necessary for the States to carry out maintenance of state level breed inventories and watchlist for threatened breeds. The need for prompt implementation of the scheme and timely submission of physical and financial progress is impressed upon all the State Governments (A major part of the amount released so far has remained unspent). They are also requested to send to the DAH&D proposals for conservation of identified breeds, as per guidelines. (Some of the breeds, classified as “threatened” by the National Bureau of Animal Genetic Resources (NABGR) are Zanskari, Spiti and Bhutia Horses in Himachal Pradesh and Double-humped camel in Jammu & Kashmir).

Guidelines for Export /Import of Cattle/Buffalo Germplasm

Import and export of the cattle/buffalo germplasm is under restricted list and is allowed against the license issued by Directorate General of Foreign Trade, Ministry of Commerce on the recommendation of the Department of Animal Husbandry & Dairying.

Introduction of temperate dairy breeds in the country for crossbreeding indigenous non - descript cattle has been accepted as a policy for quite some time now. In pursuance to this policy, the need has been felt by number of State Governments/ organisations to import exotic germplasm. With the extension of the breeding programme and the artificial breeding network, a surge in the demand for the exotic germplasm is also expected. Obviously, the import of the germplasm must be from the sires, which have been progeny tested and are in active use in the cattle breed from which such germplasm are being sourced.

There is a definite demand for the germplasm of Indian breeds of cattle and buffalo in South America, South Asia and other countries. Keeping in view our responsibility towards conservation of the rich diversity, it is important to broadly categorize the germplasm of cattle and buffalo meant for breeding purposes and further for the export purposes. Imposing a complete ban on the export of Indigenous germplasm because of conservation concern would actually be counterproductive. Such a ban will only encourage the flow of germplasm through illegal trade and in a country with such huge land border it will be impossible to control such flow through illegal trade. It can be used for the upgradation of the indigenous stock. The export of germplasm from the high pedigreed and progeny tested bulls and cows need to be allowed only as agreed under Government-to-Government programme/ exchange.

Accordingly, it was felt that some guidelines should be put in place for processing such applications for import and export of germplasm. The purpose is to streamline the procedure and ensure quicker and more transparent processing

of the applications received for the export/import of the germplasm. Interim guidelines prepared for this purpose are given below. Based on actual experience and feedback from the State Governments and other concerned agencies, these guidelines could be further refined.

Interim guidelines for import / export of germplasm

Guidelines for the Import of germplasm

1. Import of live animals (bovine) and bovine germplasm will be permitted for breeding purpose only.

2. (a) Institutions/organizations capable of keeping and maintaining the performance records of exotic germplasm should only be permitted to import bovine germplasm. The importing institution will be evaluated by a Screening Committee constituted by the Government of India taking into account complete genetic and production data/information with respect to the germplasm.

(b) Post import information from the date of import to the date of disposal must be maintained in a prescribed proforma and submitted to the Department of Animal Husbandry & Dairying and State Governments once every six months.

(c) The feeding schedules of the animals from the country of import should be furnished with other documents.

(d) The import should be based on the “fat and milk ratio” in addition to other milk component character standards. The type evaluation should form an important component of selection process.

(e) The import of top 20% of genetic material on current annual animal register of the exporting country should be generally considered for import.

(f) The guidelines formulated by OIE, Codex Alimentarius and IETS should be strictly adhered to while importing the genetic material.

(g) The pre and post import quarantine measures for live animals and germplasm should be strictly adhered to according to GOI health protocols.

(h) All applications for the import of germplasm will be examined by the Screening Committee constituted by in the Department.

3. Veterinary Certificates : Imports will be regulated as per the provision of Livestock Importation Act, 1898 amended from time to time and as per the protocols/ veterinary certificates for import of live animals, gonads/ embryos/ semen as prescribed by DAH&D and as amended from time to time.

4. Order of import : For import of germplasm, the order of preference will be frozen embryos, frozen semen, and live animals in that order based on an assessment of domestic requirement of bulls and bull mothers and their availability in the country.

5. Standards for Import of Germplasm :

(i) Semen from progeny tested bulls with sire indices of higher order (with reliability of more than 85%) should only be allowed for import. The selection criterion for milk fat should be a minimum of 4% in HF and 6% in Jersey.

(ii) Bulls should be improver for type characters like udder and feet conformation.

(iii) In case of HF, the embryos should be procured from donor dams with minimum lactation yield of 11000 with minimum of 4% fat. Sire should be progeny tested with sire indices of higher order (with reliability of more than 85%).

(iv) In case of Jersey, the embryos should be procured from donor dams with minimum lactation yield of 7000 with minimum of 6% fat. Sire should be progeny tested with sire indices of higher order (with reliability of more than 85%).

(v) For import of live animals/semen/embryos of other breeds, the Screening Committee shall consider and recommend on a case-to-case basis.

Guidelines for the export of germplasm

1. Export of live bovine animals and their germplasm will be permitted for breeding purposes only.

2. Export of germplasm will be allowed subject the fulfillment of following conditions: -

(i) For export of germplasm, order of preference will be frozen semen, frozen embryos and lastly live animals.

(ii) The breed should conform true to breed characteristics.

(iii) Milk production records of breed averages will be considered for export of live animals. However elite animals (top 20% of the production level) of each breed having best milk production level should not be exported. The export component should not exceed 5% of animals of the concerned breed estimated as qualified for export (maximum 50 males and 100 females) per year.

(iv) Export of live animals of some of the indigenous breeds currently classified endangered by NBAGR, namely Sahiwal, Gir, Red Sindhi and Ongole breeds among cattle and Murrah, Jaffrabadi, Surti and Bhadawari among buffaloes shall not be allowed.

(v) Countries which are interested in importing bovine germplasm (live animals, semen, ova, embryo and gonads) will provide their import policy documents and health protocols to Govt. of India. The exporting agency from India will comply with the rules and regulations as intimated by DAH&D.

(vi) The export of germplasm (semen, ova and embryos) of all the breeds may be permitted to only those countries, which are willing to have similar arrangements on reciprocal basis.

(vii) The Health certificate requested by the importing authorities will be provided by the registered veterinarians authorized by DAH&D.

(viii) Exporting agency/State Government will keep the detailed data on the exported animals and shall regularly furnish the same to DAH&D.

(ix) For export of embryo/ova (in vivo derived embryos), the collection and processing techniques as stipulated under section 3.3 Appendix 3.3.1.1 to 3.3.1.13 and micro manipulation of the Bovine Embryos at Appendix 3.3.3.1 to 3.3.3.4 of the OIE Terrestrial Animal Health code (2003) as amended from time to time should be adhered to.

(x) The collection and processing procedure of semen as per section 3.2, Appendix 3.2.1.1 to 3.2.1.10 of the OIE Terrestrial Animal Health code (2003) as amended from time to time should be complied with.

(xi) The certified institutions/registered animals with CHRS or State Governments/State Livestock Development Boards, which are already evaluated by the Committee constituted by the Government of India from time to time, shall be eligible for export of the germplasm.

(xii) Preferential treatment shall be given to the SAARC countries in terms of the number of animals and breeds to be exported especially from Central Cattle Breeding Farms (CCBF's).

3. The maximum milk production levels have been fixed for different bovine breeds to be considered for export (This will be between 450 to 1600 (breed average - kgs per lactation) for varous indigenous breeds of cattle, between 2000 to 5000 for different Indian born exotic and cross bred cattle and between 800 to 1800 for buffalo).

Draft National Livestock Policy 2003 - Salient Features

Draft National Livestock Policy 2003 was formulated taking into account the views expressed by the State Governments and other concerned agencies. The same is in the process of being finalised. The salient features of the Draft Policy are summarised below.

Livestock plicy objectives

To augment production of milk, eggs, chicken meat and other animal foods and increase availability of animal proteins in human diet.

To encourage livestock production through small holders with low input system.

To expand organised dairying through synergisation of co-operative and private sector efforts with a focus on quality and hygienic control.

To increase production of quality carpet and coarse wool while making efforts for developing fine wool.

To enhance participation of women in livestock development programmes and increase nutritional support and supplementary income to rural farmers.

To encourage conservation of animal bio-diversity and protection of indigenous breeds of livestock and poultry while restricting cross breeding to low producing stock.

To promote avenues for export of livestock and livestock products by adopting measures towards supportive fiscal policy as well as hygiene and quality standards consistent with global trade regime.

To control and eradicate communicable animal diseases pests and to increase health cover facilities for optimizing livestock production.

To augment feed and fodder resources for sustaining livestock and increasing production.

Technologies and infrastructure

The state shall encourage and support research for development and adaptation of technology for low and medium input system. Focus would be on meeting the low cost technology needs of genetic enhancement and upgradation, evolving

better and cheaper feeds, processing of livestock products, diagnostics, treatment and control of animal diseases etc.

The large existing infrastructure in terms of hospitals, vaccine and diagnostic production units; bulls, semen stations and Al centers; Gaushalas, livestock and poultry breeding farms and fodder production and demonstration units shall be reoriented for effective utilization. Cooperatives, NGOs, breed societies and farmers will be encouraged to participate actively to improve production efficiency.

The state will encourage private sector, cooperatives and NGOs to provide essential inputs and services, so that small livestock enterprises improve efficiency of their operation and productivity, thus increasing their income levels.

Continuous interaction will be encouraged between research institutes of ICAR and Agriculture / Animal Science Universities on the one side and the State and Central set up on the other with a participatory role of industry, NGO and farmers organizations with a view to undertake research on field-oriented problems relating to breeding, feeding and health cover commensurate with the requirements of livestock and poultry farmers in the field. Such technologies shall be appropriately disseminated up to all stakeholders.

Extension infrastructure for livestock sector is grossly inadequate and needs radical revamping. While augmenting existing infrastructure focus will be on meeting the low cost technology needs and disseminating the same for the smallholder system.

The farmers will be encouraged to act as extension agents by way of recognition of successful farmers rearing high quality livestock. Active NGOs with adequate experience of working in the livestock sector will be encouraged to initiate / take part in extension / technology transfer activities.

Breeding policy

A reorientation of cattle & buffalo breeding policy would be attempted with area specific approach backed up by appropriate programs addressing our concerns for indigenous cattle breeds and draught animal power. A similar approach has been adopted in the National Project on Cattle and Buffalo Breeding.

Indigenous cattle breeds accepted by common farmers shall be further developed through region specific and breed specific programs aimed at selection in the breeding tracts and supply of improved quality germ plasm on demand by farmers.

The states shall be directed to specifically delineate the areas of native breeds of cattle, record their numbers breed wise and sex wise and encourage farmers to conserve them in their home tracts.

Formation of breed associations for improvement of indigenous breeds shall be encouraged. Such associations shall be involved in production of quality male stock. An effective mechanism for providing disease free quality breeding bulls and quality semen for artificial insemination will be put in place. Breeding services would be provided at the farmers' door.

For sheep breeding also an area specific approach shall be adopted for effecting qualitative and quantitative improvement in carpet and coarse wool and developing fine wool. Breeding of sheep and goats will aim at increasing body weight, reproductive efficiency and control of mortality, besides improvement in milk yield in goats. Main focus will be on selection of rams and bucks and their distribution with backup by suitable programs. In high altitude areas support for breeding of Yaks and mithuns shall continue. Breeding of rabbits for fur and broiler purpose shall be encouraged in suitable areas. Preservation and development of pack animals – horses, mules, donkeys and camels - shall also be considered.

The indigenous breeds of livestock and poultry are essentially the products of long term natural selection and are better adopted to withstand tropical diseases and perform under low and medium input. Many of these breeds may have useful genes for fast growth, prolificacy and small size. Such utility genes and breeds shall be identified, conserved and utilized. In recent time, international actions have been oriented towards conservation of animal genetic resources. India being a signatory to many such international agreements, the country will have specific policy focus on conservation of indigenous breeds of livestock and poultry.

State will take up the responsibility of conserving such threatened breeds through appropriate programmes.

Strategies for livestock production

The current yield levels for crossbred and indigenous cows and buffaloes of 1800, 900 and 1200 kg per year respectively could safely be increased to the targeted levels through increased availability of feeds, culling of low producers, strengthening of field programmes of selection and progeny testing of bulls for milk and providing breeding and other input services at the farmers' door. The newer breeding and reproductive technologies. Embryo Transfer (ET) and Open Nucleus Breeding System (ONBS) shall be an integrated part of breed improvement. The crossbreeding shall be restricted to low yielding indigenous cattle breeds. An integrated approach is being adopted involving creation of

milch herd, improving draught power and conserving genetic diversity through a composite central project.

The emphasis in small ruminants shall be on increasing body weight, improving reproductive efficiency and reducing losses due to mortality through better nutrition, breeding and health cover. Improved reproductive efficiency and reduced losses due to mortality would make available additional kids/ lambs to be reared and thus contribute to increased meat, skin and wool production. Program of selection of rams and bucks through large scale screening involving farmer's flock shall be taken up as a national program.

Regarding pigs, the focus shall be on crossing indigenous pigs with exotic breeds to produce crossbred to produce more meat and extra income from pigs. Rabbits for wool and meat should also be encouraged.

The rural poultry sector, which provides around 30 to 35% of total egg production in the country, has not been adequately attended to. The focus, therefore, shall be on providing genetic stocks and technologies sustainable to rural poultry production. Ducks are very popular around coastal areas. The focus shall be to replace local ducks with improved egg and meat type breeds. Programs on other avian species like quails, guinea fowl and turkey shall be strengthened to improve per capita availability of eggs and meat. Possibilities of introducing ostrich and Emu, which live on forages, shall also be explored.

Dairying

Presently only about 15% of the milk production in the country is handled in organised sector. It shall be Government's endeavour to see that more and more milk is processed in the organised sector, both cooperative and private, in a manner that synergises the efforts and resources of both. Government shall further endeavour to provide fiscal and policy support to help development of small scale sector dairies so that more and more unorganised sector is brought under the ambit of cooperative/private organised sector and quality assurance programmes. For this purpose, infrastructure to maintain uninterrupted cold chain from place of milk production up to the final step of sale of milk and milk products shall be expanded.

With a view to compete in international market in respect of quality standards, methods of collection, storage, transport and processing of milk have to be modernized to ensure quality and hygiene synchronizing with international standards.

Suitable legislation/ administrative mechanism would be brought in place to ensure that milk is handled in most scientific conditions and reaches the customer without any contamination or any other health hazard agent.

Feed and fodder

Biotechnological techniques which can develop recombinant microbes to digest straws, neutralize lignin and its by products, and release carbohydrates through a solid state fermentation process, shall be researched so as to augment availability of energy for livestock feeding.

Efforts would be made to enhance availability of coarse and damaged grains and oil meals for livestock and poultry sector.

Efforts would be made to increase availability of green fodder and grasses through increasing area under fodder crops, agro forestry etc. Uncultivated, barren and fallow lands shall be developed for animal feeds (grasses, agro forestry, pasture etc.). Shortage of fodder seeds will be addressed on priority.

Quality of compound feed used for livestock and poultry is extremely important for enhancing production and productivity. Feed quality standards shall be continuously adopted to help protect interest of livestock owners. Private and cooperative sectors shall be encouraged to evolve a system of self-monitoring with the state playing a regulatory role.

Integrated livestock and fodder system

Pressure on controlled grazing with harsh restrictions for grazing in forest areas limit the scope of sustaining sheep and goat under present system of grazing. Breeds, which could optimally perform under such system, shall be propagated and production system integrating crops, livestock and trees shall be adopted.

Information on present status of pastures and grazing lands/community lands both with regard to physical availability and production potential shall be generated and steps taken to do reseeding of pasture lands especially high altitude pastures.

Non-conventional animal feed resources shall be exploited to make available protein and energy for livestock feeding.

Animal health

In areas having highly productive and valuable animals, there is need for making available specialized veterinary services. As presently the animal health care service is almost free, it is becoming increasingly difficult for the state to strengthen such services.There is a class of livestock owners who can afford to pay for the services; such owners shall be charged for the services provided.

This will not only help the state to improve animal health services but also attract private investment.

Prevention and control of infectious diseases being a community welfare activity, shall continue to remain totally the State's responsibility.

In view of the large size of the country, it may not be possible to control and eradicate livestock diseases from the entire country at one point of time and creation of disease free zone with respect to a specific disease is a recognized method of solving this problem in a phased manner. To start with Foot and Mouth Disease free zones are sought to be created in areas with export potential. Effort for prevention and control of various other bacterial, viral and parasitic diseases of livestock and poultry shall be strengthened and measures for reproductive health control streamlined.

With a view to regulate quality control of biologicals, a system shall be established for enforcing use of centrally tested and certified biological and diagnostics produced within the country or imported from abroad. This is also likely to open hitherto untapped export potential of veterinary biologicals. A regulatory quality control mechanism shall be in place for veterinary drugs vaccines, drugs and diagnostics shall be made available in required quantities.

Facilities for specific and general disease diagnosis shall be strengthened by introducing quality management system. Quarantine facilities shall be further strengthened and strict zoo sanitary and quarantine procedures followed to prevent ingress of exotic diseases. The system of export health certification shall be synchronized with global standards to promote export. With a view to control inter-state transmission of diseases, the movement of livestock from one state to another shall be regulated through central legislative backup. Mechanism for emergency preparedness against emerging and exotic diseases shall be put in place.

A system of reliable and prompt disease reporting, forcasting and creation of database for all important diseases will be put in place.

An inventory of traditional Indian medicinal practice for animal health shall be prepared and used. Other alternate systems of medicine adopted in the country shall be used for ailments against which they are effective.

Special emphasis will be laid for control of zoonotic diseases to safe-guard human health and food safety.

Animal product processing and quality control

Slaughter houses should be located keeping in view environmental angle and logistic support. A machinery is required to be put in place to provide support for

creation of necessary infrastructure for rural slaughter houses, transport arrangements, cold storage and marketing. A system of humane slaughtering of animals by all concerned will be encouraged. Large modern abattoirs shall be encouraged for production of quality meat.

Regulatory supervision of export oriented slaughter houses is necessary in order to synchronize with global health standards to augment export.

Carcass utilization centres and primary flaying units shall be established. With each carcass utilization unit a rendering plant need to be attached for decontamination and recovery of byproducts. Scientific procedures for grading of raw hides and skins will be adopted to provide optimum price to farmers.

Milk, meat and eggs which are consumed by public, have to conform to prescribed quality standards to protect the public from health hazards. Regular review and updating of inputs, processing methodologies and product standards shall be enforced with necessary legislative back up. Industry shall be involved to the extent possible to operate a self inspection mechanism with the state playing a supervisory role. Information on residue levels of pesticides, antibiotics and heavy metals in livestock products shall be generated and steps taken to maintain them below the acceptable levels.

Quality processing, attractive packaging, cold chain and suitable marketing network should be made an integral part of the production and processing. Hygienic control of processing units commensurate with global standards for meat products is necessary.

Incentives

Remunerative livestock production system will call for protection against the risks due to natural calamities, diseases, out breaks, extreme market fluctuations etc. The insurance coverage for such exigencies will be encouraged particularly for owners below the poverty line.

Measures which facilitate access to credit especially to small holders will be promoted together with forward and backward linkages. Credit will be linked with access to breeding, health extension and marketing services. Short term credit facility being provided to agriculture sector should be extended to Animal Husbandry sector as well. In livestock export promotion zones, credit support shall be necessary for setting up export oriented enterprises.

Import duty on equipment, medicines, feed additives etc. should be rationalized for promoting animal rearing by farmers.

Value addition both for internal consumption and exports shall find higher focus. Processing and marketing facilities shall be upgraded and cold chain put in place.

Export policy relating to livestock and livestock products shall be re-examined and steps taken to encourage commercialization.

All concession given to agriculture sector e.g. tax rebate, low tariff rates for water and electricity etc. shall also be made available to animal husbandry sector in order to have competitive export price of livestock products.

With a view to boost export of livestock products, export zones shall be set up on the lines of agriculture export zones where incentive should be given for establishing infrastructure including processing plants, cold-storages and warehouses at par with agriculture sector.

Export of breeding material of valuable indigenous germ plasm shall be restricted and critically reviewed periodically.

Information system and human resources

Database for livestock sector are not only poor but lack authenticity. There are large data gaps. These gaps would be identified and steps taken to generate and disseminate the required information for proper planning and programme implementation.

There is shortage of qualitative and quantitative manpower in the area of veterinary sciences. Manpower needs to support various programs shall be worked out based on technical requirements and steps taken to generate them. In service training of human resource will be integral part of the system to equip them to meet the new challenges.

Proposed Scheme for Livestock Insurance

Introduction

Livestock rearing is one of the most important economic activities in the rural India providing supplemental income for most of the families dependent on agriculture and also the mainstay for many landless families. Rearing of livestock such as cattle, buffaloes, sheep, goats, pigs, poultry etc. not only provides a subsidiary income to the families but also is a source of protein in the form of milk, eggs and meat. In times of exigencies like drought and other rural population. However, there is no effective mechanism in place in the country to compensate the farmers and landless labour in the event of loss of the animals. The livelihood of a farmer will be at stake when his milch animal (crossbred or indigenous cow or buffalo) dies due to disease, accident etc. Deaths due to natural calamities natural calamities, it is the livestock which comes to the rescue of the vast sections of like floods, earthquakes, drought, snowfall etc. add to the misery of the farmer.

As per the provisional results of the 2003 Livestock Census, the population of crossbred cattle has increased by about 12.6%, while that of indigenous cattle has decreased by about 7.8%. There is thus a clear shift in the population of the cattle towards crossbred and high yielding animals. The preferences of the farmers have shifted to the animals producing more milk. In such a situation the need for protecting the farmer against the death of the animals is even more pressing, as the loss incurred by the farmer in such an eventuality will be much higher. The need to provide insurance for the cattle at a cost which the farmer can afford has, therefore, assumed urgency.

Insurance of livestock provided by the general insurance companies in the country falls under two broad categories : (i) insurance of 'scheme animals' i.e.

the animals provided under SGSY and other poverty alleviation schemes and (ii) insurance of other animals referred to as 'non-scheme animals'. The animals are normally insured up to 100% of their market value. Under category (i) insurance is compulsory and animals are insured at confessional rates of premium. The premium rate for a one-year policy is around 2.25% of the assessed market value of the animal and significant discounts in the premium rates are available for 3-year or 5-year policies. In case of category (ii) i.e. non-scheme animals, uniform premium rate of 4% per annum is charged for all categories. Almost all the 'scheme animals' are insured as the premium is also included in the loan amount sanctioned by the banks and a part of the premium is borne as subsidy by the DRDA and other concerned agencies. The proportion of non-scheme animals insured is extremely negligible.

Experience of the pilot scheme implemented during the 9th Plan

During the Ninth Plan, a Central sector Cattle Insurance scheme for people living below poverty line was implemented on a pilot basis in eight selected districts of the country during the period from June 2000-March 2004. Under this scheme, cattle belonging to BPL families were to be insured and the premium rate was subsidised up to 1.75% and the beneficiary had to pay balance 2.25% premium. The subsidy was paid from the interest accrued from the corpus made available by the Government to the General Insurance Corporation. The Scheme was implemented by the four public sector insurance companies. The animals to be covered were cows, buffaloes and bullocks. A maximum of two animals of each beneficiary could be covered under the scheme. About 50,000 animals were targeted to be covered during its period of implementation. But the companies could cover only about 10,000 animals. Some important reasons indicated for low achievement were as under:

(i) It was difficult for a poor farmer to provide 2.25% of the premium at one point of time.

(ii) The insurance machinery could often not go to the doorstep of the beneficiaries.

(iii) Fairly cumbersome procedure was involved in obtaining insurance cover and settlement of claims.

(iv) Lack of incentive for the insurance agents as well as the veterinary practitioners.

(v) Non-coverage under the scheme of small animals like sheep and goat which are generally maintained by majority of BPL families in some of the districts.

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The Planning Commission did not agree for the continuance of the scheme during the 10th Plan.

Proposed new scheme

As mentioned earlier, there is an acute need for protecting the farmers and landless labour against losses which they have to incur resulting from untimely death of livestock owned by them. Further, it would be difficult for the Government to persuade the farmers to go in for genetic upgradation of their cattle through cross breeding or acquisition of high yielding milch animals unless sufficient incentive is provided by way of insuring them against losses (which will be much higher in case of crossbred and high yielding animals) caused by death of these animals. It is also to be pointed out here that promotion of livestock insurance has been included in the Common Minimum Programme of the Government. In view of all these, this Department is in the process of formulating in consultation with the Planning Commission a new scheme for livestock insurance to be implemented during the 10th Five Year Plan. While formulating this scheme the experience with the pilot scheme implemented during the 9th Plan and particularly the factors responsible for its failure have

been kept in mind. Some of the salient features of the new scheme under formulation are given below:-

(i) While eventually all types of livestock will be brought under the scheme, it is proposed to concentrate initially on crossbred and high yielding cattle and buffaloes. Extension of the scheme to other cattle and buffaloes as well as to other livestock like other bovines, sheep, goats, pigs etc. will be considered in due course. The purpose of restricting it in the first year is to ensure that with the limited funds available, maximum coverage of the livestock for which insurance is critical is achieved.

(ii) While preference will be given to small and marginal farmers and landless and landless labour, other farmers will not be excluded from the purview of the scheme.

(iii) This Department is implementing the centrally sponsored scheme of 'National Project for Cattle and Buffalo Breeding' (NPCBB) with the objective of bringing about genetic upgradation of cattle and buffaloes by artificial insemination as well as acquisition of proven indigenous animals. It is proposed to link the new scheme of livestock insurance with this scheme so as to ensure easy identification of animals to be insured and necessary follow-up; this will also act as an incentive for the participants in NPCBB.

(iv) The funds required for the implementation of the scheme will be released to the State Implementing Agencies set-up for implementation of NPCBB. The field machinery of the Animal Husbandry Departments will be actively involved in the implementation of the scheme.

(v) As mentioned earlier the insurance companies charge different rates for "scheme animals" and "non-scheme animals". The insurance

companies with whom discussions are being held will be persuaded to apply the scheme rates (which are lower) or near-scheme rates, for the animals to be covered under the proposed new scheme. It is, however, necessary that policies should be obtained for a period of 5 years or at least 3 years, as it is administratively not feasible to collect the premium from the farmers every year; when there is drought or any other natural calamity, the farmers will particularly find it very difficult to pay and are forced to discontinue the insurance while this is the time when they need the protection most. All efforts will be made to get the insurance companies to quote attractive and competitive premium rates; however, the same is not likely to be less than around 5 - 6 % for a policy period of 3 years.

(vi) An important issue to be decided is the quantum of subsidy which the Government should provide towards the premium. While the farmer may find it difficult to pay at one time the premium for three or five years, it will not be possible for the Government to bear any substantial part of the premium burden. The capacity of the State governments to provide adequate funds for this purpose is also to be taken into account

(vii) One of the main reasons for the failure of the pilot scheme was the lack of interest shown by the insurance agents as well as the veterinary practitioners. No commission was being paid to the insurance agents for getting animals covered under the scheme. It is unrealistic to expect that insurance agents, generally located in urban areas, would forgo their better opportunities for canvassing business in those areas and go in for livestock insurance in rural areas, unless adequate incentives are provided to them. This will be discussed with the insurance companies and adequate incentives for the agents will built into the premium structure. The Insurance companies will be requested to consider appointing in due course educated unemployed persons in rural areas,

particularly veterinary and agriculture graduates as insurance agents for this purpose. The active involvement of the veterinary practitioners at the village level is also required for the successful implementation of the scheme. Veterinary practitioners have to identify the animals which are to be covered under the scheme, be associated with the determination of market price, carry out tagging of the insured animals and finally give veterinary certificates when a claim is made. It is necessary to provide some reasonable incentive to the veterinary practitioners to motivate them to carry out these activities wholeheartedly.

Dairy Development

Introduction

Dairy industry in India has made significant progress in the last few decades. Today, India is the largest producer of milk in the world. The milk production in the country has risen to about 88.04 million tons during the year 2003-04 from 17.17 million tons in 1950-51. A substantial increase in the per capita availability of milk and attainment of near self sufficiency in milk and milk products has been achieved mainly on account of the tremendous amount of marketing support and technical inputs provided and the infrastructure developed in the country through the cooperatives network. More than 50% of the milk in the country is produced by small and marginal farmers and landless labourers, producing about one to three litres of milk per day. In spite of India's position as highest milk producer in the world, the productivity per animal is still very low. Low productivity is the result of gradual deterioration of breeds from general neglect over centuries and chronic shortages of feed and fodder. Attempts are, therefore, required to enhance the productivity of cattle and buffaloes and also improve their nutrition by augmenting feed and fodder resources.

The dairy policy that is most suitable for development requires a two pronged approach (i) to provide technical inputs like breed improvement through modern techniques, veterinary health care, better feed and fodder availability and (ii) to provide a steady and year round market and a remunerative price to the milk producers.

The turning point

The turning point in India's dairy sector started in 1971 when the Government launched the Operation Flood Programme with the assistance of World Food Programme by providing assistance in the form of skimmed milk powder and butter oil. This programme was implemented in three phases -1971-81, 1981-87 and 1987-1996. By the end of third phase, about 72,700 dairy cooperative societies with 93 million farmer members were organised. In OF areas, the country has at present about 1 lac organized primary village dairy cooperatives with an aggregate membership of 1.1 crore producers. These primaries are federated into 170 district cooperative milk unions and further to state cooperative dairy federations. The dairy cooperative network collects about 170 lac kg per day (LKPD) and pays an aggregate amount of about Rs.7000 crores to the milk producers in an year. These cooperatives form part of the National Milk Grid which today links the milk producers throughout India with consumers in over 700 towns and cities bridging the gap between the seasonal and regional variation in the availability of milk while at the same time ensuring a remunerative price to the producers and a reasonable price for quality milk and milk products to the consumers. For the five years ending March, 2003, the average milk procurement by dairy cooperatives grew at 7.3% whereas the marketing of milk by cooperatives grew at 3.2%.

Post OF policy initiatives.

There were, however, disparities in the growth of dairying in various areas. After the close of the project, a number of policy initiatives for future growth of the dairy industry in the country were taken. The policy has two main objectives: (i) maximise coverage in the districts where Operation Flood was implemented and (ii) bring the remaining areas in the country to a minimal stage of development. The broad strategy adopted for post Operation Flood period involves genetic upgradation of livestock, improving animal health care and control of diseases, accelerating fodder development, establishment of National Production and Health Information System and strengthening the cooperatives on the Anand pattern and rehabilitation of sick cooperatives.

The responsibility for carrying on developmental activities in the Operation Flood areas have been entrusted to National Dairy Development Board, established by an Act of Parliament with the objectives of promoting dairy cooperatives, financing dairy infrastructure through loans and grants and providing technical and managerial support to the dairy cooperative societies. NDDB has formulated perspective 2010 for strengthening of cooperative framework. The thrust areas of perspective 2010 are (i) strengthening cooperative business, (ii) enhancing productivity, (iii) improving quality and (iv) building a National Information Network.

Out of over 500 (presently 600) districts in the country, about 265 districts which had relatively high potential for milk production were covered under the Operation Flood. In the remaining over 250 districts, the dairy development activities were taken up by the State Governments under their State Plan Schemes. To supplement these efforts, the Government of India has taken up the following schemes from 1993-94 onwards for dairy development. :

(a) Extended coverage in terms of areas not covered by Operation Flood

Integrated Dairy Development Project (IDDP) was started during 1993-94 to cover non-Operation Flood, hilly and backward areas with the objective of increasing milk production, generating employment opportunities and procurement, processing and marketing of milk in a cost effective manner. Though the scheme provides 100% grant-in-aid to the State Governments, there is considerable delay in release of funds by the State Governments to the implementing agencies. This has resulted in enormous delay in implementation of the projects and also in increasing the cost estimates. Since inception of the scheme 53 projects have been approved under IDDP spread over 149 districts in 23 States and 1 UT at a total cost of Rs.292.2 crores. Out of this, an amount of Rs.209 crores has been released so far and an amount of Rs.83 crores is yet to be released. Though these are committed liabilities to be paid to the State Governments for completion of the on-going projects, further releases are held up due to the fact that the achievements both in terms of physical and financial terms are far from satisfactory. The progress of implementation is very tardy and many times, it has been seen that the physical achievements are not commensurate with the funds utilized for the implementation of the project.

Since the scheme is meant only for backward and hilly areas, the State Governments may come forward and show more interest in both taking up of new projects as well as the timely completion of the on-going projects. Very recently, a technical team was sent to a number of States in which a representative of NDDB was also included to have an overview of the implementation as well as to extend technical expertise to the State Governments/Implementing Agencies, wherever necessary. Most of the State Governments have already prepared revised action plans for completion of the on-going projects. The officers of the State Governments may be requested to complete these projects in a time bound manner and ensure that the physical parameters are also achieved to a great extent. The IDDP scheme has benefited 6.9 lakh farmers in around 10,000 villages till 31st March, 2004.

Some of the State Governments have huge expenditure balances over a period of time from the funds already released to them. This is also affecting both the progress of the implementation as well as further release of funds. Intensive efforts are required to be made by the State Governments to utilize the balances lying with them.

Due to the constraints faced in implementation of the scheme for the last ten years, it has been decided to revise the scheme. In the revised scheme efforts will be made to implement the project following a cluster approach by selecting areas for development of milch cattle and enhancement of milk production in locations with better availability of water and fodder. The dairy processing plant with a capacity of 1.5-2 lakh litres or above will be given preference and the existing plants will be strengthened wherever feasible and practicable. In other words, instead of thinly spreading the limited resources, the focus will be on strengthening the areas already covered or the areas with better water and fodder availability to harness their inherent potential.

During the current year an amount of Rs.11.53 crores has been released to various State Governments for implementation of IDDP. The future releases can be made only towards the ongoing projects till the time the scheme is approved in its restructured form.

(b) Improvement in quality of milk and milk products

Having achieved a steady and continuous growth rate of milk production, the time has come when the emphasis needs to be laid down on producing milk and milk products of good quality. Moreover, it is now necessary to produce milk and milk products of the international standards so as to get a prominent position in the international trade. The quality of milk needs improvement in terms of microbial load as well as the residues found in milk on account of pesticides,

heavy matters, drug residues etc. For improving the quality of raw milk mainly in terms of microbial load, a new centrally sponsored scheme has been started in the Tenth Plan, namely "Strengthening Infrastructure for Quality and Clean Milk Production" under which assistance is provided for creation of chilling facilities, training of producer members about good hygienic practice and importance of clean milk production and supply of seamless stainless steel equipment, detergents etc. to the farmers for adopting good practices. Proposals from ten State Governments have been approved with a total outlay of Rs.15 crores having a central share of Rs.12.2 crores. An amount of Rs.6.67 crores has been released to the concerned State Governments in the current financial year for implementation of the approved projects. The State Governments are requested to come forward and take the benefits under the scheme for clean milk production. A series of video conferences were held with various State Governments recently requesting them to formulate proposals and take benefit under this scheme.

A campaign needs to be taken up for generating consumer awareness towards consumption of good and clean milk. Farmers also need to be educated about judicious use of pesticides and anti-virus drugs. Effective control measures are required to be put in place/strengthened to ensure that veterinary drugs or hormones are not sold without proper prescription to check their indiscriminate and unnecessary use. This is necessary to reduce the residue level of these chemicals in milk and milk products. A concerted and countrywide drive against adulteration of milk and milk products is required to eliminate the synthetic milk.

(c) Procurement, processing and marketing of milk

About 170 milk unions were established during the implementation of Operation Flood. Some of the unions have become sick due to lower capacity

utilization, inefficiency of plant and high salary cost and are incurring huge losses. The central sector scheme "Assistance to Cooperatives" was started in January 2000 for revitalization of sick dairy cooperative unions. The grants are released on 50:50 basis between the Centre and the concerned State Government. 24 unions have been assisted so far spread over 11 States of the country. In a few cases, the entire funds have been released but the progress in terms of rehabilitation is far from satisfactory.

The poor performance of the unions has resulted in delayed and irregular payments to the poor farmer members of these cooperatives. As a result in many cases the farmer members are not supplying milk into the society. It is very important that milk payments to the producer members are made in time by the concerned union/cooperative societies. The entire viability of the union/cooperative society will depend upon the volume of milk being procured and handled by them. If there is irregular production, the marketing also remains weak. These unions are unable to generate demand for their milk and milk products. Aggressive interventions are required for procurement, processing and marketing of milk by the district milk unions.

The State Governments may closely monitor the performance of the unions already approved for rehabilitation. Seeing our past experience, we have started working with a slightly modified approach and the proposals of Bhatinda, Sangrur and Aligarh Milk Unions have been approved in principle very recently and all of them have been given a time frame of 3 to 4 months after which their performance would be reviewed. Further release of funds will depend upon their performance in these months.

(d) Dairy/Poultry Venture Capital Fund

This is a new scheme which has been approved only during the last week of November, 2004. This is a central sector scheme and will be implemented

through NABARD. The objective of the scheme is to provide credit for creation of infrastructure, mainly, for small scale dairy units as a large part of milk continues to be handled by the unorganised sector. It has great relevance in view of the fact that even today, about 85% of the entire milk produce is handled in the unorganized sector. This will also help in improving quality which creates a serious threat to the health of the consumers. The scheme is expected to promote the production of traditional / indigenous milk products in a more hygienic manner and will ensure food safety. Similarly, for the poultry sector the scheme will provide credit for strengthening the infrastructure for marketing particularly for the north-eastern and eastern states where poultry development is still at a very primitive stage. This will also encourage new species of birds and low input technology for poultry farming amongst rural farmers.

The scheme will provide assistance in such a manner that 10% of the total cost of the project will be the entreprenuers' contribution, 50% will be the loan from revolving fund provided by the Department of Animal Husbandry & Dairying at zero interest and the balance 40% will be in terms of bank loan at the rate of interest applicable for agricultural activities. The projects will be sanctioned by the Project Sanctioning Committee set up for the purpose. The amount of loan will be recovered simultaneously both towards the loan paid out of revolving fund and the loan paid by the financing banks. In case of regular and timely repayment of loan, the interest component will also be subsidized by the Government of India to the extent of 50%.

The State Governments may give wide publicity to this scheme so that more and more entrepreneurs can come forward and take benefits which will result in strengthening of unorganized sector, in particular.