

# Operation Flood and Special Livestock Breeding Programme (SLBP)

**Topic:** Operation Flood. Different ongoing central and state Government Animal Husbandry Development programmes being run related to Sheep, Goat, Poultry, Piggery, fodder production etc.

## Operation Flood (OF)

The foundation for a viable modern and self- sustaining dairy industry based on cooperative concepts was laid in 1970 in the form of Operation Flood.

The Government of India set up the Indian Dairy Corporation to handle the commercial transactions under the title "INDIAN WFP PROJECTS 618".

The National Dairy Development Board (NDDB) implemented this biggest dairy development project in the world in three Phases, and in fact it has made a tremendous impact on the dairy development scenario in the country. Dr. Verghese Kurien, the then Chairman of NDDB is rightly considered as the "Father of White Revolution " in India.

Operation Flood is a unique approach to dairy development. During the 1970s, dairy commodity surpluses were building up in Europe, and Dr. Verghese Kurien, the founding chairman of NDDB, saw in those surpluses both a threat and an opportunity.

The threat was massive exports of low-cost dairy products to India, which would have tolled the death-knell for India's staggering dairy industry.

The large quantities that India was already importing had eroded domestic markets to the point where dairying was not viable. The opportunity, on the other hand, was built into the Operation Flood strategy.

Designed basically as a marketing project, Operation Flood recognized the potential of the European surplus as an investment in the modernization of India's dairy industry. With the assistance of the World Food Programme, food aid - in the form of milk powder and butter oil - was obtained from the countries of the European Economic Community (EEC) to finance the programme.

It was the first time in the history of economic development that food aid was seen as an important investment resource. Use of food aid in this way is anti-inflationary, it provides a buffer stock to stabilize market fluctuations and it can be used to prime the pump of markets that will later be supplied by domestic production.

The overriding objective of all aid is or rather should be the elimination of the need for aid. The use of food aid as an investment is the most effective way of achieving this objective.

Operation Flood is a programme designed to develop dairying by replicating the Anand Model for dairy development, which has stood the test of time for almost half a century.

## **Operation Flood I (1970-81)**

The basic objectives under this phase were to

- increase the capacity and throughput of dairy processing facilities

- resettlement of city cattle in rural areas
- development of basic transportation and storage net work to facilitate regional and seasonal balancing of milk supply and demand
- development of milk procurement systems in rural areas
- to improve the productivity of animals
- to assure the rural milk producers of a year round stable milk market and
- to establish 14 milch animal centres Under this project, WFP (World Food Programme, United Nation) donated 1, 26,000 MT of Skim Milk Powder and 42,000 MT of Butter oil. Through sale of these commodities, funds to the tune of Rs.1164 millions were generated and were utilized for creating infrastructure facilities necessary for dairy development.

The major achievements in the first phase were

- increase in milk production from 21 m. tons in 1970 to 30 m. tons in 1979-80,
- reaching the target of 29 lakh litres per day in processing of milk for supply to the four metropolis,
- establishment of dairy cooperatives in 18 major milk shed areas and
- establishment of 14 milch animal centres and the Institute of Rural Management at Anand (IRMA)

## Operation Flood II (1981-85)

The objectives were

- to enable 10 million rural milk producer families to build a viable self sustaining dairy industry by mid 1985,
- to enable the milk producers to rear a National Milch Herd of 14 million crossbred cows and upgraded buffaloes during 1980s and
- to establish a National Milk Grid which will link the rural milk sheds to the major demand centres with urban population of about 150 million. Some of the notable achievements were
- generation of funds amounting to Rs. 2323 millions through sale of gift commodities up to November, 1984,
- expansion of handling capacities of four metro dairies from 31 lakh litres per day to 35 lakh litres per day by the end of October, 1984,
- increase in the number of village cooperatives to 43,000 covering 4.25 million milk producers,

- substantial increase in the production of milk powder,
- putting 622 road and 87 rail milk tankers into service under National Milk Grid and establishment of godowns with a capacity of 3000 tons to store dairy commodities.

## Operation Flood III (1985-96)

The gains obtained in the earlier phases were further consolidated in Phase III. Some of the significant achievements of OF were

- Increase in the production of milk leading to a raise in the per capita availability of milk to 193 grams per day in 1994 from 107 grams in 1975.
- Supply of milk to about 300 million consumers spread in 550 cities and towns at a reasonable price.
- Procuring milk daily from 10 million producers spread in 74,000 villages and earning an incremental income of about Rs.2500 crores from sale of milk.
- Establishment of a nationwide network of multi - tier milk producers co-operative societies.
- Modernization and expansion of dairy industry.
- Self-sufficiency in milk and milk products thus putting an end to commercial imports of milk solids.
- Indigenous production of dairy equipments.

## Strategy Adopted and Interventions in OFP

### Strategies adopted

Operation flood was designed on some simple assumptions viz.

- Dairying is complementary to agriculture and provides supplementary income.
- Production by million of farmers who are living far-off from the market.
- Market and price incentives are essential to increase production.

### **Interventions based on assumptions**

- Strategic intervention

- Traditionally development activities in the developing countries are supported by assistance from the developed countries in the form of capital, technology and food.
- We received food aid from the UN and European Economic Community (EEC). Food assistance may be used to meet short-term food shortages that occur due to natural calamities or it may be used to generate employment under the food for work programme or for generating resources.
- Had the assistance been used just for meeting the food shortage alone it would have damaged the dairy industry in the country.

- Institutional intervention

- In replicating the Anand pattern, Operation flood attempted to promote a grassroot level democracy with the participation of producer members irrespective of the size of landholding or social stratification.
- These co-operatives must operate viably to ensure payment of remunerative prices to the members.
- Another important element in the strategy is its special focus on professional management.

- Technological intervention

- Operation Flood provided adequate price incentives to encourage farmers to make major input purchase decisions.
- Technology is also made use of in testing the milk, transporting and its processing.
- It is proved that once the farmer is convinced of an assured price and regular payment linked with a guaranteed marketing channel they are more responsive for better technology.

## Lessons Learnt Through Implementation

Lessons learnt through the implementation of Operation Flood programme

- Operation Flood may be considered the central event of twentieth-century dairying in India. An analysis of the lessons learnt through the implementation of the programme should be useful for those involved in formulating dairy development policies and programmes for the developing nations of Asia and Africa.
- The network of cooperative institutions created through the Operation Flood programme comprises 70000 dairy cooperative societies in 170 milksheds, encompassing 8.4 million milk-producer families. Average milk procurement by these cooperatives has reached some 12.3 million kg per day, of which 8.2 million litres are marketed as liquid milk, while the remaining is converted into products such as milk powder, butter, cheese, ghee and a wide range of traditional milk products.
- Milk-processing capacity of approximately 15.6 million litres per day, chilling capacity of 6.5 million litres per day and milk powder production capacity of 726 tonnes per day have been established through the programme.
- One of the challenging aspects of dairy development in a tropical or subtropical country is the movement of milk over long distances. In Operation Flood, this has been made possible through the operation of about 140 insulated rail milk tankers, each with a capacity of 40000 litres, supplemented by another 25 rail tankers of 21000-litre capacity. Approximately 1000 other insulated road milk tankers operate throughout the country as well. This has enabled the operation of a national milk grid, balancing regional fluctuations in milk procurement and demand-and-supply gaps resulting from concentrated production of liquid milk in selected milk shed.
- To balance seasonal variations in milk supply and demand caused by low milk production during the summer months, a large milk powder storage capacity has been created for buffer stocking.

- The investment and achievements in modernizing the Indian dairy industry have had a major impact on milk production. Annual production, which had stagnated between 20 million and 22 million tonnes during the 1960s, has steadily increased to around 59 million tonnes, an annual growth rate of about 7.8 percent.
- Per capita availability of milk, which had declined consistently during the two decades between 1951 and 1970, dropping to 107 g at the start of Operation Flood, is now 187 g per day, despite a substantial increase in population.
- Commercial imports of dairy commodities were a regular feature in the 1950s and 1960s, comprising 50 to 60 percent of the dairy industry's total throughput. Today, imports of dairy commodities are restricted to those donated by the EEC for implementing Operation Flood (Mielke, 1993) and their percentage of the total dairy throughput is negligible. All these developments have helped raise India to the top ranking in milk production in the world.
- A number of programmers and policies have played a role in this success. Certainly, the introduction of modern technology, both at the farmer level and in the processing of milk and products, has been important. Similarly, establishing an urban market has provided the stability necessary to encourage farmers to invest in increased milk production. The induction of professional managers to serve farmers has reversed the usual pattern of farmers as supplicants and officials as "benefactors". Perhaps most important, however, is the cooperative structure itself. By giving farmers command over the resources they create, Operation Flood has ensured that they receive the maximum return from each rupee spent by consumers on milk and milk products, and it is this that has provided the incentive on which the growth of the dairy industry has been based.
- The success of Operation Flood has resolved many difficult issues relating to development. It has demonstrated how food aid can be used to enhance domestic production if administered with care. It has also shown how technology can be harnessed so that neither the dependence on imported technology nor its capital intensity becomes counterproductive.
- Some of the dairy plants set up by NDDDB during the implementation of Operation Flood are based on the latest technology and are comparable to those in advanced countries. The unique cooperative infrastructure with which NDDDB works make the adoption of technologies and the dissemination of knowledge relatively easy, and this has enabled Operation Flood to facilitate the application of modern technologies to enhance milk production.

# **Topic: Different ongoing central and state government animal husbandry development programmes being run related to sheep, goat, poultry, piggery, fodder production etc.**

## **Poultry development programmes:**

- Livelihood development of Rural People through backyard poultry farming under RKVY.
- Backyard poultry farming through distribution of chicks/ duckling to the individual beneficiaries.
- Chicks distribution through SHG with convergent of MGNREGA.
- Chicks distribution through malnourished/ undernourished children.
- WBSRLM (West Bengal State Rural Livelihood Mission) linked with SHG or any other interested SHG for setting up the Mother Breeding Units.

## **Dairy development programmes:**

### **1. DEDS (Dairy Entrepreneurship Development Schemes):**

- Establishment of small dairy unit (upto 10 animals)
- Rearing of heifer calves (upto 20 calves)
- Vermi compost with milch animal unit
- Purchase of milking machines/milk-o-testers/bulk milk cooling units (upto 5000 lt capacity)
- Purchase of dairy processing equipment for manufacture of indigenous milk products
- Establishment of dairy product transportation facilities
- Cold storage facilities for milk & milk products
- Establishment of private veterinary clinics
- Establishment of dairy marketing outlet/dairy parlour

### **2. Livelihood Development of Poor / Marginal Farmers through Heifer Rearing.**



**Goat/ Sheep development programmes:**

1. Sheep/ Goat farming through SHG development.
2. Entrepreneurship Development through Goat farming.

**development programmes: Pig**

1. Distribution of inputs for involvement of Livelihood through "Pig Farming".
2. Entrepreneurship Development through Pig Farming.

**Mass Vaccination Programmes:**

1. Food and Mouth Diseases Control Programme (FMDCP).
2. Pestedes Petits Ruminants Control Programme (PPRCP).
3. Brucella Control Programme (BCP)

**Parasitic Control Programme:**

1. Vector borne disease control programme.
2. Augmentation of Milk Production through eradication of parasites by organizing of Animal Health Camp at farmers doorsteps.

**Fodder Development Programmes:**

1. Fodder and Minikit distribution under NLM.
2. Azolla Cultivation.
3. Enrichment of straw cellular waste distribution programme.

**Other Development Programmes:**

1. Mass AI Programme.
2. Increasing Productive Efficiency through organizing Animal Health Camp (Fertility camp)
3. Self Dependant Scheme. (like Training of Pranibandhu,Pranimitra and Pranisebi)
4. Livestock farmers training.

5. Cattle Insurance Scheme.
6. KCC Scheme

## **Special Livestock Breeding Programme (SLBP)**

Based on the recommendations of National Commission on Agriculture (NCA), (1976), Special Livestock Production Programme was launched in 1975-76.

The main objectives of the programme are

- to provide employment opportunities to the weaker sections of the rural poor and to supplement their income.
- to increase the production of livestock products like milk, eggs , wool etc.

The programme includes crossbred heifer rearing scheme and setting up of sheep, poultry and piggery production units. The expenditure on SLBP is to be shared on 50 : 50 basis between Central and State Governments and cent percent by Central Government to union territories like Pondicherry. Thirty percent of the beneficiaries selected under the programme are to come from SC/ST communities. For setting up of sheep, poultry and piggery units subsidy is provided at the rate of 25 per cent to small farmers and 33 1/3 per cent to marginal farmers and agricultural labourers and 50 % in case of tribal beneficiaries.

The scheme also aims at assisting the landless agricultural labourers, marginal and small farmers in improving the quality of crossbred heifer calves. The female calves in the age group of 4 to 10 months are included in the scheme. Balanced calf feed is supplied on subsidy to the owners of these selected calves up to 32 months or till the age at first calving whichever is earlier. The calves included in the scheme are also insured by the Department of Animal Husbandry. The purpose of supplying calf feed to

reduce the age at first calving is defeated in many cases because the beneficiaries were offering the calf feed to their cows for immediate benefit (milk production) rather than to their calves to reduce AFC ( long term goal). In some cases the calf feed is being sold by the beneficiaries to the other cattle owners.

## **Sheep Development Programmes**

Sheep rearing plays a major role in the rural economy and to uplift the people below poverty line.

### **Objectives of sheep development programmes**

- To improve the socio-economic condition of the rural population in the area of operation through sheep husbandry practices.
- To provide adequate employment for under-employed people in villages through development of small scale cottage industries based on sheep production.
- Provision of adequate infrastructure support including pasture / fodder development for the improvement of sheep, import of exotic breeds of sheep and establishment of exotic breeding farm and ram multiplication farms.
- To bring about improvement in the economic traits of sheep by effective genetic improvement through scientific breeding for more mutton and carpet wool production.
- Distribution of improved rams to selected breeders for breed improvement.
- Provision of in-service training to farmers and project staff, to improve the scientific methods of sheep management practices.
- To augment quality mutton production through improvement in the sheep population.
- Improvement of facilities in respect of health cover ,field veterinary extension services and research.
- Improvement of marketing system of sheep
- Improvement of selected slaughter houses for hygienic mutton production.

- Ensuring an effective supervised credit programme for small holders to promote breed improvement, sheep production and marketing through viable farmers, cooperative societies and their federation.

### **Five Year Plans and sheep development**

During the second five-year plan period breeding policy for sheep was evolved which included.

- Selective breeding.
- Upgrading of non-descriptive breeds with superior breeds.
- Cross breeding with foreign breeds in selected hill yareas.

In the third plan period, new sheep breeding farms were established. Old farms expanded and quality rams were supplied to the farmers. Further during the fourth plan period, sheep and woolly Extension centres and wool grading-cum marketing centres were established. In the Fifth plan period, cross breeding with woolly type sheep was encouraged. Various programmes were launched during the other plan period also. During the ninth plan period, the production of wool was increased from 43.3 million kg in 1996-97 to 49 million kg in 2001-02. The fine wool production in the country is around 4 million kg.

The programme of providing exotic males for improvement of sheep in the northern temperate region will continue in the Tenth Plan. A new Centrally Sponsored Scheme "Conservation of threatened livestock breeds of small ruminants, pack animals and equine" to conserve and protect threatened breeds of livestock, has been initiated during 10th Plan. Under the scheme, assistance is provided to the States for the conservation of sheep, goat, pigs, camels, yak, horse, donkey and ponies. The grant is given through the State Governments to the State Government farms / State Government Undertakings / Boards / Federations / Government Institutes like ICAR, etc. / NGOs / Self-help Groups / farmers / breeders / professional scientists of repute involved in conservation work.

## **Other programmes**

The government is implementing sheep development programmes through state Animal Husbandry Departments, Rural Development Departments and other Social Welfare Departments.

The sheep development programmes like

- Special Animal Husbandry Programme
- Special Assistance Programme
- Special Central Livestock Breeding Programme
- Intensive Health Cover for Sheep and
- EEC assisted sheep development projects were financed by Central and State governments.

Apart from this assistance was given through other programmes like SFDA, DPAP, HADP, ITDP, IRDP, etc.

## **Constraints**

- Most of the beneficiaries are selected wrongly and the unit cost was found to be inadequate.
- Exploitation by middlemen in the purchase of sheep.
- Untimely assistance and diversion of the loan amount.
- Absence of sufficient fodder banks to meet the demand during drought and also reduction in grazing lands.
- Inadequate infrastructure in production and marketing of sheep and their byproducts, lack of modernization of abattoirs or slaughter houses and carcass utilization plants.

# Goat Development Programmes

Despite various adverse comments about the impact of goat rearing on the flora, the number of goats in fact has gone up in recent years. Considerable size of rural community, especially women farmers and landless labourers are rearing one or two goats. This traditional mini husbandry practices still has its roots throughout rural India because the goats are the poor man's cows.

They give milk and also meet the farmer's timely needs through selling of kids.

They are a sort of money-spinners to the poor people. Rural poor below the poverty line are given assistance for purchase of goats. Insurance cover and fodder development are provided to promote goat rearing under various rural development programmes like IRDP, SGSY, NWDPR, Ambedkar Videsh Rojgar Yojna and DANIDA project.

During the ninth plan period, instead of increasing the goat population, emphasis was made on productivity per animal, organized marketing and prevention of emerging new diseases .

# Poultry Development Programmes

Poultry keeping is one of the best tools available for integrated rural development and to bring about socio economic transformation of small entrepreneurs.

No other branch of agriculture / animal husbandry has made such rapid strides in their development as poultry husbandry.

## **Past efforts**

Poultry raising in India dates to prehistoric times. The first major step towards poultry development in India was taken during 1939 with the establishment of poultry research division at IVRI, Izatnagar in Uttar Pradesh, which developed an effective vaccine against Ranikhet disease.

Intensive poultry development made its beginning in the early sixties after the government poultry farms, particularly in Orissa, demonstrated the efficacy of modern poultry rearing. It gained wide popularity with extension activities of the then newly set up veterinary colleges under agricultural universities.

State Animal Husbandry departments and the American Peace Corps volunteers also helped to popularize modern poultry production in Indian villages.

## **Five Year Plans and poultry development**

Even in the First Five Year Plan recognition was given to poultry as a vital tool for the socioeconomic upliftment of a large majority in rural areas.

A pilot project approved in 1956 had the provision to establish 56 extension centres. The scheme was assisted under the Indo-US Technical Cooperation programme.

In the Second Plan, 5 regional farms equipped with superior stock were started along with 269 poultry extension centres. Training programmes were conducted for private poultry breeders in modern methods of poultry rearing.

During the Third Plan, poultry farms emerged as vital commercial enterprise. Development of deep litter system, multiplication of exotic breeds and organisation of inter-state poultry development projects occurred during this period. Extension cum development centres and commercial hatcheries were set up in different states.

The fourth Five Year Plan placed much emphasis on breeding better stock and popularizing the latest scientific practices in new area. Central Government implemented a support programme with tax reduction for income from poultry industry, special credit lines and insurance for poultry against loss through epidemic diseases. Egg and poultry production cum marketing centres were established. Old farms were expanded and new farms were started.

During the Fifth Plan attempts were made to improve the quality of inputs needed for poultry farming and to establish proper marketing facilities.

In the Sixth and Seventh Plan periods, all aspects of poultry industry had developed. It was aptly called the 'Decade of Poultry'. Broiler farming emerged as a new wing. The Seventh Plan envisaged improvement in infrastructure for taking up scientific breeding in egg and broiler strains and the proposed development of new lines of broilers. NAFED assisted in the marketing of poultry products.

In the eighth plan, attempts were made to establish poultry cooperatives on the pattern of Anand in the processing, storage and marketing facilities. State level poultry training centres were started. A task force was set up to work out details of establishment and operation of National Poultry Development Board.



In the Ninth Plan it was estimated that the egg production in the country is about 33.6 billion numbers (2001-02) against the Ninth Plan target of 35 billion numbers. The significant achievement in poultry development has come from the initiatives taken up by the private sector for commercial pure-line breeding.

For the Tenth Plan, The present system of production of commercial hybrid broilers and layers has become highly successful. To give a boost to export of poultry products, measures will be undertaken for the development of infrastructure like cold storage, pressure dair cargo capacity and reference laboratory for certification of health and products. Programmes will be formulated to improve indigenous birds and promotion of backyard poultry farming which could help employment generation as well as economic empowerment of poor women in rural areas. There is tremendous scope for exporting poultry products produced from birds fed on organically produced feed.

### **Other efforts**

Some efforts were made to make more attractive the unorganized sector through a number of central and state sector schemes, notable among them being Intensive Poultry Development Project, Mass Poultry Production Programme involving small/marginal farmers and agricultural labourers emanated from the recommendation of National Commission of Agriculture as a result of which 60 districts were identified in 1975 for introducing poultry production as a component of special scheme called SLBP. The poultry development was also given due consideration under the area development programmes like DPAP, DDP, IRDP, ITDP, etc.

Various poultry development institutions like Central Poultry Training Institute, Central Duck Breeding Farm, Random Sample Poultry Performance Testing Centres, Regional Feed Analytical Laboratories, etc., were established in various parts of India. The Government of India had increased the total outlay from Rs.28 million during the Second Plan to Rs.602 million during the Seventh Plan for the development of poultry. The Eighth Plan poultry development strategy includes availability of quality chicks, establishment of poultry cooperatives, processing marketing, storage infrastructure facilities, state level poultry training centres and National Poultry Development Board.

In general, poultry industry in India is proved to be sustainable during the last three to four decades. This was mainly due to the long term strategy with clear objectives by the Government and the private sector, governmental support through incentives, adequate institutional framework and finally flexible regulations for the import of essential inputs. All the inputs like chicks, feed, vaccines, etc., were produced and supplied by private entrepreneurs.

## **Piggery Development Programmes**

Piggery development programmes helped the weaker sections of the rural communities. Before the introduction of the five-year plans except for some sporadic import of a few superior quality pigs of exotic breeds by a few missionary organizations, no organized measures were taken to improve pig production in the country. But it is an important activity among the tribal people of north eastern region of the country. This region has about 25 per cent of the pig population of the country. The major difficulty in pig rearing is the shortage of breeding males.

During the second Five-Year plan, a coordinated pig development programme was launched. Under this programme, schemes were drawn up for establishment of bacon factories, regional pig breeding stations, pig breeding farms / units and piggery development blocks. The selected blocks for implementation of piggery development are called the piggery block.

Each piggery block is linked to a district livestock farm for supplying the foundation stock to the pig growers. The beneficiaries were selected from below poverty line groups of Scheduled Castes and Scheduled Tribes. They were given 50 per cent subsidy, free health coverage and 3 to 4 days off campus training.