



GOVERNMENT OF MAHARASHTRA

OUTLINE

OF

ACTIVITIES

For 1977-78 and 1978-79

AGRICULTURE AND CO-OPERATION

DEPARTMENT

*and other various
Departments*

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AGRICULTURE

(A) AGRICULTURE DEPARTMENT

The main functions of the Agriculture Department are to ascertain by experiments, investigation and research, the methods by which agricultural production can be increased in quantity and quality and to get these methods put into practice.

The Maharashtra Government has accepted "district" as a unit of Planning and had indicated the plan ceilings to the District Planning and Development Councils for their Annual Plans 1978-79. The district Plans so prepared were discussed by the State Minister for Planning and State Government Officers with the members of the Executive Committee of the District Planning and Development Councils and programmes approved, have been included in the Annual Plan for 1978-79.

The activities of the Department of Agriculture can be divided into the following broad categories :—

- (a) Agricultural Production.
- (b) Soil Conservation.
- (c) Ayacut Development.

A brief resume of the important programmes in each category is given below :—

1. *Improved Seeds Programme.*—Use of improved seeds is one of the important and quick measures for increasing agricultural production. Evolution of improved strains of important crops is, therefore, of foremost importance. Systematic multiplication of important released strains of food-crops is being done under the technical supervision of the Agriculture Department. After evolving suitable varieties of principal food-grains crop acceptable to cultivators, production of "Breeders Seed" is undertaken on Agricultural Research Stations. It is then multiplied on Taluka Seed Multiplication Farms and the resultant produce known as "Foundation Seed" is supplied for further multiplication. There were 235 Talukas Seed Farms established under this programme. Out of these, 11 Taluka Seed Farms have now been transferred to the Agricultural Universities and other Departments. One Taluka Seed Farm is converted as Sugarcane Nursery-cum-Demonstration Farm. The Programme of foundation seed is now taken on 223 taluka seed farms in the State. During 1978-79 the seed production programme will continue to be undertaken and quantity of 49,870 quintals of seeds will be produced.

In view of the fact that there is great necessity to increase food production quickly and the scope of bringing additional land under cultivation as also

of increasing irrigation facilities in the State being limited, Government decided to encourage the use of hybrid and high yielding varieties of food grains on large scale areas in the State. The efforts to cover more and more cultivated area in the State by hybrid and high yielding varieties will be continued. During the year 1978-79, an area of 46.25 lakh hectares is targetted to be covered by hybrid and high yielding varieties as against the anticipated achievement of 40.26 lakh hectares during the year 1977-78.

Production of pure seed of hybrid and high yielding varieties will be continued and certified seeds of hybrid cereals and high yielding varieties of crops like paddy, wheat and jowar will be supplied to the farmers. Progressively increasing areas are being brought under certification. Area under seed certification which was 4,000 hectares in 1970-71 is now about 29,415 hectares. During the following year it is proposed to increase this area to about 30,600 hectares. It may be mentioned here that on account of severe damage due to downy mildew, the seed production of hybrid bajara will not be sponsored. However, seed growers and seed companies can undertake certified seed production of hybrid Bajara on their own responsibilities.

With a view to improving the seed production programme, the State seed Corporation was registered on 28th April 1976 with the World Bank assistance. This Corporation is a part of the National Seeds Project. The Seeds Corporation is organising seed production in compact irrigation command areas around the campuses of two Agricultural Universities viz. P. K. V. and M. K. V and also on the campus of Agriculture University of Rahuri. The proposed Corporation when fully developed will undertake production of certified seed of hybrid cereals and also of high yielding varieties of paddy, wheat, cotton, jute, pulses, oilseeds, etc., on an area of 40,000 hectares. The Corporation will also organise seed growers in compact areas and the seeds thus produced will be marketed through the net-work of dealers. Surplus seed can be marketed outside the State through the National Seeds Corporation. The three Agricultural Universities at Akola, Parbhani and Rahuri will be closely associated with the activities of the Corporation. These Universities will provide research and technological support and will also undertake production of nucleus and foundation seed. The capital investment would be about Rs. 15 crores. The authorised share capital of this Corporation is Rs. 3.5 crores and the same is being contributed at 35 per cent by the State Government, 35 per cent by seed growers including Agricultural Universities and 30 per cent by the National Seeds Corporation.

There are three Seed Testing Laboratories one each at Nagpur, Pune and Aurangabad, which will be continued during 1978-79. These laboratories will be able to analyse 67,000 samples during 1978-79.

2. *Manures and Fertilisers.*—The cultivators appreciate the utility of chemical fertilisers and use them to the fullest extent available. With the introduction of hybrid and high yielding varieties and with the increase of the irrigation facilities, the use of fertilisers is increasing. The level of

consumption of fertilisers reached at end of the Third plan was 0.63 lakh tonnes of N. 0.22 lakh tonnes of P. and 0.07 lakh tonnes of K. The level of consumption of fertilisers reached at the end of the Fourth plan that is 1973-74 was 1.48 lakh tonnes of N. 0.73 lakh tonnes of P. and 0.41 lakh tonnes of K. It is proposed to attempt a target of 2.90 lakh tonnes of N., 1.10 lakh tonnes of P. and 0.9 lakh tonnes of K during the year 1978-79 against the anticipated achievement of 2.28 lakh tonnes of N., 0.71 lakh tonnes of P. and 0.61 lakh tonnes of K in 1977-78. Besides, the production of town compost and rural compost is also being undertaken. The level of town compost production reached by the end of the Fourth Five-Year Plan was 7.49 lakh tonnes. This is proposed to be increased to 10.50 lakh tonnes during the year 1978-79. The anticipated production during 1977-78 would be 9.75 lakh tonnes.

(i) *Mechanical Compost Plants.*—The compost manure will be prepared by mechanical process in the areas of Municipal Corporations viz., Bombay, Pune, Nagpur and Solapur. The work of installing first mechanical plant is in progress in Bombay at Devnar. The Bombay Plant will start producing during 1978-79. In case of Pune and Nagpur Mechanical Plants, the work of scrutiny of tenders and fixing the agency is in progress. Approval of Government of India for Solapur mechanical plant has since been received. By 1980-81 it is expected that the installation of Pune, Nagpur and Solapur plants will be completed.

(ii) *Sewage and sullage.*—In smaller cities the use of flush type of latrines is increasing. In such cases sewage water collected can be used for irrigation purposes. Government of India has agreed to bear 33 per cent of the arrangements to be made in order to be able to utilise the sewage/sullage for irrigation purposes. Accordingly the scheme for utilization of sewage and sullage water in 13 towns has already been prepared and approved by Government of India. The schemes in 10 more towns have been forwarded to Government of India for approval.

(iii) There were five stationary soil testing laboratories and three mobile soil testing laboratories till the end of 1973-74. During 1974-75 one additional soil testing laboratory has been established in Amravati Division and one new laboratory is also established in Kolhapur Division during 1976-77. About 92,800 soil samples could be analysed every year by these laboratories against the cultivable area of 203 lakh hectares in the State. The present soil testing facility is meant to find out fertility status of soil and to make recommendations for use of fertilisers (N.P.K. and compost) with a view to ensure optimum production. The present facilities are too inadequate to guide cultivators having 203 lakh hectares cultivable area. During 1978-79 therefore, it is, proposed to strengthen the existing static soil testing laboratories of Pune, Dhule, Parbhani and Nagpur and to establish additional static soil testing laboratory at Aurangabad. The total capacity of all the laboratories will be increased to 1,60,000 samples per year.

3. *Plant Protection.*—Plant protection is an important programme. The hybrid and high yielding varieties of crops are very susceptible to the attacks

of pests/diseases. The scheme for protection of crops from pests and diseases which is already functioning in the State will be continued during the year 1978-79. The necessary organisation for this purpose at State, Regional and District levels, is now fully in position.

Although basically the farmers have to be encouraged to undertake both prophylactic and curative measures at a proper time, the State involvement becomes inevitable under certain contingencies. Schemes to protect jowar crop from midgefly, paddy from steamborer and gall-fly, jowar from shoot-fly by carbofuran treatment of seeds were undertaken with good results in 1977-78. An antirodent campaign likewise undertaken at Government cost with a view to demonstrate to the farmers the measures they need to take to save their crops from the rodents.

The Insecticides testing laboratory at Pune is strengthened and inspectorial staff is provided to ensure quality control of pesticides. Provision for subsidised distribution of plant protection equipment has also been included. In order to control pests and diseases in endemic areas special plant protection campaigns, as indicated below were organised during 1977-78 and are proposed to be organised during 1978-79.

Serial No.	Name of the scheme	Proposed Coverage thousand hectares	
		1977-78 Anticipated	1978-79 Target
1.	Control of paddy stem borer		
	(a) Nursery treatment	... 15	23
	(b) Field treatment	... ..	6
	(c) Leaf and brown plant hoppers	... ..	5
2.	Control of paddy gall-fly	... ..	4
3.	Control of Jowar midge	... 147	250
4.	Control of white grubs	... 1	11
5.	Control of shootfly on Jowar	... 25	40
6.	Rodent control	... 139	260
	Total	... 327	599

Commercial crops

(i) *Development of Cotton.*—Maharashtra has the largest area under cotton i.e. 27.16 lakh hectares and its annual production is about 14.50 lakh bales (each bale of 170 kg.) in the normal years. The average per hectare yield is 91 kg. lint in normal years. The production has reached the maximum of 17.04 lakh bales (each bale of 170 kg each) during 1974-75 while it was the lowest i.e. 4.85 lakh bales during 1970-71. This shows that there is considerable fluctuation in production which is due to the fact that 98 per cent of the cotton area is rainfed and depends upon seasonal conditions.

The strategy for raising the production is to raise the productivity per hectare. To achieve this objective, schemes of Co-ordinated Cotton Development, Intensive Cultivation of Irrigated Cotton and Cotton State packages were implemented up to the year 1976-77. As per the recommendations of the Estimates Committee, all the above Schemes were amalgamated and an Integrated Cotton Development Scheme is implemented from the year 1977-78. Under this scheme, the cultivators will be induced to adopt improved agricultural practices such as use of improved seeds, use of chemical fertilizers at recommended doses and adoption of plant protection measures as per the schedule recommended by the Department.

From 1972-73, Intensive Cotton District programme sanctioned by Government of India was implemented in rainfed areas of Akola and Yavatmal districts to cover an area of 40,000 hectares. This Scheme is extended over an area of 1,60,000 hectares during 1977-78 including Parbhani and Nanded districts. This Scheme was extended to Aurangabad and Parbhani for irrigated cotton under command areas of Jayakwadi and Purna projects in 1976-77 and will be continued during 1978-79. The object of the Scheme is to educate the farmers and particularly to gain confidence in undertaking investments of inputs like improved seeds, fertilisers and plant protection measures. The approach is to demonstrate to them in a few but sizable compact blocks advantages from adoption of combination of all improved agricultural practices.

The Integrated Cotton Development project (World Bank assisted cotton project) is being implemented in Achalpur Tahasil of Amravati district. The essential components of the project are intensification of research on cotton, production of quality seed, providing cotton development service, financing of cotton growers and improvement in ginning and pressing and processing of cotton seed. The project envisages cultivation of L-147, Buri 1007, AK-235 and H-4 cotton varieties and control of boll-worms. The Agricultural Universities have drawn up and taken the research programme. Against the target of 20 thousand hectares an area of 24 thousand hectares has been covered during 1977-78. For the coverage of the above area 2,219 quintals of seed and 689 tonnes of fertilizers were distributed. Another important aspect of the Scheme is the adoption of plant protection measures. The recommended plant protection Schedule was widely published amongst the farmers and the actual spraying was undertaken.

The area covered during 1977 is as under :—

		(Area in Hectares)
One Spraying	...	17,813
Two Sprayings	...	13,599
Three Sprayings	...	9,661
Four Sprayings	...	7,254

More than four sprayings are given for H-4 cotton. The area so covered is about 6,000 hectares. An area of 40,000 hectares has been proposed for coverage during 1978-79.

In order to increase the production of superior long staple cotton, the cultivation of hybrid-4 cotton has been taken up from 1972-73 and Varalaxmi from 1975-76. The area covered during 1977-78 is 2.28 lakh hectares under H-4 and 0.15 lakh hectares under Varalaxmi. It is proposed to cover 3.00 lakh hectares under hybrid cotton during 1978-79. In order to supply quality seed of hybrid cotton to the farmers, a seed production programme is taken under Centrally sponsored Scheme for Hy. seed production from 1973-74 in the State.

(ii) *Development of Sugarcane.*—Sugarcane cultivation is increasing with the commissioning of new irrigation projects. The Sugarcane development Scheme will be continued during the year 1978-79. The Scheme contemplates bringing sugarcane area under operational units and helping the farmers in increasing sugarcane production by distributing improved seeds, giving technical guidance on use of fertilizers, implements and encouraging improved practices. An area of 2.48 lakh hectares is likely to be covered under the Scheme during 1977-78. A special programme of sugarcane pilot project on an area of about 56,000 hectares was undertaken during 1977-78. This programme consists of supply of full requirements of inputs through Co-operative Sugar Factories and finance through Co-operatives and Nationalised Banks. Each of the pilot project is of 400 hectares. The programme has now been sanctioned for 5 years up to 1982-83.

(iii) *Development of oilseeds.*—The normal area under oilseeds crops is about 18 lakh hectares and its annual production is about 8 to 9 lakh tonnes. The production reached the maximum of 9.59 lakh tonnes during 1975-76 while it was the lowest i.e. 3.5 lakh tonnes during 1972-73. The main reason for such wide fluctuation in the production is that about 99 per cent of the area under oilseeds is under rainfed conditions. The important traditional oilseed crops are groundnut, safflower, linseed and sesamum, while the non-traditional crops like sunflowers and soyabean are also introduced.

The strategy for achieving the production is to increase the per hectare yield. To achieve this objective and as per the recommendation of Estimates Committee, all oilseed development schemes were amalgamated and a new Integrated Oilseed Development Scheme is implemented from 1977-78. This Scheme contemplated encouraging the cultivators to follow improved agricultural practices such as improved seeds, fertilisers and plant protection measures. From 1974-75 a Centrally sponsored Scheme of Intensive Oilseed Development programme is being implemented in Jaigaon and Osmanabad districts. The object of the Scheme is to increase the production of oilseeds by adoption of improved agricultural practices and increasing the area by popularising multiple cropping pattern including oilseed. Under this scheme demonstrations on the cultivators' fields are laid out to show the benefits of improved agricultural practices.

The scheme for laying out demonstrations for oilseed crops and the Scheme for oilseeds pilot projects have also been sanctioned in 1977-78 and 1978-79.

To meet the shortage of vegetable oils and explore the possibilities of cultivation of non-traditional oilseed crops like sunflower and soyabean, Scheme for their cultivation is taken by the State. The cultivation of soyabean could not be successful for want of suitable varieties. The area under sunflower during 1977-78 is estimated to be 18,223 hectares and it is proposed to cover an area of 30,000 hectares during 1978-79.

(iv) *Development of Horticulture.*—The importance of horticulture in rural economy is increasing. Besides providing income to the farmers, the development of horticulture has special importance in as much as it provides the much needed subsidiary food in the human diet.

The horticultural development programme has been organised on systematic lines during the Third Five-Year Plan. A special organisation for this programme was created under the Joint Director of Agriculture (Horticulture). A special Scheme for development of horticulture in konkan area has also been implemented during the Third Five-Year Plan. Under this scheme two major farms and seven nurseries have been set up for production of planting materials of desired qualities. In addition to these farms and nurseries in Konkan areas, the Department has also taken steps to establish about 61 small nurseries on Taluka Seed Farms having irrigation facilities for meeting the increased demand of the farmers for planting materials.

Under the Horticultural Development Scheme four Special crash programmes were undertaken during the Third Five-Year Plan. All the work of crash programme is undertaken through present Horticulture Development Scheme. The anticipated achievement in 1977-78 would be 0.10 lakh hectares under new plantation, 0.02 lakh hectares under rejuvenation and 0.22 lakh hectares under vegetable development. The target envisaged for the year 1978-79 is bringing additional area of 0.11 lakh hectares under new plantation, 0.03 lakh hectares under rejuvenation and 0.20 lakh hectares under vegetable development.

A new Centrally sponsored scheme for package programme on Bannana is in operation. Banana is a commodity which has considerable demand in foreign markets. With a view to take advantage of this demand to earn foreign exchange, etc. it is proposed by the Government of India to bring 51,900 hectares under Banana cultivation in whole of India during a period of 5 years. The target allotted for Maharashtra State is 4,500 hectares over the period of five years. The achievement during 1974-75 was 686 hectares against the target of 500 hectares, during 1975-76, 649 hectares against the target of 600 hectares and during 1976-77, 977 hectares against the target of 900 hectares and during 1977-78 anticipated achievement would be 1,200 hectares. The target proposed for 1978-79 is 1,500 hectares. The area would be brought under intensive cultivation to produce Banana fruits of exportable grade by paying special attention to cultivation practices. The Government of India has sanctioned a scheme for package programme on mango

and citrus fruits including high density planting for citrus. These schemes are implemented from 1976-77 and will be continued during 1978-79-

(v) *Development of Tobacco*.—Tobacco is grown on about 13,000 hectares in the State which is mainly concentrated in Sangli, Kolhapur and Chandrapur districts. Bidi Tobacco is grown prominently in the districts of Sangli and Kolhapur, while cigarette tobacco in Chandrapur district. The average production is about 6,500 tonnes.

A Centrally sponsored scheme for conducting exploratory trials of F. C. V. tobacco, implemented in Sangli and Kolhapur districts, is shifted to Sironcha Tahsil of Chandrapur district as suggested by the Government of India, as there is better scope for growing cigarette tobacco in this district.

5. *Extension Training and Farmers Education*.—A programme for training of farmers has been undertaken in the State since the last year of the Third Five-Year Plan. Under this scheme peripatetic training classes of three days duration were organised in 15 Districts while one day training classes-cum-demonstration camps in 10 districts and vocational training classes of 10 days duration were organised at 8 centres and 5 days duration at 10 centres under Centrally sponsored programmes till 1976-77. In view of the recommendations of the Estimates Committee, the peripatetic training under State scheme is now of one day duration and 100 such camps are held annually in each district. Further vocational training under the State scheme is of 5 days instead of 10 days duration so that double number of cultivators are trained each year with effect from 1st April 1977. The Scheme will be continued during 1978-79. Some of the D.P.D.C.s have launched a new programme of study tour of farmers under which the small as well as big farmers will get an advantage of knowledge from the visits to be arranged within as well as outside the State. In this scheme preference will be given to small farmers.

6. *Intensive Cultivation of Food Crops in Selected areas*.—This is the main programme under which all efforts are combined to get maximum effect on crop yields. The Scheme was launched in the Third Five Year Plan and is being continued. By the end of 1970-71, the total number of intensive cultivation blocks established were 398. These blocks will be continued during the year 1978-79. The total area planned to be covered during the year 1978-79 is about 46.25 lakh hectares under Hybrid and High Yielding Varieties Programme.

It is an established fact that the adoption of recommended package of practices gives good yields. It has, however, been observed that such practices are not being followed by farmers on large scale for want of timely supply of inputs and credit. In order to demonstrate the production potential by adoption of such improved package of practices on large scale Government sanctioned a scheme of pilot project during 1975-76 for launching such campaigns in compact areas when 86 projects were organised over an area of 25,643 hectares. During 1976-77 in all 715 projects were organised covering an area of 173,320 hectares. During Kharif 1977-78, 460

projects were organised over an area of 1,02,946 hectares while in Rabi/Summer 1977-78, 211 projects are estimated over an area of 44,517 hectares. Adequate supply of inputs has been arranged through M.A.I.D.C. and required crop loan made available through co-operatives. Arrangements have also been made to place technical staff in these blocks for giving technical guidance and this staff has been given the responsibility of reaching the minimum level of production of 20 quintals per hectare of Hybrid Jowar, 22 quintals per hectare in case of wheat and 30 quintals per hectare of paddy in the entire area of the pilot blocks during Kharif/Rabi/Summer 1977-78. Similar programme will be undertaken in 1978-79.

A Centrally Sponsored Scheme for production of pulses crops formulated by the Government of India has been implemented during the year 1977-78. The object of the Scheme is to undertake trials of new early maturing and wilt resistant varieties of pulses. This programme also includes multiplication of nucleus and foundation seed over an area of 300 hectares, holding demonstrations on 700 hectares and adoption of plant protection measures. The scheme will be continued in 1978-79. The importance of pulses in our daily diet is well-known. In Maharashtra the normal requirement of pulses is 19 lakh tonnes as against our normal production of about 9 lakh tonnes. It is, therefore, essential to increase pulses production in Maharashtra. However, there are certain limitations such as non-availability of hybrid and high-yielding varieties of pulses and limitation in increasing the area. It has, therefore, been decided to take up intensive cultivation programme of pulses by which per hectare yield can be increased. During 1978-79 it is proposed to bring larger area of main pulses crops like Tur, Udid, Mung and Gram under intensive phase and to increase the production by a couple of lakh tonnes.

7. *Land Development.*—(i) Under Land Development land levelling programme is included. The bulldozers are engaged in terracing and levelling work. The working fleet is 98 bulldozers. These bulldozers will undertake levelling work for 0.86 lakh hours during 1978-79.

(ii) *Work Shops.*—At present, there are 4 divisional workshops and 3 district workshops. These workshops provide repairing facilities to the Departmental machinery.

8. *Integrated Area Development Scheme for small holders and agricultural labourers.*—Experience shows that the benefits of the agricultural development schemes are not adequately derived by the small holders having uneconomic holdings and agricultural labourers mainly because they are economically backward and do not have credit-worthiness. With a view to bringing these people into main stream of developmental scheme, a scheme for assistance to small holders and agricultural labourers was launched by the State Government on a pilot basis in Tasgaon taluka of Sangli district. There were 25 blocks at the rate of one block for each district out of which the block in Solapur district has been discontinued

from 1975-76 and the block in Thane district is discontinued from 1977-78 as per the decisions of those D.P.D.Cs. During 1976-77 three new blocks have been sanctioned each in Aurangabad, Beed and Jalgaon districts. Small holders and agricultural labourers in these blocks are given certain additional concessions for programme of land development like bunding and levelling, well sinking, etc. and also for subsidiary programmes of horticultural development, dairy development, animal husbandry, etc. All these 26 blocks will be continued during 1978-79. The question regarding reorganisation of I.A.D. Scheme is under the consideration of Government. If and when this proposal will be approved by Government, I.A.D. Blocks from S.F.D.A. districts will be discontinued and I.A.D. Scheme will be extended to entire eight districts, viz. Pune, Sangli, Jalgaon, Yavatmal, Nagpur, Bhandara, Aurangabad and Beed.

Small Farmers' Development Agency

The programme to ameliorate the economic condition of the small farmers, marginal farmers and agricultural labourers is a programme of high priority for the Government Integrated Area Development Programme Blocks and S.F.D.A. Projects are some of the instruments through which the programme is carried out. At present the S.F.D.A. Projects cover parts of the district of Thane, Ratnagiri, Satara, Kolhapur, Parbhani, Kulaba, Osmanabad, Nanded, Buldana, Dhule, Akola, Amravati and Chandrapur. The benefit of this scheme was availed by 6.38 lakh small holders and agricultural labourers from an area of 2.79 lakh hectares during 1976-77 while during 1977-78 it is estimated that six lakhs small farmers and agricultural labourers would derive the benefit over 2.5 lakh hectares. This programme is implemented with full assistance of subsidy from Government of India and loan through Nationalised and Co-operative Banks.

9. *Soil Conservation*.—Soil Conservation Programme occupies an important place in the agricultural development activity. Soil conservation is a basic work which improves the soil fertility thereby securing permanent increase in yield levels. The Soil Conservation Programme has been carried out in the State since pre-plan period. However, there are vast potentialities of work under this programme. At present there are 25 divisions and 125 sub-divisions for contour bunding and terracing. The anticipated achievement during 1977-78 would be 1.36 lakh hectares of new bunding, 3.74 lakh hectares of completion of incomplete works, 0.06 lakh hectares under terracing. The programme proposed to be undertaken during 1978-79 is as under :—

Item	Target for 1978-79
1. Completion of incomplete works ...	1.90 lakh hectares.
2. New bunding ...	1.76 lakh hectares.
3. Nalla Bunding ...	1.563 Nallas.
4. Terracing ...	0.07 lakh hectares.

Under the Centrally Sponsored Programme for dry land development, two projects have been located in this State, one at Mandrup in Solapur district and the other in Akola district. The programme aims at development and extension of technology for better water management and suitable cropping patterns taking into account the inter-relation between climatic parameters and crop growth. Norms for efficient use of fertilizers under dry land conditions will be evolved and improved patterns of agricultural implements more suitable for dry land will be designed at these pilot projects. On the similar pattern a State sponsored Project has been established at Shekta in Aurangabad district during 1977-78.

10. *Ayacut Development.*—Ayacut Development Programme has been taken up with a view to speeding up utilisation of irrigation potential which is being created under major and medium irrigation projects. By the end of 1974-75 about 19.33 lakh hectares i.e. 10 per cent of the cultivated area was under irrigation. It is estimated that this will reach to 22.75 lakh hectares during 1977-78. Efforts are being made to increase this area by undertaking major and medium works. This programme mainly consists of (a) construction of field channels and field drains, (b) graded bunding, (c) masonry work and, (d) land levelling and grading.

At present 14 trial-cum-demonstration farms including 3 farms transferred to C.A.D.A. and 2 farms transferred to Agricultural Universities one each to Marathwada Krishi Vidyapeeth and Konkan Krishi Vidyapeeth and 28 irrigation units including 15 units transferred to C.A.D.A. have been established. There are at present 15 divisions and 75 sub-divisions undertaking land development work under this programme. The anticipated achievement during 1977-78 would be of the order of 1.53 lakh hectares. The programme of land development work proposed for 1978-79 is 1.35 lakh hectares. The Agricultural Engineering activities including contour and graded bunding, terracing, bulldozing and other mechanical cultivation activities were carried out by the Department of Agriculture under overall control of the Director of Agriculture and since 1965 land development work in the command areas of the major and 1965 land development work in the command areas of the major and medium irrigation projects already completed or under construction, has also been entrusted to this Department. The need for land water development to achieve optimum agricultural production has been increasingly felt in the context of inadequate utilisation of irrigation potential and urgent need to augment agriculture production. The land development work is undertaken by the Department as per programme given by the Land Development Corporation formed by Government.

(B) AGRICULTURAL RESEARCH AND EDUCATION

MAHATMA PHULE KRISHI VIDYAPEETH, RAHURI, (DISTRICT AHMEDNAGAR)

The Mahatma Phule Krishi Vidyapeeth started its functioning at Rahuri, District Ahmednagar from 20th October 1969. The main object of the Mahatma Phule Krishi Vidyapeeth is to co-ordinate and implement teaching, research and extension education programmes in agriculture in its jurisdiction which extends over the nine districts of Western Maharashtra viz., Pune, Solapur, Ahmednagar, Kolhapur, Sangli, Satara, Dhule, Jalgaon and Nashik. The constituent Institutions comprise of one Post-graduate School and College of Agricultural Engineering at Rahuri, three colleges of Agriculture at Pune, Dhule and Kolhapur, two Gramsevak Training Centres at Manjri (Pune) and Kolhapur, nine Agricultural Schools one in each district, four main Research Stations and 20 Sub-Research Stations.

A brief account of the main activities undertaken by the Mahatma Phule Krishi Vidyapeeth is given below :—

I Education

The information of intake capacity and enrolment of the students for Degree/Diploma courses during 1977 at various Colleges and Schools is as under :—

Serial No.	College/School	Intake Capacity	Enrolment
1.	Colleges of Agriculture, Pune, Dhule and Kolhapur.	480	292
2.	College of Agricultural Engineering Rahuri	20	16
3.	Post-Graduate School, Rahuri.	72	72
4.	Agricultural Schools ...	470	393

From the academic year 1977-78, the B.Sc. (Agri.) Degree programme is of 3½ years duration after completion of 12th standard. The last semester is reserved for internship and emphasis is laid on practical training.

The B.Tech. Agricultural Engineering Degree course is of 4 years duration after 12th standard with Physics, Mathematics and Chemistry as compulsory subjects. Intensive practical training is imparted by sending the students to various Agricultural/Industrial complexes for a period of four weeks.

The Post-graduate Programme leading to M.Sc. (Agri.) degree is offered in twelve different disciplines. The Ph.D. degree is at present awarded on the basis of research work only. /

Through Agricultural Schools, diploma course in Agriculture is offered to the students who have passed seventh standard examination. Gramsevak Training Centres offer inservice training to Gramsevaks and Assistant Gramsevaks.

II Research

The research programmes of the University are carried out at the five main research stations located at Rahuri (Central Campus), Solapur (Dry Farming), Niphad (Wheat), Jalgaon (Oilseeds) and Padegaon (Sugarcane) and at 19 sub-research stations spread over the entire jurisdiction of the University. Research activities of the University are strengthened by 38 research projects financed by the ICAR and the Government of India.

The highlights of the Research activities undertaken by the University are given below :

1. *Dry Farming*.—Great strides have been made by the Agricultural Research Station, Solapur in development of dry farming technology. This is a vital need of the State since more than 90 per cent of the cultivated area is under rainfed farming. Socio-economic aspects hindering the rapid spread of this technology are being studied. Simultaneously, comprehensive studies on farming systems under rainfed conditions have been taken up. Research work on horticultural crops suitable for dry land conditions is under way.

2. *Jowar and Bajra*.—These are the major food crops of the State. As a result of the research work carried out so far, high yielding and hybrid varieties viz., CSH-1 to CSH-6 and CS 3541, 168 of kharif jowar and CSH-7, CSH-8 and SPV-86 of rabi jowar have been evolved. In case of bajra, the popular hybrid HB-3 received a great set-back due to the severe outbreak of downy mildew disease. Composite CN-74, hybrid B.J. 104, BK 560-230, PHB-10 and 14 are found to be tolerant to the disease. Research efforts, however, need to be intensified to evolve varieties of bajra resistant to ergot.

3. *Rice*.—Two rice growing tracts in the M. P. K. V. region are— (a) Maval tract in Pune and Nashik districts and (b) Kolhapur region. A medium fine short duration varieties Radhanagari 185-2 evolved at the Agricultural Research Station, Radhanagari with yield potential of 30 q/ha has been released for general cultivation. Variety IGP-7 with yield potential of 50-60 q/ha. and two promising strains developed at Vadgaon with yield potential of 60-70 q/ha. are in pre-release stage.

4. *Wheat*.—Two promising varieties viz. NI-5439 and NI-5643 evolved at the Agricultural Research Station, Niphad have been released for cultivation

in irrigated areas. They have good grain quality with yield potential of 40 q/ha. A durum variety N-5749 suited for rainfed conditions with yield potential of 8-12 q/ha. has also been released for cultivation. All these varieties are found to be resistant to the known races of black and brown rusts. The third week of October and first fortnight of November are the optimum periods for sowing of rainfed and irrigated wheat respectively.

5. *Maize*.—Hunis, and early maturing composite (80-85 days) with yield potential of 40 q/ha, is recommended for Kolhapur region. Manjri composite developed by the University scientists with yield potential of 50 q/ha. is being tested on large scale field trails.

6. *Pulses*.—Three high yielding medium duration strains of tur developed by the University scientists with the average yield potential of 20 q/ha. are in pre-release stage.

In case of gram, two promising strains Phule-1 and Phule-2 giving 20-25 per cent more yield than the popular variety Chafa are in pre-release stage.

7. *Oilseeds*.—Groundnut varieties TMV-10 (semi-spreading) and M-13 (spreading) are recommended for release to replace Kopargaon-1 and Karad 4-11 respectively. A bunch type, early maturing (85-90 days) variety JL-24 has been identified which gives about 30-40 per cent more yield than the popular variety SB-XI. In case of safflower variety 143-20 (Tara) giving 9.0 q/ha. which is 15 to 20 per cent higher than that of N-62-8 has been released. Besides, as a result of hybridization work with thin hulled mutant a selection JL-2 with 48 per cent oil in the seed has been identified.

A castor variety S-248-2 (Girija) giving 12 per cent higher yield than the popular variety Aruna has been released.

8. *Cotton*.—A rainfed cotton strain JD-415 has been developed at the Agricultural Research Station, Jalgaon which gives 11 per cent higher yield than the popular variety Jyoti. Research work to incorporate wilt resistance in the strain is in progress.

In case of irrigated cotton, a new inter-specific hybrid RHR-253 has been evolved by the University which gives yield of 28 to 30 q/ha. which is higher than the existing hybrids like H-4, Varlaxmi, CBS-56 and H-5. It also matures 2 to 3 weeks earlier than the existing hybrids.

9. *Sugarcane*.—Variety Co-62175 has been released for general cultivation. Its yield is on par with the popular variety Co-740 but is tolerant to smut and matures earlier by two weeks. Another variety, PS-68/47 developed at the Sugarcane Research Station, Padegaon is being tested in district trials. It has a high yield potential (160 t/ha) under adalsi conditions.

Research work has shown that use of urea blended with neem cake can bring down the nitrogen requirement from 400 to 300 kg/ha.

10. *Horticultural crops*.—In case of citrus which has received a set-back due to citrus die-back, use of nucellar scion on promising rootstock like

Marmalade orange, rough lemon, Chetali and Nasnaran has yielded promising results. Large number of such budded plants are being produced for supplying to the cultivators.

11. *Animal Sciences*.—Studies on growth rates of crossbred cows indicated that the cross obtained from Gir X HF cross has two to three times more growth rate than the pure Gir breed. Besides, these cross breeds mature earlier and conceive between the age of 14 to 16 months compared to about 36 months in case of Gir. Milk yields in the first lactation in case of jersey X Gir and HF X Gir crossbreds were 2,750 and 3,280 kg. milk respectively compared to 889 kg. in Gir cow. The highest first lactation milk yields of 6,400 kg. and 5,560 kg. were obtained from HF X Gir and Jersey X Gir crossbreds respectively.

In case of goat, research work on mohair production in crossbreds sangamneri (local) doe and Angora buck indicated that F-2 progeny with 25-75 per cent inheritance level of Angora produced better quality mohair.

12. *Agricultural Engineering*.—An applicator for directly applying anhydrous ammonia to the soil or irrigated water has been designed and developed by the 'research training and testing centre' at Pune. Besides, a seed drill for the placement of phosphate fertilizer 4-5 cm. away and below the seed and an improved seed-cum-fertilizer drill have also been designed and developed by the Centre.

III Extension—Education

Under the auspices of the "Scheme for Development of Extension-Education" in operation at the Central Campus and at the three constituent colleges, the extension-education activities like training programmes for extension personnel and farmers are arranged by a team of subject matter specialists from the discipline of Agronomy, Plant Protection, Horticulture and Animal Husbandry. Besides, mini-kit trials conducted by Zilla Parishads for accelerating the adoption of new crop varieties/hybrids as well as the package of practices by the farmers, are jointly supervised by the staff of the Department of Agriculture and the University.

The University is also engaged in extension work in a few selected villages where useful findings of research work are demonstrated on the farmers' fields. For this, each of the constituent college has associated three villages while each Agricultural School and Research Station has associated one village in their close vicinity.

PUNJABRAO KRISHI VIDYAPEETH, AKOLA.

The Punjabrao Krishi Vidyapeeth was established in October, 1969. Its jurisdiction covers all the eight districts of Vidarbha. It has 5 constituent and 2 affiliated colleges, 7 Agricultural Schools and 2 Gramsevak Training Centres under it. The Agricultural Colleges at Nagpur and Akola, Post Graduate Institute at Akola, Veterinary College at Nagpur and the Agricultural Engineering College at Akola are the five constituent colleges

and Shri Shivaji Agricultural College at Amravati and Anand Niketan College of Agriculture at Warora are the 2 affiliated colleges. Post-graduate courses leading to M.Sc. (Agriculture) are available both at Nagpur and Akola. However, the post-graduate courses leading to M.Sc. (Agriculture) degree at the College of Agriculture, Nagpur, have been conducted from the academic year 1977-78. The M. V. Sc. courses in addition to M.Sc. (Agriculture) courses are available at Akola.

RESEARCH

Research programme in this University was reorganised in 1970 and gradually strengthened thereafter, basically for rainfed farming which accounts for nearly 95 per cent of local cropped area. Emphasis on research in Vidarbha is on developing higher yielding varieties of crops and suitable agronomic practices and cropping patterns.

(a) *Dry Farming*.—The research work was carried out at Akola under Co-ordinated Research Project on Dryland Agriculture during the first phase. The tangible results obtained at the research centres are being demonstrated and adopted in the project area (Bhorad Block, near Akola) attached to the research project. Hybrid sorghum CSH-1, CSH-5 and high yielding varieties CS-3541 and 370 are becoming popular with the project cultivators and about 50 per cent of the jowar area is now under these varieties.

(b) *Cotton*.—The following varieties have been recommended for cultivation. DHY-286, AKH-4, ACH-2 and ACH-6. Recently Amravati Hybrid AM-Hy-27) and Akola Hybrid (IHH-468) have been pre-released for large scale trials in farmers' fields. They have proved superior to H-4 and Varlaxmi hybrids under rainfed farming.

(c) *Jowar*.—Jowar hybrid-5 have proved much better, besides the new promising sorghum project varieties 105, 106 and 104. Hybrid-5 is already in large scale cultivation with farmers.

(d) *Rice*.—So far Sakoli-6 and Sindewahi-75 have been released as mid-late varieties superior to white Luchai-112. These two varieties compare very well with other exotic types like IR-8, IR-22. Gall midge resistant varieties have also been tested and two of them are in prerelease stage undergoing large scale trials in cultivators' fields.

(e) *Pulses and Oilseeds*.—Work on these two groups of crops is in progress and presently some promising varieties have been noted for Mung, Urid, Safflower and Groundnut (Mung-Kopargaon, Urid-T-9 Safflower C-431, Groundnut NG 268 of Uf-70-103), Sunflower variety PKV-SUF-72-37 evolved by this University has been already released for general cultivation.

(f) *Sugarcane*.—Various manurial trials for sugarcane under the prevailing climatic conditions gave average yield of about 90-100 tonnes in Suru cultivation with 150, 100 and 75 kg. of NPK/ha. respectively. This is being confirmed.

(g) *Wheat*.—Though under irrigation the All India released dwarf wheat varieties proved very successful in this area, for dry cultivation. Washim variety (WSM-14) has come out as pre-release stage variety for large scale trials.

III. Extension Education

The extension education programme of the University is undertaken by the Director of Extension Education. At present, the following activities are undertaken :—

1. *Publication Unit*.—The University has established a printing press in 1973 with the assistance of the I.C.A.R. At present, two regular publications are issued every month entitled “Krishi Patrika” and P.K.V. News letter. For “Krishi Patrika” there are over 2,500 farmer subscribers. Besides every month “Research Clipsheets” are also published for research workers of this University. University published every year a Diary called “Krishi” Dianandini’, which besides giving callendar for the year, supplies information on cultivation practices for the various crops and other valuable information on agriculture.

2. *Farmers’ Rallies*.—Every year the University participates in Farmers’ Rallies organised on regional basis. University also participates in number of Agricultural Seminars and Exhibitions.

3. *Institute for Rural Studies and Extension Education*.—During 1976, the University has established the Institute for Rural Studies and Extension Education for organising training programme for rural youths. Since then short term courses in Oil Engine maintenance and repairs of electric motors and vegetable cultivation have been organised. The Institute also organises Fruit and Vegetable preservation classes for women.

4. *Farmers’ Mobile Service Unit*.—The University has arranged a mobile van to carry the experts of this University to the various villages for giving on spot advice on cultivation of various crops and plant protection measures. On similar lines, a Mobile Veterinary Dispensary van moves to the various villages around the main campus of this University to do diagnosis of the diseases and prescribe treatment on the spot.

5. *Participation of Students in Extension Education Activities*.—The post-graduate students of the various departments are encouraged to extend their services for plant protection work in the fields of the cultivators.

6. *Field Demonstrations*.—The University has three National Demonstration Units organised with the help of the I.C.A.R. Every year 24 demonstrations are organised in each of the 3 districts of Akola, Yavatmal and Chandrapur. These demonstrations also have a great value from research testing point of view.

IV. Activities of Animal Sciences

(a) *Teaching Programme*.—When the University was started, the teaching programme was only upto B.V.Sc. & A.H. degree level, which was being

offered at Nagpur Veterinary College. However, between the period from 1971 to 1976, post-graduate degree courses were started, in stages, at the main campus at Akola in ten disciplines. Besides above, a few students are also registered for Ph.D. degree by research.

(b) *Research Programme*.—Research activities undertaken by the Faculty of Veterinary Science pertains to health cover and good management of livestock.

(c) *Acqua Culture*.—There is great scope for inland fisheries in Vidarbha. As per the estimate, this region produces 1017 M.T. The University proposes to establish two fish-seed farms one at Akola and the other at Nagpur. Each farm will be of 10 ha. area, annually producing two crores of fry, with possibility for further expansion.

Under research activities, it is proposed to give priority to (i) limonological survey and fish nutrition; (ii) determining cases of mortality during rearing of spawn and fry and to develop remedial measures to prevent the existing loss, (iii) it is also proposed to undertake research for developing nursery technique for rearing larvae of *Malcolmsonii*-Jumbo prawn-to juvenile stage.

V. Development of Central Campus Farms

(a) *Land Development*.—The University has acquired about 2,800 ha. of land during the period from 1970-72. This land is divided into two units. Unit No. 1 of about 1,000 ha. is just bordering the main campus, while Unit No. 2 of 1,800 ha. is situated about 23 km. away from the camps.

After acquiring this land, a contour survey was made for understanding the overall rough topography of the entire area. Subsequently, in consultation with ICRISAT (Hyderabad, A.P.) a detailed plan was prepared on the basis of watershed management for unit No. 1. The whole area was thus divided into number of water sheds. During 1976, three major water sheds at Unit No. 1 were undertaken for development purposes. The work of installation of conveyance and distribution system for irrigation water in the developed area has been undertaken since beginning of 1977 and pipelines so as to cover about 200 ha. area have been laid.

(b) *Farm Ponds*.—Locations have been marked out for creation of farm ponds. These tanks have checked the run-off and have also released the groundwater recharge.

(c) *Irrigation Development*.—In order to increase this area and for taking more than one crop in a year, a lift irrigation scheme (Kaulkhed Irrigation Scheme) was designed for providing maximum 14 cusecs of irrigation water. The water is being lifted from Morna river at a distance of about 7 kms. and for this three electric pumps of total 400 h.p. are installed so as to lift the water to a height of about 75 m. from the river bed upto the highest point at Unit No. 1. The water is being brought through C. I. rising main of 21" diameter.

At Unit No. 2 out of 1,800 ha. area, hardly 160 ha. were under command of flow irrigation through a canal. A lift irrigation scheme for pumping

20 cusecs of water from Katepurna river through C. I. pipeline of 28" diameter is therefore being planned. The work of laying the pipes and construction of storage tanks is in progress.

VI. Other activities

(a) *Seed Production.*—With the coming up of the Integrated Cotton Development Project in Amravati District and the formation of the Maharashtra State Seeds Corporation, the responsibility of the University regarding planning, production and disposal of quality seeds has greatly increased. The seed production work on a very large extent is, therefore, undertaken on the University farms. The total seed production programme undertaken during 1976-77 (Kharif and Rabi) was of about 140 ha. of breeders seed, 1,100 ha. of foundation seed, 240 ha. of certified seed and about 1,000 ha. under "truthful" seed production.

(b) *Establishment of Medicinal Plants Area.*—Recently the University has established a section for cultivation of medicinal plants. About 100 different types of medicinal plants have been so far brought for cultivation.

MARATHWADA KRISHI VIDYAPEETH, PARBHANI EDUCATION

Marathwada Agricultural University has been established on 18th May 1972. It covers five districts of Marathwada. Trimester system, in vogue, from 1972-73 has been changed and semester system is adopted from 1975-76. Faculty of Veterinary Science has been started in 1972-73 and faculties of Technology and Home Sciences have been started from July 1976.

Undergraduate Teaching Programme

University offers following degree courses :—

1. B.Sc. (Agriculture) and M.Sc. (Agriculture).
2. B. V. Sc. and A. H. and M. V. Sc. and A. H.
3. B. Technology (Agriculture).
4. B.Sc. (Home Science).

Admission for all above four courses are given to 12th pass students from 1977-78. Old courses syllabii have been suitably modified. Similarly arrangements have been made to (1) impart practical experience, (2) lay more emphasis on practical and experimental aspects, (3) give six months compulsory intensive training on experimental farms. 210 students in agriculture college, 48 students in veterinary college and 82 students in each Technology College and Home Science College are admitted every year. Students from other States and countries are also admitted. At present there are 808 students on roll in Agricultural faculty.

Post-Graduate Programme

At present Post-Graduate courses are offered in nine disciplines of Agricultural Faculty and four in Veterinary Science Faculty. Courses are suitably revised from time to time as per requirements. This year post-graduation in Seed Science and Technology will also be offered.

Graduate employees of the University are provided facilities for post-graduation and this will be continued.

At present facilities for Ph. D. by reasearch are provided. From 1978-79 regular Ph. D. courses will be offered in nine disciplines in Agricultural Faculty.

Research

Research Release Findings Sub-Committee of AGRESCO of this University this year has released the following varieties for cultivation in Marathwada :—

Godavari Hybrid Cotton.—It is superior to H-4 in yield and fibre quality.

Parbhani Sorghum Hybrid (SPH-1).—It is as early as CSH-1 and gives 20 per cent more yield.

Maldandi Sorghum Hybrid (1202×285).—It matures in 90 to 95 days in rabi and yields more as compared to Maldandi.

Bajra Hybrids—J104 and BK-260-230.—These are high yielding and tolerant to downy mildew.

Arhar BDN-1.—It is early, high yielding and tolerant to wilt.

Wheat 'Ajantha' (BDN-519).—It is early, high yielding tolerant to rust and suitable for rainfed conditions.

Extension Education

The technology evolved from research is being taken to the farmers through extension education. Mobile crop Dispensary moves from village to village and fields of farmers to advise them on land and water management, use of fertilizers, proper use of insecticides and pesticides, cultivation of different crops and animal husbandry and dairy management. In 1977-78 experts visited 80 villages in Marathwada and gave technical guidance to 2,000 progressive as well as small farmers.

During 1977-78, 69 crop demonstrations, 20 farmers days, seminars and training classes were organised. Extension department participated in 5 exhibitions. Twenty-one villages of Marathwada have been adopted for rural development. Scientific and technical talks are regularly given by scientist in All India Radio. Parbhani programme of 'Amche Ghar Amche Shivar'. Similarly agricultural broadcasts and answers to cultivators' questions are also regularly given.

Young Farmers' Clubs

In order to disseminate current technical information of farming, young farmers' clubs have been established in villages. For this representative villages have been selected. Rural Development Plans are being implemented through these clubs.

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**KONKAN KRISHI VIDYAPEETH, DAPOLI
DISTRICT : RATNAGIRI**

The Konkan Krishi Vidyapeeth was established at Dapoli on 18th May, 1972. The jurisdiction of the University extends over four districts of the Konkan region, viz., Thane, Kulaba, Ratnagiri and Greater Bombay. The Vidyapeeth has three faculties viz. Agriculture, Veterinary and Fisheries. The College of Agriculture, Dapoli and Bombay Veterinary College, Bombay are its constituent colleges. Under-graduates instruction leading to B. Sc. (Agriculture) degree and post-graduate instructions leading to M. Sc. (Agriculture) degree are imparted at the College of Agriculture, Dapoli. During the year 1977-78, 72 students were awarded B. Sc. (Agriculture) degree and 13 students were awarded M. Sc. (Agriculture) degree. At the Bombay Veterinary College, Bombay under-graduate instructions leading to B. V. Sc. and A. H. degree and post-graduate instructions leading to M. V. Sc. and Ph. D. degree are offered. During the year 1977-78, B. V. Sc. and A. H. degrees were awarded to 61 and 21 students respectively. Post-graduate instructions leading to M. Sc. and Ph. D. degrees in Fisheries Science is imparted under the Faculty of Fisheries at the Marine Biological Research Station, Ratnagiri.

A two year diploma course in Agriculture is offered at the Agricultural Schools, Lanja (Ratnagiri) and Roha (Kulaba). During the year 1977-78, 58 students passed the diploma course through these schools.

Research

Research was carried out by the Faculties of Agriculture, Veterinary Science and Fisheries of the Konkan Krishi Vidyapeeth, during the year 1977. Some of the achievements of this research are given below.

I. Faculty of agriculture

(A) *Paddy*.—The coastal region of Maharashtra comes under the jurisdiction of the Konkan Krishi Vidyapeeth. It receives high rainfall (2000 to 4000 mm.) during monsoon. Rice is the major cereal crop of this region having a coverage of 4.2 lakh hectares. Research work on this crop is being done with multi-disciplinary approach. The important findings that emerged from the research conducted during the year are as follows :

In manurial experiments conducted in laterite acidic soils, it was noticed that neem cake coated urea did not prove beneficial in enhancing rice (Jaya variety) yield. In such soils, application of basic slag as soil ammendment was found efficient in increasing the rice yield as compared to calcium carbonate under submerged conditions. In another manurial experiment, application of P_2O_5 at the recommended dose through rockphosphate at transplanting was found to be as effective as superphosphate.

In an experiment to study the physiological age suitable for transplanting rice, transplanting at 5 to 6 leaf stage gave the maximum yield.

Gall midge is assuming serious proportions in the southern part of Ratnagiri district. In a screening programme to evaluate rice cultures for their resistance to the pest, in the endemic areas, it was found that culture CR 57-MR-1523 and RPW-6-13 were immune to the pest.

In certain parts of the region, cold tolerant varieties of rice are required for rabi cultivation. Varieties Colusa, IET 1444, Ratna, Karjat-184 were found to be fairly cold tolerant.

(B) *Jowar*.—Although Jowar is not a major crop of the Konkan, hybrid Jowar is planted in kharif in certain pockets. Trials have shown that varieties CSH-5 and CSH-8 are promising and that sowing of jowar in the first fortnight of July could be recommended to farmers.

(C) *Sugarcane*.—It is found that sugarcane crop grows luxuriantly in the Konkan region. Fertilizer application at 150 kg. N. + 125 kg. P₂O₅ + 125 kg. K₂O per hectare is found to be optimum for the crop. Varieties CO-1287, CO-7 40, CO-68-47 and CO-62175 are found to be promising in this region.

(D) *Mango*.—Mango is a main horticultural crop of the region. For a large scale supply of grafts of alphonso and other quality varieties, stone grafting technique with 70 per cent success during the months of June, July and August has been standardized by the University.

(E) *Coconut*.—This is another important plantation crop in the Konkan. In one of the manurial trials on this crop, a linear response to nitrogen application was observed and 0.75 kg. N per plant gave the maximum yield of 84 nuts per year.

(F) *Banana*.—It is grown as a cash crop in certain parts of the region. Recently, two diseases, Sigatoka leaf spot and Bunchy top have become a serious problem. In the fungicidal trials on Sigatoka leaf spot, Bavistin (0.2) Dithane Z-78 (0.15), and Difoltan (0.16) were found to be effective for the control of the disease, Solvirer (Thiodemeton 5 g.) was found to be effective in controlling the banana aphid *Pentalonia nigronervosa*, a vector of bunchy top disease.

(G) *Cattle feeds*.—Experiments on feeding of Nagli (Finger millet) straw treated with molasses and supplemented with urea have shown significant increase in milk yield and milk protein. The calf starter formulated by the Department of Dairy Science reduced the cost of feeding of calves upto an age 14 weeks by 50 per cent in comparison with the feeding of calves with milk.

(H) *Tasar Silk Worm*.—In rearing of tasar silk worm on Ain (*Terminalis tomentosa*) tree, it was observed that two crops of tasar can be harvested, the first from September to October and the second from November to January. Two parasites *Exorista* sp. (Diptera : Tachnidae) and *Trigonalis* sp. (Hymenoptera : Trigeonalidae) were recorded, the former being recorded for the first time in India on *Autheraea mylitta*.

(I) *Tool designing*.—Cutting rice plants close to the ground and removal of stubbles are recommended for minimising the stem borer infestation of

rice crop. The University has, therefore, developed designs for a sickle to harvest paddy close to the ground and a hand tool to remove rice stubbles from fields.

II. Faculty of Veterinary Science

Research activities undertaken by the Faculty of veterinary science pertains to health cover and good management of livestock.

III. Faculty of fisheries

The highlights in the field of research conducted by this faculty are as under :—

1. *Marine Shrimp Culture*.—Experiments conducted during the year 1977, have led to partial success in mass rearing of the white prawn, *Penaeus merquienis*. In one of the experiments with 10 females, about six lakhs of larva were obtained. The methodology is being refined with a view to achieving greater percentage of recovery.

2. *Culture of a food organism*.—It has been observed that various animals required types of food, in the early larval stages. This necessitates isolation and monoculture of several food organisms microscopic in nature. During the year, isolation and pure cultures have been obtained in respect of three fresh water and 12 marine species. These are as follows :—

Marine Species

1. *Hyalodiscus, subtilis*.
2. *Thalassiosira sp.*
3. *Netrium*.
4. *Bidulphia*.
5. *Coscinodiscus*.
6. Flagellates I.
7. Flagellates II.
8. Flagellates III.
9. *Asterionells*.
10. *Skeletonema*.
11. *Cerateulins*.
12. *Alona taraporevali*.

Fresh Water Species

1. *Chlamidomons*.
2. *Fresh water Diatoms*.
3. *Chlorella*.

3. *Development of Fish egg incubator*.—After several years of research and trials the University has developed various models of fish egg incubators which are superior to the traditional practice of incubating fish eggs in cloth-hapa. These incubators have been demonstrated as extremely efficient in field operations, following the breeding of major carps. These have been supplied to various State Departments of Fisheries in India.

4. *Discovery of Pearl oysters beds*.—Resently, the scientists in the Fisheries Faculty have discovered shells of pearl oyster in sizeable quantity along the coast of Ratnagiri district. These oysters belong to the species *Pinctuda cheminitzi*. In view of the importance of pearl culture in our

country, the discovery is of considerable significance. The survey of oyster beds with a view to estimating their population will be undertaken shortly.

The University also undertakes extension education activities in the Konkan region. The salient features of the extension work are as follows :

(1) *Demonstration*.—The University organizes demonstrations regarding the use of recommended package of practices for cultivating improved and high yielding varieties of crops. Staff at the main campus and at the research stations conducts these demonstrations on farmers' fields. Demonstrations are also conducted under the National Demonstration Scheme, sanctioned for Ratnagiri district by the Indian Council of Agricultural Research, New Delhi. During the year 1977-78, 100 such demonstrations have been conducted by this University in the kharif and rabi seasons.

(2) *Farmers' melawas*.—Farmers melawas are organised at the University farms to acquaint farmers with the scientific methods of agricultural production. During 1977-78, five such melawas were organised. These were attended by 827 farmers. The National Demonstration Scheme in Ratnagiri district also organised melawas at the demonstration plots.

(3) *Training of extension workers*.—During 1977-78 inservice training classes in connection with kharif and rabi/summer grain production campaigns were organised by the University for the extension staff working in Zilla Parishads, Thane, Kulaba and Ratnagiri and the Department of Agriculture.

(c) *Farmers' training*.—Training programmes of 1 to 2 days' duration are organised by the University at selected villages in Thane, Kulaba and Ratnagiri districts. Under this programme, 2,618 farmers were trained in improved methods of agricultural production through 50 classes conducted during 1977-78.

(5) *Fields trips*.—Through six field trips organised during this year 331 farmers visited the College of Agriculture, Dapoli and got acquainted with the findings of research work of use increasing the agricultural production.

(6) *Film shows*.—Five films shows on agriculture were screened which were attended by 3095 farmers.

(7) *Extension circulars*.—The University publishes extension circulars in Marathi on various subjects pertaining to agriculture, for the use of the farmers and extension workers. During the current year two such leaflets on 'Mushak samhar' and Mango cultivation were published.

The University has adopted Chinchar and Bhadgaon villages in Khed taluka for bringing about improvement in agriculture. During the year under report programmes on soil testing and side grafting of mango trees were undertaken in these villages.

ANIMAL HUSBANDRY

The function of Animal Husbandry Department is development and conservation of Livestock. The development aspect deals with the increase in production of protective foods such milk, eggs and meat. Some of the animal products such as wool and skins are of commercial importance. The conservation aspect deals with providing effective and efficient health cover.

An allocation of Rs. 236.73 lakhs is proposed for various plan schemes during the year 1978-79. The break up being Rs. 168.07 for normal plan schemes and Rs. 68.66 lakhs for Tribal Area sub-plan.

Development Activities.—These include the following activities :—

1. Cattle Development.
2. Sheep Development.
3. Poultry Development.
4. Schemes under the local sector.

Under the Cattle Development the Cattle Breeding Farms established at various places produce the basic genetic material i.e. production of pure-bred and crossbred bulls. These are distributed to the institutions like District Artificial Insemination Centres, Centralised Semen Collection Centres and Intensive Cattle Development Projects for propagation of semen for A. I. purpose. The bulls are also supplied to the farmers, Grampanchayats and Co-operative Societies for upgradation of local livestock.

The improvement in the quality and quantity of Wool and meat characteristics in sheep is brought about through supply of improved varieties of rams produced at Sheep Breeding Farms to the farmers and shepherds.

The Poultry Development work consists of increasing the production of eggs and upgradation of Deshi poultry population. The Central Hatcheries produce the quality chicks, ready to lay pullets, cockrels and hatching eggs, which are reared at hatcheries and poultry projects and finally supplied to the poultry keepers.

1. *Cattle Development.*—The actual milk production during 1976-77 was 1.30 million tonnes. The annual estimated milk production of Maharashtra during 1977-78 is 1.34 million tonnes. The proposed target for the year 1978-79 is 1.35 million tonnes. The per capita production of bovine milk is very low. This is partly due to low genetical potential of indigenous livestock and partly due to adverse argo climatic and socio-economic conditions under which the present day livestock is raised. The object of the Animal Husbandry Department is to overcome the draw backs mentioned above. The cattle breeding policy consists of cross breeding indigenous cattle with temperate dairy breeds of exotic cattle.

This cross breeding programme and other ancillary activities are carried out by implementing following schemes.

Cattle Breeding Farms.—At present there are 15 Cattle Breeding Farms in the State. The object of the Cattle Breeding Farms is to produce pure bred exotic and crossbred bulls and supply them to the District Artificial Insemination Centres, Centralised Semen Collection Centres, Key Village Centres and Intensive Cattle Development Projects for propagation of superior quality semen for A. I. purpose. The Cattle Breeding Farm, Palghar is transferred from Dairy Development Department in 1977-78 to the Animal Husbandry Department. The Cattle Breeding Farm at Talhawade and Aurangabad are being utilised for multiplication of exotic animals like Jerseys. The Holstein Fresions are located at Kopergaon. At rest of the farms except Junoni, District Sholapur and Hetikundi, District Wardha, cross breeding has been initiated. At Junoni and Hetikundi pure indigenous breeds viz. Khillar and Gaolao respectively are maintained to preserve indigenous germ plasm. Surti and Murah buffalo are maintained at the Cattle Breeding Farm, Palghar. At Cattle Breeding Farm Pohora and Hingoli, Tharparkar and Rathi Cows and bulls are maintained respectively for pure breeding.

(Plan) : Under Plan schemes Exotic Cattle Breeding Farm has been established at Wadsa (Desaiganj) in Chandrapur district during 1974-75. This is a Government of India sponsored scheme with 75 per cent subsidy and 25 per cent loan. The preliminary work regarding deforestation, Land development is completed and construction of buildings is in progress and the farm is now in a position to receive jersey stock immediately. There existed a provision of Rs. 64.80 lakhs during the year 1977-78. A total provision of Rs. 38.95 lakhs is proposed during 1978-79.

The present farms are also strengthened further by undertaking land development work, construction of cattle sheds and providing water facilities at Cattle Breeding Farms Tathawade, Pohora, Jath, Junoni, Hingoli, Yeotmal, Hetikundi and Harsool. A tractor is purchased for Cattle Breeding Farm, Kopergaon. There existed a provision of Rs. 11.59 lakhs for the year 1977-78. An allocation of Rs. 11.21 lakhs is proposed for the year 1978-79. Further details of this provision are as below :

A provision of Rs. 7.36 lakhs is proposed under 310 Animal Husbandry and Rs. 3.85 lakhs under 510 capital outlay on Animal Husbandry. The break up of this provision is as below.

An amount of Rs. 5.85 lakhs under 310 Animal Husbandry will be utilised for continued works at Cattle Breeding Farms Tathawade, Kopergaon and Pohora.

A provision of Rs. 1.51 lakhs under 310 Animal Husbandry is proposed for inevitable expansion of old works at Cattle Breeding Farm, Kopergaon like construction of pukka water corset and purchase of a tractor at Cattle Breeding Farm Jath.

Out of Rs. 3.85 lakhs under 510 Capital Outlay on Animal Husbandry, Rs. 2.65 lakhs will be spent on continued works at Cattle Breeding Farms, Jath, Junoni, Yeotmal and Hetikundi.

Rs. 1.20 lakhs are proposed for construction of cattle sheds at Cattle Breeding Farm Hingoli under inevitable expansion of the farm.

District Artificial Insemination Centres

There are at present 23 District Artificial Insemination Centres functioning in the State. These centres serve as semen banks from which semen for artificial insemination of cows and buffaloes is supplied to Key Village Centres and A. I. sub-centres both in State and local sectors.

(Plan) : In order to use frozen semen, frozen semen laboratory is being established at the Regional A. I. Centre, Pune. The building required for the laboratory is constructed.

From the plan allocation, the District Artificial Insemination Centres are expanded with equipments, laboratory facilities, buildings and bull sheds. There was a budget provision of Rs. 17.11 lakhs during 1977-78. A total provision of Rs. 19.22 lakhs is proposed for the year 1978-79 with breakup as shown below :

A provision under 310 Animal Husbandry of Rs. 6.41 lakhs and Rs. 12.81 lakhs under 510 Capital Outlay on Animal Husbandry is proposed for following purposes :—

An amount of Rs. 5.16 lakhs will be utilised for continuation of the scheme at District Artificial Insemination Centres Pen, Jalgaon, Satara, Buldhana, Akola, Amravati, Wardha, Bhandara, Parbhani, Nanded and Osmanabad. A provision of Rs. 1.05 lakhs under 310 Animal Husbandry will be spent on purchase of a vehicle at District Artificial Insemination Centre, Kankavali and construction of chokidar quarter at District Artificial Insemination Centre, Wardha.

Out of the provision of Rs. 12.81 lakhs under "510 Capital Outlay on Animal Husbandry" a provision of Rs. 11.73 lakhs is proposed for continuation of works at District Artificial Insemination Centres Pen, Kankavali, Pune, Satara, Kolhapur, Akola and Amravati. A provision of Rs. 1.08 lakhs will be utilised for the construction of bull sheds at District Artificial Insemination Centre, Dhule.

Key Village Centres

The Key Village scheme is an integrated programme which provides facilities to the farmers to train themselves with breeding, feeding and management of livestock. The semen received at the Key Village Centres from the District Artificial Insemination centres is propagated in the villages through Key Village Units for the production of crossbred calves.

There are in all 46 key village centres in the State. No new Key Village Centre is proposed for the year 1978-79. Out of 46 Key Village Centres,

38 Key Village Centres are functioning as non-plan activities. One Key Village Centre at Mahabaleshwar is established under Western Ghat Development Programme.

(Plan) : 6 Key Village Centres are established during the 5th plan. They are at Kolhapur 2 (Gadhinglaj and Murgud), Buldhana 1 (Ghatbori), Akola 1 (Borgaon Manju), Chandrapur 1 (Bothali) and Beed 1 (Kada). There was a provision of Rs. 12.85 lakhs for the year 1977-78. A provision of Rs. 13.46 lakhs is proposed during 1978-79 with details as shown below.

A provision of Rs. 12.71 lakhs is proposed for continuation of the 6 Key Village Centres during 1978-79. While Rs. 0.75 lakhs will be spent for opening of four more Key Village Units under Key Village Centre, Satara.

Intensive Cattle Development Project.—The Intensive Cattle Development Projects have been established in the State for bringing about all around and rapid improvement of milk production by cross-breeding of indigenous cows with exotic dairy breed bulls and by providing an incentive for production of nutritious fodder and by providing an effective animal health cover. The objective is to propagate and encourage rearing of milch cows for increase production of milk. This will create a self-employment generating programme to the small farmers.

There are in all 8 Intensive Cattle Development Projects at Pune, Chiplun, Miraj, Dhule, Jalna, Nagpur, Amravati and Bhandara in the State. Each Intensive Cattle Development Project covers approximately one lakh breedable cattle population. No new Intensive Cattle Development Project is proposed during 1978-79. The present Intensive Cattle Development Projects will be continued during 1978-79.

(Plan).—Intensive Cattle Development Project, Amravati and Bhandara were established during 1975-76 and 1976-77 respectively under the plan allocation during the 5th plan. The reorganisation of Intensive Cattle Development Project Dhule has been undertaken under which 37 sub-centres are established under existing aid centres to provide breeding facilities to the villages covered by these sub-centres. Similarly the Intensive Cattle Development Project, Chiplun is also reorganised and expanded and now the area of this project extends to the Southern part of Ratnagiri District. It also controls two centres of adjoining Kolaba district viz. Umroli and Dasgaon.

During 1977-78, there was a provision of Rs. 21.06 lakhs under the plan budget. A provision of Rs. 17.52 lakhs is proposed for the year 1978-79 with details as below.

A provision of Rs. 16.92 lakhs will be utilised for continuation of Intensive Cattle Development Projects Amravati and Bhandara and for reorganisation of Dhulia and reorganisation and expansion of Chiplun.

For Intensive Cattle Development Project Miraj a provision of Rs. 0.60 lakhs is also proposed for providing medicines to 4 Regional Artificial Insemination Centres under this project.

The mass training programme to educate the farmers is organised under Intensive Cattle Development Projects. There existed a provision of Rs. 1.00 lakh during 1977-78, under plan allocation with a target to organise 35 camps and impart training to 1750 farmers. The provision proposed for the year 1978-79 amounts to Rs. 0.80 lakhs. This will facilitate to organise 28 mass training camps for the farmers under all the projects during 1978-79.

Providing Artificial Insemination facilities to existing Veterinary Institutions—

A. I. facilities have been made available at existing Veterinary hospitals, dispensaries and aid centres to about 2,000 institutions.

(Plan).—Under the plan, this facility has been started at 460 places in the year 1977-78 for which there was a provision of Rs. 5.93 lakhs. An allocation of Rs. 6.31 lakhs is proposed for the year 1978-79 with break-up as under :

An amount of Rs. 5.43 lakhs is proposed for continuation of the scheme in 19 districts. The scheme is proposed for Sangli district during 1978-79 with a target to provide A. I. facilities to 8 Veterinary Institutions. Similarly it is also intended to purchase liquid nitrogen containers for Chandrapur district. A provision of Rs. 0.88 lakhs is therefore, made in the plan budget during the year 1978-79 for these districts.

Since the inception of cross breeding programme, in all 7.43 lakhs inseminations were done at Intensive Cattle Development Projects, Key Village Centres, District Artificial Insemination Centres, Veterinary Polyclinics and institutions under local sector till 1976-77. As a result 95,624 crossbred calves are born of which 48,356 are male calves and 47,268 female calves.

The estimated No. of crossbred calves which will be born during 1977-78 is 50,000.

District Premium Bull Scheme.—The scheme is executed by the Zilla Parishads. The breeding bulls of good quality are placed in areas where Artificial Insemination facilities are not available. The bulls under the scheme are at present either maintained at half cost subsidy or at maintenance subsidy. About 1,000 bulls are on active service under the scheme.

(Plan).—Under the plan, the scheme is proposed in Ratnagiri district with a provision of Rs. 0.05 lakhs during the year 1978-79 with a target to locate 10 bulls. These bulls will be placed at Ashramshalas, Grampanchayats, Dairy Co-operative Societies or the agents who are willing to maintain the bulls. A maintenance subsidy at the rate of Rs. 30 per month will be paid for three years or at half cost subsidy limited to Rs. 500 whichever is less.

Goshala Development Scheme.—In order to encourage Goshalas to undertake cattle Development on the lines recommended by the Department an annual grant of Rs. 2,000 per Goshala is given to such Goshalas which

agree to abide by the conditions laid down by the Department. This activity is being continued as a non-plan activity.

Seasonal Breeding Centres

(Plan).—The cattle migrating into deep forest after the monsoon do not get any facility of breeding and health cover. To avoid this, the scheme for seasonal breeding centres is implemented under the plan schemes in Jalgaon and Pune districts with a provision of Rs. 1.12 lakhs during the year 1977-78. However, the scheme will not be taken up in Poona District. In Jalgaon District 11 centres are established and the target is fulfilled.

The scheme will be continued in Jalgaon district during the year 1978-79 for which a provision of Rs. 0.58 lakhs is proposed.

Rearing of crossbred heifers

(Plan).—A scheme for subsidy for rearing crossbred heifers was undertaken as a plan scheme with a budget provision of Rs. 2.98 lakhs for the year 1977-78. The target for providing subsidy in kind was 900 heifers.

A provision of Rs. 1.89 lakhs is proposed during the year 1978-79 with details as below :—

The scheme will be continued in districts of Ratnagiri, Sangli, Solapur, Parbhani, Nanded and Osmanabad with a provision of Rs. 1.89 lakhs for continuation. The feed subsidy will be released to about 525 crossbred calves during 1978-79.

Scheme for supply of milch cows

(Plan).—There was an allocation of Rs. 5.13 lakhs for the year 1977-78 for districts other than Thane, Nasik, Amravati, Nagpur, Bhandara, Chandrapur and Aurangabad. The scheme is transferred from Dairy Development Department in the year 1976-77 and is implemented as an interest subsidy for landless labourers who have been provided with hut and a cow.

A provision of Rs. 1.47 lakhs is made for the year 1978-79 with details as shown below :—

A provision of Rs. 1.43 lakhs is proposed for continuation of the scheme for districts of Ratnagiri, Jalgaon, Ahmadnagar, Satara, Sangli, Solapur, Kolhapur, Buldhana, Akola, Amravati, Yavatmal, Wardha, Beed and Nanded. In Nasik the scheme is proposed for the year 1978-79 with an allocation of Rs. 0.04 lakhs.

Artificial Insemination Training Centres

(Plan).—Artificial Insemination is being carried out at about 2,000 institutions in the State. The efficiency of A.I. depends on the trained hands. Three Artificial Insemination Training Centres are already established at Pune/Dhule/Akola. One more Artificial Insemination Training Centre is established at Aurangabad from 1st January 1978.

There was a budget provision of Rs. 4.00 lakhs for the year 1977-78 with a target to train 360, 120 and 300 trainees at Pune, Dhule and Akola respectively.

A provision of Rs. 4.41 lakhs is proposed for continuation of 4 Artificial Insemination Training Centres during 1978-79. About 850 trainees will be trained in A.I. technique.

At Artificial Insemination Training Centres, Pune and Akola Departmental Officers viz. Veterinary Officers, Junior Veterinary Officers and Live-stock Supervisors are trained in technique of A. I. while at Dhule, training is given to lay personnels i.e. Secretaries of Dairy Co-operative Societies, village workers etc. From the year 1977-78, additional subjects are included in the training programme at Artificial Insemination Training Centre, Pune. Since the field officers come across number of problems, both technical and administrative, lectures are also delivered on cattle, sheep, poultry, piggery fodder diseases and control, budgeting and planning of the schemes in addition to practical training in A.I. Technique.

Progeny testing programme

(Plan).—Sire evaluation is the basis for ensuring continuous improvement in all sectors of Animal production. Improvement in productive performance of the livestock is possible through intensive selection of bulls. Introduction of A.I. enables more rigorous selection of bulls. However as females give the milk which is most vital factor of Animal production, the bulls used for breeding are evaluated on the basis of performance of their heifer progeny. Under this scheme, data of performance of the progeny of A.I. bulls used at Intensive Cattle Development Projects, Key Village Centres, Cattle Breeding Farms and District Artificial Insemination Centres will be collected and analysed statistically. This will allow location of bulls of superior types and culling of inferior ones.

The scheme was established during 1976-77. There existed a budget provision of Rs. 0.55 lakhs for the year 1977-78. The work of evaluation of exotic bulls located at Regional Artificial Insemination Centres, Pune and Nagpur is in progress. The scheme will be continued during the year 1978-79 with a provision of Rs. 0.60 lakhs.

Elimination of scrub bulls.—As the Department has undertaken the cross-breeding programme on large scale, and in order to accelerate this work and promote desired population of cattle, the castration of non-descript bulls is undertaken. Under the scheme the prizes are given to the Grampanchayats for carrying out maximum castration of scrub bulls in villages.

(Plan).—In the year 1977-78, a provision of Rs. 0.22 lakhs for Ratnagiri, Dhule, Pune, Amravati, Beed and Parbhani districts was made. A provision of Rs. 0.19 lakhs is proposed during the year 1978-79 with details as below :—

An allocation of Rs. 0.15 lakhs will be spent for continuation of the scheme in the districts of Ratnagiri, Dhule, Amravati, Beed and Parbhani.

The scheme for elimination of scrub bulls is also proposed for districts of Wardha and Satara with a provision of Rs. 0.04 lakhs.

Publicity and mass propaganda

In order to initiate farmers to take up various Animal Husbandry programmes and to improve their knowledge regarding livestock care, feeding, management and disease control, shows, rallies and shibirs are organised under the scheme.

(Plan).—Under plan allocation the scheme was run in five districts during the year 1977-78 with a provision of Rs. 0.36 lakhs for the districts of Ratnagiri, Jalgaon, Kolhapur, Akola and Beed.

An allocation of Rs. 0.99 lakhs is proposed for the year 1978-79. The break-up of this provision is as below :—

A provision of Rs. 0.66 lakhs is proposed for continuation of the scheme during the year 1978-79.

The scheme will be also implemented in 3 more districts viz. Satara, Sangli and Parbhani for which a provision of Rs. 0.33 lakhs is proposed during 1978-79.

Fodder and Feed Development

This is one of the important activities of the Animal Husbandry Department. The scheme is implemented mainly through Intensive Cattle Development Projects and Key Village Centres. The farmers are encouraged to purchase improved variety of fodder seeds, grass sets etc. on subsidised basis. In addition a programme of fodder seed production has been started at cattle Breeding Farms and several varieties have been introduced. A training programme was also arranged of 10 days duration for departmental officers under composite Livestock Training Programme. Two batches, each of 30 trainees have been trained during the 1977-78 year.

(Plan).—Under the plan, the scheme was implemented in Ratnagiri, Dhule, Beed, Parbhani, Nanded and Osmanabad districts with a budget provision of Rs. 0.39 lakhs for the year 1977-78.

For the year 1978-79 a provision of Rs. 0.93 lakhs is proposed with details as mentioned below :—

An amount of Rs. 0.44 lakhs will be spent for continuation of the scheme during 1978-79, in above districts. The scheme will be taken up in four more districts viz. Sangli, Yavatmal, Wardha and Aurangabad for which a budget provision of Rs. 0.49 lakhs is proposed.

Sheep Development.—Rearing of sheep is an important activity particularly in the scarcity tract of the State. Sheep rearing is carried out by adopting nomadism because the shepherds get advantage of folding practices and

grazing. The sheep population of Maharashtra is 21.28 lakhs (1972 live-stock census). Annually about 11.00 lakhs sheep are made available for slaughter every year providing about 93,300 tonnes of meat and 11.00 lakhs skins.

Sheep Breeding Farms.—There is a limited scope for expansion in number but there is considerable scope for improvement in quality of individual sheep. There are 12 Sheep Breeding Farms in the State. Improved variety of rams and bucks produced at these farms are supplied to the flock owners so as to bring about improvement in the body weight and incidentally wool.

(Plan).—Under the expansion of Wool Analysis Laboratory, a quality Control Unit is established at Aarey Colony, Bombay, during 1976-77. The object of the scheme is to examine and certify meat and other animal products which are exported to other countries. It is a pre-requisite for export purposes that these exportable products are free from bacterial, parasitic or viral infections.

During the year 1977-78, a provision of Rs. 0.30 lakhs was made. The provision of Rs. 0.30 lakhs is also retained for continuation of the scheme during 1978-79.

Besides this, under the plan provision work of construction of quarters, sheep sheds, water facilities, land development etc. were undertaken at Sheep Breeding Farm Dahiwadi, Ranjani, Mahud Mukhed, Bhilakhed, Pohora and Padegaon during the 1977-78 for which a provision of Rs. 6.67 lakhs was made.

For the year 1978-79 a provision of Rs. 1.80 lakhs is proposed, the details of which are as below :—

A provision of Rs. 0.80 lakhs is under 310 Animal Husbandry and Rs. 1.00 lakhs under 510 Capital Outlay on Animal Husbandry under 310 Animal Husbandry a provision of Rs. 0.80 lakhs is proposed for continuation of Goat Breeding Centre at Pohora in Amravati district and continued work of construction at Sheep Breeding Farm, Padegaon.

Under 510 Capital Outlay on Animal Husbandry a provision of Rs. 1.00 lakhs is proposed for continuance of works of construction at Sheep Breeding Farm, Dahiwadi, Ranjani, Mahud and Mukhed.

Supply of Sheep and Goat to weaker sections

Under the scheme for supply of sheep and goat to weaker section, there was a provision of Rs. 1.24 lakhs for the year 1977-78.

In the year 1978-79, an amount of Rs. 0.16 lakhs is proposed for Sheep Breeding Farm, Ranjani for purchase of improved goats for Sheep Breeding Farm, Ranjani.

Sheep Development Corporation

It is proposed to set up Sheep Development Corporation for undertaking various activities in the field of better breeding facilities for the genetic improvement of native sheep, better feeding, provision of health cover and diagnostic facilities and services, harvesting and suitable marketing facilities for sheep and sheep products and finally arranging dissemination of technical know-how about sheep rearing amongst the shepherds. The preliminaries for setting up the Corporation are already in progress. It is proposed to grant financial assistance to the Corporation by way of share capital, loans and subsidy.

Poultry Development.—The poultry population of Maharashtra is 121.79 lakhs as per 1972 census. The annual anticipated egg production for the year 1977-78 is 800 million eggs. The proposed target for the year 1978-79 is 820 million eggs.

The poultry development programme mainly consists of promoting production of eggs and layer birds. This is achieved through following schemes.

Poultry Breeding Farms and Hatcheries

There are 5 Central Hatcheries in the State at Pune, Kolhapur, Aurangabad, Nagpur and Dhulia. In these hatcheries pure bred and crossbred chicks and hatching eggs are produced for supply to the farmers.

(Plan).—During 1977-78 a provision of Rs. 3.35 lakhs was made for construction of one brooder house each at Regional Poultry Farm, Kolhapur and Nagpur.

For the year 1978-79, an allocation of Rs. 1.87 lakhs is proposed which will be utilised in the following manner.

An amount of Rs. 0.25 lakhs under 310 Animal Husbandry is proposed for construction of a room for the generator at Central Hatchery, Nagpur.

An allocation of Rs. 1.62 lakhs under 510 Capital Outlay on Animal Husbandry is proposed for continuation of the work, at Central Hatchery, Kolhapur.

Intensive Poultry Development Blocks.—At present 14 Intensive Poultry Development Blocks are functioning in the State. This is an integrated scheme which encourages poultry keeping by supply of inputs such as quality chicks, hatching eggs, balanced feed, veterinary cover, training in poultry etc.

(Plan).—From the plan allocation, the construction work at Intensive Poultry Development Block, Beed and Nanded was undertaken with a provision of Rs. 0.91 lakhs for the year 1977-78.

Upgradation of Deshi birds.—*(Plan).*—A scheme for upgradation of Deshi birds is implemented in a number of districts. Under the scheme improved

cockrels reared at hatcheries and Intensive Poultry Development Blocks are distributed to the poultry keepers on exchange basis. During 1977-78, a provision of Rs. 1.15 lakhs for distribution of 5,750 improved variety cockrels to the poultry keepers was made. At present the scheme is operated in districts of Ratnagiri, Satara, Sangli, Kolhapur, Akola, Amravati, Yavatmal, Beed and Nanded.

A provision of Rs. 0.92 lakhs is proposed for the year 1978-79. The break up of the provision is as below :

An amount of Rs. 0.84 lakhs is proposed for continuation of the schemes in the above mentioned districts. The scheme is also proposed by Parbhani district during the year 1978-79 for which a provision of Rs. 0.08 lakhs is proposed.

With this provision of Rs. 0.92 lakhs, 4,600 improved cockrels will be distributed during the year 1978-79.

The conservation of livestock

Optimum livestock production can be ensured if the livestock is protected from various livestock diseases and pests. Effective control and eradication of livestock diseases, parasites and pests could contribute to greater productivity. Lower livestock production as a result of losses due to animal diseases and sickness leads to high cost of production and in the long run mal-nutrition of human population. For this reason high standard of Animal health is essential. This is achieved through following schemes :—

1. Veterinary polyclinics, hospitals, dispensaries and aid centres.
2. Disease Investigation section.
3. Check posts, vigilance units, follow up units.
4. Mobile Epizootic Control Units.
5. Veterinary Biological Products for control of diseases.
6. Control of Foot and Mouth disease.

Veterinary services

With the introduction of crossbreeding programme in cattle, sheep and poultry the need for efficient veterinary health cover is increasingly felt. At present veterinary aid is given through 13 polyclinics, 54 Veterinary Hospitals, 484 dispensaries and 1,120 Veterinary Aid Centres.

(Plan).—During 1977-78, a provision of Rs. 12.56 lakhs was made for establishment of Veterinary Polyclinics, construction of buildings and land acquisition.

A provision of Rs. 11.41 lakhs is proposed under Veterinary Polyclinics for the year 1978-79. The break up of this provision is shown below :—

An amount of Rs. 5.00 lakhs is shown under 310 Animal Husbandry and Rs. 6.41 lakhs under 510 Capital Outlay on Animal Husbandry. The provision of Rs. 5.00 lakhs is proposed for continuation of three

Veterinary polyclinics under the plan provision viz. polyclinic at Jalgaon, Miraj and Akola.

The provision of Rs. 6.41 lakhs under 510 Capital Outlay on Animal Husbandry is proposed for following purpose.

A provision of Rs. 5.61 lakhs will be spent on continued works of construction at Polyclinic Solapur, Kolhapur, Akola and Nanded. Whereas an amount of Rs. 0.80 lakhs is proposed for construction work at Polyclinic, Chiplun.

No new polyclinic is proposed during the year 1978-79.

Veterinary Dispensaries and Aid Centres

(Plan).—A provision of Rs. 23.07 lakhs was made during the year 1977-78 for the continuation of 38 Veterinary Dispensaries/Veterinary Aid Centres and additional establishment of 53 Veterinary dispensaries. This will lead to total No. of 91 veterinary dispensaries under the plan programme of the Fifth Five-Year Plan.

During 1978-79, it is proposed to provide an amount of Rs. 26.33 lakhs for Veterinary Dispensaries/Aid Centres. The details of this provision are as below :

A provision of Rs. 24.38 lakhs is proposed for continuation of the dispensaries/aid centres during 1978-79.

An amount of Rs. 1.95 lakhs is proposed for construction of buildings for Veterinary dispensaries in Sangli and Akola districts.

Upgradation of Veterinary Aid Centres

(Plan).—During 1977-78, under the plan allocation, there was a provision of Rs. 7.44 lakhs for continuation of 18 upgraded Veterinary Aid Centres and for upgradation of 30 Veterinary Aid Centres. The aid centres in district of Jalgaon (4), Satara (1), Nagpur (5), Wardha (6), Bhandara (1) and Beed (1) will be continued whereas additional 30 upgradations of Veterinary Aid Centres has been undertaken in districts of Pune (5), Kolhapur (5), Akola (8), Nagpur (5) and Aurangabad (7).

During 1978-79 a provision of Rs. 8.65 lakhs is proposed with detailed break-up as below.

A provision of Rs. 7.79 lakhs is provided for continuation of the upgraded Veterinary Aid Centres during the year 1978-79.

A provision of Rs. 0.86 lakhs is proposed for upgradation of 1 Veterinary Aid Centre in Sangli District and 2 Veterinary Aid Centres in Chandrapur District.

Disease control.—The disease control programme envisages investigation of various animal diseases which flare up in livestock from time to time and adopting measures to control such diseases.

The Disease Investigation Section with its Central Laboratory at Pune and Divisional Laboratories at Aurangabad, Nashik and Nagpur carries out the above work.

(Plan) : The Disease Investigation Section is being geared up for combating emerging diseases. The central laboratory has been provided subject matter specialists during 1974-75 for carrying out detailed investigation work in Bacteriology, pathology and Virology.

There was a provision of 2.50 lakhs during the year 1977-78. The part of the provision i.e. Rs. 1 lakh was for the construction of upper storey on existing building to increase laboratory facilities.

A provision of Rs. 6.38 lakhs is proposed for the year 1978-79 with details as under :

A provision of Rs. 2.73 lakhs under 310, Animal Husbandry is proposed for continuation of the three sections established at Disease Investigation Section under the plan provision and also for the scheme for strengthening of Divisional Disease Investigation Laboratory at Chiplun.

A provision of Rs. 3.65 lakhs under 510, Capital Outlay on Animal Husbandry will be utilised for continued work of construction at Disease Investigation Section, Pune.

Scheme for strengthening of Divisional Disease Investigation Laboratory

(Plan) : To provide facilities for diagnosis and isolation of causative agents causing mastitis in cattle and buffaloes the scheme was established during the year 1974-75. In the year 1977-78 a provision of Rs. 0.50 lakh with a target to undertake testing of 2000 milk samples was made. The scheme will be continued for the year 1978-79. The provision of the scheme is shown under Disease Investigation Section.

Control of Botulism

(Plan) : A scheme for establishment of investigation cell for control of Botulism and allied diseases in Ratnagiri district is functioning under the plan scheme. There was a provision of Rs. 1.20 lakhs for the year 1977-78. An amount of Rs. 0.80 lakh is proposed during 1978-79 for continuation of the scheme.

Mobile Epizootic Control Unit

(Plan) : Three Mobile Epizootic Control Units at Jalgaon, Akola and Osmanabad have been working under plan allocation with a provision of Rs. 1.40 lakhs during the year 1977-78.

The scheme will be continued for the year 1978-79 in these district for which a provision of Rs. 1.20 lakhs is proposed.

Control of Rinderpest

The Rinderpest eradication campaign was undertaken in the State during 1956-1961 and the follow up action is now taken by creating an immune belt with the help of 13 check posts, 4 follow up units and 6 vigilance units on the inter-State borders.

(Plan) : A 100 per cent centrally sponsored scheme is functioning in the State under which 3 vigilance units at Kinwat, Udgir and Sangli and 2 check posts at Dharni, Lingur-Kapashi were established with a provision of Rs. 3.91 lakhs for the year 1977-78. A provision of Rs. 4.40 lakhs is proposed during the year 1978-79 for continuation of the scheme.

Biological Products for control of diseases

The Institute of Veterinary Biological Products at Pune undertakes the manufacture of various vaccines to combat diseases of bacterial and viral origin. In order to increase the production of existing vaccines and to produce new vaccines, the strengthening and expansion of this Institute is undertaken under plan provision.

(Plan) : The Institute at present undertakes manufacturing of 7 bacterial vaccines, 9 viral vaccines and 2 diagnostic reagents.

There was a provision of Rs. 5.75 lakhs (State share) for the year 1977-78 from the plan allocation. The scheme is centrally sponsored.

A provision of Rs. 6.07 lakhs (State share) is proposed during the year 1978-79 for continuation of the scheme. An equal amount will be available from the Central Government during 1978-79. The Central share of Rs. 6.07 lakhs will be utilised in the following manner :

An amount of Rs. 3.07 lakhs under 310, Animal Husbandry will be utilised for purchase of machinery and equipments.

A provision of Rs. 3 lakhs under 510, Capital Outlay on Animal Husbandry is proposed for the construction of the calf pen and deep litre house.

Control of Foot and Mouth Disease

(Plan) : Four districts viz., Pune, Ratnagiri, Parbhani and Amravati are centrally sponsored districts for the scheme for control of Foot and Mouth Disease. The scheme is operated with the State, Central and farmers share in the proportion of 16½ per cent, 33½ per cent and 50 per cent respectively towards the cost of the vaccine to be borne. In rest of the districts it is implemented on 50 per cent subsidy basis.

There was a provision of Rs. 12.54 lakhs during the year 1977-78. A provision of Rs. 2.26 lakhs (State share) is proposed for the year 1978-79. The scheme for centrally sponsored districts will be taken up in Ratnagiri, Parbhani and Amravati during the year 1978-79.

Scheme for providing medicines to existing Veterinary Institutions

(Plan) : The essential medicines having preventive value such as anthelmintics for control of worm infestation, drugs controlling tick borne diseases, minerals, vitamins, antibiotics, anaesthetics etc. are supplied to existing Veterinary Institutions under the plan provisions. During the year 1977-78, there was a budget provision of Rs. 12.51 lakhs for supply of medicines to 17 districts.

For the year 1978-79, an amount of Rs. 11.29 lakhs is proposed under the scheme. The details are as below :

A provision of Rs. 10.46 lakhs is proposed for continuation of the scheme in 17 districts.

The scheme will be taken in two more districts viz. Chandrapur and Nanded for which a provision of Rs. 0.83 lakh is proposed.

Centrally Sponsored Schemes

Following schemes are sponsored by the Central Government in this State :—

- (1) Establishment of exotic Cattle Breeding Farm, Wadsa, Chandrapur.
- (2) Expansion and strengthening of Institute of Veterinary Biological Products.
- (3) Establishment of check posts and vigilance units.
- (4) Control on Foot and Mouth disease.
- (5) Strengthening of Animal Husbandry Administration (statistics).
- (6) Special Livestock Production Programme for Small farmers, Marginal farmers and Agricultural labourers.

The schemes at Serial Nos. 1 to 4 are discussed earlier. The remaining two schemes are described below.

Strengthening of Animal Husbandry Administration (statistics)

This is centrally sponsored scheme on 50:50 basis with a provision of Rs. 0.60 lakh as a State share for the year 1977-78.

The scheme will be continued during the year 1978-79 for which a provision of Rs. 0.50 lakh is proposed as a State share.

Special Livestock Production Programme for Small farmers Marginal farmers and Agricultural labourers

Taking into consideration the recommendations of the National Commission on Agriculture, Government of India, have sanctioned a special Livestock Programme during the year 1977-78 with a view to provide greater opportunities for productive employment to the weaker sections such as Small and Marginal farmers and Agricultural labourers.

Keeping in view the potential of the district, 14 districts have been selected in this State for implementation of the programmes viz. milk, sheep, poultry and pig production.

A provision of Rs. 68.73 lakhs was made during the year 1977-78. The provision of Rs. 76.46 lakhs is proposed for the continuation of the scheme during the year 1978-79.

A special project cell at the Headquarter of the Directorate of Animal Husbandry is established. The object of this cell consists of co-ordination, guidance, execution and monitoring of the programme to be implemented in 14 districts. This is a staff scheme with a provision of Rs. 1.33 lakhs (State share) during the year 1977-78. A provision of Rs. 1.01 lakhs (State share) is proposed for continuation of the project cell during the year 1978-79.

Other Schemes (Plan)

Strengthening of Animal Husbandry Administration. Creation of Planning Cell

There was a provision of Rs. 0.75 lakh during the year 1977-78. The provision of Rs. 0.65 lakh is proposed for continuation of the cell for the year 1978-79.

Deputation of Animal Husbandry Officers for post-graduate training.—Under the scheme, the Veterinary Officers who are required to carry out special jobs in Institute of Veterinary Biological Products, Disease Investigation Section, Polyclinics, Intensive Cattle Development Projects, District Artificial Insemination Centres etc. are sent for higher training. A provision of Rs. 0.50 lakh during 1977-78 was made. A provision of Rs. 0.50 lakhs is proposed for the year 1978-79.

Exhibition and Propaganda.—Under this scheme the department organises or participates in the rallies and shows of livestock and poultry in the State or outside in order to make an impact of its various activities on the minds of interested persons and to educate them in respect of advantages of adopting modern methods in Animal Science.

During 1977-78, there was a provision of Rs. 0.50 lakh. The Department participated in the exhibition EXPO 77 held at New Delhi during October-November 1977. The provision of Rs. 0.30 lakh is proposed for continuation of the scheme during the year 1978-79.

DAIRY DEVELOPMENT DEPARTMENT

Introduction

Dairy Development Department has been established with a view to provide a subsidiary occupation to agriculturists and to improve their financial condition in particular and to supply wholesome milk to the consumers at a reasonable rate in general. There is also a constant demand for supply of wholesome and hygienic milk from the city dwellers. The demand for supply of pasteurised and wholesome milk has increased tremendously in the recent past. The other important point is that milk is very essential and vitally needed food for the people of all ages and especially for growing children. It is, therefore, a prime necessity to preserve the milk by proper processing at all the stages of handing till it finally reaches consumers in good form. In view of this and to meet the increasing demand of milk, Government have established milk supply schemes at various places in the mofussil area of the State.

It has been the policy of Government to organise and develop dairying mainly through the Co-operative Societies of Farmers. These Societies are entrusted with the work of collection of milk from members producers. These societies are further combined to form Unions and Federations, which collect milk from the societies and deliver the same at the Central Dairies of the Government Milk Schemes. The milk so collected is processed at the Central Dairies for its further disposal. In certain cases, where the formation of the Unions and Federations is not feasible, milk from the Societies is directly collected by Government Milk Schemes. In a few cases where the Co-operatives are not functioning, departmental collection is also taken in that area. Under most of the Milk Schemes, collection and transportation of milk to Central Dairies is done by the Co-operatives only and mostly by hired transport.

Annual Plan, 1978-79

The activities of the Dairy Development Department are spread over in almost all districts of the State. There are in all 21 Government Milk Schemes (including Greater Bombay Milk Scheme) in the State. In order to meet the increasing demand of milk in Bombay City and with a view to accept maximum possible quantity of milk, produced by the farmers in the State, steps have been taken to put up either a chilling plant or a dairy in the areas where there was none. In the Annual Plan, 1978-79, an outlay of Rs. 611.18 lakhs has been proposed. The total outlay of Rs. 611.18 lakhs is inclusive of the outlay of Rs. 106.85 lakhs for the schemes to be implemented under Tribal Area Sub Plan during the year 1978-79.

(C.C.P.) H 4384-5 (1,305-6-78)

In addition to the total outlay of Rs. 611.18 lakhs a provision of Rs. 99.00 lakhs has been proposed under World Food Programme-618 for various works under Kurla Dairy Project.

1. *Greater Bombay Milk Scheme.*—The Greater Bombay Milk Scheme is the major enterprise of Government. Under this scheme there are three dairy plants. These plants are located one each at Aarey, Worli and Kurla. The installed capacity of the two plants at Aarey and Worli together is 7 lakh litres, whereas the designed capacity of the dairy of the dairy at Kurla is 4 lakh litres.

The satchet packing machines are being installed at Kurla Dairy. The full capacity of 4 lakhs litres will be utilised only on setting up milk packing arrangement.

An outlay of Rs. 71.15 lakhs has been proposed for modernisation of Aarey and Worli Dairies by providing requisite machinery and equipments in the year 1978-79. In addition to this a provision of Rs. 99.00 lakhs has been proposed under World Food Programme-618 for completion of Kurla Dairy.

2. *Town Milk Supply Schemes.*—In addition to the Greater Bombay Milk Scheme below mentioned schemes are in operation at different places in the State :—

1. Government Milk Scheme, Mahad.
2. Government Milk Scheme, Khalapur.
3. Government Milk Scheme, Kankavali.
4. Government Milk Scheme, Ratnagiri.
5. Government Milk Scheme, Chiplun.
6. Government Milk Scheme, Nashik.
7. Government Milk Scheme, Dhule.
8. Government Milk Scheme, Chalisgaon.
9. Government Milk Scheme, Pune.
10. Government Milk Scheme, Ahmadnagar.
11. Government Milk Scheme, Mahabaleshwar.
12. Government Milk Scheme, Miraj.
13. Government Milk Scheme, Solapur.
14. Government Milk Scheme, Kolhapur.
15. Government Milk Scheme, Akola.
16. Government Milk Scheme, Amravati.
17. Government Milk Scheme, Nagpur.
18. Government Milk Scheme, Bhandara.
19. Government Milk Scheme, Aurangabad.
20. Government Milk Scheme, Udgir.

All the above schemes continued to make progress. Some of these schemes are also under expansion. Taking into account the need for

expansion in the Dairy Development, activities undertaken by Dairy Development Department as well as Animal Husbandry Department and Co-operation Department, it is also proposed to set up dairies and chilling centres at places shown below:—

1. Satara.
2. Nandura (District Buldana).
3. Wardha.
4. Chandrapur.
5. Beed.
6. Parbhani.
7. Nanded.
8. Wani.
9. Gondia (District Bhandara).
10. Bhoom (District Osmanabad).

The dairies at Beed, Nanded, Nandura, Bhoom, Parbhani and Wani are in advance stage of completion and likely to be commissioned soon. The other scheme would also be completed in the year 1978-79.

Besides the dairies mentioned above a number of Chilling Centres are being set up in different parts of the State, particularly, round about the areas of the milk schemes. These chilling centres are being set up, out of funds in the district plan, D.P.A.P. and Western Ghat Programme. A few centres are likely to be commissioned in the early part of 1978-79 and the remaining during the course of the year 1978-79.

The work of land acquisition, construction of dairy plants and purchase of machinery in connection with some of the above proposed milk schemes is in progress. Some of the plants are expected to be completed by the end of 1978-79.

The total provision made on the above schemes for the year 1977-78 was of the order of Rs. 341.57 lakhs.

The following table shows the progress of handling of milk by different Government Milk Supply Schemes during the last three years.

Serial No.	Name of the Scheme	Milk handled during/litres/day		
		1974-75	1975-76	1976-77
1	Greater Bombay Milk Scheme	4,78,800	6,55,110	7,51,700
2	Dairy Project Dapchari	1,900	3,800	4,800
3	Government Milk Scheme, Ratnagiri	2,400	3,375	3,101
4	Government Milk Scheme, Kankavali	2,100	3,165	2,000
5	Government Milk Scheme, Khalapur	2,700	4,370	3,000
6	Government Milk Scheme, Mahad	3,000	3,800	4,000
7	Government Milk Scheme, Chiplun	9,900	12,000	14,000
8	Government Milk Scheme, Nashik	15,000	28,480	32,000

Serial No.	Name of the Scheme	Milk handled during/litres 'day		
		1974-75	1975-76	1976-77
9	Government Milk Scheme, Dhule ..	1,15,100	1,64,210	1,32,600
10	Government Milk Scheme, Chalisgaon ..	10,900	12,750	13,100
11	Government Milk Scheme, Pune ..	53,300	83,825	1,03,700
12	Government Milk Scheme, Ahmadnagar ..	10,200	17,650	31,500
13	Government Milk Scheme, Mahableshwar ..	3,900	4,000	2,500
14	Government Milk Scheme, Miraj ..	60,900	99,830	86,400
15	Government Milk Scheme, Solapur ..	23,700	33,275	37,200
16	Government Milk Scheme, Kolhapur ..	43,200	46,575	53,000
17	Government Milk Scheme, Akola ..	10,000	15,100	19,200
18	Government Milk Scheme, Amravati ..	8,800	11,525	13,800
19	Government Milk Scheme, Nagpur ..	34,500	42,950	47,400
20	Government Milk Scheme, Bhandara ..	.....	10,400	5,000
21	Government Milk Scheme, Udgir ..	11,800	29,595	34,000
22	Government Milk Scheme, Aurangabad ..	17,500	27,315	36,500
23	Government Milk Scheme, Buldana ..	.....	.....	3,000
24	Government Milk Scheme, Yavatmal ..	.....	.....	15,000
25	Government Milk Scheme, Beed ..	.....	.....	15,000
26	Government Milk Scheme, Parbhani ..	.....	.....	2,000
27	Milk Receiving Station, Arvi ..	.....	12,160	17,300
		9,25,600	13,22,350	14,59,200

3. *Dairy Project, Dapchhari*.—This is an important and multipurpose project undertaken by Government under Dairy Development in Thane District. The original concept of colonising the licensees on the lines of Aarey Milk Colony has been changed to one of developing the farmers in Dairy Husbandry by providing farmers' units consisting of cattle-sheds and land.

The earthen dam has now been completed. The irrigated land at the project is to be utilised by providing 2½ acres plots for the purpose of cultivation. As the farmers developed confidence they could be encouraged to develop dairy farming and assisted in getting bank loans on the basis of which they would be able to build up their cattle herd by purchasing new cattle. Priority in allotment of plots will be given to adivasi people particularly those who have been displaced by the present project. A provision of Rs. 15-00 lakhs has been made for the scheme during 1978-79 under the normal plan and a provision of Rs. 10-00 lakh has also been made under Tribal Area Sub-Plan.

4. *Powder Plant*.—With a view to preserve surplus milk during the flush season, milk will be dried and preserved in the form of whole milk powder or skim powder and butter. Government has, therefore, proposed to establish powder plants in the State. The milk powder can be utilised for reconstitution of milk during the lean season and this would help maintaining balance in milk supply.

One powder plant of 10 tonnes capacity is already established at Miraj. In addition to this two more powder plants being set up are at Udgir in Osmanabad District and at Nagpur.

The powder plant at Udgir is likely to be commissioned in early part of the year 1978-79, whereas the plant at Nagpur is to be completed by the end of the year 1978-79.

5. *Financial Assistance to Dairy Co-operatives.*—A provision of Rs. 9.98 lakhs is proposed during the current year for grant of share capital to dairy co-operatives under the existing scheme. In addition to this, a provision of Rs. 34.93 lakhs for grant of loan to the dairy co-operatives has also been proposed during the current year. The scheme will be implemented on N. C. D. C. pattern according to which 70 per cent of the cost of the scheme will be made available by the N. C. D. C. as loan to State Government. The provision on account of the loan will be treated as outside the State Plan.

6. *Scheme for Inputs Programme.*—With a view to increasing milk production in and around the areas where the Dairy Plants of varying capacities from 50,000 litres to 1,00,000 litres of milk per day have been set up/being set up, scheme for Inputs Programme is proposed to be implemented in Buldana, Bhid, Parbhani and Nanded Districts. Under this scheme, it is proposed to develop dairy co-operatives and encourage them to take up the programme of inputs for milk production enhancement. Capital grant for taking up the programme of Artificial Insemination and Veterinary Care will be given to the Dairy Co-operatives. Similarly, training of Secretaries of the Societies and milk producers will be organised at Anand and Jalgaon under this scheme. Educational films on milk production, artificial insemination, etc. will be exhibited by the federal co-operative bodies to its members and saplings of Khubaboal, a leguminous shrub, will be distributed to beneficiaries covered by the Co-operative Societies. A provision of Rs. 10.24 lakhs has been earmarked for this scheme for the current year.

FISHERIES DEPARTMENT

The activities of the Fisheries Department under the Non-Plan and Plan Schemes are aimed at enhanced fish production and socio-economic development of the weaker and backward section of the community i.e. fishermen, who form the backbone of the industry.

The following is the brief review of the Non-Plan and Plan Schemes operated during 1977-78 and proposed to be operated during 1978-79.

A. Non-Plan Schemes

Direction and Administration.—Under this scheme, the expenditure on the entire staff of the department is included. The Statistical Schemes for collection of fish catch in Marine Fisheries and the economics evaluation of the same are also included under this head. A provision of Rs. 26.70 lacs was made for this purpose during 1977-78 and a provision of Rs. 27.79 lacs has been proposed for the scheme for 1978-79.

2. *Research.*—The Scheme of Fishery research was being operated by the Fisheries Department till its transfer to Agricultural University in the year 1971. During 1977-78, a provision of Rs. 4.70 lakhs was made as grant-in-aid to the Agricultural University. A provision for 1978-79 under the Scheme stands at Rs. 4.95 lakhs.

3. *Education and Training.*—Under this scheme academic training at the primary and secondary levels as also vocational training to the fisher youths is envisaged through primary and secondary schools, and Fisheries Training Centres. The Department runs 8 primary schools, 1 Fishery High School and 4 Fisheries Training Centres for marine fisheries and two short-term courses in inland fisheries at Aurangabad and Nagpur. A provision of Rs. 13.09 lakhs was made for the year 1977-78 for the purpose. A provision for 1978-79 under this scheme stands at Rs. 13.69 lakhs.

4. *Inland Fisheries.*—The Schemes of Stocking of Inland Waters with Carp Fry and operation of 4 Fish Seed farms are included under this head. The main expenditure has been on the establishment and works of continuing type of schemes of similar nature. Under the Plan Scheme has a little provision for the staff. A provision of Rs. 23.24 lakhs was made for this purpose during 1977-78 and that of Rs. 23.82 lakhs has been proposed under this scheme for 1978-79.

5. *Transport, Preservation and Marketing.*—During 1977-78 a provision of Rs. 0.67 lakhs was made under the Scheme "Establishment of Fish Curing Yards" which is mainly to meet the expenditure on the supernumery posts. As no such posts exist under the scheme now nil provision has been made for the year 1978-79.

6. *Machanisation.*—Though the scheme has been discontinued during 1976-77 as a result of review of the non-Plan schemes a provision of Rs. 3.45 lakhs was made to cover the expenditure during 1977-78 on fixation of notices on the vessels hypothecated to Government. However, no provision is proposed for the year 1978-79.

7. *Other Schemes.*—Under this scheme, there are 3 main schemes (i) Running of Taraporevala Aquarium; (ii) Relief to the fishermen and (iii) Supply of fishery requisites. It also includes some posts for the implementation of fishery requisites scheme and provision thereunder. A provision of Rs. 1 lakh was made during the year 1977-78. These schemes were reviewed by the Government at the time of taking review of non-Plan schemes and a decision has been taken to continue the Aquarium scheme, to consider ways and means for enhancing the funds meant for relief to the fishermen. A provision of Rs. 1 lakh has been repeated during the year 1978-79.

B. Plan Schemes

1. *Mechanisation of Fishing Craft including improvement of boats.*—This is a production oriented scheme in marine fisheries and it envisages improvement and machanisation of fishing vessels through fishermen groups sponsored by fisheries co-operatives. The scheme is a joint venture of the fisheries co-operatives, groups, district co-operative banks and the Government in meeting capital cost of the mechanised vessels. It has now been decided to avail of the assistance from N. C. D. C. The financial allocation for 1977-78 was Rs. 25.85 lakhs or account of Government share under this scheme for mechanising 45 units. During 1978-79 the financial provision of Rs. 28.19 lakhs plus N. C. D. C. share of Rs. 90.43 lakhs has been proposed under the scheme and the physical target set at 88 mechanised units, which would enable to raise the production level to 4.00 lakhs tonnes of fish.

Inland Fisheries—Fish Farming in Impounded Waters.—Under another important inland scheme of Fish Farming in impounded waters, the culturable fresh water sheets are stocked with suitable types of fry and the expenditure is mainly on the import of fry from West Bengal. The bugetary provision of Rs. 25.41 lakhs under the scheme for the year 1977-78 was made for stocking tanks with 10.00 crores of fry. In reality, excepting for the share of subsidy to the extent of 25 to 33 per cent on this account, the rest of the amount is realised from pisciculturists and credited to the Government as receipts, excepting where departmental stocking is involved. A provision of Rs. 9.37 lakhs has been proposed for this scheme for 1978-79 and the physical target set for stocking is 9.85 crores of fry.

The activity of import of fish fry from West Bengal is proposed to be transferred to the Fisheries Corporation and hence less provision is proposed during the year 1978-79.

3. *Education and Training.*—Under this scheme, a provision is made for stipend and T. A. for the fisher youths deputed for advance training in marine fisheries at the Central Institute of Fisheries Co-operatives, Cochin,

and the Government's Training Centre at Agra for Inland Fisheries. The Scheme also envisages training of the Departmental officers at the Central Institute of Fisheries Education, Versova. A provision of Rs. 0.83 lakh has been proposed during 1978-79 under this scheme as against the provision of Rs. 1.15 lakhs for the year 1977-78.

Long term training courses of six months duration, each are arranged at four Departmental Fisheries Centres. Four departmental technical officers undertake two years, diploma course of C. I. F. E., Bombay, and two departmental Junior Technical Officers undertake Certificate Course at Fisheries Extension Training Centre, Hyderabad. Some provision is also made for assistance to private Fisheries Schools and High Schools.

The break-up of the provision of Rs. 0.83 lakhs is as under :—

	Rs.
(1) Staff Training	0.25 lakh.
(2) Fisher Youth Training	0.45 lakh.
(3) Assistance to Fisheries Schools and High Schools.	0.12 lakh.
	0.83 lakh.

4. *Fish Farms-Fish Seed Project.*—This is a base scheme for the development of inland fisheries and under which procurement of the much needed fish seed is envisaged from various resources like wet bunds, dry bunds and induced spawning experiments.

The provision made under this scheme is meant for construction of fish seed units or fish seed farms including items like acquisition of land, construction of ponds, water supply, electricity and buildings like laboratories and quarters where ever necessary. Purchase of material like hapas and syringe needless etc. is also made from these grants. The targets set are, therefore in terms of hectarage of water spread area and spawn production in crores. During 1978-79 a provision of Rs. 33.70 lakhs has been proposed and it is expected to produced 16.00 crores of spwan during 1978-79, as against 15.45 crores of spawn during 1977-78.

At present 17 fish seed farms and 4 small fish seed units are functioning. 15 fish seed farms are under construction and preliminaries of 3 farms are underway. It is proposed to add three new fish seed units and to continue construction of fish seed farms started last year. Existing four fish seed farms will also be expanded during the year 1978-79.

The provision of Rs. 33.70 lakhs proposed for the Scheme for the year 1978-79 also includes provision for big fish seed farms i.e. the fish seed project at Jayakawadi (District Aurangabad) and at Pench (Nagpur District) each will cost Rs. 40 lakhs and for new Fish Farm at Masoli in Parbhani District.

5. *Processing, Preservation and Marketing.*—Under this scheme financial assistance in the form of loan and subsidy is given to fisheries co-operatives for creating preservation and transport facilities i.e. ice plant, cold storage and trucks etc. and in the form of loan only to Gram Panchayats for construction of fish markets. The Scheme was held in abeyance in the year 1974-75, as Government were considering its implementation through Maharashtra Fisheries Development Corporation Ltd. This is a district level scheme. Provision of Rs. 1.67 lakhs was proposed for the year 1977-78. A provision of Rs. 1.29 lakhs as State Share and Rs. 3.36 lakhs as N.C.D.C. Share has been proposed for the year 1978-79 for expansion of ice plant in Thane District and construction of fish market in Kulaba District.

6. *Other Schemes.*—The following schemes will be covered under this :

(a) *Subsidy on fishery requisites and fish export.*—With a view to ensuring that the fishing effort is not thwarted as a result of rise in cost of material like nylon for gear and fuel for operation of mechanised vessels, subsidy is granted on fishery requisite with a monetary ceiling. The scheme also envisages grant of subsidy on fish export to the fisheries co-operatives as an incentive. During 1977-78 provision of Rs. 9.47 lakhs was made and for the year 1978-79 a provision of Rs. 8.68 lakhs has been proposed under this scheme.

(b) *Grant of Loan to the Fishermen.*—Under this scheme, Fishermen are granted loan for items which are not covered under other schemes. Loan is also granted for example, for the repairs to the gears, boats etc. against suitable security. Since the fishermen cannot afford to avail of the loan facilities from the banks especially in view of the strict rules and high rate of interest, it becomes necessary for the Government to make a provision under this scheme for the fishermen. A provision of Rs. 2.30 lakhs was made during 1977-78 for the purpose. A provision for 1978-79 is proposed at Rs. 2.75 lakhs.

(c) *Development of Fisheries Co-operative Societies.*—This is a co-operative department scheme, under which financial assistance by way of share capital and managerial subsidy is granted to fisheries Co-operative Societies. A provision of Rs. 0.08 lakhs was made during 1977-78. A provision of Rs. 1.82 lakhs has been proposed for 1978-79.

(d) *Improvement of fishing harbours.*—This is a centrally sponsored scheme under which cent per cent provision will be made available by the Government of India. The scheme envisages improvement of marine fishing ports by providing, jetties, removal of rocks and fixation of guide lights. It also envisages construction of fullfledged fishing ports. The scheme is implemented through the Harbour Engineer, Port Department (Home Department-Transport). The funds to the tune of Rs. 114.10 lakhs have been proposed under the scheme for the year 1978-79 (as against a provision of Rs. 24.03 lakhs during 1977-78) and this provision includes provision for Mirkarwada Fishing Harbour Project sanctioned by Government in 1977-78 at a cost of Rs. 3.44 crores.

CO-OPERATION DEPARTMENT

The Co-operative movement in the State has played a significant role in supporting and executing plans for agro economic development. With the emphasis on comprehensive rural development in the plan programme, the Co-operatives would be called upon to shoulder increasing responsibilities particularly with reference to the objectives of achievement of full employment and decentralisation of economic development. Plan and programmes for Co-operative development for future have, therefore, to be framed in such a manner that the Co-operatives are able to play their role successfully for the realisation of these objectives. It is against this background that the progress achieved under important programmes of Co-operative development during 1977-78 and the programmes proposed for 1978-79 are outlined below :—

Co-operative credit

While expansion of Co-operative credit in quantitative terms continued to be the objective of the programme relating to Co-operative credit, the emphasis in recent years has been on giving preference to the credit needs of the Small and Marginal Farmers. The share of these persons in the short term credit disbursed by the Co-operative Banks in the State increased from Rs. 24.64 crores in 1975-76 to Rs. 30.14 crores in the year 1976-77 (Financial years). During 1977-78 the loans advanced to them constituted about 20 per cent of the total short term loans disbursed by the D.C.C. Banks. Emphasis will continue to be laid during 1978-79 on increasing the share of the small Farmers.

As regards the overall progress in the matter of short term lending, by the end of June 1977 the level of short term loans advanced by the Co-operatives stood at Rs. 180.90 crores, while by the end of June 1978 it is expected to reach the level of Rs. 210 crores. A target of Rs. 225 crores has been proposed for the year 1978-79.

With a view to uplift small and marginal farmers by providing to them an integrated package of credit services it was proposed to organise 45 Farmers Service Societies in the State. 22 Farmers Service Societies have been organised so far.

Consumption finance

Provision of Consumption finance to Small and Marginal Farmers and Landless Labourers and Rural Artisans through Co-operatives was recommended by the Sivraman Committee. Accordingly, viable Primary Agricultural Credit Societies, Farmers Service Societies and Adiwasi Seva Societies were selected for this purpose. During the year 1976-77, an amount

of Rs. 45.20 lakhs was advanced as consumption finance by these Co-operatives. The scheme involves an element of risk in as much as some of these loans are likely to result in bad debts. These societies have, therefore, created Risk Funds and the State Government and Government of India grant contributions to these Risk Funds at the rate of 5 per cent by each on the advances made by these societies during the past year. During 1977-78 an amount of Rs. 4.52 lakhs has been sanctioned to these societies, out of which Rs. 2.26 lakhs is the share of the State Government and Rs. 2.26 lakhs that of Government of India. During the year 1977-78, upto February 1978 an amount of Rs. 86 lakhs has been disbursed as Consumption Finance and during 1978-79 it is estimated that Consumption Finance of Rs. 100 lakhs will be disbursed by these societies.

Adiwasi Seva Societies

A Special Tribal Sub-Plan has been prepared by the State Government to provide substantial benefits to the Adiwasi people in the State. As an integral part of this Sub-Plan, it has been proposed to organise 261 Adiwasi Societies in 13 districts of the State. The societies would be patterned on the lines of farmers service societies and are proposed to be equipped organisationally and financially so as to enable them to provide to their members, particularly the Adiwasi members a package of credit, inputs and other services on an integrated basis. So far, 250 such societies have been organised and they have enrolled a total of 2,29,447 members of whom 1,62,728 are Adiwasis. These societies get from Government share capital, interest free loan for management expenses, loan for purchase of shares and assistance for godown etc. for which provision of Rs. 192.54 lakhs has been made during 1978-79.

During the last kharif season, the Adiwasi Co-operative Societies advanced Crop Finance to the extent of Rs. 500.05 lakhs and consumption finance to the extent of Rs. 15.71 lakhs.

The Adiwasi Co-operative Societies have opened 243 branches in their areas of operation for the facility of their members. Similarly they have started 388 ration, kirana and cloth shops through which consumer articles of daily use are distributed to the people in tribal areas. During the 1976-77 co-operative year, the turnover on this account was estimated to the tune of Rs. 35 lakhs.

The Tribal Development Corporation which is an Apex body for undertaking marketing of goods in Adiwasi areas has effected purchases worth Rs. 67 lakhs of specified commodities on a monopoly basis till 12th December 1977 and continued to effect purchases on a voluntary basis thereafter. The total value of such purchases on a voluntary basis was Rs. 62 lakhs. The Adiwasi Co-operative Societies acted as sub-agents on behalf of Tribal Development Corporation and are expected to continue this activity during next year also.

Co-operative marketing

The State has got a very good rural marketing structure. The total number of Marketing Co-operatives including Apex, District Agro-Industrial Multi purpose Co-operative Societies, District Marketing Societies, Regional Marketing Society, General purpose Marketing Societies and Single Commodity Societies was 403 as on 30th June 1977.

The 402 marketing societies (i.e. excluding Apex Marketing Federation) have 3.54 lakh members and have a total paid up share capital of Rs. 7.86 crores. During the Co-operative year ending June 30th, 1977 the Central and Primary Marketing Societies handled agricultural produce worth Rs. 65.53 crores, of which foodgrains accounted for Rs. 22.77 crores. The agricultural requisites supplied by these societies were worth Rs. 105.25 crores, of which the turnover of fertilisers was about Rs. 86.08 crores and seed Rs. 15.37 crores.. The consumer goods distributed by these societies were worth Rs. 81.77 crores.

The paid up share capital of the Marketing Federation now stands at Rs. 751.03 lakhs, of which Government contribution is Rs. 696.75 lakhs. During the year 1976-77 the Federation handled agricultural produce to the tune of Rs. 365.03 crores, agricultural requisites of Rs. 48 crores and consumer goods worth Rs. 6.73 crores.

Distribution of consumer articles in rural areas is done by Taluka/Block Co-operative Marketing Societies. The financial assistance for the projects formulated for this purpose is provided under the N.C.D.C. scheme. N.C.D.C. has so far sanctioned 49 projects covering 49 talukas. The implementation of this programme has commenced recently.

In order to enable the marketing societies to undertake marketing activities on a bigger scale their share capital base needs to be strengthened and for this purpose Government share capital is being sanctioned to them. During the years 1974-75 to 1977-78 an expenditure of Rs. 20.02 lakhs has been incurred on this account. For the Annual Plan 1978-79 a provision of Rs. 1.45 lakhs is proposed to assist 7 marketing societies and Rs. 1.71 lakhs for assistance towards construction of 4 large sized, 5 medium sized and 7 small sized godowns.

Procurement of cotton

The Monopoly Cotton Procurement Scheme was in operation in the State from the 1972-73 cotton season to 1976-77. The main object of the scheme is to give an initial guaranteed price to the growers plus a substantial share in the surplus realized after the cotton bales and cotton seeds are sold. Due to non-availability of adequate institutional finance needed for operation of the scheme and the Reserve Bank of India's refusal to authorise any institutional credit for cotton operations unless the monopoly character was removed, the State Government operated a revised Cotton Purchase

Scheme during the current 1977-78 cotton season. Under this revised scheme, the monopoly character is suspended and the Maharashtra State Co-operative Marketing Federation procures cotton from growers who are willing to tender to it on an initial payment of the support price fixed by the Agricultural Price Commission. In addition to the operation of the scheme of purchase of cotton at support prices, the Marketing Federation also on its own operates by making purchases of cotton at the ruling market prices in the cotton market in competition with other traders. The turn over on this account during 1977-78 cotton season so far has been of the order of Rs. 12.80 crores. In order to enable the Federation to enlarge its purchase operations at market prices, it is proposed to sanction to it a share capital contribution of Rs. 10 lakhs during 1978-79 so as to strengthen its share capital base.

Agricultural Processing other than Co-operative Sugar Factories

By June 1977 there were 169 Ginning and Pressing Units, 86 Oil Mills, 144 Rice Mills, etc., organised in the State. Of these 122 Ginning and Pressing Units, 82 Oil Mills and 140 Rice Mills have been installed. Government assistance in the form of share capital contribution of 20 per cent of the capital cost on a matching basis is being given to these units. During the years 1974-75 to 1977-78, an aggregate amount of Rs. 54.44 lakhs has been sanctioned to the Ginning and Pressing Units, Rice Mills and other units. A provision of Rs. 12.33 lakhs has been made to assist 6 Ginning and Pressing Units, 1 Rice Mill and 8 Gur and Khandasari Units during 1978-79.

Co-operative Sugar Factories

At the beginning of the Fifth Plan, there were 63 Co-operative Sugar Factories, of which 35 were in production. At present there are 69 sugar factories which have received licences from Government of India and of which 56 have gone into production. During the Fourth Plan the Government share capital at Rs. 60 lakhs was sanctioned for factories in underdeveloped areas and Rs. 40 lakhs for factories in developed areas. Since the project cost per factory has gone up considerably during the Fifth Plan period the rate of Government share capital contribution has been increased to Rs. 80 lakhs in cases of developed areas and Rs. 100 lakhs in cases of underdeveloped areas.

During the Fifth Plan, it was proposed to assist 26 sugar factories by way of share capital contribution. During the years 1974-75 to 1976-77 an aggregate expenditure of Rs. 1902.21 lakhs has been incurred, of which an amount of Rs. 493.55 lakhs was under the N.C.D.C. Scheme. During the year 1977-78, a total Government share capital contribution of Rs. 767.81 lakhs was sanctioned to the Co-operative Sugar Factories of which Rs. 263.16 lakhs was given under the N.C.D.C. Scheme. There are 12 Licenced Sugar Factories for which machinery orders have been placed to enable them to complete the erection before October 1980 and avail of the concessions of Sampat Committee. There are 5 existing factories to which spillover assistance is to be given. A provision of Rs. 407.43 lakhs

has been proposed under the State Plan and Rs. 300 lakhs under N.C.D.C. Scheme for the year 1978-79 for assisting the Co-operative Sugar Factories by way of share capital contribution.

Urban Consumers Stores

Apart from the assistance being granted to the wholesale stores and primary consumers stores for strengthening the Urban Consumer movement, the State Government is taking maximum advantage of the Centrally Sponsored Scheme of assistance to Consumer Stores in Urban areas. During 1977-78 the emphasis was laid on the opening of Janata Bhandars in slum areas to serve the poorest persons. During 1977-78, 28 such shops have been opened with the assistance from Government of India. During 1978-79 priority will be given to this activity and more stores will be opened.

In addition to this, Government of India has recently launched a programme of strengthening and rehabilitation of existing weak consumer stores to have effective public distribution system. Under this programme, 75 per cent assistance is to come from Government of India and the State Government is to bear 25 per cent from its own resources. The programme is proposed to be undertaken on a selective basis in the first instance and the State Government has proposed to take advantage of this scheme during the year 1978-79.

Maharashtra State Oil-seeds and Commercial Corporation

With a view to enable the Government to establish an Oil Complex and taking over the trade in oil-seed in general, Maharashtra State Oil-seeds and Commercial Corporation has been established. Under the scheme of the Corporation, it is proposed to take up the work of crushing of Cotton seeds in the first stage and procurement and processing of other Oil-seeds like Groundnut, Karadi, Sunflower, etc. Uptil now Government has sanctioned an amount of Rs. 117-07 lakhs as share capital and Rs. 78-07 lakhs as loan to the said Corporation. With a view to enabling the Corporation to continue its present activities and also for expansion of the activities the State Government has proposed to contribute Rs. 50 lakhs as share capital and grant a loan of Rs. 50 lakhs to this Corporation during 1978-79.

Assistance to block level village artisans (balutedars) multi-purpose co-operative societies

A scheme of organising Block Level Societies of village artisans engaged in the selected industries was introduced during the year 1972-73, for which Government is assisting by way of share capital contribution as well as grant in aid for management expenses. The Khadi and Village Industries Board provides loans for purchase of shares etc. So far, 294 societies have been organised in 296 blocks in the State bringing about 93,000 artisans under the scheme. Government has so far sanctioned share

capital contribution of Rs. 119.42 lakhs. The Maharashtra Khadi and Village Industries Board, has up to 31st December 1977 granted loan and subsidy for tools and equipments worth Rs. 71 lakhs, loans for purchase of shares of Rs. 67 lakhs and loans of Rs. 12 lakhs for godowns and the District Central Co-operative Banks have sanctioned cash credit of Rs. 3.78 crores to 73,490 members, of which a sum of Rs. 2.68 crores has actually been disbursed to 62,482 members up to 31st December 1977. They have produced goods worth Rs. 12.03 crores during 1976-77 and effected sales worth Rs. 16.10 crores. A provision of Rs. 21.24 lakhs has been proposed for Annual Plan 1978-79 for share capital contribution and Rs. 40.08 lakhs for management and contingencies etc.

Development of Handloom Industry

There are nearly 77,325 Handlooms in the State, of which 30,470 or about 40 per cent are in the Co-operative Sector and 46,855 in the Private Sector. In the Co-operative Sector, there is one Apex Marketing Society in Bombay, three regional level Apex Co-operative Societies namely, Vidarbha Weavers' Central Co-operative Association, Nagpur, Western Maharashtra Weavers' Central Co-operative Association Solapur and the Marathwada Weavers' Society, Nanded. Besides, there is one more Central Society at Solapur, and 575 Primary Handloom Weavers' Societies and 89 Societies which are of mixed type having handlooms and powerlooms.

During the last three years, i.e. 1974-75, to 1976-77 a total expenditure of Rs. 638 lakhs has been incurred under State Plan Schemes while a provision of Rs. 81.70 lakhs was made in the Annual Plan for 1977-78. For the Annual Plan 1978-79 a provision of Rs. 20.61 lakhs under District Level Schemes and Rs. 17.00 lakhs under State Level Schemes has been proposed while a provision of Rs. 37.50 lakhs for Intensive Development Project has been proposed under Centrally Sponsored Schemes.

Co-operative Spinning Mills

At present there are 29 Co-operative Spinning Mills registered in the State, of which 17 are in production. The total spindleage capacity of these spinning mills is 8.37 lakhs spindles. During the year 1976-77 they have produced yarn of the order of 18,000 Mts. The total share capital of these 29 spinning mills as in June 1977 was Rs. 1,824 lakhs of which Government contribution was Rs. 1,185 lakhs. During the year 1977-78 an aggregate amount of Rs. 67.84 lakhs has been sanctioned to 4 Co-operative Spinning Mills towards share capital contribution and a provision of Rs. 12 lakhs has been made for 1978-79.

Maharashtra State Warehousing Corporation

The Maharashtra State Warehousing Corporation acts as an Agent of the Central Warehousing Corporation and this Government for purchase, sale, storage and distribution of agricultural produce, seeds, manures, fertilisers and other notified commodities. The authorised share capital of the

Corporation is Rs. 2 crores. The paid up share capital of the Corporation is Rs. 166 lakhs which has been contributed by the Government of India and the Government of Maharashtra on 50:50 basis. The total constructed godown capacity of the corporation has reached to the level of 1.17 lakh tonnes, and the hired capacity is 1.71 lakh tonnes. It is proposed to increase the capacity of the Corporation's own godowns by 0.71 lakhs tonnes and of hired godowns by 0.12 lakh tonnes in 1977-78. During the year 1977-78 share capital contribution of Rs. 15 lakhs has been granted by Government to Corporation and an outlay of Rs. 20 lakhs has been provided for 1978-79 for this purpose.

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