



*Government of India
Institute of Secretariat Training and
Management
(Department of Personnel & Training)*

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Reading Material

**ORIENTATION TRAINING PROGRAMME
of
ASSISTANTS, SECTION OFFICERS, UNDER
SECRETARIES
of
DEPARTMENT OF AGRICULTURE
& COOPERATION**

Sponsored by
DEPARTMENT OF ADMINISTRATIVE REFORMS & PUBLIC GRIEVANCES
As part of the
DFID funded Capacity Building for Poverty Reduction Programme

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FOREWORD

The utility and need for training in any organization is universally accepted. This is more so in Ministries and Departments of Government of India, where apart from rules and regulations on various subjects, policies in the area of social welfare at National, State and grass-root level are formulated and implemented.

2. The focus of training is generally directed towards foundational level, where the newly recruited officials are required to undergo intensive training on various aspects of administration. Also, the concept of in-service training at various levels focusing on requirements as and when such officials move up on promotion is also firmly established.

3. However, one aspect, which generally goes un-noticed, is when officials are moved from one Ministry/Department to another, as a result of routine transfer policy or on promotion and also, officials directly recruited are allotted Ministries/Departments and join after receiving Foundational Training on general subjects. Such officials are faced with the problem of familiarizing and learning the working of the new Ministry/Department. The concept of any kind of Orientation training, focusing on the need of the Ministry/Department, is by and large not in place. The problem of such officers is more acute in Ministries/Departments implementing National Level policies in various critical sectors like water resources, where the policies/schemes are formulated at National Level but implemented through States at District, Block and Panchayat level. The problem is also acute in Ministries dealing with technical subjects like Department of Agriculture & Cooperation. The newly posted officers have to handle technical subjects without any familiarization training.

4. The newly posted officials find it extremely difficult to learn about the important policy/schemes and also their implementation mechanism at the block and village level.

5. DARPG as part of the DFID funded Capacity Building for Poverty Reduction Programme has taken initiative to bridge this gap by providing Orientation Training to the officials posted to a ministry on promotion, transfer, deputation or direct recruitment. The task of identifying training needs for such orientation training programme and based on the same, designing training and development of training material has been assigned to ISTM as Consultant.

6. As part of the above endeavour, five ministries were identified and a task team constituted in ISTM to carry out a Training Need Analysis, design an Orientation Programme and conduct one pilot programme in each of the

Ministries. The task team successfully completed this activity. It gives me great pleasure to state here that this orientation programme was received extremely well by the Ministries and the participants.

7. As a follow-up of the successful completion of the Orientation Programmes in five Ministries, DARPG entrusted Phase-II of the programme for six identified Ministries to ISTM. As in the earlier Phase the task included carrying out a need analysis and identifying training needs, design a training programme based on the identified needs and developing training material.

8. To undertake the task assigned, ISTM has constituted a consultancy team consisting of Sh. K.S. Kumar, Joint Director, Sh. Chandan Mukherjee, Deputy Director and Sh. S.K. Dasgupta, former Director, DOPT and Dr.A.N.Chakravarty, former Joint Director, ISTM (as External Consultant).

9. It gives me great pleasure that the consultancy team has conducted extensive research and studies by collecting data through questionnaire and interview along with the literature survey. Based on analysis of the data so collected training needs for the target groups of Assistants, Section Officers and Under Secretaries in Department of Agriculture and Cooperation has been identified.

10. Based on the identified training needs consultancy team has prepared Design brief, training programme brochure and training programme guide for the orientation training for the target groups on their posting to Department of Agriculture & Cooperation.

11. I am confident that this report of the consultancy team giving training needs, design brief, programme brochure and programme guide for orientation training programme for the target group will prove to be useful in commencing the capacity building initiative in the area which has remained unattended till now.

(KHWAJA M. SHAHID)
DIRECTOR

September 2010

PREFACE

This report is an outcome of DARPG initiative as implementing agency for DFID funded Capacity Building for Poverty Reduction Programme to operationalise Orientation Training Programme for Assistants, Section Officers and Under Secretaries on their posting to the Department of Agriculture & Cooperation. DARPG assigned the task to ISTM as Consultant, which in turn constituted a consultancy team consisting of the undersigned along with Sh. Chandan Mukherjee, Deputy Director and Sh. S.K. Dasgupta, former Director, DOPT and Dr. A.N. Chakravarty, former Joint Director, ISTM (as External Consultant) to conduct training needs analysis , design training and develop training material. Consultancy team designed questionnaire and check lists for interview to collect data for identifying the training needs of the target groups. Data through questionnaire was collected from 310 officers and 8 officers were interviewed. The consultancy team also undertook extensive literature survey by collecting documents / reports from the Ministry.

2. Based on the data collected and analysis thereof, training needs of the target group have been identified and are given in Chapter -6 of the Report.

3. As the outcome of the identified needs, design brief, training design, programme brochure and programme guide indicating aim, objectives, contents, methodology, deliverables, evaluation and assessment parameters for Orientation Training Programme have been prepared and are at Chapter 7 to 10.

4. The consultancy team hopes that this report will facilitate operationalisation of Orientation Training Programme for Assistants, Section Officers and Under Secretaries on their posting to new ministry and lead to enhanced productivity and improved decision making. We look forward to constructive suggestions / comments for improving our efforts, both in content and context.

(K.S.KUMAR)
JOINT DIRECTOR
Email: kskumar53@hotmail.com
011-26108946

September 2010

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2. The Consultancy team is grateful to Secretary, Department of Administrative Reforms and Public Grievances and all other officers of the Department for their guidance and assistance extended to the team from time to time.

3. The Consultancy Team is grateful to Ms. Uma Goel, Joint Secretary (A), Department of Agriculture & Cooperation for coordinating the visit of the team to the Ministry for collection of data and for facilitating meeting with other officers to ascertain their views. The Team is also grateful to Shri Kirti Singh and all the officers of his Division for providing relevant material pertaining to the Ministry and also, copies of various circulars issued by the Ministry from time to time.

4. The Consultancy Team is grateful to Mr. R. K. Singh, Director; Mr. Subrata Nath, Director; Mr. Kirti Singh, Director; Mr. P. K. Swain, Director; Mr. S. Kumar, Director; Mr. J. C. Bain, Deputy Secretary; Mr. A. K. Chopra, Deputy Secretary; Ms. Vandana Jain, Deputy Secretary. for sparing their valuable time for interacting with the Team and providing valuable suggestions and information relating to Orientation Training in the Ministry.

5. Dr. Khwaja M. Shahid, Director, ISTM has been a great source of strength and morale-booster by providing necessary guidance and assistance to the Consultancy Team as and when required. The Team is grateful to Dr. Shahid for guidance in undertaking the task.

6. Last but not the least the Consultancy Team acknowledges the contribution and assistance provided by the supporting staff consisting of Smt. Veena Monga, Smt. Binita Pandey, Shri Ravi Shankar, and Shri Attar Chand. But for their untiring efforts, the Team could not have succeeded in submitting this part of the Report.

K.S.Kumar,
Chandan Mukherjee,
S.K. Dasgupta and A.N.Chakravarty

CONSULTANCY TEAM

- Sh. K.S.Kumar, Joint Director, ISTM
- Sh. Chandan Mukherjee, Deputy Director, ISTM
- Sh. S.K. Dasgupta, (Former Director, Government of India), External Consultant
- Dr. A.N.Chakravarty, (Ex Joint Director, Government of India), External Consultant.

Staff Members

- Smt. Veena Monga, PA
- Smt. Binita Pandey, PA
- Sh. Ravi Shankar, Peon
- Sh. Attar Chand, Peon

MENTOR

Dr. Khwaja M. Shahid, Director, ISTM

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1 Overview

1.1 Agriculture, as the largest private enterprise in India, is the lifeline of the economy. Agriculture provides the underpinning for our food and livelihood security and support for the economic growth and social transformation of the country. During 2008-09 the agricultural sector contributed to approximately 15.7 per cent of India's GDP (at 2004-05 prices) and 10.23 per cent (provisional) of total exports besides providing employment to around 58.2 per cent of the work force. In the recent past, the impact of various food, financial and economic crises has been felt across the world. This has compromised the lives, livelihood and food security of the people. Therefore, there is a compelling case for increased investment in the sector. The continued high growth of agriculture is essential to meet the food and nutritional security requirements of the people and provide livelihood and income in rural areas. Agriculture will continue to have the pride of place in national policies and plans, since the nation's food security depends on the performance of the agricultural sector.

1.2 The overall target of GDP growth in the country for the Eleventh Plan is 9 per cent per annum with an annual average growth rate of 4 per cent in agriculture, 10-11 per cent in industry and 9-11 per cent in the services sector. The strategy for accelerating agricultural growth to 4 per cent per annum in the Eleventh Plan requires action in terms of bringing technology to the farmers, improving the efficiency of investments, increasing systems support and rationalising subsidies, diversifying, while also protecting food security concerns, and fostering inclusiveness through a group approach, by which the poor will get better access to land, credit and skills.

1.3 The agriculture and allied sector GDP is likely to show a decline of 0.2 per cent during 2009-10 as against the previous year's growth rate of 1.6 per cent. This is due to the impact of overall deficit of 23 per cent in rainfall during the south west monsoon which adversely affected Kharif production. The production of food grains, oilseeds and sugarcane is accordingly expected to decline by 8 per cent, 5 per cent and 11.8 per cent respectively as compared to the previous year. Production of cotton, horticulture crops and vegetables is however expected to increase by 0.2 per cent, 2.5 per cent and 4.8 per cent respectively.

Gross Capital Formation in Agriculture and Allied Sectors

1.4 Public investment in agriculture, in real terms, had witnessed a steady decline from the Sixth Five Year Plan onwards. Analysis of trends in public investment in agriculture and allied sectors reveal that it declined in real terms (at 1999-2000 prices) from Rs.64,012 crore during the Sixth Plan (1980-85) to Rs.52,107 crore during the Seventh Plan (1985-90) to Rs.45,565 crore during the Eighth Plan (1992-97), and Rs.42,226 crore during Ninth Plan (1997-2002). However, this trend was reversed in the Tenth Plan (2002-07), with public investment in agriculture of Rs.67,260 crore.

1.5 The share of agriculture and allied sectors in total gross capital formation has also progressively declined for nearly two decades. However, this trend has since been arrested and the share of capital formation of the agriculture and allied sectors in GDP has increased from 14.1 per cent in 2004-05 to 21.3 per cent in 2008-09 (at 2004-05 prices). The share of public investment to GDP of the agriculture and allied sectors has also increased from 2.9 per cent in 2004-05 to 3.8 per cent in 2008-09 (at 2004-05 prices). The share of private investment to GDP of agriculture and allied sectors has also increased from 11.2 per cent in 2004-05 to 17.5 per cent (at 2004-05 prices) in 2008-09.

The Indian Agricultural Scenario

1.6 The total geographical area of the country is 328.7 million hectares, of which 140.3 million hectares is the net sown area, while 193.7 million hectares is the gross cropped area. The gross and net irrigated area is 85.8 million hectares and 60.9 million hectares respectively, with a cropping intensity of 138 per cent.

Crop Production:

1.7 Production of foodgrains during 2009-10 is estimated at 216.85 Million Tonnes (MT) as per 2nd Advance Estimates compared to 234.47 M.T. achieved during 2008-09. Production of rice is estimated at 87.56 M.T. which is 11.62 M.T. lower compared to 99.18 M.T. during the previous year. Production of wheat is estimated at 80.28 M.T. (2nd Advance Estimates) which is 0.4 MT less as compared to 80.68 M.T. in 2008-09. Production of coarse cereals during 2009-10 is estimated at 34.27 M.T. (2nd Advance Estimates) compared to the previous year's production of 40.03 M.T. during 2008-09.

1.8 Production of sugarcane during 2009-10 is estimated at 251.27 M.T. (2nd Advance Estimates) against 285.03 M.T. achieved during 2008-09. Cotton production is estimated at 223.18 lakh bales during 2009-10 (2nd Advance Estimates) against 222.76 lakh bales during 2008-09. The production of jute & mesta during the year 2009-10 is estimated at 103.57 lakh bales (2nd Advance Estimates) as against 103.65 lakh bales during 2008-09.

1.9 Deficit rainfall during the south-west monsoon season affected Kharif agricultural operations during the current year, with paddy suffering the most adverse impact. Despite the timely onset of the south-west monsoon during 2009, the monsoon remained weak and erratic during the major part of the season. At the end of the south-west monsoon (1 June, 2009 to 30 September, 2009), there was an overall deficit of 23 per cent in rainfall.

1.10 Steps taken to reduce the impact of deficit rainfall:

- The states were requested to prepare alternate plans for unsown/germination-failed areas with short-duration/alternate crops.
- Steps were taken to ensure the availability of inputs like fertilizers and seeds.

- A Diesel Subsidy Scheme for farmers was announced to enable the provision of supplementary protective irrigation to standing crops (50 per cent of the cost of the subsidy with a cap of Rs.7.50 per litre given by the states to be borne by the Central Government). The scheme was under implementation until 30 September,2009.
- Several measures related to seeds were taken. Use of Truthfully Labeled(TL) seeds was allowed as a special case under the Rashtriya Krishi Vikas Yojana(RKVY). Under the National Food Security Mission(NFSM),relaxation of age for seed varieties was allowed. The distribution of subsidy was enhanced under the Integrated Scheme of Pulses, Oilpalm and Maize(ISOPOM), Macro Management of Agriculture(MMA) and NFSM for Rabi and Summer 2009-10. Restriction on import of fodder (barseem seed) was relaxed. Distribution of seed minikits of oilseeds, pulses and maize was increased for Rabi 2009. A special review of seed requirements for late Kharif and early Rabi 2009 and Kharif 2010 was conducted, Zonal Conferences and Rabi campaign programmes with the state governments were held to enable the formulation of appropriate action plans for the Rabi season 2009-10.
- Funds were made available under Centrally Sponsored Programmes like RKVY, NFSM, NHM, MMA, etc., to enable taking up the agriculture re-construction programme.

Flagship Programmes of the Department of Agriculture and Cooperation

1.11 The Department of Agriculture and Cooperation has implemented a number of flagship programmes:

National Food Security Mission (NFSM):

1.12 The NFSM has helped to widen the food basket of the country with significant contributions coming from the NFSM districts. Productivity gains of 25% and more have been recorded in many districts.

1.13 Significant outputs have been recorded under NFSM since inception of the scheme in 2007-08. New farm practices have been encouraged through nearly 2.87 lakh demonstrations of improved varieties of rice and wheat. System of Rice Intensification (SRI) for rice as well as hybrid rice has been promoted. Nearly 84.03 lakh quintals of high yielding varieties of rice, wheat and pulses and hybrid seed of rice have been distributed. 56.14 lakh hectare of area has been treated with soil ameliorants (gypsum/lime/micro nutrients) to restore soil fertility. 21.90 lakh hectare of farm land has been treated under Integrated Pest Management (IPM). 10.42 lakh improved farm machinery/water saving devices have been distributed. Capacity building of farmers has been encouraged through arranging 27,834 farmers' field schools at the farm level. So far, the targeted efforts of the last 3 years of mission implementation have resulted in increased production of rice and wheat. However, pulses production has remained more or less the same.

Rashtriya Krishi Vikas Yojana

1.14 Rastriya Krishi Vikas Yojana (RKVY), the biggest scheme in the agriculture sector presently aims at incentivising states to increase outlays for agriculture and allied sectors so as to significantly contribute to the target of 4 percent growth in the Eleventh Plan. An outlay of Rs.25,000 crore for the Eleventh Five Year Plan has been earmarked for RKVY. It is an entirely grant based programme.

1.15 RKVY provides considerable flexibility to state governments, and incentivises them to spend more on agriculture on the basis of district and state agriculture plans prepared with the participation of the local people. State and district plans under RKVY are to be prepared based on the resources available under all state and central schemes. RKVY funds provide substantial scaling up for specific programmes in the agricultural sector. The scheme is also being used to fill gaps under other schemes/programmes to synergise investments to raise the growth rate of agriculture.

1.16 The experience of the first two and a half years of implementing RKVY suggests that states have been taking up a wide range of projects across the agricultural and allied sectors, and that there are a couple of flagship projects with significant visibility in the states. However, the focus on integrating available resources from other schemes and selecting projects based on their growth potential is still to become fully evident. While 17 states have prepared State Agriculture Plans(SAPs), most others are in the process of completing their SAPs.

1.17 RKVY has incentivised states to step up allocations to the agricultural & allied sectors. Allocation to agriculture and allied sectors was 5.11 per cent of total State Plan expenditure in 2006-07, and has gone up to 5.84 per cent in 2008-09 (RE/Approved).

National Horticulture Mission

1.18 The horticultural sector covers a wide spectrum of crops, including fruits, vegetables, spices, flowers, medicinal and aromatic plants, mushrooms, and plantation crops like cashew, cocoa, and coconut. The National Horticulture Mission was launched in 2005-06 for the holistic development of this sector in the country. During 2009-10(till date), under NHM, 201 new nurseries were setup and vegetable seed was produced in a 2,062 hectare area. An area of about 2.96 lakh hectare was brought under new gardens of various horticulture crops and an area of 0.37 lakh hectare under old and senile plantations was rejuvenated. Under the post harvest management component, 153 pack houses, 157 cold storages, 3 Controlled Atmosphere storages, 1 refrigerated van, 101 mobile/primary processing units, and 83 rural markets were set up and functional infrastructure for collection, grading, etc., was created, which helped in the proper handling and marketing of horticulture produce. The cost norms and patterns of assistance for most components of the NHM scheme have recently been revised.

Micro-Irrigation

1.19 The main objective of the Micro-Irrigation Scheme is to increase the area under efficient methods of irrigation, that is, drip and sprinkler for the optimal use of surface as well as groundwater resources. An area of 17.46 lakh hectares has been covered under this Scheme since its inception. In 2009-10 an area of 3.90 lakh hectare (upto February 2010) has been covered under the scheme.

Support to State Extension Programmes for Extension Reforms

1.20 A Centrally Sponsored Scheme Support to State Extension Programmes for Extension Reform was launched in May, 2005. The achievements under this Scheme are as follows:

- A total of 588 ATMAs have been constituted in 29 States and 2 Union Territories (UTs), since the scheme began in 2005-06.
- Over 96.91 lakh farmers, including 25.03 lakh farm women (25.84 per cent), have participated in farmer oriented activities like exposure visits, training programmes, demonstrations, and Kisan Melas.
- Over 43,662 commodity based Farmer Interest Groups (CIGs) have so far been mobilised under the scheme.
- Over 10,753 Farm Schools have been set up on fields of outstanding farmers.

1.21 The cafeteria provides support for various important initiatives. Farm Schools in the fields of outstanding farmers are being promoted at the block/gram panchayat level. Farmer-to-farmer extension support within the village is also being promoted. Funding windows have been provided at both state and district levels for implementing innovative extension activities not specifically covered under the programme. Awards for farmers have been instituted at the block, district, and state levels. Community radio stations (CRSs), set up by Krishi Vigyan Kendras (KVKs), SAUs and private organizations have been promoted under this programme. Nongovernmental implementing agencies are being encouraged by providing the flexibility of having Extension Work Plans prepared and approved at the state level. A minimum of 10 per cent of the programme outlay is to be utilised through these agencies. Non-governmental implementing agencies (excluding the corporate sector) would also be eligible for service charges of up to a maximum of 10 per cent of the cost of the extension activities implemented through them. A dedicated funding window is available for the implementation of extension activities through agripreneurs.

1.22 Public-Private Partnerships (PPP) have been widely promoted under the scheme with the involvement of over 560 Non-Governmental Agencies in the execution of various extension activities in 21 states with over a dozen MoUs signed with such partners.

1.23 Various innovative activities have been taken up under the scheme such as the organization of 'Farmer Development Workshops and Exhibitions', in 21 States to disseminate information on all aspects of modern technologies in agriculture and allied sectors, in close association with ICAR Institutes, line departments, farmers' organisations, input agencies, growers' associations, banking institutions, etc.

National Bamboo Mission

1.24 Greater emphasis will be laid on the promotion of bamboo cultivation in no-forest areas and also on the promotion and marketing of bamboo products. Efforts will be made to convince states to relax forest laws and remove existing restrictions on the harvest, transport, conversion, and trade of bamboo and bamboo products within and between states.

Technology Mission for Horticulture in the North East (TMNE)

1.25 During the current year 2009-10, an additional area of about 32,498 hectare has been brought under cultivation of various horticulture crops in the North Eastern and Himalayan States. The share of different crops is as follows-fruits (10,902 hectare), vegetables (10,510 hectare), spices (3,078 hectare), plantation crops (750 hectare), aromatic plants (1,368 hectare), flowers (906 hectare), and other horticulture crops.

1.26 The infrastructure for post harvest management, marketing and processing will be adequately addressed under the scheme in order to prevent post harvest losses of horticulture produce. 20 rural primary markets are being developed and 2 rural primary markets have been completed. 6 processing units are being developed and 3 have been completed. Greater emphasis will be laid on setting up ropeways for improving accessibility in difficult terrain.

1.27 Cost norms of various components under the TMNE scheme are under revision. Some of the new components that have been included are high density planting, seed infrastructure, tree canopy architecture and management, ripening chambers, etc.

Revised Macro-Management of Agriculture.

1.28 In the year 2008-09, the Macro-Management of Agriculture Scheme was revised to improve its efficacy in supplementing/complementing the efforts of states towards enhancement of agriculture production and productivity. The role of the scheme has been redefined to avoid the overlapping and duplication of efforts and to make it more relevant to the present agriculture scenario.

Seeds

1.29 The major thrust of the Development and Strengthening of Infrastructure Facilities for the Production and Distribution of Quality Seeds scheme is to improve the quality of farm-saved seeds through the Seed Village Programme, to enhance the seed replacement rate, boost seed production in the private sector and help public sector seed companies to enhance seed production. Some of the achievements under the scheme in 2009-10 are:

- Coverage under the Seed Village Programme to improve the quality of Farm Saved Seeds increased manifold.
- Availability of quality seeds has increased from 140.51 lakh quintals in 2005-06 to 279.72 lakh quintal in 2009-2010. The SRR of major crops has also increased significantly.
- 52 seed processing plants to be established by the private sector have been sanctioned.
- 19 training programmes on seed quality control have been organised, in which 475 persons were trained.
- Grants-in-aid have been given for the strengthening of 25 notified seed testing laboratories and 2 state seed certification agencies.
- Grants-in-aid were released for strengthening three tissue culture facilities in Karnataka, Madhya Pradesh and Jammu and Kashmir.

New Initiative

National Mission on Sustainable Agriculture in the Context of Climate Change

1.30 With a view to manage the challenging task of the impact of climate change on the country, a National Action Plan on Climate Change (NAPCC) was prepared by the Prime Minister's Council on Climate Change. As a follow up to NAPCC recommendations, eight National Missions have been constituted and the National Mission on Sustainable Agriculture (NMSA) relates to the Ministry of Agriculture.

1.31 The strategy for minimising the adverse impact of climate change consists of research, adaptation, and mitigation. The following areas which are already part of the Ministry's current strategy will need more flexibility, enhancement of scope, a special thrust, and accelerated implementation in the context of climate change:

- Strategic research, including the application of recent agricultural technologies tools for increasing productivity and reducing vulnerability due to climatic aberrations.
- Sustained increase in food grain production to counter reduced productivity due to the increase in temperature and extreme events.
- Improvement in water use efficiency.
- Strengthening risk management systems to minimise the adverse impact of climatic variability risks and pests/diseases

- Other supportive measures for farmers and other stakeholders.

New Schemes

Project for Replanting and Rejuvenation of Coconut Gardens

1.32 A pilot project for the Replanting and Rejuvenation of Coconut Gardens in three districts of Kerala and the Andaman and Nicobar Islands has been launched as a Central Sector Scheme in 2009-10. The scheme aims at the total removal of all advanced diseased, unproductive, old, and senile palms in three districts of Kerala and the Andaman and Nicobar Islands in mission mode. The project of Replanting and Rejuvenation of Coconut Gardens will be implemented on a project basis in the root wilt-affected districts of Thiruvananthapuram, Kollam and Thrissur in Kerala and the UT of the Andaman and Nicobar Islands. The project, with a total outlay of Rs. 2,275.64 crore, and a central subsidy of Rs.478.504 crore, will be implemented over the remaining three years of the Eleventh Plan. Based on the results of this pilot project, the extension of these activities to other affected areas could be considered later.

1.33 Coconut Palm Insurance Scheme (CPIS): The Coconut Palm Insurance Scheme (CPIS) has also been approved for implementation on a pilot basis during the years 2009-10 and 2010-11 in selected areas of Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa and Tamil Nadu to cover palms according to an eligibility criteria (i.e. those in the age group of 4 to 60 years). The Agriculture Insurance Company (AIC) of India Ltd. will implement the scheme and would be responsible for making payment of all claims within a specified period.

Rainfed Area Development Programme

1.34 The Department has also proposed to introduce a new scheme during the Eleventh Five Year Plan, namely, the Rainfed Area Development Programme. The process for seeking approval for the scheme is underway.

Important Policy Initiatives under Consideration:

Constitution 111th Amendment Bill, 2009

1.35 Since most farmers in India belong to the category of small and marginal farmers, the strengthening of cooperatives is seen as a measure to empower them. An amendment to the Constitution, for the purpose of empowering cooperatives through voluntary formation, autonomous functioning, democratic control, and professional management, has been mooted. After the approval of the Government, The Constitution (106th Amendment) Bill, 2006 was introduced in the Lok Sabha on 22 May, 2006. Due to the declaration of general elections, the Bill has lapsed. It was decided to re-introduce the Bill, and consequently, the 111th Amendment Bill, 2009 was introduced in the Lok Sabha on 30 November, 2009. The Lok Sabha has referred this Bill to the Standing Committee on Agriculture for its examination and report.

Amendment of Seeds Act, 1966

1.36 In response to the changes that have taken place in the seeds sector, the existing Seeds Act, 1966 is proposed to be replaced by a suitable legislation to, inter alia, i) create an enabling climate for growth of the seed industry, ii) enhance the seed replacement rates for various crops, iii) boost the export of seeds and encourage the import of useful germplasm, iv) create a conducive atmosphere for the application of frontier sciences in varietal development and for enhanced investment in research and development. The Government introduced the Seeds Bill in the Rajya Sabha in December 2004. The Bill was referred to the Parliamentary Standing Committee on Agriculture. The Parliamentary Standing Committee on Agriculture recommended several modifications to the Bill. Accordingly, the Government moved the official amendments to the Seeds Bill in December 2008 and February 2009 but it was not listed for business in the House. It is proposed to move official amendments again during this year.

The Pesticides Management Bill, 2008:

1.37 The new Pesticides Management Bill, which is intended to replace the Insecticides Act, 1968 to provide for a more effective regulatory framework for the introduction and use of pesticides in the country, was introduced in the Parliament (Rajya Sabha) on 21 October, 2008. The Parliamentary Standing Committee on Agriculture placed its report on the Bill in Parliament on 18 February, 2009. The recommendations of the Standing Committee have been examined, and taking these into account, the official amendments to the Pesticides Management Bill will be brought forth by the Government.

Expenditure in the Eleventh Plan

1.38 The Eleventh Plan envisages a targeted growth of 4 per cent in the agriculture sector. However, adverse weather conditions in 2009-10 in the form of drought and floods in various parts of the country have exhibited the fragility of the agriculture sector. Concerns regarding the country's food security, the central role of the sector in poverty alleviation strategies, and the debilitating effects of the global recession, have forced all stakeholders to focus on this most critical of sectors. Emphasis must be placed on better training, technology, and marketing channels for farmers. The efficiency of investments needs to be improved, together with efforts to promote private investment in the sector. A group approach has to be fostered through which the poor get better access to land, credit, and skills. Appropriate interventions to deal with the effects of climate change have to be made a priority for the sector. Greater investment in water conservation technologies like drip and sprinkler irrigation, and adequate attention to crop diversification in fruits and vegetables are likely to pay rich dividends. The convergence of MNREGS with other Agriculture and Rural Development schemes will bring greater synergy to efforts for rural upliftment.

2

Function and Organisational Structure

2.1 Structure: The Department of Agriculture and Cooperation (DAC) is one of the three constituent departments of the Ministry of Agriculture, the Department of Animal Husbandry Husbandry, Dairying and Fisheries (DAHD&F) and the Department of Agricultural Research and Education (DARE) being the other two. This department is headed by the Agriculture Minister and is assisted by a Minister of State. The Secretary (Agriculture and Cooperation) is the administrative head of the Department. The Secretary is assisted by one Special Secretary, three Additional Secretaries, and a Financial Adviser, a Senior Adviser, an Economic and Statistical Adviser, an Agriculture Commissioner, ten Joint Secretaries, one Horticulture Commissioner, one Horticulture Advisor, one Plant Protection Adviser, and one Mission Director for the National Horticulture Mission. In addition, the Chairman of the Commission for Agriculture Costs and Prices (CACP) advises the Department on pricing policies for select agricultural crops.

2.2 The DAC is organised into twenty five divisions and a Technology Mission on Oilseeds, Pulses, and Maize (Annexure-I), and has four attached offices and twenty one subordinate offices which are spread across the country for coordination with state-level agencies and implementation of Central Sector Schemes in their respective fields (Annexure-II). Further, two Public Sector Undertakings, eight autonomous bodies, eleven national-level cooperative organisations and two authorities are working under the administrative control of the Department (Annexure-III).

2.3 Public Grievance Cells have been set up in the Department and its attached and subordinate offices, and these continue to ensure the speedy redressal of grievances from the public or employees directly or through the Department of Administrative Reforms and Public Grievances. The Joint Secretary (Administration) and Deputy Secretary (Organisation and Method, and Public Grievances) designated as the Director of Grievances and Staff Grievances Officer, respectively, have been assigned the responsibility of ensuring the expeditious disposal of grievances. Any aggrieved person or party can meet them in person on Wednesdays between 10.00 a.m. and 1.00 p.m. 2.6 The Citizens' Charter of the Department has been revised in view of the recent initiatives undertaken by the Department, such as the National Food Security Mission (NFSM), Rashtriya Krishi Vikas Yojna (RKVY), Macro-Management in Agriculture (MMA), Integrated Scheme on Oilseeds, Pulses, Oil-Palm and Maize, etc., with a client-oriented focus. The revised Citizens' Charter (Annexure-IV) has been made public through the electronic media and is available on the website of the Department (www.agricoop.nic.in).

3

Directorate of Economics and Statistics

3.1 The Directorate of Economics and Statistics (DES), an attached office of the Department of Agriculture and Cooperation (DAC), is entrusted with the responsibility for the collection, collation, dissemination and publication of statistical data on diverse facets of agriculture and allied sectors required for planning and policy formulation by the Government. The Directorate of Economics and Statistics is also the nodal organisation for examining reports submitted by the Commission for Agricultural Costs and Prices on price policy for principal crops and other aspects of agriculture. The Price Policy for Agricultural Commodities forms an important element of overall agricultural policy. Minimum Support Prices (MSP) for important cereals, pulses, oilseeds, and other commercial crops, namely, cotton, jute, and sugarcane, are fixed by the Government every year on the basis of recommendations made by the Commission for Agricultural Costs and Prices (CACP). One of the important factors considered by the CACP in making its recommendations on MSPs for different crops is the cost of cultivation and production, for which a database is provided by the DES, compiled through its Plan scheme, on the cost of cultivation, a component of the Umbrella Scheme Studies on Inputs for Agricultural Economic Policy and Development.

3.2 Major Programmes and Activities of the DES: Agricultural Statistics: The Directorate of Economics and Statistics is implementing a central sector plan scheme, Improvement of Agricultural Statistics, fully funded by the Government of India for taking initiatives to improve the Agricultural Statistics System in the states. Based on the estimates provided by various State Governments through designated State Agricultural Statistics Authorities (SASA, comprising the State Directorate of Economics and Statistics, the Department of Agriculture, and the Department of Land Revenue), advance estimates of the production of food grains and commercial crops are released on a quarterly basis, which are widely used for planning and policy formulation.

3.3 Cost of Cultivation of Principal Agricultural Crops: The estimates of the cost of cultivation and cost of production of important agricultural crops covered under the mechanism of Minimum Support Prices (MSPs) are brought out by this office. These estimates are furnished to the Commission for Agricultural Costs and Prices (CACP), which in turn recommends the MSPs to the Government.

3.4 Coverage of Crops:

- Cereals - paddy, wheat, jowar, bajra, maize, ragi, and barley
- Pulses - moong, urad, arhar, gram, lentils, and peas
- Oilseeds - groundnut, rapeseed and mustard, niger seeds, soyabean, sunflower, sesamum, and safflower.
- Fibre Crops - cotton and jute
- Others - sugarcane, VFC tobacco, onion, potato, and coconut

3.5 The nodal agencies involved with the Survey are:

Agricultural Universities	- 12
General Universities	- 3
Colleges	- 1
Directorate of Tobacco Development Board	- 1

3.6 Support Price for Agricultural Commodities: The Directorate of Economics and Statistics examines the reports submitted by the Commission for Agricultural Costs and Prices on price policy for principal crops and other aspects of agriculture. The price policy for agricultural commodities reflects an important element of overall agricultural policy. Minimum Support Prices (MSP) for important cereals, pulses, oilseeds, and other commercial crops, namely, cotton, jute, and sugarcane, are fixed by the Government every year on the basis of recommendations made by the Commission for Agricultural Costs and Prices (CACP).

3.7 The Government's price policy for agricultural produce seeks to ensure remunerative prices to growers for their produce, with a view to encouraging higher investment and production, and to safeguard the interests of consumers by making supplies available at reasonable prices. The price policy also seeks to evolve a balanced and integrated price structure within the perspective of the overall needs of the economy. To achieve this end, the Government announces Minimum Support Prices (MSPs) for major agricultural commodities each season.

3.8 The Government decides on the support price for various agricultural commodities, taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP), the views of state governments and Central Ministries, as well as such other relevant factors which, in the opinion of the Government, are important for fixing support prices.

3.9 Market Intelligence and Price Analysis: The DES collects Retail Prices of Agricultural Commodities from 87 designated centers, which are compiled and disseminated in the form of a Weekly Bulletin of Retail Prices to various ministries and departments. Wholesale prices and market arrivals of agricultural commodities are also collected on a weekly and monthly basis from 700 centres spread all over the country. Out of these price quotations, about 233 quotations on wholesale prices are disseminated to the Office of the Economic Adviser, Ministry of Industry and Commerce, for the construction of the Wholesale Price Index on a weekly basis. International prices of selected agricultural commodities are regularly collected from the Public Ledger published in the United Kingdom.

3.10 Agro-Economic Research (AER): Agro-Economic Research (AER) studies on the national and regional agro-economic problems of the country are carried out through selected AER Centres and Units covering the entire country. 12 Agro-Economic Research Centres and 3 Regional Units have been established to take up problem-oriented studies on a regional basis with a view to generating the requisite feedback from the grassroots level, while three Units undertake interregional and all India-level studies.

3.11 Agricultural Wages: Statistics relating to daily wages paid to different categories of agricultural and skilled rural labour at selected centers are collected and compiled by the DES. 20 States are covered for the collection of data on agricultural wages. These are published in an Annual Publication, i.e., Agricultural Wages in India, and a monthly publication, i.e., Agricultural Situation in India. Wage statistics are supplied to the CACP and other research organisations.

3.12 Plan Schemes: The Plan schemes of the DES seek to serve the purpose of creating a database on the different facets of agriculture. Its three Plan schemes are (I) Improvement of Agricultural Statistics, (II) Studies on Inputs for Agricultural Economic Policy and Development and (III) Forecasting Agricultural Output using Space, Agro-Meteorology and Land-Based Observation (FASAL). The details of these schemes, with special reference to the components of the schemes, are given below:

3.13 Improvement of Agricultural Statistics: The basic objective of the Improvement of Agricultural Statistics (IAS) is to collect and improve the quality of agricultural statistics of the principal agricultural and horticultural crops. From 2007-08, the scheme has been converted into a Central Sector Scheme from a Centrally Sponsored Scheme, and is wholly funded by the Centre.

3.14 The scheme has four components, namely:

- i) Timely Reporting Scheme (TRS): Under this component, timely and reliable estimates of the area under principal crops for each of the agricultural seasons are generated on the basis of the complete enumeration of 20 per cent of villages, selected randomly, within a specific time frame. The TRS is implemented in 16 land record states, namely, Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu, Uttar Pradesh, Uttrakhand, Jharkhand, and Chattisgarh, and two Union Territories, namely, Delhi and Puducherry. The states that implement the scheme provide a break-up of the area under irrigated and un-irrigated cultivation, and High Yielding Varieties (HYVs).
- ii) Improvement of Crop Statistics (ICS): The objective of the ICS component is to improve the quality of statistics on the area and production of crops, by checking and supervising the work of a. Area enumeration, b. Area aggregation and c. Crop Cutting Experiments (CCE). Under this component, 10,000 villages are covered, equally shared by the Central Agency (NSSO) and the state machinery, every year. About 30,000 CCEs are checked every year. The ICS component is implemented in all the TRS states, except Delhi.
- iii) Establishment of an Agency for Reporting Agricultural Statistics (EARAS): EARAS is implemented in three non-land record states, namely, Kerala, Orissa, and West Bengal, and four North Eastern states, namely, Arunachal Pradesh, Nagaland, Sikkim, and Tripura. In the absence of any government department for the regular updating of land records in these states, a full time agency for the collection of statistics of area, production, and yield rate has been established in each of the implementing states. The basic methodology under this component is the same as in the TRS.

- iv) Crop Estimation Survey on Fruits and Vegetables (CES-F&V): Under CES-F&V, 11 states are covered and seven fruit crops (apple, mango, citrus, pineapple, grapes, banana, and guava), five vegetable crops (potato, cabbage, cauliflower, onion, and tomato), and two spice crops (ginger and turmeric) are covered. Under this component, estimates of area, production, and yield rate for the crops covered by the respective states are generated on the basis of the enumeration of area and by conducting Crop Cutting Experiments, following a multi-stage stratified sampling technique.

3.15 The National Statistical Commission had recommended that the present methodology being followed for the crop estimation survey of fruits and vegetables be replaced by an alternative cost effective methodology. The IASRI was entrusted with a project for conducting a study in two states, Maharashtra and Himachal Pradesh. The study was undertaken in these states, and data collection was done in 10 and four districts, respectively, of Maharashtra and Himachal Pradesh. IASRI has submitted the project report, which is the first pilot study in directing the development of an alternative methodology. The study has given very encouraging results and demonstrated the feasibility of estimating the production of fruits and vegetables with a much smaller sample size of 43 to 80 villages per district, depending on the percentage of standard errors of less than 15 to 20 at 95 per cent confidence intervals. It has been recommended that the methodology needs to be tested in a few more states before it is implemented on a large scale. The NSC has also recommended that the alternative methodology be tried out on a pilot basis before actually implementing it on a large scale.

3.16 The scheme is monitored through Quarterly Progress Reports (QPRs) and Seasonal Progress Reports (SPRs), submitted by implementing States and UTs.

3.17 Studies on Inputs for Agricultural Economic Policy and Development During the Tenth Five Year Plan, the following components, which provide basic data support and other inputs for the formulation of effective policies, were clubbed under the umbrella scheme, Studies on Inputs for Agricultural Economic Policy and Development, with effect from 2005-06:

- Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in
- India, I Agro-Economic Research Centers
- Planning and Management of Agriculture
- Strengthening of Agricultural Statistics and Policy Formulation, and
- Drought Management (merged during 2007-08).

3.18 Component-wise details are: Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India: The Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India is being implemented since 1971 as a 100 per cent central I sector plan scheme on the basis of recommendations made by the Standing Technical Committee on Indices of Input Costs constituted in 1967 under the Chairmanship of Dr. Ashok Mitra. The main objectives of the scheme are i) Collection and compilation of field data on Cost of Cultivation and Cost of Production in respect of 28 principal crops and ii)

Generation of state-wise and crop-wise estimates of Cost of Cultivation (CoC) and Cost of Production (CoP).

3.19 The CoC estimates for principal crops are used by the Commission for Agricultural Costs and Prices (CACP) for recommending the Minimum Support Prices (MSPs) for 25 crops. The DES gets this study conducted through 16 agricultural and general universities and colleges, and the Directorate of Tobacco Development. Under the scheme, field data pertaining to the CoC and CoP are collected, compiled, and processed to generate Cost of Cultivation and Production estimates, which are used as an input for firming up recommendations for MSPs for important crops by the CACP.

3.20 The scheme is implemented in 19 states, namely, Andhra Pradesh, Assam, Bihar, Chattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand, and West Bengal. The scheme presently covers 27 crops, i.e., paddy, wheat, jowar, bajra, maize, ragi, barley, moong, urad, arhar, gram, lentils, peas, groundnut, rapeseed and mustard, nigerseed, soyabean, sunflower, sesamum, cotton, jute, sugarcane, VFC tobacco, onion, potato, safflower, and coconut. On an average, about 150 cost estimates are generated annually.

3.21 Field data for the scheme are collected on a Cost Accounting Method under which daily debit and credit entries for expenditure and income are made in order to assess the total cost incurred by, and benefit accrued to each farmer covered under the scheme. Detailed questionnaires are filled up on a monthly and annual basis after making enquiries on a daily basis from 10 farm holdings, which consist of two each from five different size classes, namely, upto one hectare, one to two hectares, two to four hectares, four to six hectares, and more than six hectares.

3.22 Activities Undertaken for the Welfare of Women and North Eastern States: As the main objective of the scheme is to collect and compile data on CoC and CoP of agricultural crops, and it is not a welfare oriented scheme, no specific activities either for women, or for the North Eastern states are undertaken under the scheme. In the North Eastern Region (NER), the scheme is in operation in Assam through the Assam Agricultural University (AAU), Jorhat. The AAU collects data for three principal crops, namely; paddy, jute, and rapeseed and mustard.

3.23 Agro-Economic Research (AER) Scheme: The Agro-Economic Research (AER) Scheme was initiated in 1954-55 for undertaking research studies on the agro-economic problems of the country. The scheme is being implemented through 12 Agro-Economic Research Centres and 3 Regional Units, which are fully funded by the Government through a Central Sector Plan Scheme. These Centres have been established to take up problem-oriented studies on a regional basis, with a view to generating the requisite feedback from the grass roots level, ways and means for improving the effective monitoring of various programmes and schemes implemented by the Ministry, while three units undertake interregional and all-India level studies. The centres undertake regional and state-level studies.

3.24 The Agro-Economic Research Centre, Jorhat was set up in 1960 for conducting studies in the North Eastern Region. This centre completes three to four studies annually.

3.25 Planning and Management of Agriculture: In order to assess the impact of changes on the farm economy of the country with a focus on the state of Indian farmers, a central sector scheme-Planning and Management of Agriculture was formulated during 1998-99 with a view to organising conferences and seminars involving eminent economists, agricultural scientists, experts, etc., to conduct short term studies, engage consultancy services for the preparation of a new decentralised strategy for the development of crops, animals, dairy, poultry, irrigation, soil and water conservation, etc.,and to bring out papers and reports based on the recommendations of these workshops, seminars, conferences, etc. Views generated from studies, seminars, and workshops are very useful for getting the inputs required relating to the formulation of a National Agricultural Policy, subsectoral policies, monitoring and implementation of programmes, etc.

3.26 A project on Development of an Extended Range Forecast System for Risk Management in Agriculture, implemented through IIT, Delhi, and a Study to Investigate the Causes of Variation between Official and Trade Estimates of Cotton Production by the Indian Agriculture Statistics Research Institute, Pusa, New Delhi, were undertaken during 2006-07 and have been funded under the scheme.

3.27 Strengthening of Agricultural Statistics and Policy Formulation (SAS&PF): This scheme involves holding a National Workshop on Improvement of Agricultural Statistics every year. Officers from the state departments of Agriculture, Revenue, and Economics, and Statistics, Horticulture, Agriculture Marketing, etc., and central ministries and organizations participate in the workshop. In this workshop, ways and means for bringing about improvements in the collection and compilation of agricultural statistics are discussed. The methodological issues relating to the preparation of advance estimates of area and production of crops, reconciling estimates of cotton production with the Cotton Advisory Board, compiling statistics related to horticulture crops, forecasting area and production of crops through remote sensing, timely conducting of agricultural census and timely release of its reports, reducing time lag in the collection of land use statistics, improving the collection of wholesale and retail prices, cost of cultivation studies, etc., are also discussed.

3.28 Drought Management (DM): The Drought Management division in the DAC was implementing a Central Sector Plan Scheme, titled Natural Disaster Management Programme, during the Eighth and Ninth Five Year Plans. During the Tenth Five Year Plan the work relating to disaster management in the wake of natural calamities on account of cyclones, floods, earthquakes, etc., was transferred to the Ministry of Home Affairs. The DAC now deals with work relating to drought management only. Subsequently, in October 2006, the work relating to the management of hailstorms and pest attacks was also transferred to this department. The DAC (DM Section) now deals with the coordination of relief measures necessitated by drought, hailstorms, and pest attacks.

3.29 The Drought Management Programme, an independent central sector plan scheme scheme, was discontinued in the Tenth Plan, and the scheme was subsumed with the above mentioned Umbrella Scheme during 2007-08.

3.30 Forecasting Agricultural Output using Space, Agro-Meteorology and Land-based Observation (FASAL): To strengthen the current capabilities of in season multiple crop estimation through a combination of remote sensing, econometric, agro-meteorological and land based observations, a plan scheme entitled Forecasting Agricultural Output using Space Agro-Meteorology and Land-based Observations (FASAL) was launched in August,

2006. Outsourcing agencies involved in the project are the Space Application Centre (SAC), Ahmedabad, the Institute of Economic Growth (IEG), New Delhi, and the India Meteorological Department (IMD), New Delhi. SAC, Ahmedabad and IEG, New Delhi have provided forecasts for area and production of a few selected crops for Kharif 2009-10, using remote sensing and econometric parameters, respectively. The development of a methodology for other specified crops is in progress. A proposal of the India Meteorological Department (IMD) for agro-meteorological forecasts has been approved for implementation by them.

3.31 To further expand the scope of Remote Sensing technology for a more accurate and detailed assessment of the crop situation in the country at the national and district level, the need for establishing adequate infrastructure within the Ministry itself was considered necessary. Accordingly, a proposal from SAC, Ahmedabad, to develop a National Centre for Crop Forecasting on a Build, Operate, and Transfer (BOT) basis is under consideration.

3.32 Development and Application of Extended Range Forecast System For Climate Risk Management in Agriculture (ERFS): In view of the immense importance of extended range forecasting in agriculture applications, the DES in the DAC has sponsored a project titled Development and Application of Extended Range Forecast System for Climate Risk Management in Agriculture (ERFS), in collaboration with other partner organisations. i.e., IIT Delhi, India Meteorological Department (IMD), National Centre for Medium Range Weather Forecast (NCMRWF), Space Application Centre (SAC), Ahmedabad, and the Indian Council of Agriculture Research (ICAR). The six partners have signed a cooperative agreement in the December 2005, to work jointly on various implementation aspects of the project.

3.33 The objective of the ERFS is to generate and disseminate information on rainfall and temperature with a lead time of 25-30 days. It is expected to give sufficient time to farmers to plan their cropping activities and help policy makers to take necessary corrective measures for any contingency, which may arise. Under the ERFS, a forecast for each month at the regional and district level is the ultimate goal. The project is likely to be completed in a time frame of five to six years, and in two phases. In the first phase (of two to three years), the development of a seasonal forecast system for meteorological subdivisions and agro-climatic zones is envisaged. In the second phase, a monthly forecast is targeted. Experimental monthly rainfall forecasts for monsoon 2009 were generated on a meteorological sub-division scale and with respect to 13 identified districts.

4

Crops

4.1 Crop Prospects for 2009-10: The production of foodgrains during 2009-10 is estimated at 216.85 Million Tonnes (MT) as per 2nd Advance Estimates compared to 234.47 MT achieved during 2008-09. The production of rice is estimated at 87.56 MT which is 11.62 million tonnes lower compared to 99.18 MT during the previous year. The production of wheat is estimated at 80.28 MT (2nd Advance Estimates) which is 0.4 MT less as compared to 80.68 MT in 2008-09. The production of coarse cereals during 2009-10 is estimated at 34.27 MT (2nd Advance Estimates) compared to the previous year's production of 40.03 MT during 2008-09.

4.2 The production of sugarcane during 2009-10 is estimated at 251.27 MT (2nd Advance Estimates) against 285.03 MT achieved during 2008-09. Cotton production is estimated at 223.18 lakh bales during 2009-10 (2nd Advance Estimates) against 222.76 lakh bales during 2008-09. The production of jute and mesta during the year 2009-10 is estimated at 103.57 lakh bales (2nd Advance Estimates) as against 103.65 lakh bales during 2008-09.

4.3 Integrated Cereal Development Programme in Rice/Wheat/Coarse Cereals Based Cropping System Areas (ICDP-Rice/Wheat/Coarse Cereals), and Sustainable Development of Sugarcane Based Cropping System (SUBACS): To increase the productivity and production of rice, wheat, coarse cereals (except maize), and sugarcane, ICDP-Rice/Wheat/Coarse Cereals and SUBACS are being implemented in the country under the Macro-Management Mode of Agriculture since October 2000 on a 90:10 sharing basis between the Government of India and state governments. Under these schemes, assistance is provided for the transfer of technology through demonstrations, training of farmers and extension workers, as well as the supply of critical inputs such as seeds, farm implements, IPM measures, water saving devices, etc. Besides, states can utilise 10 per cent of funds allocated for new interventions, as per their needs. The ICDP schemes would be implemented only in areas not covered under the three components of the National Food Security Mission.

4.4 Mini Mission-II of the Technology Mission on Cotton: The major cotton producing States are Maharashtra, Gujarat, Punjab, Andhra Pradesh, Karnataka, Madhya Pradesh, Haryana, Rajasthan, and Tamil Nadu. The cotton area in Northern India is almost entirely irrigated. Maharashtra, which has one third of the cotton area in the country, has only 4 per cent of the area under irrigation, while in the remaining states, about 35 per cent of the area under cotton is irrigated.

4.5 The area under cotton was 94.06 lakh hectare during 2008-09, as compared to 94.14 lakh hectare in 2007-08. During the current year, i.e., 2009-10, it is estimated that the area coverage under cotton may reach about 103.29 lakh hectare, with production at 223.18 lakh bales, as per the 2nd Advance Estimates. 4.7 In order to increase the production and productivity of cotton, a centrally sponsored scheme of Mini Mission-II of the Technology

Mission on Cotton is under implementation in 13 States, i.e., Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal, and Tripura.

4.6 The main components of the scheme during 2009–10 include the supply of certified seeds of varieties and hybrids released during the last fifteen years, the transfer of technologies through demonstrations, training of farmers and extension workers, plant protection measures like IPM, surveillance of pests and diseases, supply of pheromone traps and bio-agents, and the distribution of water saving devices, like sprinklers and drip irrigation, etc.

4.7 Mini Mission-II of the Jute Technology Mission : Jute and allied fibers are important crops in the Eastern and North-Eastern states of the country. Mini Mission-II of the Jute Technology Mission is under implementation in the states of Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Meghalaya, Nagaland, Orissa, Tripura, Uttar Pradesh, and West Bengal for increasing the production and productivity of raw jute. The funding pattern under the scheme is mostly on a 90:10 sharing basis between the Government of India and the states.

4.8 The main components of Mini Mission-II include the transfer of technology through field demonstrations and training of farmers and extension workers; establishment of retting tanks, supply of seeds, fungal culture, farm implements, soil ameliorants; popularization of IPM practices, etc.

4.9 National Food Security Mission: The National Food Security Mission (NFSM), a centrally sponsored scheme, has been launched from 2007–08 in 312 identified districts of the 17 important rice, wheat, and pulses growing states to increase the production of rice by 10 million tonnes, of wheat by 8 million tonnes, and of pulses by 2 million tonnes by the end of the Eleventh Five Year Plan. A salient aspect of the mission is that it has been conceptualised to target those districts which have lower productivity than the state average, but have the potential to augment the productivity and production of these three crops, i.e., rice, wheat, and pulses.

4.10 The primary objective of the mission is to enhance the production of rice, wheat, and pulses through the increased productivity of rice and wheat, and productivity and area coverage of pulses. The mission targets an area of about 20 million hectares under rice, 13 million hectares under wheat and 17 million hectares under pulses in 136, 141, and 171 identified districts, respectively. In the case of pulses, about 4.05 million hectares are to be added to the area under cultivation by 2011–12 through the utilisation of rice fallows and inter-cropping with wider-spaced crops. The NFSM aims at achieving an additional production of 10 million tonnes of rice, 8 million tonnes of wheat, and 2 million tonnes of pulses by 2011–12, through the increased adoption of improved and proven crop production and protection technologies, such as hybrids and high yielding varieties; resource conservation technologies; integrated management of nutrients; pests, and weeds; and improved tillage and other farm implements.

4.11 The mission aims at increasing the production of rice, wheat, and pulses through area expansion and productivity enhancement; restoring soil fertility and productivity;

creating employment opportunities; and enhancing a farm level economy to restore the confidence of farmers of the targeted districts. The mission endeavours to enhance the reach of proven technologies and knowledge among the farmers of those districts that have adequate infrastructure for higher productivity with wider yield gaps.

4.12 The strategy is to enhance the reach of proven and established technologies like quality seeds of high yielding varieties and hybrids; resource conservation and plant residue management, like the system of rice intensification, zero tillage, and rotavators, and moisture saving devices; improved seeding in mono and intercropping systems by using seed drills, multi-crop planters; plant protection measures such as knap-sack sprayers, power weeders, conoweeders; Integrated Management of Pests, nutrients, and weeds; and capacity building of farmers through farmers' field schools, publicity in print and electronic media and exposure visits. The award for performing districts and States is also inbuilt in the Mission to motivate the field functionaries.

4.13 The beneficiaries of the mission include small and marginal farmers, including women farmers. The states have been advised to set aside at least 30 per cent of the total allocation for small and marginal farmers, including women farmers. Progressive small and marginal farmers are given preference for seed mini-kits and demonstrations to create a more visible impact of these technologies.

4.14 Innovative Methods Used: The NFSM is promoting agricultural technology and best practices that have been adopted by farmers. For farmers of the NFSM districts, the technology and related extension methodology has to be adapted to address the various challenges posed by the relative under-development of the rural infrastructure, poverty, and under-performing governance structures operating in these districts.

4.15 The innovation of the mission lies in the administration of the scheme in a way that ensures that the planned interventions reach the beneficiaries at the village level. The mission makes use of existing institutions to carry out its activities. It aims to strengthen the Agriculture Technology Management Agency (ATMA), an autonomous body already in place with a mandate to assign specific programmes to various implementing agencies at the district level.

4.16 The timely availability of funds is assured through direct transfer to the designated autonomous agencies at the state and the district levels. Opportunities are created to leverage the electronic interconnectivity of banks to analyse transactions of the district agencies on the basis of real time data.

4.17 The evolution of detailed technical guidelines, preparation of handbooks, and standard reporting and monitoring formats with established methodology and periodicity for systematic reviews have been planned at the national level.

4.18 For each of the identified activities in the agenda for different programmes, institutional support is enlisted. This arrangement ensures a two-way flow of ideas to harmonise programme design as per implementation imperatives and vice versa. An annual calendar of events has been drawn up to mainstream the action points arising from regular interaction with the institutions assigned for different activities.

4.19 Districts are provided with 10 per cent of the mission funds for taking up local initiatives to supplement the other programmes as per the felt needs of the area. Pilot projects have been provided to promote innovation in programme design and implementation, such as the development of methodology of mass propagation of hybrid pigeon-pea seeds through ICRISAT, containing the menace of neel gai, community generators for ensuring availability of power, and so on.

4.20 Publicity campaigns have been made an integral part of the promotion of mission activities activities. A logo and a catch phrase for the mission have been designed. Print and mass media advertisements have been released to creatively promote the relevant components of the mission programme at different stages of crop growth.

4.21 Positive Outcomes and Changes Resulting from the Project/Initiative: The focused focussed and target oriented technological interventions under the NSFM have made a significant impact since inception, which is reflected by the fact that during the year 2006–07, the production of rice was recorded at 93.35 MT which increased to 99.18 MT during 2008–09 (4th advance estimates), showing an increase of 5.83 MT.

4.22 Centrally Sponsored Integrated Scheme of Oilseeds, Pulses, Oil Palm, and Maize (ISOPOM): The Department of Agriculture and Cooperation is implementing a Centrally Sponsored Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) in the country for increasing the area, production, and yield of these crops since 2004–05.

4.23 Area of Operation: Oilseeds & Pulses: The Scheme of ISOPOM is being implemented in 14 major oilseed and pulse growing states, i.e., Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. 4.30 Maize: Under ISOPOM, maize development programmes are under implementation in 15 states, i.e., Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, J&K, Tamil Nadu, U.P., and West Bengal.

4.24 Oil Palm: The programme is being implemented in the states of Andhra Pradesh, Karnataka, Tamil Nadu, Gujarat, Goa, Orissa, Kerala, and Mizoram.

4.25 Special Features of ISOPOM: The ISOPOM has the following special features:

- (i) Flexibility provided to states to utilize funds for the scheme or crop of their choice.
- (ii) Annual action plans to be formulated by the state governments for the consideration and approval of the Government of India.
- (iii) Flexibility provided to the states for introducing innovative measures or any special component to the extent of 10 per cent of financial allocation.
- (iv) Involvement of the private sector by the state governments in the implementation of the programme with a financial cap of 15 per cent.
- (v) Flexibility for inter-component diversion of funds of up to 20 per cent for non-seed components only.
- (vi) Diversion of funds from seed components to non-seed components with the prior approval of the Department of Agriculture and Cooperation.

4.26 Major components of ISOPOM: Under the scheme, assistance is provided for the purchase of breeder seed, production of foundation seed, production and distribution of certified seed, distribution of seed mini-kits, distribution of plant protection chemicals, plant protection equipment, weedicides, supply of rhizobium culture/phosphate solubilising bacteria, supply of improved farm implements, supply of micro-nutrients, distribution of gypsum/pyrite/liming/dolomite, distribution of sprinkler sets and water carrying pipes, publicity, etc. In order to disseminate information on improved production technologies amongst farmers, block demonstrations and Integrated Pest Management (IPM) demonstrations are organised through state departments of agriculture, and front line demonstrations through the ICAR. For oil palm development, assistance is provided for planting material, cultivation cost, installation of drip irrigation, diesel pump sets, training, development of wastelands, technology transfer through demonstration and publicity.

4.27 Pulses: Pulses are a basic ingredient in the diet of a vast majority of the Indian population, as they provide a perfect mix of high biological value when supplemented with cereals. Pulses are also an excellent feed and fodder for livestock. The major pulses grown in the country are chickpea, pigeon pea (tur), moong bean, urd bean, field pea, and lentils.

4.28 Oil palm: The Oil Palm Development Programme under ISOPOM is being implemented in the states of Andhra Pradesh, Karnataka, Tamil Nadu, Gujarat, Goa, Orissa, Kerala, and Mizoram only.

4.29 To mitigate the impact of drought in Kharif 2009 and to utilise the available moisture in Rabi 2009-10, the Government of India has enhanced the subsidy on distribution of certified seeds of oilseeds, pulses, and maize from Rs. 1,200 to Rs. 2,000 per quintal for the Rabi and summer seasons of 2009-10. Besides this, the Government of India has increased the allocation of seed mini-kits of oilseeds, pulses, and maize from Rs. 3,003.72 lakhs in Rabi 2008-09 to Rs.7677.46 lakhs for Rabi 2009-10, to be supplied to the farmers free of cost, to harness the soil moisture for Rabi crops and seed multiplication.

4.30 National Oilseeds and Vegetable Oil Development Board: The National Oilseeds and Vegetable Oils Development (NOVOD) Board was constituted on 8 March 1984, under the National Oilseeds and Vegetable Oils Development Board Act, 1983 (No. 29 of 1983), as a statutory body for the integrated development of the oilseeds and vegetable oils industry.

4.31 The development of elite planting material and model plantation of important Tree Borne Oilseeds (TBOs) in Government/institutional land in rain-fed areas through various programme implementing agencies, namely, state departments of agriculture, horticulture, forestry, forests, state agricultural universities, Research and Development (R&D) institutions of ICAR, CSIR, ICFRE, etc., is the mandate of the Board. A total of 18,912 hectares have been covered under various TBOs, consisting of 12,907 hectares (jatropha), 1,814 hectares (karanja), 1,730 hectare (neem) and 2,461 hectares (other TBOs) in 27 states. These model plantations will provide quality planting material for future propagation and oil extraction. A backended credit linked subsidy programme is also being implemented with a 30 per cent subsidy, 50 per cent bank loan, and 20 per cent beneficiary share of the total project cost. The scheme comprises of nursery raising and commercial plantation, establishment of procurement centers, and installation of pre-processing and processing equipment.

4.32 The board has constituted two national networks, namely, the National Network on Jatropha and Karanja and the National Network on Wild Apricot and Cheura, by involving 75 state agricultural universities, institutions of ICAR, CSIR, ICFRE, CFTRI, TERI, and IITs, to address various researchable issues. Major researchable issues are, the identification of elite planting material for tree borne oilseeds; seed resource assessment, collection and storage; phenological and chemical evaluation for characterisation; tree improvement for developing high yielding varieties with better quality of reliable seed sources; progeny trials, zonal trials, and national trials of elite planting material for evaluating genotypes of tree borne oilseeds; development of propagation techniques through seeds and cuttings; intercropping trials with suitable intercrops; development of suitable packages of practices; post-harvest tools and technology; detoxification of oil meal of important TBOs; value addition of tree borne oilseeds; seed certification and standards of tree borne oilseeds; tissue culture for jatropha curcas; DNA fingerprinting and molecular characterisation of TBOs; and awareness programmes.

4.33 The progress made by research organisations under R&D programmes are being reviewed annually. These programmes have obtained encouraging results. The participating research institutes have collected about 4,225 Candidate Plus Trees(CPT)/superior genotypes of TBOs, i.e., jatropha (2,844), karanja (938), wild apricot (393) and cheura (50), which have a high yield and oil content. A total of 1,234 CPTs/superior genotypes have been cryo-preserved in the National Gene Bank at NBPGR, New Delhi. Besides, efforts have also been made for DNA fingerprinting and molecular characterisation of these TBOs. Propagation techniques through seeds and cuttings have also been developed for various TBOs. A standard package of practices for jatropha, karanja, wild apricot, and cheura are being standardised. Varietal development is being made through mass and recurrent selection by using 59 superior genotypes under different agro-climatic conditions. Under the hybridisation programme, first generation jatropha hybrids have been developed by crossing jatropha curcas and jatropha integerrima. 39 hybrid clones were evaluated, which showed wide variation in their morphological trades. The evaluation of these hybrids is under progress. Success has been achieved in regenerating jatropha plants through tissue culture. The development of commercially viable tissue culture of jatropha for mass multiplication is in progress. The protocols related to detoxification of seed cakes of jatropha, karanja, and simarouba are almost nearing development. Post-harvest equipment, i.e., decorticator, oil expeller, and transesterification, have been developed. About 2000 seed samples of various TBOs have been analysed for oil content. For creating awareness among farmers, entrepreneurs, and other stakeholders, 281 farmers' training and 95 trainers' training programmes have been organised. Besides, three R&D reports and booklets on jatropha, karanja, wild apricot, and cheura have already been published by the NOVOD Board.

4.34 Under the R&D programme, 57 superior genotypes are under national trials across the country in various agro-climatic conditions, as a result of which, location specific high yielding varieties are expected to be developed. The development of a commercially viable protocol for tissue culture in jatropha is also expected soon. Developed hybrids are under evaluation, and their genetic traits and yields are expected to be established. Packages of practices for various TBOs have been standardised, and these have been published. Complete detoxification of seed cakes of jatropha, karanja and simarouba is expected in the coming year, leading to their use as cattle feed.

5

Seeds

5.1 Seed Policy Reforms: The Seeds Bill, 2004: In response to the changes that have taken place in the seeds sector, the existing Seeds Act, 1966, is proposed to be replaced by a suitable legislation to, inter alia, i) create a facilitative climate for the growth of the seed industry, ii) enhance seed replacement rates for various crops, iii) boost the export of seeds and encourage import of useful germplasm, iv) create a conducive atmosphere for the application of frontier sciences in varietal development and for enhanced investment in research and development. The Government introduced the Seeds Bill in the Rajya Sabha in December 2004. The Bill was referred to the Parliamentary Standing Committee on Agriculture, which recommended several modifications to the Bill. Accordingly, the Government moved the official amendments to the Seeds Bill 2004 twice, first in December 2008 and then in February 2009 but it was not listed for business in the House.

5.2 Strengthening of Seeds Quality Control Organisations (State Seed Certification Agencies and State Seed Testing Laboratories): The responsibility of seed law enforcement is vested with the state governments. Seed inspectors notified under the relevant provisions of the Seeds Act, 1966, and the Seeds (Control) Order, 1983, inspect the premises of seed distribution agencies to draw samples for testing. Appropriate action is taken against sellers of substandard seeds, as per the provisions of the Seeds Act/Rules and Orders. These inspectors are also authorised to stop the sale of substandard seeds and to seize their stocks. Seed inspectors have also been provided with powers of enforcement under the Environment (Protection) Act, 1986, to regulate the quality of genetically modified (GM) crops.

5.3 Policy on the Export and Import of Seeds and Planting Materials: Exports and imports of seeds have increased with the rationalisation and simplification of the export and import regime. This has benefited Indian farmers, the seed industry, and entrepreneurs.

5.4 Implementing the Protection of Plant Varieties and Farmers' Rights Legislation: The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Authority has been established in November 2005 at New Delhi. The Authority has the mandate to implement provisions of the PPV&FR Act, 2001. Seventeen crops, i.e., rice, bread wheat, maize, sorghum, pearl millet, chickpea, pigeon pea, green gram, black gram, lentil, field pea, kidney bean, cotton, jute, sugarcane, ginger, and turmeric have been notified for the purposes of registration under the Act. The Authority has plans to extend its coverage to forestry, aromatic, and medicinal plants. The scheme has been approved for implementation during the Eleventh Plan. Salient features regarding the implementation of the scheme are as under:

- a) The fees for registration of new varieties and an extant variety about which there is common knowledge was prescribed in the Protection of Plant Varieties and Farmers' Rights (Amendment) Rules, 2009 notified vide G.S.R. 319 (E) dated 11 May 2009.

- b) The Central Government, vide S.O. 874 (E) dated 27 July 2009, notified crops of sugarcane, ginger, and turmeric under section 29 (2) read with section 14 of the PPV&FR Act, 2001 for registration of varieties of these crops under the Act.
- c) The Central Government approved the Protection of Plant Varieties and Farmers' Rights (Criteria for Distinctiveness, Uniformity, Stability, and Registration) Regulations, 2009, and notified it in the gazette vide G.S.R.452(E) dated 29 June 2009.
- d) The Central Government has notified the fee structure for payment of annual fee under the Act in the gazette vide S.O.2182 (E) dated 26 August 2009.

5.5 National Seed Research and Training Centre (NSRTC) at Varanasi: The National Seed Research and Training Centre (NSRTC), Varanasi (Uttar Pradesh), has been notified as a Central Seed Testing and Referral Laboratory (CSTL), with effect from 1 April 2007. The primary objective for establishing the NSRTC is to have a separate National Seed Quality Control Laboratory to serve as CSTL and a referral laboratory for courts in India and also to act as a human resource development centre in the field of seed quality. The CSTL of the NSRTC has become a member laboratory of the International Seed Testing Association (ISTA), Zurich, Switzerland with effect from 2007.

5.6 Development and strengthening of infrastructure facilities for the production and distribution of quality seeds: This is a central sector scheme being implemented from the year 2005-06. The scheme is intended to develop and strengthen the existing infrastructure for the production and distribution of certified/quality seeds.

5.7 The following components of the scheme are being implemented:

- i) Transport subsidy on the movement of seeds.
- ii) Establishment and maintenance of seed banks.
- iii) Quality control arrangements for seeds.
- iv) Seed Village Programmes.
- v) The creation of infrastructure facilities in the public sector.
- vi) Assistance for boosting seed production in the private sector.
- vii) The use of bio-technology in agriculture.
- viii) Promotion of hybrid seeds.

5.8 Bt. Cotton Seeds: At present, 624 Bt Cotton hybrids, including one variety, BN Bt cotton, developed by the Central Institute for Cotton Research, Nagpur (ICAR) have been approved by the Genetic Engineering Approval Committee (GEAC) for commercial cultivation in the states of Haryana, Punjab, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu. The area under coverage of Bt cotton is increasing rapidly. It has increased from 0.29 lakh hectares in Kharif 2002, to approximately 66.70 lakh hectares during Kharif 2008 and 78.92 lakh hectares (estimated) in Kharif, 2009.

5.9 Seed Village Programme: The scheme has a component of the Seed Village Programme, which is aimed at upgrading the quality of farm saved seeds. The Department has covered about 64,000 villages under this component since inception in 2005-06 and

upto 2008-09. An impetus has been provided to this programme in 2009-10. Hence, Rs.214 crore has already been released in 2009-10 (upto January, 2010), which is more than twice the amount released in the earlier four years put together.

5.10 Certified/Quality seed production: Certified/Quality seed production has increased from 140.51 lakh quintals during 2006-07 to 279.72 lakh quintals during 2009-2010.

5.11 Boosting Seed Production in the Private Sector: So far, 222 such plants have been sanctioned for an amount of Rs. 14.86 crore for small entrepreneurs in 16 states, with a processing capacity of 42.94 lakh quintals of seed and a storage capacity of 16.68 lakh quintals.

5.12 The DAC has two central Public Sector Undertakings, namely, the National Seeds Corporation and the State Farms Corporation of India.

6

Integrated Nutrient Management

6.1 Consumption of Fertilizers: The average estimated consumption of fertilizers (N+P+K) in the country has registered an increase in 2008-09 over 2007-08 from 116.5 kg/hectare to 128.6 kg/hectare. A great deal of variability has, however, been observed in fertilizer consumption among the states. While consumption of fertilizers per hectare is 239.7 kg in Andhra Pradesh, 221.4 kg in Punjab, 216.5 kg in Tamil Nadu and 201.6 kg in Haryana, consumption is comparatively low in Rajasthan (48.8 kg/hectare), Jharkhand (55.7 kg/hectare), Himachal Pradesh (60.6 kg/hectare), Orissa (61.6 kg/hectare), and in certain other states. Consumption is less than 5 kg/hectare in some of the North Eastern states.

6.2 To ensure adequate availability of fertilizers to farmers, the Department of Agriculture and Cooperation (DAC) makes a demand assessment well in advance through half half-yearly Zonal Conferences on Agricultural Inputs in consultation with the state governments, the Department of Fertilizers and the fertilizer industry. Thereafter, under the Essential Commodities Act (ECA) supply plan, and under the Fertilizers Movement Control Order, movement orders, for both indigenous and imported urea, are issued by the Department of Fertilizers (DoF) to ensure timely availability to farmers. DoF also facilitates the availability of decontrolled phosphatic (P) and potassic (K) fertilizers to the states/UTs.

6.4 Fertilizer Prices: Urea is the only fertilizer under statutory price control. The Maximum Retail Price (MRP) is fixed by the Government for phosphatic and potassic fertilizers under the concession scheme to ensure their availability to farmers at a reasonable price. With effect from 18 June 2008, the Government of India has rationalised MRPs of complex fertilizers based on nutrient content of N, P, and K in the MRP of straight fertilizers such as urea, Di-Ammonium Phosphate (DAP) and Muriate of Potash (MOP) respectively.

6.5 Nutrient Based Fertilizer Subsidy: A Group of Ministers was constituted to examine the nutrient based subsidy policy and measures for the rationalisation of fertilizer subsidy disbursement, and make appropriate recommendations, keeping in view the following objectives:

- i) To strengthen the balanced use of fertilizers and proper and efficient nutrient management in the interests of sustainable agriculture;
- ii) To avoid the indiscriminate use of fertilizers, leading to a high subsidy burden;
- iii) To ensure significant incentives for investors to invest in the fertilizer industry for promoting its growth and management, and

iv) To ensure higher agricultural productivity and production for food security.

6.6 Promotion of Integrated Nutrient Management (INM): The Government is promoting soil test-based, balanced, and judicious use of chemical fertilizers, biofertilizers, and locally available organic manures such as farmyard manure, vermi-compost, and green manure, to maintain soil health and productivity. A centrally sponsored scheme, namely, the National Project on Management of Soil Health and Fertility (NPMSF) has been introduced during 2008-09. The components of the new scheme include the setting up of 500 new Soil Testing Laboratories (STLs), strengthening of the existing 315 STLs, setting up of 250 mobile STLs, promotion of organic manure, soil amendment, and distribution of micro nutrients, setting up of 20 new fertilizer quality control laboratories (FQCLs) and strengthening of 63 existing FQCLs during the Eleventh Plan.

6.7 Quality Control of Fertilizers: To ensure adequate availability of fertilizers of standard quality to farmers, fertilizers were declared as an essential commodity and the Fertilizer Control Order (FCO), 1985, promulgated under section 3 of the Essential Commodities Act, 1955, to regulate the trade, price, quality, and distribution of fertilizers.

6.8 The enforcement of the FCO has primarily been entrusted to state governments. The Central Government provides training facilities and technical guidance to states and supplements their efforts through the random inspection of manufacturing units and their distribution network by inspectors. There are 71 laboratories in the country (including four Central Government laboratories), with a total annual fertilizer capacity of 1.32 lakh samples.

6.9 The Central Fertilizer Quality Control and Training Institute (CFQC&TI), Faridabad, and its three Regional Fertilizer Control Laboratories (RFCLs) located at Navi Mumbai, Chennai, and Kalyani, draw, inspect, and analyse both indigenous and imported fertilizers, train State Enforcement Officers and analysts, including officers from developing countries, and develop methods of analysis. CFQC&TI also acts as a referee laboratory and advisory body on issues relating to fertilizer quality control.

6.10 Intensive cropping without replenishment of nutrients, other than NPK, results in a deficiency of micronutrients. The deficiency of secondary nutrients, namely, sulphur, magnesium, and calcium, and of micro-nutrients such as zinc, boron, iron, and manganese, has been reported in many parts of the country. In order to encourage the manufacture and use of fortified fertilizers, the procedure for the inclusion of new products in the FCO has been simplified.

6.11 To encourage the balanced use of fertilizers, the concept of customised fertilizers has been introduced under clause 20 B in the FCO, 1985. These fertilizers are soil and cropspecific and contain secondary and micronutrients, besides NPK. A total of 14 grades of customised fertilizers have been notified.

6.12 In order to encourage the use of organic and bio-fertilizers, the specifications of organic fertilizers, namely, city waste compost and vermin-compost and of bio-fertilizers, namely, Rhizobium, Azotobacter, Azospirillum and Phosphate Solubilising Bacteria have been revised under the FCO.

6.13 National Project on Organic Farming (NPOF): This scheme was initiated as a pilot project in October 2004 for the production, promotion, certification, and market development of organic farming in India. The project was introduced by subsuming the existing infrastructure of the National Biofertiliser Development Centre, and its regional centres, located at Hissar, Jabalpur, Bangalore, Nagpur, Bhubaneshwar, and Imphal.

6.14 Organic farming has recorded an impressive growth during the previous five years due to the farmers' movement, efforts by NGOs, Central and state government interventions, and market forces. The area under the organic certification process increased to 12.07 lakh hectares.

7

Plant Protection

7.1 Plant protection is of considerable importance in overall crop production programmes for sustainable agriculture. Plant protection activities encompass plant quarantine, regulation of pesticides, activities aimed at minimising crop losses due to pests, including locust control in desert areas, and training and capacity building in plant protection.

7.2 Plant Quarantine: The objective of plant quarantine is to primarily prevent the introduction of exotic pests, diseases, and weeds through the import of agricultural commodities or plant material into India, and to similarly prevent the introduction of indigenous pests, diseases, and weeds into other countries through exports. The Plant Quarantine (Regulations of Import into India) Order, 2003, issued under the provisions of the Destructive Insects and Pests Act, 1914 (DIP Act) regulates imports. Post-entry quarantine inspection is undertaken in the case of propagation plant material. Phytosanitary Certificates (PSCs) are issued for exports as per the International Plant Protection Convention (IPPC), 1951 of the Food and Agriculture Organization (FAO). These functions are discharged by 35 Plant Quarantine Stations (PQSs) functioning under the Directorate of Plant Protection, Quarantine, and Storage (DPPQ&S), Faridabad, at various international airports, seaports, and land customs stations across the country to facilitate international trade in agricultural products. The plant quarantine infrastructure is created and maintained under the central sector plan scheme, Strengthening and Modernisation of Plant Quarantine Facilities. It is proposed to establish molecular diagnostic facilities at five major PQSs at Amritsar, Chennai, Kolkata, Mumbai, and New Delhi, open 22 new PQSs, strengthen plant quarantine facilities at existing PQSs as well as strengthen the Integrated Export Certification System and Integrated Phytosanitary Border Control System during the Eleventh Five Year Plan. The five major PQSs continue to provide plant quarantine services under ISO 9001:2000 certification.

7.3 To improve quarantine services by bringing in greater transparency and efficient dissemination of information as well as to facilitate an electronic data interface with Customs, a web-based Plant Quarantine Information System (PQIS) is being implemented through the National Informatics Centre, New Delhi.

7.4 Integrated Pest Management: Integrated Pest Management (IPM) is an eco-friendly approach, which aims at keeping pests below the economic threshold level (ETL) by employing all available pest control methods and techniques such as cultural, mechanical, and biological control, with greater emphasis on the use of biopesticides and pesticides of plant-origin such as Neem formulations. The use of chemical pesticides is advised as a last resort, when pests cross the ETL. IPM related activities are being implemented through 31 Central Integrated Pest Management Centres (CIPMCs) established in 28 States and one UT. These activities are funded under the central sector plan scheme, the Strengthening and Modernisation of Pest Management Approach (SMPMA).

7.5 IPM activities are propagated through Farmers' Field Schools (FFSs). This is a form of adult education evolved from the concept that farmers learn optimally from field observations and experimentation. FFSs are organised to help farmers tailor IPM practices to suit their needs. These schools are conducted separately for the Kharif and Rabi seasons, each FFS lasting 14 weeks.

7.6 Apart from conducting FFSs, the CIPMCs carry out pest/disease monitoring and conservation, production, and release of biocontrol agents. A total of 124 crore bio-control agents were mass produced in the laboratories and released against insect and pests in various crops covering an area of 0.52 lakh hectares (upto December 2009).

7.7 Seed Treatment Campaign: Seed treatment is the use and application of chemical and biological agents on seeds to control primary soil and seed borne infestation of insects and diseases, which are serious threats to crop campaign is taken up every year by the Department of Agriculture and Cooperation (DAC) during the Kharif and Rabi seasons involving the state departments of agriculture and the CIPMCs.

7.8 Implementation of the Insecticides Act: The Insecticides Act, 1968, regulates the import, manufacture, sale, transportation, distribution, and use of insecticides with a view to preventing risks to humans or animals, and for matters connected therewith. A Registration Committee, constituted under Section 5 of the Act, is empowered with the registration of insecticides under Section 9 of the Act after verifying that it is efficacious and safe for use by farmers. During 2009-10 (up-to December 2009), 2,497 registrations were granted. In order to bring about greater transparency and efficiency in the process of registration of pesticides, online registration of insecticides on the website of the Central Insecticides Board and Registration Committee (CIB&RC) has been launched on 23 September 2009. The system enables online filing of applications for registration, status of processing, reporting of deficiencies, and automated work flow of the registration process.

7.9 A campaign to prevent the manufacture and sale of spurious pesticides has been launched by the DAC in cooperation with all the state governments and the respective CIPMCs.

7.10 The quality of pesticides is monitored by the Central and State Insecticide Inspectors who draw samples of insecticides from the market for analysis in the 61 State Pesticide Testing Laboratories (SPTLs) in 21 States and one UT. For states that do not have facilities for testing pesticides, facilities for testing samples at the Regional Pesticide Testing Laboratories (RPTLs) set up by the Central Government in Chandigarh and Kanpur, are available. In the case of a dispute, the samples are referred to the Central Insecticides Laboratory (CIL), Faridabad. In order to move towards greater quality assurance in pesticide analysis services, the CIL has obtained accreditation from the National Accreditation Board for Testing and Calibration Laboratories (NABL) for biological and chemical testing as per ISO/IEC 17025:2005. The RPTLs are also actively engaged in seeking accreditation.

7.11 The Pesticides Management Bill, 2008, which is intended to replace the Insecticides Act, 1968, to provide for a more effective regulatory framework for the introduction and use of pesticides in the country was introduced in Parliament (Rajya Sabha) on 21 October 2008. The Parliamentary Standing Committee on Agriculture laid its report on the Bill in Parliament on 18 February 2009. The recommendations of the Standing Committee have been examined, and taking into account these recommendations, the

official amendments to the Pesticides Management Bill will be brought forth by the Government.

7.12 Monitoring of Pesticide Residue at the National Level: The scheme, Monitoring of Pesticide Residue at the National Level was launched in 2005 as a central sector scheme to collect, collate, and analyse data and information on a centralised basis, on the prevalence of pesticide residue at the farm gate and in market yards. Samples of agricultural and food commodities, including animal produce, are drawn and analysed in 21 laboratories under different departments, state governments and agricultural universities.

7.13 Locust Control and Research: The Locust Warning Organization (LWO) under DPPQ&S, which monitors locust developments and activities over an area of 2 lakh sq. km of the Scheduled Desert Area (SDA) in parts of Rajasthan, Gujarat, and Haryana, has 10 Circle Offices located at Bikaner, Jaisalmer, Barmer, Jalore, Nagaur, Phalodi, Churu, Suratgarh, Palanpur, and Bhuj. Its field headquarter is located in Jodhpur and its central headquarters in Faridabad. Besides, there is a Field Station for Investigations on Locusts (FSIL) in Bikaner. To strengthen locust monitoring, remote sensing images are being used. The LWO maintains its own wireless network for exchanging information on locust surveys and control between locust outposts, circle offices and headquarters in Faridabad. Wireless communication between Jodhpur (India) and Karachi (Pakistan) is also maintained every year from June to November for exchanging locust intelligence between the two countries. Six Indo-Pakistan border meetings were conducted at the Munabao (India)/Khokhrapar (Pakistan) border point during 2009-10. Eighteen locust situation bulletins were issued, and an area of 217 lakh hectares was surveyed during locust surveys conducted in the SDA.

7.14 Capacity Building in Plant Protection: The National Plant Protection Institute (NPPTI), Hyderabad was converted during 2008-09 into a society to give it more autonomy. The institute, re-named as the National Institute of Plant Health Management (NIPHM), is headed by a Director General. Its facilities would be upgraded and faculty expanded for training in plant protection. NIPHM would be developed as the premier institution for capacity building in South Asia.

7.15 National Agricultural Biosecurity System: In view of the threat perception to the biosecurity of the country on the account of increasing international trade, emergence of trans-boundary diseases of plants and animals (such as Ug-99 wheat stem rust and avian influenza), introduction of genetically modified organisms, climate change, and bio-terrorism, the Ministry of Agriculture has prepared a proposal for putting in place a National Agricultural Biosecurity System (NABS). The proposal is based on the recommendations of the National Commission on Farmers headed by Prof. M.S. Swaminathan, and the National Policy on Farmers, 2007. The proposal envisages the creation of an autonomous National Agricultural Biosecurity Authority (NABA) for which an Agricultural Biosecurity Bill will be brought forth.

8

Agricultural Credit and Crop Insurance

Agricultural Credit

8.1 The Government has taken many policy initiatives to strengthen the farm credit delivery system for providing credit at affordable rates of interest to support the resource requirements of the agriculture sector. The emphasis of these policies has been on providing timely and adequate credit support to farmers, with particular focus on small and marginal farmers and weaker sections of society, to enable them to adopt modern technology and improved agricultural practices for increasing agricultural production and productivity. The policy essentially lays emphasis on augmenting credit flow at ground level through credit planning, adoption of region specific strategies and rationalisation of lending policies and procedures, and bringing down the rate of interest on farm loans.

8.2 Institutional Arrangements: Agricultural credit is disbursed through a multi-agency network comprising of Commercial Banks (CBs), Regional Rural Banks (RRBs) and Cooperatives. With their vast network (covering almost all villages in the country), wide coverage coverage and outreach extending to the remotest parts of the country, the Cooperative Credit Institutions, both in short and long-term structure, are the main institutional agency for the dispensation of agricultural credit. There are 1,06,384 Primary Agricultural Credit Societies (PACS), 370 District Central Cooperative Banks (DCCBs) with 12,991 branches and 30 State Cooperative Banks (SCBs) with 962 branches providing primarily short- and medium-term agricultural credit in the country. The long-term cooperative structure consists of 19 State Cooperative Agriculture and Rural Development Banks (SCARDBs) with 2,430 operational units, comprising of 626 branches and 506 Primary Agricultural and Rural Development Banks, with 1,283 branches.

8.3 Policy Initiatives for increasing the flow of credit: The Government has initiated several measures to galvanise the institutional credit system and make it more responsive to the needs of farmers. Some of the important measures initiated in this regard are as under:

- In order to improve the flow of credit and mitigate the distress of farmers due to the problem of indebtedness, the Government of India announced a special farm credit package on 18 June 2004. The package, inter alia, envisaged that credit to the agriculture sector would double in the next three years.
- Banks have been advised to simplify the procedure for documentation required to secure agricultural loans.

- To improve outreach among the poor and the informal sector, the SHG-bank linkage programme was intensified. Banks have also been advised to finance Joint Liability Groups and Tenant Farmers' Groups.
- As part of the measures announced by the Reserve Bank of India (RBI) for financial inclusion, banks have been advised to open 'No Frills' accounts and issue simple overdraft facilities against such accounts. Banks have also been advised to issue General Credit Cards with limits up to Rs. 25,000 without insisting on security and end use of funds.
- Banks have been advised to undertake, on a pilot basis, 100 per cent financial inclusion in at least one district in each state. Based on the success of the pilot, the State-Level Bankers Committee in the states will draw a time-bound plan for achieving 100 per cent financial inclusion in other districts of the states.

8.4 Revival Package for Short-Term Cooperative Credit Structure: In pursuance of recommendations made by the Vaidyanathan Committee Task Force, the Government of India had approved a Revival Package for Short-Term Cooperative Credit Structure (STCCS) aimed at making it a well managed and vibrant structure to best serve the credit needs of rural India. The revival package envisages an outlay of Rs.13,597 crore for recapitalization of STCCS, capacity building, training, and computerization, subject to legal reforms by the state governments. The revival package seeks to i) provide financial assistance to bring the system to an acceptable level of health; ii) introduce legal and institutional reforms necessary for their democratic, selfreliant and efficient functioning; and iii) take measures to improve the quality of management as an integrated package. So far, 25 States, namely, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Rajasthan, Orissa, Punjab, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, and West Bengal, have signed a Memorandum of Understanding (MoU) with the Government of India and NABARD. These states cumulatively cover 96 per cent of the STCCS units in the country. An amount of Rs. 7,051.75 crore has been released by NABARD as the Government of India's share for recapitalisation of 37,303 PACS in 10 states as on 31 December, 2009.

8.5 Kisan Credit Card: Banks are issuing Kisan Credit Cards (KCCs) to farmers for providing adequate and timely support from the banking system for their cultivation needs, including the purchase of all inputs in a flexible and cost effective manner. About 878 lakh KCCs have been issued up to November 2009. Ownership of a KCC enables sanctioning of loans for the short, medium, and long term, and a reasonable component of consumption credit within the overall limit sanctioned to the borrowers.

8.6 Banks have been advised to provide active KCCs to all eligible and willing farmers in a time-bound manner.

8.7 Rate of Interest on Agricultural Loans: From Kharif 2006-07, farmers are receiving crop loans up to a principal amount of Rs. 3 lakh at a seven per cent rate of interest. Additional subvention of one per cent will be paid from this year, as an incentive to those farmers who repay short term crop loans on schedule, resulting in bringing down the rate of interest to six per cent per annum.

8.8 Rehabilitation Package for Distressed Farmers: A rehabilitation package of Rs.16,978.69 crore for 31 suicide-prone districts in four states, namely, Andhra Pradesh, Maharashtra, Karnataka, and Kerala, is under implementation. The rehabilitation package aims at establishing a sustainable and viable farming and livelihood support system through debt relief to farmers, improved supply of institutional credit, a crop-centric approach to agriculture, assured irrigation facilities, watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying, fisheries, etc. So far, Rs. 17,649.24 crore (as on 31 December, 2009) has been released to these states. The Government has further carried out a mid-term modification and has extended the period of implementation for non-credit components by two more years i.e., 30 September 2011.

8.9 The Government has also approved a package for the development of the Kuttanad wetland eco-system and mitigation of agrarian distress in Idukki district of Kerala, envisaging an outlay of Rs. ,840.75 crore and Rs.764.45 crore respectively.

Crop Insurance

8.10 National Agricultural Insurance Scheme (NAIS): The National Agricultural Insurance Scheme (NAIS), with increased coverage of farmers, crops, and risk commitment, was introduced in the country from Rabi 1999-2000, replacing the erstwhile Comprehensive Crop Insurance Scheme (CCIS). The main objective of the scheme is to protect farmers against crop losses suffered on account of natural calamities, such as drought, flood, hailstorms, cyclone, pests, and diseases. The scheme is being implemented by the Agriculture Insurance Company of India, Ltd. (AIC).

8.11 The scheme is available to all farmers-loanee and non-loanee-irrespective of their size of holding. It envisages coverage of all food crops (cereals, millets, and pulses), oilseeds, and annual commercial/horticultural crops, in respect of which past yield data is available for an adequate number of years. Among the annual commercial/horticultural crops-sugarcane, potato, cotton, ginger, onion, turmeric, chillies, pineapple, annual banana, jute, tapioca, coriander, cumin, and garlic, have already been covered under the scheme. All other annual commercial/horticultural crops are stipulated to be placed under insurance cover in due course of time, subject to the availability of past yield data. The scheme is operating on the 'Area Approach' basis, i.e., with defined areas for each notified crop.

8.12 The premium rates are 3.5 per cent (of the sum insured) for bajra and oilseeds, 2.5 per cent for other Kharif crops, 1.5 per cent for wheat, and 2 per cent for other Rabi crops. In the case of commercial/horticultural crops, actuarial rates are being charged. Under the scheme, small and marginal farmers were originally provided a subsidy of 50 per cent of the premium charged from them. The subsidy on premiums has now been phased out over a period of five years. At present, a 10 per cent subsidy on premiums is available to small and marginal farmers, which is to be shared equally by the Centre and state governments.

8.13 The outlay for the Eleventh Plan is fixed at Rs. 3,500 crore. As against the budget provision of Rs. 500 crore, Rs. 644 crore, and Rs. 644 crore for the first, second and third years of Eleventh Five Year Plan i.e., 2007-08, 2008-09 and 2008-09, Rs.718.88 crore, Rs. 694 crore and Rs. 1,319 crore have been utilised respectively. No state-wise allocation is made under the scheme.

8.14 Redesigning of the Scheme: Despite a high claims ratio (i.e., 1:3.13) and low premium rates, particularly for food and oilseed crops, farmers (particularly non-loanee farmers) are not coming forward to avail of crop insurance in a big way. To overcome some of the limitations and to make the scheme more farmer friendly, a joint group was constituted to study the improvements required in the existing crop insurance schemes. The group made an in-depth study and made important recommendations, such as reduction in the unit area of insurance to Gram Panchayats for major crops, improving the basis of calculation of threshold yield, higher indemnity level of 80 per cent and 90 per cent, coverage of pre-sowing/planting risks and post-harvest losses, personal accident insurance cover, and package insurance policy, etc.

8.15 Pilot Weather Based Crop Insurance Scheme (WBCIS): Efforts have been made to bring more farmers under the fold of crop insurance by introducing a Pilot Weather Based Crop Insurance Scheme (WBCIS), as announced in the Union Budget 2007 in selected areas on a pilot basis. WBCIS is intended to provide insurance protection to farmers against adverse weather conditions, such as deficit and excess rainfall, high or low temperature, humidity, etc., which are deemed to affect crop production adversely. Claims are settled within the shortest possible time. The WBCIS is based on actuarial premium rates, but to make the scheme attractive, premiums actually charged from farmers has been restricted, at par with NAIS.

8.16 Coconut Palm Insurance Scheme (CPIS): The Coconut Palm Insurance Scheme (CPIS) has also been approved for implementation on a pilot basis during the years 2009-10 and 2010-11 in selected areas of Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa, and Tamil Nadu to cover palms in the region according to eligibility criteria (i.e., in the age group of four to 60 years). The sum insured (SI) is based on the average input cost of the plantation and the age of the specific plant. The SI varies from Rs. 600 per palm (in the age group of 4-15 years) to Rs. 1,150 per palm (in the age group of 16-60 years). The premium rate per palm ranges from Rs. 4.25 (in the age group of 4-15 years) to Rs.5.75 (in the age group of 16-60 years). Fifty per cent of the premium will be contributed by the Coconut Development Board (a Central Government agency); 25 per cent by the concerned state government, and the remaining 25 per cent by the farmer. The Agriculture Insurance Company (AIC) of India, Ltd. will implement the scheme and would be responsible for making payment of all claims within a specified period.

9

Agricultural Extension

9.1 Support to State Extension Programmes for Extension Reforms: This scheme of Support to State Extension Programmes for Extension reforms, launched during 2005-06, aims at making the extension system farmer-driven and farmer-accountable, by way of new institutional arrangements for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at the district level to operationalise extension reforms. ATMA has the active participation of farmers and farmer groups, NGOs, Krishi Vigyan Kendras, Panchayati Raj institutions, and other stakeholders operating at the district level and below. The release of funds under the ATMA scheme is based on State Extension Work Plans (SEWPs) prepared by the state governments. At present, the scheme is under implementation in 588 districts in 29 states/UTs in the country.

9.2 In line with the provisions of the National Policy for Farmers, which has been formulated as per the reports and recommendations of the National Commission on Farmers, the existing provisions and implementation mechanisms have been strengthened. The cafeteria of activities being supported under the scheme has state as well as district-level activities. State-level activities include support for upgrading State-Level Training Institutions (SAMETI), training and exposure visits of extension functionaries, organisation of state level agricultural exhibitions, regional fairs and exhibitions, monitoring and evaluation, rewards and incentives. District-level activities include farmer-oriented activities (training, demonstration, exposure visits, group mobilisation, and capacity building), farm information dissemination activities (exhibition, information technology, print media), and research-extension-farmer linkages, (farmer scientist interactions, organization of field days and kisan goshties; assessment, refinement, validation, and adoption of front line technologies).

9.3 The important features of the cafeteria include:

- Farm schools in the fields of outstanding farmers being promoted at the block/gram panchayat level by integrating progressive farmers into the Agricultural Extension System (AES) (a minimum of one farm school/block).
- Farmer-to-farmer extension support at the village level to be promoted through farmers' groups.
- Funding windows provided at both the state and district levels for implementing innovative extension activities not specifically covered under the cafeteria.
- Farmers' awards instituted at the block, district, and state levels.
- Community Radio Stations (CRS) to be set up by KVKs, SAUs and private organizations are being promoted under the programme.

- For non-governmental implementing agencies, states have been given the flexibility of having extension work plans prepared and approved at the state level. A minimum of 10 per cent of the programme outlay is to be utilised through them. Nongovernmental implementing agencies (excluding the corporate sector) are also eligible for service charges of up to a maximum of 10 per cent of the cost of the extension activities implemented through them. Apart from other NGOs, financial assistance is also available for the implementation of extension activities through agripreneurs.
- Strengthening of technical back-up support by providing more flexibility to states to engage a maximum of six contractual persons for SAMETI and four contractual persons for each of the ATMA offices with the provision of necessary funds under the ATMA cafeteria only.
- Public extension functionaries being made more effective through training and exposure visits. MANAGE, Hyderabad, offers a postgraduate diploma in Agriculture Extension Management for public extension functionaries, which is fully funded under the ATMA programme.

9.4 In order to ensure that key reforms under the scheme are adequately addressed and promoted, the cafeteria would continue to specify the following policy parameters within which the cafeteria would be used:

9.5 Multi-agency extension strategies: A minimum of 10 per cent of the allocation on recurring activities at the district level is to be used through the non-governmental sector i.e., NGOs, Farmers' Organisations (FOs), Panchayati Raj Institutions (PRIs), para-extension workers, agripreneurs, input suppliers, the corporate sector, etc.

9.6 Farming system approach: The activities specified in the cafeteria are broad enough to promote extension delivery consistent with a farming systems approach and extension needs emerging through Strategic Research and Extension Plans (SREP).

9.7 Farmer-centric extension services: The cafeteria provides for group-based extension and it has the necessary allocations for activities related to organising and supporting farmers' groups. In order to supplement these efforts, a provision for rewards and incentives to the most organised farmers' groups has also been provided.

9.8 Convergence: The SREP and SEWP would also be mechanisms for ensuring convergence of all activities for extension. At present, resources for extension activities are being provided under different schemes of Central/state governments. It is mandatory for the SEWPs submitted by state governments for funding under the scheme to explicitly specify the activities to be supported from the resources of other ongoing schemes as well as from this scheme.

9.9 Mainstreaming gender concerns: It is mandated that a minimum of 30 per cent of resources for programmes and activities be utilised for women farmers. Similarly, 30 per cent of resources meant for extension workers are to be utilised for women extension functionaries.

9.10 Sustainability of extension services: It is mandated that a minimum 10 per cent contribution must be obtained from beneficiaries with respect to beneficiary oriented activities.

9.12 Policy Initiatives: Guidelines have been developed for:

- Strengthening of the National Agricultural Extension System.
- Organisation of Agriculture and Farmers' Development Workshops-cum-Exhibitions.
- Comprehensive State/District Training Plans.

9.13 Other key initiatives taken during the year under report include facilitation for:

- The preparation of bi-annual State Extension Work Plans.
- The development of best practices and upcoming technologies-thrust areas.

9.14 Central Monitoring and Evaluation: Support to Extension Reforms is a new scheme, started in May 2005, and draft model Terms of Reference(TOR) for commissioning third party monitoring and evaluation of this scheme, prepared by the DAC in consultation with the states have been circulated among all the states. The states of Himachal Pradesh, Rajasthan, Punjab, Orissa, Andhra Pradesh, and West Bengal have submitted their study reports. The other states are in the process of commissioning studies. The process of centralised evaluation of the scheme has also been initiated with the task of evaluation and impact assessment of the scheme outsourced to an independent agency, i.e. Agriculture Finance Corporation(AFC), which has undertaken the task in two states, Uttar Pradesh and Haryana. The final report is likely to be received soon.

9.15 Mass Media Support to Agriculture: This scheme is focusing on two initiatives. The first is the use of Doordarshan's infrastructure for providing agriculture related information and knowledge to the farming community: 180 narrowcasting centres, 18 regional centres and one national centre of Doordarshan Kendra telecasts agricultural programmes for 30 minutes, five days a week. Programmes of regional kendras and some narrowcasting centres are being repeated the next day on the respective regional satellite channels. Audio and video spots on emerging issues, namely, Rabi/Kharif campaign, Kisan Call Centres, Kisan Credit Cards, etc., are also publicised through the programme using free commercial time. Live crop seminars on Doordarshan involving farmers and experts have also been organised.

9.16 The other component of the mass media initiative is the use of 96 FM transmitters of AIR to broadcast area specific agricultural programmes with 30 minute radio transmission in the evening, six days a week.

9.17 Pre-seasonal DAC-ICAR Interfaces: Preseasonal DAC-ICAR Interfaces are organized under the co-chairmanship of the Secretary (A&C) and Director General (DG), ICAR, to evolve joint strategies on emerging issues in the agriculture sector. During the interface, both the Department of Agriculture and Cooperation (DAC) and the Indian Council of Agricultural Research (ICAR) share a common platform to deliberate upon various recommendations made by expert groups in different areas. Actions taken on the recommendations of the previous interface are also reviewed.

9.18 Kisan Call Centers: The scheme was launched on 21 January 2004 to provide agricultural information to the farming community through toll-free telephone lines. A country-wide common eleven digit number '1800-800-1551' has been allocated for KCCs. Replies to queries of the farming community are being given in 22 local languages. Calls are attended from 6.00 a.m. to 10.00 p.m., on all seven days of the week.

9.19 Extension Education Institutes (EIs): Four Extension Education Institutes, namely, Nilokeri (Haryana), Rajendranagar, Hyderabad (Andhra Pradesh), Anand (Gujarat), and Jorhat (Assam) are operating at the regional level. The objectives of EIs are to improve the skills and professional competence of extension field functionaries of agriculture and allied departments in the fields of i) extension education, ii) extension methodology, iii) information and communication technology, iv) training methodology, v) communication, vi) extension reforms scheme, vii) market-led extension, etc.

9.20 The following are the macro/micro-level and action research studies/tasks undertaken:

- The evaluation and impact assessment of the Central Sector Scheme of Women in Agriculture was outsourced to Development and Research Services, New Delhi. The revised final report has been received.
- The review and analysis of existing schemes/programmes of the DAC with regard to the incidence of benefits and cost of delivery of services for women in agriculture was outsourced to the Xavier's Institute of Social Services, Ranchi, Jharkhand. The revised final report is awaited.
- The analytical study on existing state policies, programmes, interventions, processes and their impact on women's access to land has been outsourced to MANAGE.
- Mainstreaming gender concerns in agriculture, outsourced to the Centre for Management Development, Thycaud, Trivandrum, Kerala.
- Gender Sensitisation Modules (GSM) for programme implementers at three different levels, namely, senior, middle, and cuttingedge level, have been developed by the NGRCA through MANAGE.

10

Agricultural Marketing

10.1 Organised marketing of agricultural commodities has been promoted in the country through a network of regulated markets. Most of the state governments and UTs have enacted legislation (the APMC Act) to provide for regulation of agricultural produce markets. While by the end of 1950, there were 286 regulated markets in the country, the number stands at 7,139 as on 31 March 2009. Besides, the country has 20,868 rural periodical markets, about 15 per cent of which function under the ambit of regulation. The advent of regulated markets has helped in mitigating the market handicap of producers and sellers at the wholesale assembling level. But, rural periodic markets in general and tribal markets in particular, remained out of the developmental ambit of regulated markets.

10.2 Constraints in the Present System of Agriculture Marketing in India: The purpose of state regulation of agricultural markets was to protect farmers from exploitation by intermediaries and traders and also to ensure better prices and timely payment for their produce. Over a period of time these markets have, however, acquired the status of restrictive and monopolistic markets, providing no help in direct and free marketing, organised retailing or smooth raw material supplies to agro-processing. Exporters, processors, and retail chain operators cannot procure directly from the farmers as the produce is required to be channelled through regulated markets and licensed traders. In the process, there is an enormous increase in the cost of marketing and the farmer ends up getting a low price for his/her produce. Monopolistic practices and modalities of state-controlled markets have prevented private investment in the sector. Post-harvest losses are estimated to be of the order of five to seven per cent in food grains and 25 to 30 per cent in the case of fruits and vegetables.

10.3 The Government has been playing an important role in developing the agricultural marketing system in the country. The Department of Agriculture and Cooperation has three organisations dealing with marketing under its administrative control, namely, the Directorate of Marketing and Inspection (DMI), Faridabad, Chaudhry Charan Singh National Institute of Agricultural Marketing (NIAM), Jaipur, and Small Farmers Agri-Business Consortium (SFAC), New Delhi.

10.4 Need for Reforms: The agriculture sector needs well-functioning markets to drive growth, employment, and economic prosperity in the rural areas of the country. In order to provide dynamism and efficiency to the marketing system, large investments are required for the development of post-harvest and cold chain infrastructure near farmers' fields. A major portion of this investment is expected from the private sector, for which an appropriate regulatory and policy environment is necessary. Enabling policies also need to be put in place to encourage the procurement of agricultural commodities directly from farmers' fields and to establish an effective linkage between farm production, the retail chain, and food processing industries. Accordingly, this Ministry suggested amendments to the state APMC Acts for the deregulation of the marketing system in the country in order to promote

investment in the marketing infrastructure, motivate the corporate sector to undertake direct marketing, and to facilitate a national integrated market.

10.5 The DAC also formulated a model law on agricultural marketing for guidance and adoption by state governments. The model legislation provides for the establishment of private markets/yards, direct purchase centres, consumer/farmers' markets for direct sale, and promotion of public-private partnership in the management and development of agricultural markets in the country. A provision has also been made in the Act for the constitution of State Agricultural Produce Marketing Standards Bureaus for the promotion of grading, standardisation, and quality certification of agricultural produce. This would facilitate pledge financing, direct purchasing, forward/futures trading, and exports.

10.6 With a view to facilitating states in the drafting of modified rules under the amended Act, the DAC formulated the Model APMC Rules based on the Model APMC Act, and circulated the same among the states in November 2007. The states of Andhra Pradesh, Rajasthan, Maharashtra, Orissa, Himachal Pradesh, Karnataka, Madhya Pradesh (only for special license for more than one market), and Haryana (only for contract farming) have notified such amended Rules so far.

10.7 Terminal Market Complex: The Department has recently taken the initiative to promote modern Terminal Market Complexes (TMC) for fruits, vegetables, and other perishables in important urban centres of the country. These markets would provide state-of-the-art infrastructure facilities for electronic auctions, cold chain, and logistics, and operate through primary collection centres conveniently located in producing areas to allow easy access to farmers. The terminal markets are envisaged to operate in the hub-and-spoke format, wherein the terminal market (the hub) would be linked to a number of collection centres (spokes), conveniently located in key production centres to allow easy access to farmers for marketing their produce.

10.8 Multi-State Agricultural Competitiveness Project (MACP): A Multi-State Agricultural Competitiveness Project has been taken up in six states, i.e., Maharashtra, Rajasthan, Orissa, Andhra Pradesh, Tamil Nadu, and Punjab, for World Bank assistance under the state sector. The project aims to achieve the development of competitive marketing systems and improved market access for farmers through enhanced knowledge and more effective producer organisations, increasing efficiency and reducing costs in the marketing chain for the benefit of both producers and consumers, increased Small and Medium Enterprise investment in agriculture, and more effective use of public funds allocated to extension/applied research and investment schemes.

10.9 Directorate of Marketing and Inspection: The Directorate of Marketing and Inspection (DMI) is an attached office of the Ministry of Agriculture. It was set up in the year 1935 to implement agricultural marketing policies and programmes of the Central Government. Since its very inception, the Directorate has been responsible for bringing about an integrated development of the marketing of agricultural and allied produce in the country, with a view to safeguarding the interests of producer-sellers, as well as consumers. It maintains a close liaison between the Central and state governments in the implementation of agricultural marketing policies in the country.

10.10 The Directorate is headed by the Agricultural Marketing Adviser (AMA) to the Government of India. The Directorate has its Head Office in Faridabad (Haryana), Branch

Head Office in Nagpur (Maharashtra) and 11 Regional Offices in Delhi, Mumbai, Chennai, Kolkata, Hyderabad, Chandigarh, Jaipur, Lucknow, Bhopal, Kochi, and Guwahati, and the Central Agmark Laboratory in Nagpur.

10.11 The main functions of the DMI are the following:

- i) Promotion of standardisation and grading of agricultural and allied produce under the Agricultural Produce (Grading and Marking) Act, 1937, as amended in 1986,
- ii) Marketing research, surveys, and planning,
- iii) Training of personnel in agricultural marketing,
- iv) Advising states on the regulation and management of agricultural produce markets,
- v) Marketing extension,
- vi) Agricultural Marketing Information Network,
- vii) Construction of Rural Godowns, and
- viii) Development/Strengthening of Agri-cultural Marketing Infrastructure, Grading and Standardisation;

10.12 Standardisation and Grading: The Agricultural Produce (Grading and Marking) Act, 1937 empowers the Central Government to formulate quality standards, known as 'AGMARK' standards, and to prescribe terms and conditions for using the AGMARK seal. The formulation of grade standards for agricultural and allied commodities is one of the important activities of the DMI. The standards are framed on the basis of important quality parameters after analysis of an adequate number of representative samples of commodities from different producing areas and assembling centres over a period of time. The Central and Regional Agmark Laboratories provide analytical support for the programme. Purity standards under the provisions of the Prevention of Food Adulteration Act, 1954 are invariably taken into consideration. International standards framed by Codex/ISO are also considered so that Indian products can compete in the international market. The Agmark standards are reviewed from time to time keeping in view the changes in production, consumers' preferences, etc.

10.13 The Final Notification of Vegetable Oils Grading and Marking (Amendment) Rules, 2009 has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 3 June 2009 vide GSR No. 383(E) dated 3 June 2009. The final notification of Organic Agricultural Produce Grading and Marking Rules, 2009 has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 18 July 2009 vide GSR No. 534(E) dated 18 July 2009.

10.14 The final notification of Karanja Seeds Grading and Marking Rules, 2009 has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 25 November 2009 vide GSR No. 842(E) dated 23 November 2009. The final notification of Puwad Seeds Grading and Marking Rules, 2009 has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 25 November 2009 vide GSR No. 841(E) dated 23 November 2009. The final notification of General Grading and Marking (Amendment) Rules, 2009 has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 5 November 2009 vide GSR No. 796(E) dated 30 October 2009. The preliminary draft notification of Fruits and Vegetables Grading and Marking (Amendment) Rules, 2009 (containing standards of nine fruits and vegetables approved by

the Standing Committee on fresh fruits and vegetables, APEDA, i.e., limes, lemons, grapefruits, mandarins, oranges, walnuts in the shell, shelled walnuts, amla, and potatoes) has been published in the Gazette of India (extraordinary), Part II, Section 3, sub section (i) on 12 October 2009 vide GSR No. 743(E) dated 7 October 2009.

10.15 Regulation, Development, and Management of Agricultural Produce Markets: Agricultural markets are regulated and managed under the Agricultural Produce Market Act enacted by the respective state governments. The Central Government provides guidance and assistance in the regulation and development of agricultural produce markets. By the end of March 2009, 7,153 markets have been brought under the ambit of regulation. In the perspective of agricultural marketing reforms and the Model Act, a final draft of the Model APMC Rules, 2007, has been framed and circulated to all the state governments and UT administrations for consideration and adoption.

10.16 Marketing Extension: Quality control programmes under Agmark as well as different plan schemes of the Directorate are given wide publicity through the mass media. The information is disseminated through documentaries, video spots, printed literature, exhibitions, conferences, seminars, and workshops. A quarterly journal, Agricultural Marketing, is brought out regularly.

10.17 Marketing Research and Information Network (AGMARKNET): A Central Sector Marketing Research and Information Network scheme was launched by the Department of Agriculture and Cooperation in March 2000. The scheme aims at progressively linking important agricultural produce markets spread all over the country, with State Agricultural Marketing Boards and Directorates, and the DMI, for the effective exchange of market information. The market information network, AGMARKNET (agmarknet.nic.in), is being implemented jointly by the DMI and NIC, using NICNET facilities available throughout the country. The objective of the scheme is to facilitate the collection and dissemination of information for better price realisation by the farmers. The information covers market, price, infrastructure, and promotion related issues for efficient marketing. Up to the Tenth Plan, 2,155 nodes have been brought under the network, against a target of 2,000 nodes. During the Eleventh Plan, 349 nodes have so far (as of January 2010) been covered under the scheme, against a target of 360 nodes.

10.18 Construction of Rural Godowns: It is well known that small farmers do not have the economic strength to retain produce with them till market prices are favourable. There has been a felt need in the country to provide the farming community with facilities for scientific storage so that wastage and deterioration of produce is avoided, and also to enable it to meet its credit requirement without being compelled to sell produce at a time when prices are low. A network of rural godowns will enable small farmers to enhance their holding capacity in order to sell their produce at remunerative prices and avoid distress sales.

10.19 Development and Strengthening of Agricultural Marketing Infrastructure, Grading, and Standardisation: The scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading, and Standardisation has been launched with effect from 20 October 2004. Under this scheme, credit linked investment subsidy is being provided on the capital cost of general or commodity specific marketing infrastructure for agricultural commodities and for the strengthening and modernisation of existing agricultural markets wholesale, rural, or periodic, and also in tribal areas. The scheme covers all agricultural and allied sectors including dairy, poultry, fishery, livestock, and minor forest

produce. The scheme is reform linked and is being implemented in those states/UTs which permit the setting up of agricultural markets in the private and cooperative sectors and allow direct marketing and contract farming.

10.20 Small Farmers' Agri-business Consortium (SFAC): The Small Farmers' Agri-business Consortium was registered by the Department of Agriculture and Cooperation as a Society under the Societies Registration Act, 1860 on 18 January 1994. The members at present are the RBI, SBI, IDBI, EXIM Bank, Oriental Bank of Commerce, NABARD, Canara Bank, NAFED, United Phosphorous Ltd., etc. The mission of the Society is to support innovative ideas for generating income and employment in rural areas by promoting private investment in agribusiness projects. The Scheme is being implemented by SFAC in close association with commercial banks for providing i) venture capital to agribusiness projects, and ii) assist farmer and producer groups in the preparation of quality Detailed Project Reports (DPR). SFAC has established 18 state-level SFACs by contributing corpus funds.

10.21 The Central Sector Scheme for Agribusiness Development was approved by the Government on 19 July 2005 for implementation during the remaining period of the Tenth Plan. The Scheme is being continued during the Eleventh Plan, with an allocation of Rs. 120 crore.

10.22 The main objectives of the Scheme are to facilitate the setting up of agri-business ventures in participation with banks, catalyse private investment in the setting up of agribusiness projects, thereby providing an assured market to producers for increasing rural income and employment, strengthening backward linkages of agri-business projects with producers, assisting farmers, producer groups, and agriculture graduates to enhance their participation in the value chain through project development facilities, and arranging visits, etc., of agri-preneurs setting up identified agribusiness projects.

11

Agricultural Trade

11.1 India is among the 15 leading exporters of agricultural products in the world. As per International Trade Statistics, 2009, published by the WTO, India's agricultural exports amounted to US\$ 21.37 billion, with a share of 1.6 per cent of world trade in agriculture in 2008.

11.2 Agricultural exports have shown an increasing trend. Agricultural exports have increased from Rs.79,039.72 crore in 2007-08 to Rs. 85,961.82 crore in 2008-09, registering a growth of about 8.76 per cent. However, the share of agricultural exports in the country's total exports has declined to 10.23 per cent from 12.05 per cent during 2007-08. The increase in the value of agricultural exports during 2008-09 was primarily because of higher exports of basmati rice, tobacco (un-manufactured), wheat, spices, meat and preparations, paper/wood products, other cereals, cashew nuts, castor oil, tea and coffee, dairy products, fresh and processed fruits, and vegetables and oil meals, compared to the corresponding period of the previous year. The export of non-basmati rice, sugar, molasses, and raw cotton, including waste, has registered a decline as compared to the previous year.

11.3 Agricultural imports increased from Rs. 29,906.24 crore in 2007-08 to Rs.36,736.52 crore in 2008-09, registering a growth of 22.84 per cent over the corresponding period of the previous year. The share of agricultural imports in the country's total imports has also declined to 2.74 per cent during 2008-09 compared to 2.95 per cent in 2007-08. The increase in the value of agricultural imports during this period has primarily been due to higher imports of sugar, fixed vegetable oils (edible), raw and waste cotton, cashew nuts, other cereals, tea, and wood and wood products. However, a decrease in imports has been registered in the case of raw jute and oilseeds in 2008-09.

11.4 There has generally been a surplus in agricultural trade over the years. The trade surplus has increased from Rs. 49,133.48 crore in 2007-08 to Rs. 49,225.30 crore in 2008-09.

11.5 Agricultural trade during 2008-09 shows a healthy balance, which can be boosted further if the export of traditional and new agricultural products like marine products, rice (basmati), other cereals, tea, coffee, cashew nuts, oil meals, floriculture, cotton, niger seed, etc., can be increased further.

11.6. The post Uruguay round experience has been a mixed one for agricultural trade in India. While exports in certain areas, have registered a high growth, in certain other areas, the growth rate has not been satisfactory. Exports of rice (basmati and non-basmati), coffee, tobacco, dairy and poultry products, spices, groundnut, guar gum meal, oil meal, fresh fruits and vegetables, meat and its preparations, raw cotton including waste, and paper/wood products have shown significant growth. Exports of pulses, castor oil, and marine products have not shown significant growth. At the global level, average bound tariffs have been

reduced in the Uruguay round. However, measures like, tariff escalation, variable tariffs, complex tariffs and also certain non-technical barriers still persist. Domestic support and export subsidies continue to remain high in a few developed countries. For most high-value agricultural products, including fruits and vegetables, fish, beef, poultry products, and spices, many importing countries have developed new standards, besides tightening existing standards. These factors have acted as inhibiting forces in actualising the export growth potential of the country. Other factors that have led to limited exports, include infrastructure inadequacies, poor quality awareness, and poor post-harvest management.

11.7 Globalisation has led to increased competition from international markets and pressure to dismantle protectionist instruments. Since agriculture in India is more a matter of livelihood than a commercial venture, it is necessary to build capacities in the system so that it is able to withstand the forces of globalisation and compete wherever possible. While there are a large number of issues to be addressed at the micro and macro levels, the Capacity Building to Enhance the Competitiveness of Indian Agriculture and Registration of Organic Products Abroad scheme aims to address some of the limited micro-level capacity creation issues. The capacity building under this scheme may be in the form of academic, relevant research, market surveys (domestic and international), or in the form of creation of physical assets critical to agriculture in the international context.

11.8 The EC-India Joint Working Group on Agriculture and Marine Products has been set up in the Department of Agriculture and Cooperation for facilitating and promoting agricultural trade between India and the European Union.

11.9 Negotiations on PTAs/FTAs are at various stages of progress with MERCOSUR (Brazil, Argentina, Paraguay, and Uruguay), BIMSTEC (Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka and Thailand), the Gulf Cooperation Council (Kuwait, Bahrain, Qatar, Oman, Saudi Arabia, and the United Arab Emirates), Thailand, and the European Union. India has signed the Trade in Goods Agreement with ASEAN countries and a Comprehensive Economic Partnership Agreement with South Korea in 2009. Agricultural commodities which are vulnerable to global competition and which are crucial for food and livelihood security have been kept out of the purview of these agreements. Besides, stringent rules of origin norms and built-in safeguards have been put in place to protect the interest of farmers.

12

Mechanisation and Technology

12.1 For the promotion of agricultural mechanisation, the strategy and programmes of the Department of Agriculture and Cooperation have been directed towards the promotion of eco-friendly and selective agricultural equipment. The aim is to optimally and efficiently utilise the different sources of human, animal, and mechanical/electrical power; increasing the productivity of land and labour; seeds, fertilizers, pesticides, and irrigation water; improving the quality of farm operations by promoting equipment with appropriate technology, thereby reducing the cost of production and the drudgery associated with various agricultural operations. As a result of the different programmes implemented by the Government of India over the years, the total farm power availability is estimated to have increased from 0.295 kW/ha in 1971-72 to 1.502 kW/ha in 2005-06.

12.3 Training of Farmers and Technicians: The Farm Machinery Training and Testing Institutes (FMTTIs) located at Budni (Madhya Pradesh), Hissar (Haryana), Garladinne (Andhra Pradesh), and Biswanath Chariali (Assam), have been imparting training to farmers, technicians, retired and retiring defence personnel, etc., in the selection, operation, maintenance, energy conservation, and management of agricultural equipment. These institutes have also been conducting testing and performance evaluations of various agricultural implements and machines.

12.4 Testing of Farm Machinery and Equipment: The institute at Budni has been authorised to conduct tests on tractors and other agricultural machinery; while the institute at Hissar conducts tests on self-propelled combine harvesters, irrigation pumps, plant protection equipment, agricultural implements, and other machinery, including the issuing of Central Motor Vehicle Rules (CMVR) certificates for combine harvesters. The institute at Garladinne has been authorised to test power tillers and also to conduct tests on various agricultural implements, equipment and components. This Institute is being developed as a speciality institute for meeting mechanisation demands in rain-fed and dry land farming systems. The institute at Biswanath Chariali (Assam) tests bullock-drawn implements, manually operated equipment, tractor-drawn implements, self-propelled machines, and small hand tools. For the Eleventh Plan, the target for testing has been kept at 550 machines/tools.

12.5 Demonstration of Newly Developed Agricultural and Horticultural Equipment at Farmer's Fields: For enhancing production and productivity, as well as for reducing the cost of production, the induction of improved and new technology in the agricultural production system is essential. Therefore, with this objective, the demonstration of newly developed agricultural equipment, including horticultural equipment, at farmers' fields has been included as a component of the restructured scheme of Promotion and Strengthening of

Agricultural Mechanisation through Training, Testing, and Demonstration, which will continue during the Eleventh Plan. This scheme envisages demonstrations being conducted of improved/newly developed agricultural and horticultural equipment identified by the state governments/Government organisations at farmers' fields, to acquaint them about their use and utility for the production of different types of crops.

12.6 Farm Mechanisation Programmes under Macro-Management of Agriculture schemes: Assistance in the form of a subsidy at the rate of 25-50 per cent of the cost with permissible ceiling limits, is made available to farmers for the purchase of agricultural equipment, including hand tools, bullock-drawn/power-driven implements, planting, reaping, harvesting, and threshing equipment, tractors, power tillers and other specialised agricultural machines under the centrally sponsored scheme of Macro-Management of Agriculture.

12.7 Evaluation and Impact Assessment of the Plan Scheme-Promotion and Strengthening of Agricultural Mechanisation through Training, Testing, and Demonstration: A study on the impact evaluation of the plan scheme, Promotion and Strengthening of Agricultural Mechanisation through Training, Testing, and Demonstration, was conducted by the Department of Agriculture and Cooperation through the National Productivity Council, Lodhi Road, New Delhi. The study report has been received by the DAC and the same has also been forwarded to all states, UTs, and FMTTIs for implementation of such recommendations, as and when they can be put in operation.

12.8 State Agro-Industries Corporations: The Government of India had advised state governments in 1964 to set up State Agro-Industries Corporations (SAICs) in the public sector to act as catalysts in providing access to industrial inputs to farmers for their use in agriculture. Thus, 17 SAICs were set up in the joint sector with equity participation of the Government of India and the respective state governments of Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, Tamil Nadu, and West Bengal, during 1965-1970. Many of the state governments have increased their equity participation, as a result of which, the Government of India, at present, is a minority shareholder. SAICs have since expanded their basic functions by commencing with the manufacture and marketing of agricultural inputs, implements, machines, after sales service, promotion, and development of agro-based units and industries. The Government of India is implementing a policy of disinvestment of its shares in SAICs, with a view to giving greater decision-making power to state governments by allowing for the transfer of its shares to state governments as per the following guidelines:

- Where the net worth of the SAIC is positive, the Government of India would be willing to consider offering its shares to state governments at a price 25 per cent less than the book value of the shares, on the basis of the latest available audited balance sheet.
- In the case of SAICs whose net worth is negative, the Government of India would be willing to pass on its stake for a token consideration of Rs. 1,000 for the value of the shares.

12.9 So far, the Government of India's shares in SAICs of Gujarat, Karnataka, Uttar Pradesh, Tamil Nadu, Rajasthan, and West Bengal have been transferred to the state governments concerned. The state governments of Madhya Pradesh, Assam, and Jammu

and Kashmir have since agreed, in principle, to the transfer of the Government of India's shares held in these SAICs.

12.10 Activities in the North Eastern States: A FMTTI has been established at Biswanath Chariali in the Sonitpur district of Assam, to cater to the needs of human resource development in the field of agricultural mechanisation, and to assess the quality and performance characteristics of different agricultural implements and machinery in the region. The institute imparted training to 434 persons and tested 15 machines up to 31 January 2010, during the year 2009-10.

12.11 Post-Harvest Technology and Management: As one of the thrust areas for the DAC, a scheme on Post-Harvest Technology and Management has been proposed to be implemented, with an outlay of Rs. 95 crore during the Eleventh Plan period. Under the scheme, technologies developed by the ICAR, CSIR, and those identified from within the country and abroad for primary processing, value addition, low-cost scientific storage and transport of cereals, pulses, oilseeds, sugarcane, vegetables and fruits, and crop by-product management shall be given a boost. Technologies for fruits and vegetables that have not been covered under the National Horticulture Mission shall also be established in the production catchments. The scheme will basically focus on the lower end of the spectrum of post-harvest management and processing, i.e., areas not covered under the Ministry of Food Processing programmes or under the National Horticulture Mission.

12.12 The main components of the scheme are as under:

- a) Establishment of units for the transfer of primary processing technology, value addition, low-cost scientific storage, packaging units and technologies for byproduct management in production catchments under tripartite agreements.
- b) Establishment of low-cost Post Harvest Technology (PHT) units/supply of PHT equipment, with Government assistance.
- c) Demonstration of technologies.
- d) Training of farmers, entrepreneurs, and scientists.

13

Horticulture

13.1 The horticulture sector includes a wide range of crops such as fruits, vegetables, root and tuber crops, flowers, aromatic and medicinal plants, spices and plantation crops, which facilitate diversification in agriculture. There is a realization that growing horticulture crops is now an option to improve livelihood security, enhance employment generation, attain food and nutritional security, increase income through value addition etc. As of 2008-09, horticultural crops occupied an area of 20.7 million hectare producing 214.7 million tones of horticultural produce. Over the years, there has been a significant improvement in the production of horticulture crops.

13.2 Fruits and vegetables, together, constitute about 92 per cent of the total horticultural production in the country. The area under fruit crops is 6.1 million hectare with a total production of 68.5 million tones which constituted 34 per cent share in total production between 2004-05 and 2008-09.

13.3 While India is the second largest producer of fruits in the world, it the largest producer of fruits like mango, banana, papaya, sapota, pomegranate and aonla. About 40 per cent of the world's mangoes and 30 per cent of the world's bananas and papayas are produced in India. In terms of productivity of grapes, India ranks first in the world.

13.4 Vegetables are an important crop in the horticulture sector and occupy an area of 8.0 million hectares with a total production of 129.1 million tonnes and have a productivity of 16.2 tonnes/ha. in 2008-09.

13.5 India is the second largest producer of vegetables after China and is a leader in the production of peas. Besides, India occupies the second position in the production of brinjal, cabbage, cauliflower and onion and third in potato and tomato in the world. Vegetables that are produced in abundance are potato, tomato, brinjal, okra, cucurbits etc.

13.6 India has made noticeable advancement in the production of flowers, particularly cut flowers, which have a high potential for exports. Floriculture during 2008-09 covered an area of 0.17 million hectares with a production of 0.98 million metric tonnes of loose and 11,362 million numbers of cut flowers.

13.7 India is the largest producer, consumer and exporter of spices and spice products. The total production of spices during 2008-09 was 4.14 million metric tonnes from an area of 2.6 million hectare. The total production of plantation crops during 2008-09 has been 11.33 million metric tonnes from an area of 3.20 million hectare.

13.8 In terms of bio-diversity, India is considered a treasure house of valuable medicinal and aromatic plants, which provide raw material for formulation of indigenous medicines apart from exports. The Government of India has identified and documented over 9,500

plant species considering their importance in the pharmaceutical industry. Of these, about 65 plants have huge and consistent demand in world trade.

13.9 The development of horticulture in the country is mainly through developmental programmes of the Department of Agriculture & Cooperation. The Schemes under implementation include (i) National Horticulture Mission (NHM), (ii) Technology Mission on Integrated Development of Horticulture in the North Eastern and Himalayan States (TMNE), Micro Irrigation, National Bamboo Mission, Schemes of the National Horticulture Board (NHB) and Integrated Development of Coconut, including the Technology Mission on Coconut coordinated by the Coconut Development Board (CDB). Besides, a Central Institute of Horticulture (CIH) is functioning at Nagaland for providing technology & HRD support to the horticulture sector in the North-Eastern states.

13.10 National Horticulture Mission (NHM): The Department of Agriculture and Cooperation, Ministry of Agriculture, has launched NHM, a centrally sponsored scheme, during the Tenth Plan, with effect from 2005-06, for the holistic development of the horticulture sector, duly ensuring horizontal and vertical linkages, with the active participation of all stakeholders. All the states, and three UTs of Andaman and Nicobar Islands, Puducherry, and Lakshadweep, are covered under the Mission, except for the eight North Eastern states including Sikkim and the states of Jammu and Kashmir, Himachal Pradesh, and Uttarakhand, which have been covered under the Technology Mission for Integrated Development of Horticulture in the North Eastern States (TMNE).

13.11 The NHM was launched during 2005-06 with the objective of providing holistic growth to the horticulture sector through an area-based, regionally differentiated strategy. The supply of quality planting material through nurseries and tissue culture units, production and productivity improvement programmes, technology promotion, extension, post-harvest management, and marketing, in consonance with the comparative advantages of each state/region and their diverse agro-climatic conditions, are the major programmes of the scheme.

13.12 Centrally Sponsored Scheme on Micro-Irrigation: The centrally sponsored scheme on micro-irrigation has been launched in January 2006 during the Tenth Plan for implementing drip and sprinkler irrigation in the country. The scheme is aimed at achieving better water use efficiency (60-70 per cent), increase in yield (30-100 per cent), savings in fertilizer consumption (of up to 40 per cent), reduction of weeding costs and inter-cultural operations, better quality of produce, with enhanced productivity.

13.13 The main objective of the scheme is to increase the coverage of area under improved methods of irrigation in the country for better water use efficiency along with other benefits like fertigation, quality production, etc., and to provide stimulus to growth in the agriculture sector with the following components:

- (i) Coverage of area under drip and sprinkler irrigation;
- (ii) Human Resource Development (HRD) of farmers and developmental staff, demonstration awareness, quality control of Micro Irrigation Systems.

13.14 Under this scheme, assistance is provided to all categories of farmers at the rate of 50 per cent of the cost of drip and sprinkler systems and at the rate of 75 per cent of the cost for demonstration purposes. The programme is implemented for horticulture and non-horticulture crops except oil palm and plantation crops like rubber, tea, and coffee.

13.15 The transfer of technology through human resource development, including training programmes, publications, awareness programmes, etc., are implemented by different states. Training programmes are coordinated by the National Committee on Plasticulture Application in Horticulture (NCPAH), involving 22 Precision Farming Development Centres (PFDCs), SAUs, ICAR Institutes, and reputed manufacturers.

13.16 Coconut Development Board (CDB): The Coconut Development Board is a statutory body set up by the Government of India for looking after the integrated development of coconut cultivation and industry in the country. Coconut provides food and livelihood security to more than 10 million people across 18 states and three UTs in the country. There are five million coconut holdings in the country, and the average size of these holdings is less than one hectare. India accounts for 15.65 per cent of area and 24.14 per cent of production in the world. According to the all-India final estimate of 2007-08, India recorded a production of 14.74 billion nuts from an area of 1.90 million hectares, with an average productivity of 7,747 nuts per hectare.

13.17 The thrust areas of the Coconut Development Board are:

- Production and distribution of quality planting material;
- Expansion of the area under coconut cultivation, especially in potential and non-traditional areas;
- Improving the productivity of coconut in major coconut producing states;
- Developing technology in post-harvest processing and marketing activities;
- Integrated control of major pests and diseases;
- Product diversification and by-product utilisation of coconut for value addition.

13.18 National Horticulture Board (NHB): The NHB was established in 1984 as an autonomous registered society under this department, with its headquarters in Gurgaon and 35 field offices located all over the country. Its main objectives are the creation of production hubs for commercial horticulture development, post-harvest infrastructure and cold chain facilities, promotion of new technologies, introduction and promotion of new crops, and promotion of growers' associations. These objectives are being achieved through various schemes of the NHB, namely, Development of Commercial Horticulture through Production and Post-Harvest Management of Horticulture Crops, capital investment subsidy for construction/expansion/modernisation of horticulture crops, technology development and transfer, Market Information Service scheme, and the Horticulture Promotion Service.

13.19 These schemes have helped in the promotion of public investment in the horticulture sector through credit from financial institutions for the creation of hubs for development of hi-tech commercial horticulture and strengthening the cold chain network for horticulture products. The scheme has also helped in the introduction of new crops, promotion of technology, and for capacity building among grower-farmers.

13.20 National Bamboo Mission: The National Bamboo Mission was launched in 2006-07 as a centrally sponsored scheme, with a total outlay of Rs. 568.23 crore. The Mission envisages the promotion of growth of the bamboo sector through an area-based, regionally differentiated strategy. The programme addresses three major areas of bamboo development namely i) research and development, ii) plantation development, and iii) handicrafts, marketing and exports. This scheme is being implemented in 27 states of the country, namely, Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra,

Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and West Bengal. Important activities being supported for increasing productivity and quality of bamboo under the Mission are: increasing area under bamboo cultivation, establishment of nurseries for mass production of quality planting material of recommended species, improvement of existing stock, pest and disease management, post harvest management, development of human resources and of marketing facilities. The expected benefits of the mission include coverage of 1.76 lakh hectares of virgin area under bamboo plantations over a period of five years, employment generation of 50.4 million man days by bamboo plantation and related activities, and about 9.7 lakh man days in the bamboo nursery sector.

13.21 Objectives:

- To promote the growth of the bamboo sector through an area-based regionally differentiated strategy;
- To increase the coverage of area under bamboo in potential areas with suitable species to enhance yields;
- To promote the marketing of bamboo and bamboo-based handicrafts;
- To establish convergence and synergy among stakeholders for the development of bamboo;
- To promote, develop and disseminate technologies through a seamless blend of traditional wisdom and modern scientific knowledge;
- To generate employment opportunities for skilled and unskilled persons, especially unemployed youth.

13.22 Technology Mission for Integrated Development of Horticulture in the North Eastern States, Sikkim, Jammu and Kashmir, Himachal Pradesh, and Uttarakhand: The centrally sponsored scheme on the Technology Mission for Integrated Development of Horticulture in the North Eastern region, including Sikkim (TMNE), was initiated during 2001-02 and was extended to the states of Jammu and Kashmir, Himachal Pradesh, and Uttarakhand during 2003-04. The scheme aims at establishing convergence and synergy among numerous ongoing governmental programmes in the field of horticulture development to achieve horizontal and vertical integration of these programmes, and to ensure adequate, appropriate, timely, and concurrent attention to all the links in the production, post-harvest management, and consumption chain.

13.23 Central Institute of Horticulture (CIH), Medziphema, Nagaland: Recognising the importance of institutional support for the development of horticulture in the North East region, a central sector scheme, the Establishment of a Central Institute of Horticulture in Nagaland, has been approved for implementation in 2005-06. The Institute has conducted training for farmers and state/district horticulture officers, erected green houses for the protected cultivation of fruit crops and flowers, developed mother stocks for fruit and vegetable crops, and has been engaged in other core developmental activities over the last five years. The Institute has been set up on an area of 43.50 hectares.

14

Natural Resource Management

14.1 Introduction: As reported by the National Rainfed Area Authority (NRAA), an area of about 120.72 million hectares is affected by various kinds of land degradation, i.e., water and wind erosion, water logging, alkalinity/salinity, soil acidity, and other complex problems across the country. Frequent events of drought, floods, and climate change also have an impact on soil fertility and land degradation, thereby affecting food grain production in the country.

14.2 Soil formation and its degradation is a dynamic natural process. To sustain agricultural production and prevent land degradation, the Department of Agriculture and Cooperation is implementing various soil and water conservation programmes for the treatment/reclamation of degraded lands.

14.3 Aims and Objectives: The aims and objectives of various schemes/programmes are:

- Implementation of soil and water conservation programmes for the prevention of soil erosion and land degradation in order to sustain agriculture production on a watershed approach basis;
- Formulation of policies and strategies for the efficient use of natural resources;
- Reclamation and development of land affected by alkalinity and acidity;
- Providing scientific data on soil and land use for watershed planning and programme implementation;
- Prevention of runoff and premature siltation of reservoirs, thereby sustaining the irrigation potential and water storage capacity of the various reservoirs across the country;
- Encouraging settled cultivation in lieu of shifting cultivation among the Jhumia families of the states of the North Eastern region, restoration of ecology and checking land degradation;
- Creation of employment opportunities and improving the socio-economic conditions of the rural community;
- Development of human resources through training and capacity building programmes in the area of soil and water conservation.

14.4 Schemes/Programmes: The Natural Resource Management (NRM) division is implementing the following central sector and centrally sponsored programmes for the development of degraded lands:

1. CENTRAL SECTOR SCHEMES

14.5 Soil and Land Use Survey of India (SLUSI): SLUSI is a subordinate office of the Department of Agriculture and Cooperation, the Ministry of Agriculture, and the Government of India. It was established in 1958, with its headquarters in New Delhi. SLUSI has seven regional centres located at Noida, Kolkata, Bangalore, Nagpur, Hyderabad, Ahmedabad, and Ranchi. The major mandate of SLUSI is to conduct various types of soil and land resource surveys and provide a soil-related database for the planning and implementation of programmes relating to soil and water conservation for the development of degraded lands. The main activities are:

- Rapid Reconnaissance Surveys (RRS) of watersheds of the catchments of river valley projects and flood prone rivers;
- Detailed Soil Surveys (DSS) of selected very high and high priority watersheds to provide a sound database for the execution of soil conservation measures, as well as for scientific land use planning;
- Soil Resource Mapping (SRM);
- Development of a GIS-based web server;
- Organising short training courses on soil surveys and data use for the planning of watershed management; and
- Consultancy projects on soil mapping.

14.6 The organisation is engaged in conducting soil surveys to provide a database for land-based developmental programmes for user organisations. Besides, SLUSI provides training to state officials drawn from state departments such as agriculture, soil conservation, soil survey, forestry, and irrigation.

14.7 Soil Conservation Training Centre, Damodar Valley Corporation (DVC), Hazaribagh, Jharkhand: The Soil Conservation Training Centre, DVC, Hazaribagh, Jharkhand, organizes medium and short duration training courses every year for field functionaries and project officers of the state government engaged in implementation of soil and water conservation programmes.

2. CENTRALLY SPONSORED PROGRAMMES (subsumed under MMA):

14.8 Soil Conservation in the Catchments of River Valley Project and Flood-Prone River: Presently, this programme is being implemented in 60 catchments of 27 states (all the states, except Goa) including all the states of North-Eastern region of the country. The total catchment area of ongoing programmes is about 113.51 million hectares, of which an area of about 30.15 million hectares is categorised by SLUSI as a priority area, needing urgent treatment. The catchments are mostly inter-state in nature and all categories of land, i.e.,

agricultural, wasteland, and forest land, are taken up for treatment in an integrated manner on a watershed approach basis. The main objectives are:

- Prevention of land degradation by adopting a multi-disciplinary, integrated approach for soil conservation and watershed management in catchment areas;
- Improvement of land capability and moisture regime in the watersheds;
- Promotion of land use to match land capability;
- Prevention of runoff and premature siltation of reservoirs, thereby sustaining the irrigation potential and water storage capacity of the various reservoirs across the country.

14.9 Under this programme, various soil and water conservation measures, namely, contour vegetative hedges, contour/graded bunding, horticulture plantation, contour/staggered trenching, sowing and planting of plants, silvipasture development, pasture development, affore station, farm ponds, percolation tanks, and drainage line treatment (earthen loose boulders, water harvesting structures, check bunds, spillways, sediment detention structures, etc.), are implemented on a watershed approach basis. With a view to assessing the impact of soil and water conservation measures, a system of continuous monitoring of rainfall, runoff, and sediment responses prior to, during, and after treatment of the watershed are collected and analysed for assessing the impact of watershed interventions. For this purpose, an amount of three per cent of the allocated funds are earmarked for meeting the cost of establishment of Sediment Monitoring Stations (SMS) and also to meet the operational cost of these SMSs.

14.10 Reclamation and Development of Alkali and Acid Soils (RADAS): The centrally sponsored programme RADAS has been restructured and launched during the Eleventh Plan for the development of alkali and acid soils in the states of Arunachal Pradesh and Mizoram in the North-Eastern region and in Gujarat, Haryana, Punjab, Karnataka, and Rajasthan.

14.11 The programme aims at improving physical conditions and the productivity status of soils for restoring optimum crop production. The major components permissible under the programme are on-farm development, i.e., land leveling, bunding; community drainage systems; application of soil amendments; organic manures; crop/horticultural/fuel wood production, etc.

3. SPECIAL CENTRAL ASSISTANCE TO STATE PLAN SCHEME:

14.12 Watershed Development Project in Shifting Cultivation Areas (WDPSCA): The WDPSCA scheme was launched during the Eighth Five Year Plan in seven states of the North Eastern region, namely, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura, with 100 per cent special central assistance to the state plan. The major objectives of the scheme are to:

- a) protect hill slopes of Jhum areas through soil and water conservation measures on a watershed basis, and to reduce further land degradation;
- b) encourage and assist Jhumia families to develop Jhum land for productive use, and a suitable package of practices leading to settled cultivation;
- c) improve the socio-economic status of Jhumia families through household/landbased activities;
- d) mitigate the ill effects of shifting cultivation by introducing appropriate land use as per land capability and improved technologies.

14.13 Under this scheme, the treatment of arable and non-arable land with drainage line treatment, water harvesting structures, farm ponds, horticulture, afforestation, silvi-pasture, crop demonstration, etc., is taken up as a development component. The Rehabilitation Components (RC) include the improvement of land-based and landless/asset-less household production systems like piggeries, poultries, duckeries, fisheries, sericulture, basket/ropemaking, tailoring, carpentry, etc., depending on the choice of the farmers. A one-time assistance of up to Rs. 25,000 is provided to such selected families on an installment basis, from time to time, through a bank account.

4. EXTERNALLY AIDED PROJECTS

Sodic Land Reclamation and Development Project with World Bank Assistance: The project proposal on the Uttar Pradesh Land Reclamation and Development Project, with an estimated cost of Rs. 2,000 crore for the reclamation and development of an area of 3.10 lakh hectare was proposed for seeking financial assistance from the World Bank. The technical and financial agreement has been signed in June 2009 for the development of an area of 1.35 lakh hectares, comprising 1.30 lakh hectares of sodic land area and 5,000 hectares of ravine area, with an estimated cost of Rs. 1,224.00 crore in six years.

14.4 A National Action Plan on Climate Change (NAPCC) has been circulated by the Prime Minister's Council on Climate Change, and the DAC is coordinating the formulation of the Mission Document on the National Mission for Sustainable Agriculture (NMSA) to address the various issues of the impact of climate change in the agriculture sector.

15

Rainfed Farming Systems

15.1 Food grain production in the country accrues from approximately 140.30 million hectares of cultivated land. Of this, 60.86 million hectares is irrigated and accounts for nearly 55 per cent of production. The remaining 79.44 million hectares is rainfed and contributes only about 45 per cent to the total agricultural production. Rainfed agriculture is complex, diverse, and risk-prone, characterised by low levels of productivity and low input usage. The vagaries of the monsoons result in wide variation and instability in yields. Rainfed areas, if managed properly, have the potential to contribute a larger share to food grain production.

15.2 The Government of India has accorded a very high priority to the holistic and sustainable Development of rainfed areas, through an Integrated Watershed Development approach. The key attributes of the watershed approach are the conservation of rain water and optimisation of soil and water resources in a sustainable and cost-effective manner. Improved moisture management increases the productivity of seeds and fertilizer. Conservation and productivity-enhancing measures are thus complementary.

15.3 National Watershed Development Project for Rainfed Areas (NWDPR): NWDPR was launched in 1990-91 in 28 states and two UTs, based on the twin concepts of integrated watershed management and sustainable farming systems. The NWDPR scheme has been subsumed with the scheme for Macro-Management of Agriculture-supplementation/complementation of the states' efforts through work plans from 2000-2001. The programme specifically focuses on:

- conservation, development, and sustainable management of natural resources; | enhancement of agricultural production and productivity in a sustainable manner;
- restoration of the ecological balance in degraded and fragile rainfed eco-systems by greening these areas through an appropriate mix of trees, shrubs, and grasses;
- reduction in the regional disparity between irrigated and rainfed areas; and
- creation of sustained employment opportunities for the rural community, including the landless.

15.4 Impact evaluation studies both on the ground and through remote sensing techniques have shown that watershed-based interventions have led to:

- increase in groundwater recharge;\ | increase in the number of wells and water bodies;
- enhancement of cropping intensity;
- changes in cropping patterns; and
- higher yields of crops and reduction in soil losses.

15.5 The scheme is being continued for implementation during the Eleventh Plan. The programme is being implemented as per the new Common Guidelines for Watershed Development Projects prepared by the National Rainfed Area Authority (NRAA). It is proposed to develop about 2.34 million hectares in the plan period, covering about 3,878 micro-watersheds, and by the end of December 2009 of the Eleventh Plan, an area of 7.96 lakh hectares has been developed at a cost of Rs. 638.40 crore.

15.6 National Rainfed Area Authority (NRAA): The Union Government has constituted a National Rainfed Area Authority on 3 November, 2006 to give focused attention to the problems faced by rainfed areas in the country. The Authority is an advisory, policy making, and monitoring body, charged with the role of examining guidelines in various existing schemes and in the formulation of new schemes, including all externally aided projects in this area. Its mandate is to address all aspects of sustainable and holistic development of rainfed areas, including appropriate farming and livelihood system approaches.

15.7 The Authority has published the Common Guidelines for Watershed Development Projects with a fresh framework for next generation watershed programmes. The Guidelines, coupled with the flexibilities inherent to them, would provide an enabling framework for the planning, design, management, and implementation of all watershed development projects in the country. New watershed projects are being implemented in accordance with these Common Guidelines with effect from 1 April, 2008. The Authority has also prepared a Vision Document for harnessing opportunities in rainfed areas. The vision document will help guide and provide for future initiatives for harnessing innovative policies, knowledge, technologies, and opportunities for holistic and sustainable development of rainfed areas. The Authority has developed a detailed format for facilitating states in preparing perspective plans for the development of rainfed areas in the states. The Authority has organised workshops in the states for the adoption of the Common Guidelines, and has also started organising workshops for the preparation of perspective plans. The NRAA is associated with the Planning Commission through a committee of experts. The Authority has provided technical and scientific backup in the Climate Change Mission of the Agriculture and Environment Ministries. The Authority has also prepared a comprehensive report on the Mitigation Strategy for the Bundelkhand Regions of Uttar Pradesh and Madhya Pradesh. Besides the above, the NRAA has published a document on Drought Management Strategies, 2009.

15.8 Externally Aided Projects: World Bank-Assisted Integrated Watershed Management Projects: Three World Bank-Assisted Integrated Watershed Management Projects in the states of Uttarakhand, Himachal Pradesh, and Assam, are being implemented. The DAC is involved in the supervision, coordination, and monitoring of these projects. The World Bank gives the funds for these projects directly to the state governments. Brief descriptions of the ongoing projects are as under:

- i) **Uttarakhand Decentralised Watershed Development Project:** The Uttarakhand Decentralised Watershed Development Project was launched in September 2004, and will end in March 2012. The project aims at improving the productive potential of natural resources, and increasing the income of rural inhabitants in selected watersheds, through socially inclusive and environmentally sustainable approaches. The project envisages participatory watershed development and management, enhancement of livelihood opportunities, and institutional strengthening. The total cost for this project is Rs. 402.98 crore, and the total area to be covered is 2.34 lakh hectares in

468 gram panchayats in 11 districts, namely, Almora, Champawat, Nainital, Rudraprayag, Uttarkashi, Bageshwar, Dehradun, Pauri Garhwal, Tehri Garhwal, Pittorgarh, and Chamoli. At present work is in progress in 467 selected gram panchayats with an investment of Rs.258.93 crores by end of December, 2009.

- ii) ***Himachal Pradesh Mid-Himalayan Watershed Development:*** The Mid-Himalayan Watershed Development project became operative in February 2006, and it will end in March 2013. The project aims at the prevention of degradation and protection of bio-diversity, improving accessibility to rural areas and productivity of livestock, etc. The project envisages institutional strengthening, watershed development and management, enhancing livelihood opportunities, project management, and coordination. The total outlay of the project is Rs. 365 crore. The total cost of the project is Rs. 337.50 crore and the total area to be covered includes 602 gram panchayats in 10 districts, namely, Sirmour, Solan, Bilaspur, Shimla, Kullu, Mandi, Hamirpur, Kangra, Chamba, and Una. At present, work is in progress in all the selected gram panchayats and a total of Rs. 152.92 crore has been spent by the end of September 2009.
- iii) **Assam Agricultural Competitiveness Project:** The Assam Agricultural Competitiveness Project was launched in February 2005 and it will end in March 2010. The project aims at increasing the productivity and market access of targeted farmers and community groups to stimulate the growth of Assam's agricultural economy. The total cost of the project is Rs. 1,022 crore, covering 23 districts for infrastructure development, such as rural roads, agricultural services and market chain development, and minor irrigation. As in December 2009, an amount of Rs.504.13 crore has been incurred towards the installation of 36,129 shallow tube wells (STWs), 11,674 lift pump sets, supply of 1,077 power tillers, provision of 700 tractors, and drainage treatment of 15,908 hectares.

15.9 German Technical Cooperation (GTZ) Assisted Project: Strengthening Capacity Building for Decentralised Watershed Development: The objective of the programme is to strengthen the capacities and networking of cultural, regional, and state organisations, for decentralised watershed management. The first phase of the project is being implemented in the states of Karnataka, Rajasthan, and Uttarakhand, on a pilot basis. The project is aimed at strengthening the capacity development system for watershed development projects at the regional and state level. A national consortium comprising of the Ministry of Agriculture, GTZ, International Crops Research Institute for Semi-Arid Tropics (ICRISAT), and the National Institute of Agricultural Extension Management (MANAGE) has been constituted for achieving the project objectives. The duration of the project was three years, from December 2006 to November 2009 which has now been extended to November, 2010. The total cost of the project is a grant of 3.5 million euros from the GTZ in the form of technical cooperation.

15.10 Watershed Development Fund (WDF): As a follow-up action to the Union Finance Minister's Budget Speech of 1999-2000, the WDF was established at NABARD with a total corpus of Rs.200 crore, which includes Rs.100 crore by the Department of Agriculture, and Rs.100 crore by NABARD as a matching contribution. The total corpus lies with NABARD.

15.11 The objective of the fund is to spread the message of participatory watershed development. The fund is utilised to create the necessary framework to replicate and consolidate isolated but successful initiatives under different programmes in the Government, semi-government, and NGO sectors. Initially, 18 states, namely, Andhra Pradesh, Bihar, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, Karnataka, Rajasthan, Tamil Nadu, West Bengal, Haryana, Jammu and Kashmir, Orissa, Himachal Pradesh, Jharkhand, Chhattisgarh, Uttarakhand, and Kerala were identified under the WDF. However, only 13 states, namely, Gujarat, Maharashtra, Uttar Pradesh, Uttarakhand, Karnataka, Tamil Nadu, Rajasthan, Chhattisgarh, Orissa, Jharkhand, Madhya Pradesh, Himachal Pradesh, and West Bengal came forward for participating in the WDF. During 2006, after the announcement of the Prime Minister's Rehabilitation Package to 31 distressed districts in the states of Andhra Pradesh, Karnataka, Kerala, and Maharashtra, it was decided to implement participatory watershed development programmes in all these distressed districts through the WDF.

15.12 Development of Model Watersheds: To address the bio-physical and socio-economic dimensions of specific agro-climatic conditions, and to develop suitable technologies for maximising the development process under watershed programmes, 18 model watershed projects covering different agro-ecological regions of the country have been assigned to the Central Soil and Water Conservation Research and Training Institute (CSWCRTI), ICAR, and International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad. These watersheds will serve as model projects for replicating successful technologies for their wider dissemination through NWDPRA and other national/state-level funded watershed projects. CSWCRTI has been assigned the development of nine model watersheds located in the states of Uttarakhand, Rajasthan, Karnataka, Tamil Nadu, Gujarat, Uttar Pradesh, Punjab, Madhya Pradesh, and Orissa. An amount of Rs. 1.23 crore has so far been released to the CSWCRTI under the direct funded component of the MMA. Similarly, ICRISAT has also been assigned nine model watersheds in the states of Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka, Uttar Pradesh, Orissa, and Tamil Nadu. An amount of Rs. 3.10 crore has so far been released to ICRISAT.

16

Cooperation

16.1 The cooperative sector has been playing a significant role in the area of disbursing agricultural credit, providing market support to farmers, distribution of agricultural inputs, and imparting cooperative education and training, etc.

16.2 The DAC is implementing two Central Sector Schemes in the cooperative sector in the country during the year 2009-10. These are: i) restructured Central Sector Scheme for Cooperative Education and Training and (b) restructured Central Sector Scheme for Assistance to NCDC Programmes for Cooperative Development.

16.3 Cooperative Education and Training: The Government of India has been implementing a Central Sector Scheme for Cooperative Education and Training through the National Cooperative Union of India (NCUI) and the National Council for Cooperative Training (NCCT) since the Third Five Year Plan. It is a continuing scheme. Programmes relating to cooperative education are being implemented by the NCUI. The NCUI has been implementing the Central Sector Scheme for Cooperative Education in cooperatively under-developed states / under developed areas of developed states. The Government of India is providing 100 per cent grants-in-aid to the NCUI for implementing the Special Scheme of Intensification of Cooperative Education in Cooperatively Under-Developed States. At present, the NCUI is running 44 projects. During the year 2009-10 (up to 30 November 2009), 4.18 lakh people were educated through NCUI projects, against a target of 5.37 lakh persons.

16.4 Cooperative Training Programmes are being conducted by the National Council for Cooperative Training (NCCT), through its five Regional Institutes of Cooperative Management and 14 Institutes of Cooperative Management, located in different states, and the Vaikunth Mehta National Institute of Cooperative Management, Pune. The Government of India provides 100 per cent financial assistance in the form of grants-in-aid to the NCCT for conducting cooperative training programmes. The Council also provides academic and financial support to Junior Cooperative Training Centres in the country. Junior Cooperative Training Centres are financed by state cooperative unions/state governments. From the year 2004-05, the DAC has introduced a new component in the Central Sector Scheme (CSS) for assistance to Junior Training Centres (JTCs) in conducting training programmes.

16.5 Cooperative Education and Training Activities in the North Eastern Region: The Government of India is implementing a special scheme for the Intensification of Cooperative Education in Cooperatively Under-Developed States, including the North Eastern region, through the NCUI with 100 per cent financial assistance. NCUI has established eight field projects, namely, Aizwal (Mizoram), Bishnupur, West Imphal (Manipur), Jorhat and Kamrup (Assam), Kohima (Nagaland), Shillong (Meghalaya), and West Sikkim, operated in the North Eastern region. These projects have made a tangible impact in improving the income of members of self-help groups and cooperatives.

16.6 Women Development Activities: With the overall objective of bringing women into the cooperative fold from the grass roots level through an informal approach, revitalising and developing women's participation in group activities, and improving the socio-economic conditions of women of selected blocks, the NCUI is now operating four exclusive women's development projects, located at Shimoga (Karnataka), Berhampur (Orissa), Imphal (Manipur), and Bhopal (Madhya Pradesh), under the Special Scheme of Intensification of Cooperative Education in the Cooperatively Under-Developed States. Besides, each field project has a special women's development component. Under this, women are organized into self-help groups to help them to develop thrift habits. Women are also given training to undertake income-generating activities with the help of their own resources or through borrowing from cooperatives. The project personnel help them in marketing their produce in the local market, and by organising fairs and exhibitions. A women's educational and development project is operating in the North Eastern region at East Imphal, in the state of Manipur.

16.7 Cooperative Development Programmes through the National Cooperative Development Corporation (NCDC): The Government of India implements its cooperative development programmes, inter alia, through the National Cooperative Development Corporation (NCDC). The programmes/schemes being implemented through the NCDC are: i) Integrated Cooperative Development Projects in selected districts, ii) assistance to cooperative marketing, processing and storage, etc., programmes in cooperatively under-developed/least developed states/UTs, and iii) share capital participation in growers'/weavers' cooperative spinning mills under the restructured Central Sector Scheme. It has been decided that under this scheme, the subsidy component will be provided by the Government of India and the loan component will be arranged by the NCDC through its own sources.

16.8 NCDC is a non-equity based development financing institution, created exclusively for the cooperative sector with the objective of planning and promoting programmes for the production, processing, marketing, storage, export, and import of agricultural produce, food stuff, and certain notified commodities and services, on cooperative principles. With the amendment of the NCDC Act in 2002, its scope of activities has been widened to cover livestock, cottage and village industries, handicrafts, rural crafts, and certain notified services, besides enabling the NCDC to lend directly to cooperative societies on furnishing a security to the satisfaction of the Corporation. The rates of interest on NCDC loans ranged from 9 per cent to 10.5 per cent during the year.

16.9 Cooperative Spinning Mills: In order to improve the economic condition of cotton growers as well as handloom and power loom weavers, and to consolidate the gains achieved so far, the department, through the NCDC, continued to provide financial assistance to spinning mills and ginning and pressing units in the cooperative sector.

16.10 The NCDC is implementing a restructured Central Sector Scheme of the DAC for share capital participation in growers'/weavers' cooperative spinning mills. Loans are met out of the Corporation's funds, and the subsidy is provided by the Govt.

16.11 Cooperative Storage and Cold Storage: The Department of Agriculture and Cooperation, through the NCDC, has been making systematic and sustained efforts to assist cooperatives in creating additional storage capacity aimed at facilitating expanded operations of cooperative marketing and distribution of inputs, and sale of consumer articles.

The storage capacity assisted by the NCDC has increased from 11 lakh tones during 1962-63, to 168.51 lakh tonnes, as on 31 March 2009.

16.12 Integrated Cooperative Development Projects: The DAC has made systematic efforts to develop primary cooperatives as multi-purpose entities to provide a package of services to rural communities. With this in view, NCDC is implementing the Integrated Cooperative Development Project (ICDP) scheme in selected districts in rural areas.

16.13 Cooperatives in Under-Developed States: The process of economic development in the country has brought to light certain regional disparities and imbalances due to inherent factors like topography, agro-climatic conditions, and poor infrastructure. During the formulation of the Fifth Five Year Plan, the limitations of this approach came to the fore and consequently the concept of cooperatively under-developed states evolved to ensure balanced regional development.

16.14 The categorisation of states for funding by the NCDC was reviewed by the Planning Commission in November 2004. Accordingly, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, and Goa were placed in the category of cooperatively under developed states. Similarly, Jharkhand, Bihar, and Jammu and Kashmir were classified as cooperatively least developed states, in addition to the existing states. Now, 10 states and two UTs have been categorised as under-developed and 11 states as least developed.

16.15 Strengthening of National-Level Cooperative Federations: The progressive expansion and diversification of the cooperative movement has led to the organization of national level cooperative institutions in different fields of economic activity, with a view to accelerating the pace of cooperative development and strengthening cooperatives in their economic activities in a coordinated manner. National-level cooperative federations have been playing a significant leadership role. Most of these federations are promotional in nature, excepting for a few, which are involved in commercial activities. The DAC has been providing both policy direction and financial support to these federations. The objective of the scheme is to assist national-level federations in undertaking promotional and research activities, bringing about improvement in infrastructural facilities and also assisting in building their equity base.

16.16 Gender in Agriculture: The NCDC encourages women's cooperatives to avail of assistance under its various schemes. A large number of women members are engaged in cooperatives dealing in the areas of fisheries, power looms, garment manufacturing and knitting units, spinning mills, fruits and vegetables, marketing and processing, poultry, and service cooperatives, etc. So far, assistance of Rs. 126.37 crore has been provided for women cooperatives in the country. Prominent among the women cooperatives which have so far been assisted by the NCDC are programmes related to textiles (spinning, handlooms, power looms), poultry, fisheries, plantation crops, service cooperatives, and integrated cooperative development projects, etc.

16.17 Revitalization of Cooperatives: With the phenomenal expansion of cooperatives in almost all sectors, signs of structural weakness and regional imbalances have also become apparent. The reason for such weakness could be attributed to the large percentage of dormant membership, heavy dependence on government assistance, poor deposit

mobilisation, lack of professional management, mounting overdues, etc. Concrete steps have now been initiated to revitalise the cooperatives, to make them vibrant democratic organisations with economic viability and the active participation of their members. The steps taken for the revitalisation of cooperatives include the enunciation of a National Policy on Cooperatives, revamping of the cooperative credit structure, and reforms in cooperative legislation for providing an appropriate legislative framework for the sound and healthy growth of cooperatives.

16.18 Amendment to the Constitution in respect of Cooperatives: Pursuant to the Common Minimum Programme of the erstwhile UPA Government to ensure the democratic, autonomous, and professional functioning of cooperatives, it has been decided to amend the Constitution. The amendment to the Constitution, for this purpose, will address key issues for the empowerment of cooperatives through their voluntary formation, autonomous functioning, democratic control, and professional management.

16.19 Accordingly, the Constitution (One Hundred and Sixth Amendment) Bill, 2006, was introduced in the Lok Sabha on 22 May 2006. The Bill lapsed upon the dissolution of the fourteenth Lok Sabha on 18 May 2009.

16.20 After obtaining the approval of the Cabinet, the Constitution (One Hundred and Eleventh Amendment) Bill, 2009 has been introduced in the Lok Sabha on 30 November 2009.

16.21 Amendment to the Multi-State Cooperative Societies Act, 2002: The Multi-State Cooperative Societies Act, 2002 has been enacted with effect from 19 August 2002, replacing the Multi-State Cooperative Societies Act, 1984. The MSCS Act of 2002 has been enacted conforming to the thrust areas of reform in cooperative legislation, i.e., restoration of autonomous and democratic functioning without undue governmental intervention and political interference, responsive systems of governance accountable to their members, and professional management to ensure the delivery of services to members.

16.22 Helping Farmers in Getting Remunerative Prices for their Produce through NAFED: The Department of Agriculture and Cooperation is implementing a Price Support Scheme (PSS) for the procurement of oilseeds and pulses at the Minimum Support Price (MSP) declared by the Government, through NAFED, which is the central nodal agency for this purpose. The DAC is also implementing a Market Intervention Scheme (MIS) for the procurement of horticultural and agricultural commodities generally perishable in nature and not covered under the Price Support Scheme, thus helping farmers in getting a remunerative price for their produce.

16.23 Price Support Scheme: The DAC is implementing PSS for the procurement of oil seeds and pulses through NAFED, which is the central nodal agency for this purpose, at the MSP declared by the Government. NAFED is also the central agency for the procurement of cotton under the PSS, in addition to the CCI. NAFED undertakes the procurement of oilseeds, pulses, and cotton under the PSS, as and when prices fall below the MSP. Procurement under the PSS is continued till prices stabilise at or above the MSP. Losses, if any, incurred by NAFED in undertaking MSP operations are reimbursed by the Central Government. Profit, if any, earned in undertaking MSP operations are credited to the Central Government account.

16.24 Market Intervention Scheme: The Department of Agriculture and Cooperation is implementing MIS on the request of state/UT governments, for the procurement of agricultural and horticultural commodities generally perishable in nature and not covered under the PSS. The MIS is implemented in order to protect the growers of these commodities from making distress sales in the event of a bumper crop when there is glut in the market, causing prices to fall below economic levels/the cost of production. Procurement under the MIS is made by NAFED as a central agency and by state-designated agencies. Losses, if any, incurred by the procuring agencies are shared between the Central Government and the concerned state government on a 50:50 basis (75:25 in case of North Eastern states). However, the amount of loss to be shared between the Central Government and the concerned state government is restricted to 25 per cent of the procurement cost. Profit earned, if any, is retained by the procuring agencies.

17

Drought Management

17.1 The Department of Agriculture and Cooperation performs the function of coordinating the responses of the Central Government regarding the management of drought in the country. Towards this end, the DAC closely monitors the development and progress of the South-West Monsoon (June-September) in the country, through inputs received from the India Meteorological Department (IMD), and keeps watch over signs of distress emerging, in the country, if any, in order to anticipate drought. It is also vested with the responsibility of coordinating relief efforts in the event of hailstorms and pest attacks. It is responsible for deputing Inter-Ministerial Central Teams (IMCTs) to assess the impact of drought, hailstorms and pest attacks in the states and recommend assistance to be provided from the National Calamity Contingency Fund (NCCF), to the Government for consideration.

17.2 The South-West Monsoon is the main rainy season of the country. During 2009, the South-West Monsoon (1 June, 2009 to 30 September, 2009) was erratic and weak, resulting in widespread deficit rainfall. According to the IMD, during the South-West Monsoon 2009, the country as a whole received 689.8 mm of rainfall against the normal average rainfall of 892.2 mm, with a deviation of -23 per cent.

17.3 Due to this deficit rainfall, as many as 14 states, namely, Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Orissa, Rajasthan, and Uttar Pradesh, declared 337 districts as affected by drought/scarcity/drought-like situation, because of which, Inter-Ministerial Central Teams(IMCT) were deputed to these states except Jammu & Kashmir. An IMCT has now been constituted to visit Jammu & Kashmir to assess the drought situation and requirement of Central assistance.

17.4 Till 26 February, 2010, an amount of Rs.4736.635 crore has been allocated from NCCF to the drought affected states for taking appropriate drought mitigation action.

17.5 The previously mentioned assistance from the NCCF is subject to adjustment of the balance 75 per cent available under the Calamity Relief Fund (CRF). The proposal relating to Orissa will be considered in accordance with the existing procedure.

17.6 The National Institute of Drought Management, on behalf of the Department, prepared a National Manual for Drought Management. The Manual reflects a comprehensive approach to drought management in the country and recommends measures, which need to be implemented for effective drought relief and mitigation.

18

International Cooperation

18.1 Food and Agriculture Organization (FAO): India is a founder member of the FAO and has been an active participant in all its activities. The 136th Session (15-19 June 2009) and 137th Session (28 September 2009-2 October 2009) of the FAO Council held in Rome were attended by the Govt. The Indian delegation, led by the Agriculture Minister, attended the World Summit on Food Security held in Rome from 16-18 November 2009. The Secretary(A&C) led the Indian delegation for the 36th Session of the FAO Conference held in Rome from 18-23 November 2009.

18.2 World Food Day: World Food Day is celebrated throughout the world on 16 October, to mark the establishment of the FAO. The theme for this year's celebration was Achieving Food Security in Times of Crisis. A function to celebrate the event was organised at the IARI, New Delhi.

18.3 Technical Cooperation Programme: India has been availing of the FAO's services periodically in the form of training, consultancy, equipment, and material in the field of agriculture and allied sectors, under its technical cooperation programme.

18.4 Office of the Minister (Agriculture), Embassy of India, Rome: The Government of India, for the purpose of maintaining liaison and coordination with the FAO has nominated its Ambassador in Rome as the permanent representative of India to the FAO. Keeping in view the specialised nature and increasing volume of interaction with the FAO and its various bodies, an agricultural wing, headed by an officer with the rank of Joint Secretary to the Government of India with the designation of Minister (Agriculture), has been established at the Indian Embassy, Rome. The Minister (Agriculture) has been designated as India's Alternate Permanent Representative (APR) to the FAO and the World Food Programme (WFP). The Minister represents Indian interests at meetings of the FAO/WFP and other agencies having their headquarters in Rome, e.g., the International Fund for Agricultural Development (IFAD).

18.5 World Food Programme (WFP): The World Food Programme (WFP) was set up in 1963 jointly by the United Nations (UN) and the FAO, and India is a member since its inception. It seeks to provide emergency food supplies in places facing acute food insecurity due to natural calamities and manmade causes. The Government of India contributes US\$ 1.92 million every biennium towards the WFP, which it uses for support of its India Country Programme. Since its inception India has contributed US\$ 33.58 million to the WFP up to the financial year 2009-2010.

18.6 Currently, the India Country Programme 2008-12 is under operation, focusing on reducing hunger and malnutrition amongst women and children in vulnerable areas, development of appropriate products to deal with malnutrition for young children, and livelihood opportunities for the poor. The WFP has also made notable contributions through product innovations such as Indiamix and mapping of hunger in India through food atlases, etc.

18.7 The India Country Programme 2008-2012 has three components, namely, i) Capacity Development for Food Security, covering a wholerange of programmes in which the WFP will provide technical assistance in support of supply chain management of Government food-based programmes, fortification of mid-day meals, nutrition education, village grain banks, integration of nutrition in HIV/AIDS packages, etc. These programmes will be taken up on the request of state governments; ii) Support to ICDS (Integrated Child Development Schemes), and iii) Support to Livelihood Activities, a joint programme with the IFAD. The WFP has committed to providing 1,84,104 MT of food grains, at a total cost of US\$ 24 million (which also includes distribution/superintendence cost), to be procured within the country. In addition, the WFP will raise US\$ 5.4 million locally from foundations and the private sector to meet costs towards components. The country programmewill cover an estimated two million beneficiaries in the five states of Jharkhand, Chhattisgarh, Orissa, Madhya Pradesh and Rajasthan, apart from the states which request for assistance under this component. The governments of states where WFP will support the ICDS programme will also provide contributions worth US\$ 23.4 million in terms of 2,59,000 MT of food grains.

18.8 World Bank: Presently, there are four agriculture sector projects being executed with World Bank assistance. These projects mainly relate to watershed development, soil and water conservation measures, as well as overall agricultural development related issues. These projects, taken together, involve a total IDA credit of XDR 321.11 million.

18.9 Agreements/MoUs/Work Plans: There are more than 40 countries with which India has signed MoUs/agreements/work plans for agricultural cooperation.

18.10 Contributions to International Organisations : This Department is a member of many international organisations and an annual contribution is made by the IC Division to the following international organisations :

- i) Food and Agriculture Organization of the United Nations
- ii) Trust Fund of the FAO for Desert Locusts in the Eastern Region
- iii) Trust Fund for International Desert Locusts
- iv) Asia Pacific Rural and Agricultural Credit Association (APRACA)
- v) Regional Network on the Development of Agricultural Cooperatives (NEDAC)
- vi) Organisation for Economic Co-operation and Development (OECD)
- vii) Asia and Pacific Coconut Community (APCC)
- viii) World Food Programme

18.11 Developing Countries: India has been encouraging South-South cooperation. Assistance in the form of training and admissions in various agricultural universities is provided to personnel from developing countries in India. Besides, the services of Indian experts in various fields are also made available.

19

Macro-Management of Agriculture

19.1 Revised Macro-Management of Agriculture Scheme: Agriculture is a state subject. Hence, the primary role for increasing the productivity and production of food grains is that of the state governments. However, in order to supplement the efforts of state governments, a number of Centrally Sponsored and Central Sector Schemes are being implemented for enhancement of agricultural productivity and production, livelihood security of the farming community and food security in the country.

19.2 The Macro-Management of Agriculture (MMA) scheme is one of the Centrally Sponsored Schemes formulated in 2000-01, with the objective of ensuring that Central assistance is spent through focused and specific interventions for the development of agriculture in the states. To begin with, the Scheme consisted of 27 Centrally Sponsored Schemes relating to cooperatives, crop production programmes (for rice, wheat, coarse cereals, jute, and sugarcane), watershed development programmes (National Watershed Development Project for Rainfed Areas, River Valley Projects/Flood Prone Rivers), horticulture, fertilizer, mechanisation, and seeds production programmes. With the launch of the National Horticulture Mission (NHM) in 2005-06, 10 schemes pertaining to horticulture development were taken out of the purview of this scheme.

19.3 In the year 2008-09, the Macro-Management of Agriculture scheme was revised to improve its efficacy in supplementing/complementing the efforts of states towards the enhancement of agricultural production and productivity. The role of the scheme has been redefined to avoid overlapping and duplication of efforts and to make it more relevant to the present agricultural scenario in the states for achieving the basic objective of food security, and to improve the livelihood system for rural people. The revised MMA scheme comprised of 11 sub-schemes relating to crop production and natural resource management. The component relating to State Land Use Boards (SLUB) has been discontinued with effect from 1 August 2009. With this, the revised MMA scheme now comprises of 10 sub-schemes.

19.4 Some of the salient features of the revised Macro-Management of Agriculture scheme are the following:

- (i) The practice of allocating funds to states/UTs on a historical basis has been replaced by a new allocation criteria, based on gross cropped area and the

area under small and marginal holdings. Assistance would be provided to the states/UTs as a 100 per cent grant.

- (ii) The subsidy structure has been rationalised to make the pattern of subsidies uniform under all schemes implemented by the Department of Agriculture and Cooperation. The revised subsidy norms indicate the maximum permissible limit of assistance. States may either retain the existing norms, or may increase them to a reasonable level, provided that the norms do not exceed the revised upper limits specified.
- (iii) Two new components have been added, namely, a) Pulses and oilseed crop production programmes for areas not covered under the Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) and b) Reclamation of Acidic Soil along with the existing component of Reclamation of Alkali Soil.
- (iv) The permissible ceiling for new Initiatives has been increased from the existing 10 per cent to 20 per cent of the allocation.
- (v) At least 33 per cent of the funds have to be earmarked for small, marginal and women farmers.
- (vi) The active participation of Panchayati Raj Institutions (PRIs) of all tiers would have to be ensured in the implementation of the revised MMA scheme, including review, monitoring, and evaluation at the district/sub-district level.

20

Information Technology

20.1 The National Agriculture Policy (NAP) lays emphasis on the use of Information Technology for achieving the rapid development of agriculture in India. In pursuance of this mandate, the Department of Agriculture and Cooperation (DAC) has taken an initiative to prepare a National e-Governance Plan in Agriculture (NeGP-A) with a view to promote the focused and integrated implementation of e-governance activities in agriculture. Phase I of the NeGP-A has been completed. It has identified 22 (18+4) priority services to be provided to the farming community. A Detailed Project Report has been approved and further action for its implementation has been initiated.

20.2 Phase II of the NeGP-A is underway. The ongoing e-governance initiatives at the DAC and under AGRISNET will also be integrated under NeGP-A.

20.3 In order to promote e-governance in Agriculture at the Centre and to provide support to states and UTs for the same, the DAC is implementing a Central Sector Scheme, Strengthening/Promoting an Agricultural Information System. The scheme has the following components:

- i) Development of Agricultural Informatics and Communication;
- ii) Strengthening of IT apparatus in the Department of Agriculture and Cooperation in states and UTs (AGRISNET);
- iii) IT apparatus at the DAC headquarters, field offices and directorates;
- iv) Agricultural Resources Information Systems (AgRIS); and
- v) Kisan Call Centres.

20.4 Development of Agricultural Informatics and Communication and other Applications: The objective of this component is to build a reservoir of data related to agriculture, and the development of web-enabled applications. It includes the development of various portals. The NIC-DAC has also developed 75 portals, applications, and websites covering both the headquarters and its field offices/directorates. A number of software development initiatives such as a farmers' portal and data warehousing are under various stages of development. A proof of Farmers' Portal was finalised with sample data from some states. DACNET and SeedNet portals have already been developed. The development and enrichment of portals on various subjects of agriculture is a continuous process. Work on the development of a National e-Governance Plan is also going on.

20.5 AGRISNET: The DAC is supporting e-Governance activities in state agriculture and allied departments through AGRISNET. Funds under AGRISNET are provided to state and UT governments on the basis of project proposals submitted by them in a project mode for specific applications. It has been decided to strengthen I-T infrastructure down to the Block level. Financial assistance to the tune of Rs. five lakh is also available for preparation of AGRISNET projects. Services delivered under this project are state/UT-specific. So far, funds have been released to 22 states/UTs: Andhra Pradesh, Madhya Pradesh, Tamil

Nadu, West Bengal, Uttar Pradesh, Gujarat, Karnataka, Assam, Uttarakhand, Himachal Pradesh, Meghalaya, Nagaland, Sikkim Maharashtra, Punjab, Orissa, Mizoram, Kerala, Haryana, Rajasthan, Chhattisgarh, and Puducherry. Under AGRISNET, the North Eastern states are dealt with in a special way to overcome their telecommunication constraints.

20.6 IT Apparatus at DAC Headquarters and its Field Offices/Directorates: This component is basically meant for strengthening IT infrastructure through LANs, website and multimedia access both in the headquarters and field offices. Computers, at a ratio of 1:1 up to LDC level have been provided under new the IT policy of the DAC. A video-conferencing facility has also been set up at DAC headquarters in Krishi Bhawan.

20.7 Kisan Call Centre: The Kisan Call Centre (KCC) initiative aims to provide information to the farming community through a toll-free telephone number (18001801551). The scheme was launched on 21 January, 2004. The call centres have so far received 39.65 lakh calls till January 2010, which included 31.22 lakh live calls and 8.43 lakh Interactive Voice Response calls. The entire country is covered under the scheme. The facility is being publicised among farmers through Doordarshan and AIR programmes, and also through direct publicity campaigns in the field.

20.8 Activities in the North Eastern Region: Under the IT apparatus at the field offices and directorates of the DAC (DACNET), the following offices in the North Eastern region have been covered:

- (i) Directorate of Marketing and Inspection at Guwahati and Shillong;
- (ii) Central Integrated Pest Management Centres at Guwahati, Aizawl, Dimapur and Gangtok;
- (iii) Regional Bio-fertilizer Development Centre at Imphal; and
- (iv) North Eastern Regional Farm Machinery, Testing, and Training Institute, Sonitpur, Assam.

21

Agricultural Census

21.1 The Agriculture Census forms part of a broader system of collection of agricultural statistics. It is a large-scale statistical operation for collecting and deriving quantitative information about various important facets of agriculture in the country. As the agricultural operational holding is the ultimate unit for taking agriculture related development decisions at a micro-level, it is treated as the statistical unit for data collection. Data aggregation is done at various levels of administrative units.

21.2 Periodic agriculture censuses are the main source of information on basic characteristics of operational holdings, such as land use and cropping patterns, irrigation status, tenancy, and terms of leasing. This information is tabulated by different size classes and social groups, including Scheduled Castes and Scheduled Tribes to serve as an input for development planning, socio-economic policy formulation, and the establishment of national priorities. The census also provides the basis for the development of a comprehensive integrated national system of agricultural statistics, linked to various components of the national statistical system. The Agriculture Census of the country is implemented in three distinct phases which are statistically linked together, but focus on different aspects of agricultural statistics. In Phase-I, a list of holdings with their area, and the social characteristics of holders is prepared. In Phase-II, detailed data on agricultural characteristics of holdings are collected from selected villages. In Phase-III, data on input use patterns are collected from selected holdings of selected villages.

21.3 The Agriculture Census in India is conducted following broad guidelines of the decennial World Census of Agriculture conducted by the Food and Agriculture Organization of the United Nations. India is a participant of the World Agricultural Census Programme.

21.4 Since 1970-71, seven agriculture censuses have been completed, and six input surveys have been held since 1976-77. The 8th Agriculture Census 2005-06 and 7th Input Survey 2006-07 are underway.

21.5 During 2008-09, the All India Report on Agriculture Census 2000-01 was published, and is available on <http://agcensus.nic.in>. The salient points brought out in the report are:

- A consistent trend of increase in the number of operational holdings since the launch of the first Agricultural Census in 1970-71 with operational holdings increasing up to 119.9 million during 2000-01 from 115.6 million in 1995-96.
- A marginal decline in the operated area to 159.4 million hectares in 2000-2001, from 163.3 million hectares in 1995-96.

- A further reduction of the average size of holdings to 1.33 hectares in 2000-2001, from 1.41 hectares in 1995-96.

21.6 The All India Report on Input Survey 2001-02 has been published, and the data has been made available on www.agcensus.nic.in. The salient features brought out in this report are:

- The inclusion, for the first time, of data on the educational qualifications of operational holders, which showed that marginal holders had the highest percentage (63.5 per cent) of illiterates, followed by small, semi medium, medium and large holders.
- 91.6 per cent of irrigated area was treated with different chemical fertilizers while 53.5 per cent was the corresponding figure for the un-irrigated area. Similarly, 24.6 per cent of irrigated area was treated with farmyard manure, against the corresponding figure of 32.6 per cent for the un-irrigated area.
- 44 per cent of irrigated area was treated with pesticides, as against 22.9 per cent in unirrigated areas.
- Certified seeds were more popular than other seed varieties (notified, hybrid) across different size groups of holdings.
- 20.2 per cent of operational holders availed of institutional credit for agricultural purposes (14 for marginal, 27.7 for small, 31.6 for semimedium, 33.1 for medium, and 29.4 for large).

21.7 The Agriculture Census scheme was converted from a Centrally Sponsored Scheme to a Central Sector Scheme in 2007-08. Therefore, 100 per cent financial assistance is now given to states and UTs for payment of salaries, office expenses, honoraria, tabulation costs and printing of schedules, etc.

21.8 Gender-Based Information in Agriculture Census: On the recommendation of the Central Statistical Organisation (CSO), the Ministry of Statistics and Programme Implementation, New Delhi, the collection of gender-based data was introduced for the first time in Agriculture Census 1995-96. Since then, data on this aspect has been collected in successive censuses, namely, 2000-01 and 2005-06. The scope of data collection has been restricted to the number of operational holdings and the corresponding operated area by different size classes of holdings, social groups, gender (male and female), and types of holdings (individual, joint, and institutional). The collected information indicates the participation of women in the operation and management of agricultural holdings in the country.

22

Other Special Policy Initiatives

22.1. Rehabilitation Package for Distressed Farmers: The incidence of suicide by farmers has been reported mainly from the states of Andhra Pradesh, Karnataka, Maharashtra, and Kerala. As reported by state governments, broadly, the causes for committing suicide by farmers are crop failure, indebtedness, drought/crop failure, and social and economic insecurity. To ameliorate the condition of the farmers, the Government of India approved a rehabilitation package for 31 suicide prone districts in the four states of Andhra Pradesh (16 districts), Maharashtra (six districts), Karnataka (six districts), and Kerala (three districts). The rehabilitation package aims at establishing a sustainable and viable farming and livelihood support system through different interventions, which include, the improved supply of institutional credit, assured irrigation facilities, watershed management, better extension and farming support services, and subsidiary income opportunities through horticulture, livestock, dairying, fisheries, etc.

22.2 An amount of Rs. 17,649.24 crore (i.e., 104 per cent of the total package cost), has been released by the Centre to respective state governments and banks as follows: Andhra Pradesh (Rs. 9,712.26 crore), Maharashtra (Rs. 4,281.80 crore), Karnataka (Rs. 3,274.77 crore), and Kerala (Rs. 380.41 crore) up to 31 December 2009. As per reports received from the state governments, suicides by farmers have by and large shown a declining trend in 2008 compared to previous years. The Government of India has extended the period of the implementation of the non-credit components of the package by two more years, i.e., till 30 September, 2011.

22.3 National Policy for Farmers, 2007 (NPF): The Government of India approved the National Policy for Farmers in 2007. The Policy provisions, inter alia, include asset reforms in respect of land, water, livestock, fisheries, and bio-resources; provide support services and inputs like application of frontier technologies; agricultural bio-security systems; supply of good quality seeds and disease-free planting material, improving soil fertility and health, and integrated pest management systems; support services for women like crèches, child care centres, nutrition, health and training; timely, adequate, and easy reach of institutional credit at reasonable interest rates, and farmer-friendly insurance instruments; use of information and communication technology and setting up of farmers' schools to revitalise agricultural extension; effective implementation of MSP across the country, development of agricultural market infrastructure, and rural non-farm employment initiatives for farm households; and an integrated approach for rural energy, etc. Many of the provisions of the NPF are being operationalised through various schemes and programmes which are being implemented by different Central Government departments and ministries. For the

operationalisation of the remaining provisions of the Policy, an action plan has been finalised and circulated to the ministries and department concerned, as well as to all states and UTs for necessary follow up action. An inter-ministerial committee has also been constituted to monitor the progress of the plan of action for the operationalisation of the NPF.

22.4 Other Special Policy Initiatives: The Agricultural Debt Waiver and Debt Relief Scheme, 2008, announced by the Government in the Union Budget 2008-09 has been successfully implemented. Under this scheme, overdue debt of about three crore small and marginal farmers has been waived, and about 68 lakh other farmers have been given debt relief. The main objective of the Debt Waiver and Debt Relief Scheme, 2008, was to enable indebted farmers to avail of fresh institutional credit. The other features of the Scheme are mentioned below.

22.5 In case of marginal farmers (i.e., holding up to one hectare) and small farmers (one-two hectares), the entire eligible amount has been waived. In the case of other farmers there is a One Time Settlement (OTS) scheme, under which the farmer will be given a rebate of 25 per cent of the eligible amount, subject to the condition that the farmer pays the balance 75 per cent of the eligible amount. In case of revenue districts covered under the Drought Prone Areas Programme (DPAP), the Desert Development Project (DDP) and the Prime Minister's Special Relief Package, other farmers are given an OTS rebate of 25 per cent of the eligible amount or Rs. 20,000, whichever is higher, subject to the condition that the farmer pays the balance of the eligible amount. Agricultural loans restructured and rescheduled by banks in 2004 and 2006 through special packages and other loans rescheduled in the normal course as per RBI guidelines, are also eligible either for a waiver or for an OTS on the same pattern.

22.6 The Government has also constituted a task force to look into the issue of farmers' indebtedness to moneylenders, as a large number of farmers have taken loans from private moneylenders in the country.

23

Rashtriya Krishi Vikas Yojana

23.1 Introduction and Salient Features of the Rashtriya Krishi Vikas Yojana (RKVY): The RKVY is an Additional Central Assistance (ACA) scheme for the agriculture and allied sectors, and was approved on 16 August 2007, with an envisaged outlay of Rs. 25,000 crore during the Eleventh Five Year Plan. The RKVY aims at contributing to achievement of 4 per cent annual growth in the agriculture sector during the Eleventh Plan period, by ensuring the holistic development of agriculture and allied sectors.

23.2 Objectives: The broad objectives of the RKVY scheme are as under:

- (i) To incentivise states to increase public investment in agriculture and allied sectors;
- (ii) To provide flexibility and autonomy to states in the process of planning and executing agriculture and allied sector schemes;
- (iii) To ensure the preparation of agriculture plans for states and districts based on agro climatic conditions, availability of technology, and natural resources;
- (iv) To achieve the goal of reducing yield gaps in important crops through focused attention;
- (v) To maximise returns to farmers in agriculture and allied sectors;
- (vi) To ensure that local needs/crops/priorities are better reflected in the agricultural plans of the states; and
- (vii) To bring about quantifiable changes in the production and productivity of various components of agriculture and allied sectors by addressing them in a holistic manner.

23.3 Primary Strategic Relevance of the Scheme: The RKVY scheme has been formulated with two strategic objectives in mind—first, to incentivise states to allocate more funds for agriculture and allied sectors, and second, to enable states to generate additional growth in agriculture and allied sectors through better planning and by undertaking appropriate growth oriented projects to achieve this goal. This is to be done by drawing up plans for agriculture and allied sectors in a comprehensive manner, by integrating livestock, poultry, and fisheries and reflecting needs/crops/priorities of different areas, taking agro-climatic conditions, natural resource endowment and technology into account. Funds are provided to states as a 100 per cent grant by the Central Government.

23.4 The allocation of funds to states is dependent upon additional resources committed

by states for agriculture and allied sectors in their state plans, and growth as projected and generated. There are no prescriptions regarding the projects, schemes, and other programmes to be undertaken by states under the RKVY. The scheme provides complete flexibility to states to choose what is best suited to them for generating growth so as to enable the country to achieve four per cent growth in the agriculture and allied sector during the Eleventh Plan.

23.5 Eligibility Criteria for Accessing RKVY Funds: There are two eligibility conditions for states to become and remain eligible for receiving assistance under the RKVY. These are:

- i) The baseline share of the agriculture and allied sectors in the total state plan (excluding RKVY funds) is maintained. The baseline is the moving average of the share of expenditure in agriculture and allied sectors in the state plan during the previous three years.
- ii) State and district agriculture plans have been formulated.

23.6 Both these criteria have been relaxed in the initial years of the scheme, as the states required some time to prepare SAPs, after completing the exercise of preparing Comprehensive District Agriculture Plans (CDAPs) in accordance with Planning Commission guidelines issued in 2008. The criterion of maintaining baseline expenditure has been relaxed to make it higher than the minimum of last three years expenditure. However, this does not take away the incentive of higher allocation to states, as state-wise allocations are still dependent on additional funds actually allocated/spent by states on the agriculture and allied sectors than the previous year.

23.7 Criteria for Allocation of Funds: Allocations by the Central Government under the scheme to each of the eligible states is based on three parameters for un-irrigated areas, the growth potential, and additional allocation to the agriculture and allied sectors out of state plan funds with a respective weightage of 20 per cent, 30 per cent, and 50 per cent.

23.8 Stream of Projects in RKVY: RKVY is primarily a project-oriented scheme. However, RKVY also provides for additional outlays on existing state and central schemes in non-project mode. Accordingly, RKVY funds can be utilized by states in two streams, subject to the condition of a minimum allocation of 75 per cent for Stream-I projects:

- Stream-I: A minimum of 75 per cent of the RKVY fund is made available for specific projects/schemes/programmes proposed by the state which have been approved as part of the state and district plans.
- Stream-II: A maximum of 25 per cent of the total RKVY fund to a State in a year is made available for strengthening existing state sector schemes.

23.9 State Level Sanctioning Committee (SLSC): Under the scheme, SLSCs have been constituted under the Chairmanship of the Chief Secretary, with the Secretary (Agriculture) as Member Secretary of the concerned state/UT along with other members from allied departments and state agriculture universities, the Department of Agriculture and Cooperation Department of Animal Husbandry, Dairying, and Fisheries, and the Planning Commission. The SLSC appraises and approves projects under Stream-I. The State Agriculture Department is the nodal department for implementation of the scheme.

23.10 District and State Agricultural Plans: The RKVY guidelines recognise and build on the need for convergence and integration of the various programmes implemented at the district/state level into SAPs and DAPs. Each district is required to formulate a District Agriculture Plan (DAP) by including the resources available from other existing schemes, district, state, or Central schemes such as the Backward Region Grant Fund (BRGF), Swarnajayanti Gram Swarozgar Yojana (SGSY), National Rural Employment Guarantee Scheme (NREGS), and Bharat Nirman, tied and untied grants from the Central and state finance commissions etc.

23.11 The District Agriculture Plans reflect the financial requirements and the sources for financing these in a comprehensive way. The DAP include animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes, and schemes for water harvesting and conservation, keeping in view the natural resources and technological possibilities in each district. The DAPs are thereafter integrated to formulate the SAPs.

23.12 Projects taken up under RKVY: RKVY, as stated above, does not prescribe any particular strategy, programme, or project to be implemented by the states. RKVY is designed to focus fund allocation and the states' attention to achieving growth in agriculture, and to incentivise them to allocate more resources and take up plans which can generate growth.

23.13 State governments, keeping in view their priorities, have approved project proposals for implementation under the RKVY in many sectors, including crops, horticulture, organic farming, farm mechanisation, micro/minor irrigation, watershed development, agriculture marketing and storage, seed farms, and soil/fertilizer testing laboratories, which have been starved over the years due to paucity of funds.

23.14 Physical Progress: The Ministry has undertaken to measure progress of each project under RKVY, not only in physical terms, but also in terms of project outcomes, and their growth impact. The compilation for 2008-09 in terms of targets and expected outcomes for each Stream-I project has been done and provided to the states for indicating actual achievement of outputs and outcomes. The compilation of information is under progress.

23.15 Substantial Step-Up in Allocation to Agriculture by States: There is good evidence to show that the states have indeed stepped up allocation to the agriculture and allied sectors. Allocation to agriculture and allied sectors was 5.11 per cent of total State Plan Expenditure in 2006-07. This has gone up to 5.84 per cent in 2008-09 (RE/approved).

23.16 Conclusion: RKVY is a quantum jump in evolution from the variegated schematic approach followed so far through diverse but straitjacketed schemes, to a completely new approach in agriculture planning, by allowing the states to first plan a strategy and then design schemes to meet that strategy by providing for variety and flexibility in scheme design.

23.17 This new initiative has imparted momentum to the agriculture sector. Regular activities starved of resources, promising strategies languishing for lack of support, and limited opportunities for experimentation and innovation, have found a new hope in RKVY. The implementation machinery in the states has by now stabilized to cope with an increased

pace of activity. There is hope and optimism. Agriculture, which has made a comeback in policy and progressive agenda. A timely policy instrument-the RKVY-has indeed accelerated revival of agriculture.

24

Gender Perspectives in Agriculture

24.1 In line with the National Agriculture Policy, 2000, policy-level initiatives for gender mainstreaming are being promoted in the Department of Agriculture and Cooperation (DAC), Ministry of Agriculture. The National Gender Resource Centre for Agriculture (NGRCA) was set up under the DAC during 2004-05, as one of the components under the Extension Support to Central Institutes scheme to serve as a focal point of convergence for all issues related to gender in agriculture, and to ensure that policies in agriculture reflect the national commitment to women's empowerment.

24.2 The Centre, acting as a focal point for the convergence of gender related activities and issues in agriculture and allied sectors under the DAC, adds a gender dimension to agriculture policies and programmes, renders advocacy and advisory services to states and UTs for internalising gender-specific interventions for bringing farm women into the mainstream of agriculture development.

24.3 To bring gender concerns on to the centre-stage in all aspects of public expenditure and policy, a Gender Budgeting Cell (GBC) has been constituted in the DAC to look into the budgetary commitments of various schemes of the DAC, and ensure a proportionate flow of public expenditure benefiting women farmers. It has been mandated that a minimum of 30 per cent of funds would be utilised for women farmers under all the beneficiary-oriented programmes and schemes. Division-wise identified nodal officers/gender coordinators have been sensitised about the concept of gender budgeting.

24.4 Besides promoting the mainstreaming of gender issues, the NGRCA has also taken other initiatives, which include:

- Undertaking macro/micro-level and action research studies in critical thrust areas, including the assessment of gender content and the impact of various ongoing programmes of the DAC, and to make recommendations, if required, on appropriate improvements in the strategy and design of the scheme to incorporate gender perspectives.
- Collecting, analyzing, and documenting success stories of women farmers.
- Assessing gender content and generating gender-disaggregated data in respect of various schemes and programmes of the DAC.
- Gender Sensitisation Modules (GSM) for programme implementers at three

different levels, namely, senior, middle and cutting edge level, developed by the NGRCA through MANAGE, are being utilised to sensitise extension functionaries at various levels.

- Revising reporting and monitoring formats to generate gender-disaggregated data.
- As a part of its networking strategies, the NGRCA is committed to initiating appropriate action on the National Plan of Action on the National Policy for Empowerment of Women (NPEW), formulated by the Ministry of Women and Child Development (MoW&CD).

24.5 The important mainstreaming efforts within various subject matter divisions are briefly given below:

- I. Under the Technology Mission for Integrated Development of Horticulture scheme in the North Eastern States including Sikkim, assistance provided for women farmers is enumerated as under:
 - i) Entrepreneurial Development: The programme envisages making women farmers self-reliant by providing them with equal opportunities, so that they are able to avail the benefits and opportunities of the existing agricultural systems.
 - ii) Organization/identification of women's groups, which would act as a network for channelising horticultural support.
 - iii) Need assessment of women farmers in terms of horticulture support such as input, technological and extension etc.
 - iv) Prioritizing the activities of individual women's groups on the basis of need assessments.
 - v) Providing adequate organizational and financial support to women self-help groups to make them self-reliant, so that they are able to orchestrate their own activities and resources through group interaction.
 - vi) Provide technical training to women farmers in horticulture and allied areas.
 - vii) Provide training in increased managerial, organisational, entrepreneurial, and decision making skills.
 - viii) Baseline surveys to identify the amount and type of work being contributed by women in the field of horticulture, their role in the decision making process, and problems faced by them.

24.6 Under the scheme, assistance is being provided as under:

- (i) Baseline surveys, at the rate of Rs. 10,000 per district

- (ii) Curriculum development, at the rate of Rs. 20,000 per district
- (iii) Refresher training of facilitators, at the rate of Rs. 10,000 per district
- (iv) Women's self-help groups, at the rate of Rs. 5,000 per group
- (v) Five days training, at the rate of Rs. 1,000 per farm woman for training in production technology, procedures for accessing credit and loans, techniques for marketing produce, etc.

24.7 National Bamboo Mission: In the operational guidelines of this Centrally Sponsored Scheme, activities are not defined based on gender. Under the Mission, both men and women benefit from activities like the establishment of private nurseries, plantation in non-forest areas, and training. However, directions have been issued to state/implementing agencies to ensure that at least 30 per cent of budget allocation is earmarked for women beneficiaries/farmers.

II. Agriculture Extension

24.8 The Centrally Sponsored Scheme, Support to States Extension Programme for Extension Reforms is under implementation in 588 districts of 29 states and two UTs. The funds under the scheme are being released to the states on the basis of State Extension Work Plans (SEWP). Under the approved scheme, while there is no separate allocation under the Women Component Plan (WCP), however, a minimum 30 per cent of resources on programmes and activities are to be essentially utilised for women farmers and extension functionaries. Besides, the scheme also provides for the involvement of women in different decision making bodies at the district and block level, such as appropriate representation in ATMA governing bodies at the district level and Farmers' Advisory Committees at the block level.

24.9 The Central Sector Scheme of Establishment of Agri-Clinics and Agri-Business Centres is open to graduates in agriculture and allied areas, such as horticulture, animal husbandry, forestry, dairy, veterinary, poultry, farming, and pisciculture. During 2009-10 (upto November out of the 69 woman agriculture graduates trained, 29 trained graduates have set up their ventures. A credit-linked subsidy funded through bank loan is 25 per cent of the capital cost of the project, whereas the subsidy is 33 per cent for women farmers.

24.10 The Central Sector Scheme of Mass Media Support to Agricultural Extension was launched during the Tenth Plan period, with a view to help revamping of extension services in the country by using the electronic media for the transfer of technology and information to farmers. Under the scheme, the existing infrastructure of Doordarshan and All India Radio (AIR) is being utilised to produce and transmit programmes covering a wide spectrum of topics in the agriculture and allied fields for bringing the latest information and knowledge to the farming community. In order to cater to the needs of women farmers, special programmes are being produced and broadcast by Doordarshan and AIR in areas in which women are predominantly involved, such as apiary, seed treatment, mushroom cultivation, kitchen-gardening, post-harvest management of fruits and vegetables, cultivation of aromatic and medicinal plants.

24.11 National Gender Resource Centre in Agriculture (NGRCA)

- i) The progress of the macro/micro-level and action research studies/tasks undertaken is as under:
 - a) Evaluation and impact assessment of the central sector scheme of Women Women in Agriculture sourced to Development and Research Services, New Delhi has been completed.
 - b) Xavier's Institute of Social Services (XISS), Ranchi, Jharkhand has completed the study review and analysis of existing schemes/programmes of the DAC with regard to the incidence of benefits and cost of delivery of services for women in agriculture.
 - c) Analytical studies on existing state policies, programmes, interventions, processes and their impact on women's access to land, has been out sourced to MANAGE. The study is in progress.
 - d) Mainstreaming Gender Concerns in Agriculture has been outsourced to the Centre for Management Development (CMD), Thycaud, Trivandrum, Kerala. The study is in progress.
- ii) A one-day Gender Sensitisation Module (GSM) is being delivered by MANAGE in on-going training programmes for senior and middle-level extension functionaries, whereas a three day-long GSM for extension functionaries at the cutting edge level is being delivered through State Agricultural Management and Extension Training Institutes (SAMETIs).
- iii) Reporting formats of the extension division have been revised to Generate disaggregated data. These formats have been circulated to all subject-matter divisions of the Department for revising their formats for beneficiary-oriented schemes.
- III. Watershed Development Programmes: The National Watershed Development Project for Rainfed Areas (NWDPA), does not have a gender-specific component. However, all communities living in watershed areas are benefited through Natural Resource Management. Since 2007-08, about 24,348 women's self-help groups and 18,075 women's user groups have been formed in the project areas covered under the programme.
- IV. Crops: The National Food Security Mission (NFSM) was launched in October 2007-08, targeting three important foodgrain crops-rice, wheat, and pulses. The beneficiaries of the Mission include small and marginal farmers, including women farmers. States have been advised to set aside at least 33 per cent of the total allocation for small and marginal farmers, including women farmers. To create a more visible impact of these technologies, progressive small and marginal farmers are given preference for seed mini-kits and demonstrations.
- V. Technology Mission on Oilseeds and Pulses (TMOP): The Integrated Scheme of Pulses, Oilseeds, Palm Oil, and Maize, provides for assistance at 50 per cent of the cost of sprinkler sets or Rs. 15,000 per set, whichever is lower, to women farmers, and assistance at the rate of Rs.15,000 for 210

meters of pipes. Further, assistance to the tune of 50 per cent of the cost is also being provided for drip irrigation.

- VI. Machinery and Technology:** Under the Central Sector Scheme-Promotion and Strengthening of Agricultural Mechanisation through Training, Testing, and Demonstration, during 2009-10, about 1,575 gender-friendly equipment have been distributed amongst farm women. Under the scheme for Outsourcing of Training and Demonstration of Newly Developed Agricultural Equipment, including Horticultural Equipment at Farmers' Fields, separate physical targets have been fixed and 10 per cent of the funds have been allocated for women farmers. During 2009-10 a total of 484 women have been imparted training (till December 2009) at Farm Machinery, Training, and Testing Institutes (FMTTIs). A list of about 30 identified gender friendly tools and equipment developed by the Research and Development Organisation for use in different farm operations has been sent to all states and UTs, for popularising them. State governments have been directed to earmark 10 per cent of total funds allocated for the training for women farmers.
- VII. Integrated Nutrient Management (INM):** Under the National Programme for Organic Farming, 25 per cent of seats are reserved for training of women farmers in organic farming.
- VIII. Cooperation:** With the overall objective of bringing women into the cooperative fold, to develop their participation in group activities and to improve their socio-economic condition, the NCUI is now running four exclusive women's development projects located at Shimoga (Karnataka), Berhampur (Orissa), Imphal (Manipur), and Bhopal (MP), under the Special Scheme for Intensification of Cooperative Education in cooperatively under-developed states. Besides, each field project has a special women's development component. Under this, women are organised into self-help groups to help them develop thrifty habits. Women are also provided training to equip them to undertake income generating activities from their own resources or by borrowing from cooperatives. Project personnel help women in marketing their produce in local markets, and by organising fairs and exhibitions. An educational and development project for women is being operated in the North Eastern Region at East Imphal in Manipur state. During the year 2009-10 (up to 30 November 2009), 1.17 lakh people were imparted education and training through these projects.

24.12 The National Cooperative Development Corporation (NCDC) encourages women's cooperatives to avail assistance under its various schemes. A large number of women members are engaged in cooperatives, engaged in the areas of fisheries, power looms, garment manufacturing and knitting units, spinning mills, fruits and vegetables, marketing and processing, poultry and service cooperatives, etc. Prominent among women's cooperatives which have so far been assisted by the NCDC include programmes related to textiles (spinning, handloom, power loom), poultry, fisheries, plantation crops, service cooperatives and integrated cooperative development projects, etc.

- IX. Agriculture Census:** On the recommendation of the Central Statistical Organisation (CSO), Ministry of Statistics and Programme Implementation, New Delhi, the collection of gender-based data was introduced for the first

time in the Agriculture Census of 1995-96. Since then, data on this aspect has been collected in successive censuses, i.e., 2000-01 and 2005-06. The scope of data collection has been restricted to the number of operational holdings and the corresponding operated area by different size classes of holdings, social groups, gender (male and female) and types of holdings (individual, joint, and institutional). The collected information indicates the participation of women in the operation and management of agricultural holdings in the country.

- X.** Policy: The National Policy for Farmers 2007 announced by the Government envisages the following measures aimed at women's empowerment:
- i) Asset reforms under land, water, and livestock for an equitable share to women farmers.
 - ii) Better access to inputs and services like science and technology, implements, credit, and support services like crèches, child care centres, nutrition, health, and training.
 - iii) Encouragement to women for participating in group activities aimed at achieving economies of scale through farming groups.
 - iv) Involvement of women in conservation and development of bio-resources.

FUNCTIONS AND ORGANISATIONAL STRUCTURE

List of Functional Divisions in the Department of Agriculture and Cooperation

DIVISIONS:

1. Administration
2. Agricultural Census
3. Agricultural Marketing
4. Budget, Finance and Accounts
5. Credit
6. Cooperation
7. Crops
8. Drought Management
9. Economic Administration
10. Extension
11. General Coordination
12. Hindi
13. Horticulture
14. Information Technology
15. Integrated Nutrients Management
16. International Cooperation
17. Mechanisation and Technology
18. Natural Resource Management
19. Plant Protection
20. Policy
21. Plan Coordination
22. Seeds
24. Technology Mission on Oilseeds, Pulses and Maize
25. Trade
26. Vigilance

FUNCTIONS AND ORGANISATIONAL STRUCTURE

Inventory of Field Formations

I. ATTACHED OFFICES

1. Directorate of Economics and Statistics, Shastri Bhavan, 'B' Wing, New Delhi.
2. Commission for Agricultural Costs and Prices, Shastri Bhavan, 'F' Wing, Second Floor, New Delhi.
3. Directorate of Plant Protection, Quarantine and Storage, N.H.I.V., Faridabad (Haryana).
4. Directorate of Marketing and Inspection, N.H.I.V., Faridabad (Haryana).

II. SUB-ORDINATE OFFICES

1. Central Farm Machinery Training and Testing Institute, Budni (Madhya Pradesh).
2. Northern Region Farm Machinery Training and Testing Institute, Hissar (Haryana).
3. Southern Region Farm Machinery Training and Testing Institute, Garladinne, Distt. Anantapur (A.P.).
4. North Eastern Region Farm Machinery Training and Testing Institute, Biswnath Chariali, Distt., Sonitpur (Assam).
5. Directorate of Cotton Development, 14, Ramjibhai Kamani Marg, Ballard Estate, P.B. No. 1002, Mumbai-400030 (Maharashtra).
6. Directorate of Jute Development, 234/4, Acharya Jagdish Bose Road, Nizam Palace Campus, Kolkata-700020 (West Bengal).
7. Directorate of Millets Development, Mini Secretariat Building, Room No. 710, 6th Floor, Bani Park, Jaipur (Rajasthan).
8. Directorate of Tobacco Development, 26 Haddows Road, 3rd Floor, Shastri Bhawan Annexe, Chennai-600006 (Tamil Nadu).
9. Directorate of Sugarcane Development, 8th Floor, Hall No.3, Kendriya Bhavan, Aliganj, Lucknow-226024 (U.P.).
10. Directorate of Rice Development, 191, Patliputra Colony, Patna-800013 (Bihar).
11. Directorate of Wheat Development, CGO Building, Hapur Road Chauraha, Kamla Nehru Nagar, Ghaziabad (U.P.).
12. Directorate of Extension, Krishi Vistar Bhavan, Dr. K.S. Krishna Marg, IARI Campus, Pusa, New Delhi-110 012.
13. Directorate of Oilseeds Development, Telhan Bhavan, Himayat Nagar, Hyderabad-500029 (A.P.).
14. Directorate of Pulses Development, 8th Floor, Vindhyachal Bhavan, Bhopal-462004 (M.P.).
15. Central Fertiliser Quality Control and Training Institute, N.H.I.V., Faridabad (Haryana).
16. National Centre of Organic Farming, C.G.O. Complex, Kamla Nehru Nagar, Hapur Road Chungi, Ghaziabad (U.P.).
17. Directorate of Cashewnut and Cocoa Development, M.G. Road, Kochi-682011 (Kerela).
18. Directorate of Arecanut and Spices Development, Cannanore Road, Kozhikode-673005 (Kerela).
19. Office of the Minister (Agriculture), Embassy of India, Rome (Italy).
20. All India Soil and Land Use Survey, IARI Campus, Pusa, New Delhi-110 012.
21. National Seed Research and Training Centre (NSRTC) Varanasi (U.P.).

FUNCTIONS AND ORGANISATIONAL STRUCTURE

Public Sector Undertakings and Autonomous Bodies of the DAC

I. PUBLIC SECTOR UNDERTAKINGS

1. National Seeds Corporation, New Delhi.
2. State Farms Corporation of India, New Delhi.

II. AUTONOMOUS BODIES

1. Coconut Development Board, Kochi (Kerala).
2. National Horticulture Board, Gurgaon (Haryana).
3. National Cooperative Development Corporation, New Delhi.
4. National Oilseeds and Vegetable Oils Development Board, Gurgaon (Haryana).
5. Small Farmers' Agri Business Consortium, New Delhi.
6. National Institute for Agricultural Extension Management, Hyderabad (A.P.).
7. National Institute of Agricultural Marketing, Jaipur (Rajasthan).
8. National Institute of Plant Health Management, Hyderabad (A.P.)

III. NATIONAL LEVEL COOPERATIVE ORGANISATIONS

1. National Cooperative Union of India, New Delhi.
2. National Agricultural Cooperative Marketing Federation of India Limited, New Delhi.
3. National Federation of Cooperative Sugar Factories Ltd., New Delhi.
4. National Heavy Engineering Cooperative Ltd., Pune (Maharashtra).
5. National Federation of Urban Cooperative Banks and Credit Societies Ltd., New Delhi.
6. The All India Federation of Cooperative Spinning Mills Ltd., Mumbai (Maharashtra).
7. National Cooperative Agriculture and Rural Development Banks Federation Ltd., Mumbai (Maharashtra).
8. National Federation of State Cooperative Banks Ltd., Navi Mumbai (Maharashtra).
9. National Federation of Fishermen's Cooperative Ltd., New Delhi.
10. National Federation of Labour Cooperatives Ltd., New Delhi.
11. National Cooperative Tobacco Growers' Federation Ltd., Anand (Gujarat).

IV. AUTHORITIES

1. Protection of Plant Varieties and Farmers' Rights Authority, New Delhi.
2. National Rainfed Area Authority, New Delhi.

FUNCTIONS AND ORGANISATIONAL STRUCTURE

Citizens' Charter : Mandate/Services

Details of Business transacted by the Department

This Department is committed to the welfare and economic upliftment of the farming community in general.

OUR SERVICES/ACTIVITIES

- I Formulates and implements National Policies and Programmes for achieving rapid growth and development through optimum utilisation of country's land, water, soil and plant resources.
- Undertaking developmental and progressive planning in Agricultural sector.
- Assists States in undertaking scarcity relief measures and in management of natural calamities.
- Formulation of cooperative policy relating to cooperation and cooperative organisations, cooperative training and education.
- To bring about integrated development of marketing of agricultural produce and to safeguard the economic interests of the farming community in general.
- Formulation of policies for improving agricultural extension services by adopting new institutional arrangements through the involvement of NGOs, Farmer's organisations and Agricultural Universities aiming at integrated extension services.
- Strengthening the cooperative movement through National Cooperative Development Corporation (NCDC), National Agricultural Cooperative Marketing Federation of India Limited (NAFED) and National Cooperative Union of India (NCUI).
- Promoting plant protection measures and practices through dissemination of information and education of various functionaries involved in agricultural production.
- Supplementing the efforts of State Governments for increasing the production and productivity of agricultural and horticultural crops through promotional programmes.
- Promoting measures for production of quality seeds and distribution of improved plant varieties developed by the scientists for increasing productivity.
- Promotion of farm mechanisation.
- Developing suitable strategies for rainfed farming through peoples' participation for holistic and integrated development of potential watersheds and promotion of farming system approach for augmenting income and nutrition levels of agricultural communities.
- Arranging Agricultural Census and inputs survey through States for providing information on land uses, cropping pattern, tenancy, irrigation, seeds, disbursal of operational holdings and consumption of various inputs.

Glossary

AAU	Assam Agricultural University
ACA	Additional Central Assistance
ACABC	Agri-Clinics and Agri-Business Centres
AERC	Agro-Economic Research Centre
AER	Agro-Economic Research
AFAS	Australia Fumigation Accreditation Scheme
AIC	Agriculture Insurance Company of India Ltd.
AISLUS	All India Soil and Land Use Survey
APEDA	Agricultural and Processed Food Products Export Development Authority
APMC	Agricultural Produce Marketing Committee
ARU	Audience Research Unit
ASCI	Administrative Staff College of India
ATMA	Agriculture Technology Management Agency
AWACCM	Post Graduate Diploma in Agri Warehousing Cool Chain Management
BCIL	Biotech Consortium India Limited
BE	Budget Estimates
BIS	Bureau of Indian Standards
BOS	Beneficiary Oriented Schemes
BRGF	Backward Region Grant Fund
BTT	Block Technology Team
CA	Controlled Atmosphere
CAB	Cotton Advisory Board
CABI	Commonwealth Agricultural Bureau International
CACP	Commission for Agricultural Costs and Prices
CBs	Commercial Banks
CCEA	Cabinet Committee on Economic Affairs
CCI	Cotton Corporation of India
CCIS	Comprehensive Crop Insurance Scheme
CDB	Coconut Development Board
CES-F&V	Crop Estimation Survey on Foods and Vegetables
CFTRI	Central Food Technological Research Institute
CFQC&TI	Central Fertilizer Quality Control and Training Institute
CIB	Central Insecticides Board
CIB & RC	Central Insecticides Board and Registration Committee
CICTAB	Centre for International Cooperation and Training in Agricultural Banking
CIG	Commodity Based Farmers Interest Group
CII	Confederation of Indian Industry
CIL	Central Insecticides Laboratory
CIPMC	Central Integrated Pest Management Centre
CIR	Central Insecticides Registration
CMVR	Central Motor Vehicle Rules
CoC & CoP	Cost of Cultivation and Cost of Production
CPCRI	Central Plantation Crop Research Institute

CPIS	Coconut Palm Insurance Scheme
CPT	Candidate Plus Tree
CRS	Community Radio Stations
CSIR	Council for Scientific and Industrial Research
CSTL	Central Seed Testing Laboratory
CSWCRTI	Central Soil and Water Conservation Research and Training Institute
CVC	Central Vigilance Commission
CVO	Chief Vigilance Officer
CWC	Central Warehousing Corporation
DAC	Department of Agriculture and Cooperation
DAESI	Diploma in Agricultural Extension Services for Input Dealers
DAHD&F	Department of Animal Husbandry, Dairying, and Fisheries.
DAP	District Agriculture Plan
CMVR	Central Motor Vehicle Rules
CoC & CoP	Cost of Cultivation and Cost of Production
CPCRI	Central Plantation Crop Research Institute
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CSIR	Council for Scientific and Industrial Research
CSTL	Central Seed Testing Laboratory
CSWCRTI	Central Soil and Water Conservation Research and Training Institute
CVC	Central Vigilance Commission
CVO	Chief Vigilance Officer
CWC	Central Warehousing Corporation
DAC	Department of Agriculture and Cooperation
DAESI	Diploma in Agricultural Extension Services for Input Dealers
DAHD&F	Department of Animal Husbandry, Dairying, and Fisheries.
DAP	District Agriculture Plan
DARE	Department of Agriculture Research and Education
DCCB	District Central Cooperative Banks
DCCD	Directorate of Cashew and Cocoa Development
DES	Directorate of Economics and Statistics
DMC	District Mission Committee
DMI	Directorate of Marketing and Inspection
DOE	Directorate of Extension
DoF	Department of Fertilizers
DPR	Detailed Project Report
DRDA	District Rural Development Agency
DSS	Detailed Soil Survey
DVC	Damodar Valley Corporation
EARAS	Establishment of an Agency for Reporting of Agricultural Statistics
ECA	Essential Commodities Act
EEl	Extension Education Institute
ERFS	Extended Range Forecast System
ETL	Economic Threshold Level

FAC	Farmers Advisory Committees
FAO	Food and Agriculture Organization
FASAL	Forecasting Agricultural Output using Space, Agrometeorology and Land-based observations
FCO	Fertilizer Control Order
FFS	Farmers' Field School
FHAT	Forced Hot Air Treatment Facility
FICCI	Federation of Indian Chamber of Commerce and Industry
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
FMTTI	Farm Machinery Training and Testing Institute
FOs	Farmer's Organisations
FPS	Focus Product Scheme
FSIL	Field Station for Investigations on Locusts
FTA	Free Trade Agreement
GEAC	Genetic Engineering Approval Committee
GLP	Good Laboratory Practices
GM	Genetically Modified
GoI	Government of India
HYV	High Yielding Variety
IARI	Indian Agricultural Research Institute
IAS	Improvement of Agricultural Statistics
IASRI	Indian Agriculture Statistical Research Institute
ICAR	Indian Council of Agriculture Research
ICDP	Integrated Cooperative Development Project
ICFRE	Indian Council of Forestry Research and Education
ICRISAT	International Crop Research Institute for Semi Arid Tropics
ICS	Improvement of Crop Statistics
ICT	Information and Communication Technology
IDWG	Inter Departmental Working Group
IFAD	International Fund for Agricultural Development
IFFCO	Indian Farmers' Fertilizer Cooperative Limited
IITF	India International Trade Fair
IMD	India Meteorological Department
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IPPC	International Plant Protection Convention
ISO	International Standards Organization
ISOPOM	Integrated Scheme of Oilseeds, Pulses, Oil-palm and Maize
ISTA	International Seed Testing Association
IT	Information Technology
ITEC	Indian Technical and Economic Cooperation
IVRS	Interactive Voice Response System
JCTCs	Junior Cooperative Training Centres
JTM	Jute Technology Mission
JWG	Joint Working Group
KCC	Kisan Credit Card; Kisan Call Centre

KKMS	Kisan Knowledge Management System
KRIBHCO	Krishak Bharti Cooperative Limited
KVK	Krishi Vigyan Kendra
LDM	Land Degradation Mapping
LWO	Locust Warning Organization
MACP	Multi-State Agricultural Competitiveness Project
MANAGE	National Institute of Agricultural Extension and Management
M&E	Monitoring and Evaluation
MIS	Market Intervention Scheme
MMA	Macro Management of Agriculture
MSP	Minimum Support Price
NABARD	National Bank for Agriculture and Rural Development
NABL	National Accreditation Board for Testing and Calibration Laboratories
NAES	National Agriculture Extension System
NAFED	National Agriculture Cooperative Marketing Federation
NAIS	National Agriculture Insurance Scheme
NAMA	Non-Agricultural Market Access
NAP	National Agriculture Policy
NASC	National Agricultural Science Complex
NBB	National Bee Board
NBM	National Bamboo Mission
NBPGR	National Bureau of Plant Genetic Resources
NBSS & LUP	National Bureau of Soil Survey and Land Use Planning
NCCF	National Calamity Contingency Fund
NCCT	National Council for Cooperative Training
NCDC	National Cooperative Development Corporation
NCF	National Commission on Farmers
NCMP	National Common Minimum Programme
NCMRWF	National Centre for Medium Range Weather Forecast
NCPAH	National Committee on Plasticulture Applications in Horticulture
NCUI	National Cooperative Union of India
NDC	National Development Council
NDDDB	National Dairy Development Board
NeGP	National e-Governance Plan
NER	North Eastern Region
NERIWALM	North Eastern Regional Institute for Water and Land Management
NFDB	National Fisheries Development Board
NFSM	National Food Security Mission
NGO	Non-Governmental Organisation
NGRCA	National Gender Resource Centre in Agriculture
NHB	National Horticulture Mission
NIAM	National Institute of Agriculture Management
NIDM	National Institute of Drought Management
NIRD	National Institute of Rural Development
NPK	Nitrogen Phosphate Potash
NPOF	National Project on Organic Farming

NPPTI	National Plant Protection Training Institute
NOVOD	National Oilseeds and Vegetable Oil Development
NRAA	National Rainfed Area Authority
NREGS	National Rural Employment Guarantee Scheme
NRM	Natural Resource Management
NSC	National Seeds Corporation
NSPM	National Standard for Phytosanitary Measures
NSRTC	National Seeds Research and Training Centre
NSSO	National Sample Survey Organisation
NBPGR	National Bureau of Plant Genetic Resources
NWDPRA	National Water Development Project for Rainfed Areas
OLIC	Official Language Implementation Committee
OTS	One-Time Settlement
PACS	Primary Agriculture Credit Society
PEQ	Post Entry Quarantine
PFA	Prevention of Food Adulteration
PFDC	Precision Farming Development Centres
PGPABM	Post Graduate Programme in Agri-Business Management
PHM	Post-Harvest Management
PHT	Post-Harvest Technology
PIT	Project Implementation Team
PPP	Public-Private Partnership
PPQ&S	Plant Protection Quarantine and Storage
PPV & FR	Protection of Plant Varieties and Farmers Rights
PPVFRA	Protection of Plant Varieties and Farmer's Rights Authority
PQS	Plant Quarantine Station
PRA	Pest Risk Analysis
PSC	Phytosanitary Certificate
PSS	Price Support Scheme
PTA	Preferential Tariff Agreement
RADP	Rainfed Area Development Programme
RAL	Regional Agmark Laboratory
RAS	Reclamation of Alkali Soil
RE	Revised Estimates
RFCL	Regional Fertilizer Control Laboratory
RFS	Rainfed Farming System
RKVY	Rashtriya Krishi Vikas Yojana
RPQS	Regional Plant Quarantine Station
RPTL	Regional Pesticide Testing Laboratory
RRBs	Regional Rural Banks
RRS	Rapid Reconnaissance Survey
RTI	Right to Information Act
RVP & FPR	River Valley Project and Flood Prone River
SAIC	State Agro Industries Corporation
SAMETI	State Agriculture Management and Extension Training Institute
SAMS	Strengthening of Agricultural Marketing System

SAP	State Agricultural Plan
SAU	State Agricultural University
SBA	Scheduled Desert Area
SCARDBs	State Cooperative Agriculture and Rural Development Banks
SCBs	State Cooperative Banks
SDA	Scheduled Desert Area
SEWP	State Extension Work Plan
SFAC	Small Farmers Agri-business Consortium
SFCI	State Farms Corporation of India
SGSY	Swarnajayanti Gram Swarozgar Yojana
SHG	Self-Help Group
SLDB	State Land Development Bank
SLSC	State Level Sanctioning Committee
SLUBs	State Land Use Boards
SLUSI	Soil and Land Use Survey of India
SMPMA	Strengthening and Modernization of Pest Management Approach in India
SMS	Sediment Monitoring Stations
SPTL	State Pesticide Testing Laboratory
SREP	Strategic Research and Extension Plan
SRI	System of Rice Intensification
SRM	Soil Resource Mapping
SWC	State Warehousing Corporation
TCP	Technical Cooperation Programme
TERI	The Energy and Resources Institute
ToR	Terms of Reference
T&V	Training and Visit
TM	Terminal Markets
TMNE	Technology Mission for Integrated Development of Horticulture in the North Eastern States
TMOP	Technology Mission on Oilseeds and Pulses
TRIFED	Tribal Cooperative Marketing Development Federation of India Limited
TRS	Timely Reporting Scheme
UGs	User Groups
UNDP	United Nations Development Programme
USDA	United States Department of Agriculture
UT	Union Territory
VAMNICOM	Vaikunth Mehta National Institute for Cooperative Management
VKGUY	Vishesh Krishi and Gram Udyog Yojana
WBCIS	Weather Based Crop Insurance Scheme
WCD	World Coconut Day
WCP	Women Component Plan
WDC	Watershed Development Council
WDF	Watershed Development Fund
WDPSA	Watershed Development Project for Shifting Cultivation Area
WFP	World Food Programme
WTO	World Trade Organization