

# **Agriculture & Allied Sectors & their Accounting and Role of a Chartered Accountant.**

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- **National Bank for Agriculture and Rural Development (NABARD)**
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- **Indian Council of Agricultural Research (ICAR)**
- **National Centre for Agricultural Economics and Policy Research (NCAP)**
- **Food Safety and Standards Authority of India (FSSAI)**
- **Agriculture Insurance Company of India Limited (AIC)**

## **Agriculture**

Agriculture is the source of all the food that we eat. Agriculture has undoubtedly been one of the propelling factors of human civilization and development. It has played an important role in history.

The word agriculture is the English adaptation of Latin agricultūra, from ager, "a field", and cultūra, "cultivation" in the strict sense of "tillage of the soil". Thus, a literal reading of the word yields "tillage of fields".

Agriculture is the cultivation of animals, plants, fungi, and other life forms for food, fibre, biofuel and other products used to sustain life.

The Webster's New International Dictionary describes agriculture as "the art or science of cultivating the ground, including rearing and management of livestock, husbandry, farming, etc. and also including in its broad sense farming, horticulture, forestry, butter and cheese-making etc."

Murray's' Oxford Dictionary describes it as "the science and art of cultivating the soil; including the allied pursuits of gathering in the crop and rearing live-stock; tillage, husbandry, farming (in the widest sense)".

In Bouvier's Law Dictionary quoting the Standard Dictionary "agriculture" is defined as "the cultivation of soil for food products or any other useful or valuable growths of the field of garden; tillage, husbandry; also, by extension, farming, including any industry practiced by cultivator of the soil in connection with such cultivation, as breeding and rearing of stock, dairying, etc. "

## **History of Agriculture**

Agriculture dates back to nearly 10,000 years ago. Former nomadic hunter-gatherers in the "Fertile Crescent" located in the Middle East first started to plan the sowing and harvesting of certain plants that were previously gathered for food in the wild. From this point on, agriculture began its expansion across the world. In the middle ages, the industry experienced higher efficiency with the invention of irrigation, crop rotation, and the plough. There also was an exchange of crop seeds during the trade triangles that occurred in the 1400s. Farmers were no longer restricted to local crops and could trade for more exotic crops. These exotic crops could either be replanted in the local market in hopes of creating a new local product or just used by the farmers for whatever purpose. The biggest factor contributing to the highly efficient agriculture industry that we have today is the advancement of mechanization in the 1900s. New technology significantly reduced the amount of man hours needed for crop production and allowed the small, family farmer to produce a larger yield than previously possible. However, despite all of the evolution in the industry, the basics remain the same; to sow and harvest crops for consumption or use by humans.

## **Green Revolution**

Green Revolution refers to a series of research, development, and technology transfer initiatives, occurring between the 1940s and the late 1970s that increased agriculture production around the world beginning most markedly in the late 1960s.

The initiatives, led by Norman Ernest Borlaug, an American agronomist humanitarian and Nobel laureate who was called "the father of the Green Revolution" and was credited with saving over a billion people from starvation, involved the development of high-yielding varieties of cereal grains, expansion of irrigation infrastructure, modernization of management techniques, distribution of hybridized seeds, synthetic fertilizers, and pesticides to farmers.

The term "Green Revolution" was first used in 1968 by former United States Agency for International Development (USAID) director William Gaud, who noted the spread of the new technologies and said - "These and other developments in the field of agriculture contain the makings of a new revolution. It is not a violent Red Revolution like that of the Soviets, nor is it a White Revolution like that of the Shah of Iran. I call it the Green Revolution."

The Green Revolution spread technologies that had already existed before, but had not been widely used outside industrialized nations. These technologies included modern irrigation projects, pesticides, synthetic nitrogen fertilizer and improved crop varieties developed through the conventional, science-based methods available at the time.

The world population has grown by few billions since the beginning of the Green Revolution and many believe that, without the Revolution, there would have been greater famine and malnutrition. As the Green Revolution transformed agriculture around the globe, world grain production increased by over 250%. In the most basic sense, the Green Revolution was a product of globalization as evidenced in the creation of international agricultural research centres that shared information, and with transnational funding from groups like the Rockefeller Foundation, Ford Foundation, and United States Agency for International Development (USAID). Additionally, the inputs required in Green Revolution agriculture created new markets for seed and chemical corporations, many of which were based in the United States.

### **Agriculture, United Nations and the Millennium Development Goals**

The majority of the world's poorest people live in rural areas of developing countries. They depend on agriculture and related activities for their livelihoods. This makes them particularly vulnerable to man-made and natural influences that reduce agricultural production.

#### **United Nations and Agriculture**

The United Nations is an international organization whose stated aims are facilitating cooperation in international law, international security, economic development, social progress, human rights, and achievement of world peace. It contains multiple subsidiary organizations to carry out its missions.

There are 193 member states, including every internationally recognized sovereign state in the world but Vatican City. From its offices around the world, the UN and its specialized agencies decide on substantive and administrative issues in regular meetings held throughout the year

As the United Nations system's lead agency for agriculture and rural development, Food and Agriculture Organization (FAO) advances long-term strategies to increase food production and food security. Among the many UN bodies that support these goals, the International Fund for Agricultural Development (IFAD), finances agricultural development programmes and projects to help rural people overcome poverty.

When an emergency situation arises or disaster strikes, the World Food Programme (WFP) helps in delivering food aid to the victims of war, civil conflict, drought, floods, earthquakes, hurricanes, crop failures and natural disasters. When the emergency subsides, WFP's food aid helps communities rebuild their shattered lives and livelihoods. In rural communities, FAO's agricultural expertise often proves crucial in the process of emergency relief and rehabilitation.

The UN system provides a powerful vehicle through which the collective will and commitment of the international community can advance the goal of helping end hunger worldwide by promoting sustainable agriculture.

### **The Millennium Development Goals**

In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals.

The Millennium Development Goals (MDGs) are 8 international development goals that all 192 United Nations member states and at least 23 international organizations have agreed to achieve by the year 2015.

The 8 MDGs are:

- GOAL 1: ERADICATE EXTREME POVERTY & HUNGER
- GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION
- GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN
- GOAL 4: REDUCE CHILD MORTALITY
- GOAL 5: IMPROVE MATERNAL HEALTH
- GOAL 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES
- GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY
- GOAL 8: DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT

About 70 percent of the MDGs' target group live in rural areas, particularly in Asia and Africa, and for most of the rural poor agriculture is a critical component in the successful attainment of the MDGs. Thus, a necessary component in

meeting the MDGs by 2015 in many parts of the world is a more productive and profitable agricultural sector.

Policy action and increased investment in the critical arenas of sustainable agriculture productivity and food and nutrition security will be essential for responding effectively and responsibly to reach the Millennium Development Goals.

While the linkage with agriculture is particularly strong for the first MDG, or MDG 1 – halving by 2015 the proportion of those suffering from extreme poverty and hunger – all MDGs have direct or indirect linkages with agriculture. Agriculture contributes to MDG 1 through agriculture-led economic growth and through improved nutrition. In low-income countries economic growth, which enables increased employment and rising wages, is the only means by which the poor will be able to satisfy their needs sustainably.

MDG 2, on universal education, has the most indirect linkage to agriculture. A more dynamic agricultural sector will change the assessment of economic returns to educating children, compared to the returns from keeping children out of school to work in household (agricultural) enterprises. Agriculture contributes to MDG 3 directly through the empowerment of women farmers and indirectly through reduction of the time burden on women for domestic tasks. Agriculture contributes to reduced child mortality (MDG 4) indirectly by increasing diversity of food production and making more resources available to manage childhood illnesses. Agriculture directly helps improve maternal health (MDG 5) through more diversified food production and higher-quality diets, and indirectly through increased incomes and, thus, reduced time burdens on women. Agriculture also directly helps to combat HIV/AIDS, malaria, and other diseases (MDG 6) through higher-quality diets, and indirectly by providing additional income that can be devoted to health services. Agriculture practices can be both direct causes of and important solutions to environmental degradation (MDG 7). More productive agricultural technologies allow the withdrawal of agriculture from marginal, sensitive environments. Developing a global partnership for development (MDG 8) will help maintain the steady increase in agricultural trade and significant increases in development assistance offered to the agricultural sector, increases that help sustain the benefits from agriculture in the longer term.

**FAO – Food and Agriculture Organization of the United Nations**

[http://www.fao.org/index\\_en.htm](http://www.fao.org/index_en.htm)

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Email: FAO-HQ@fao.org

The Food and Agriculture Organization of the United Nations (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO is also a source of knowledge and information, and helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.

FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.

### **FAO and Agriculture**

FAO is helping countries to achieve sustainable gains in agriculture to feed a growing world population, while safeguarding the natural environment, protecting public health and promoting social equity. FAO does this by helping farmers to diversify food production, protect plant and animal health, reduce the drudgery of farming, market their products and conserve natural resources. FAO also provides assistance to improve nutrition and the quality and safety of the final food products and to minimize risks to human health.

FAO's involvement in Agriculture includes the following amongst other varied areas:

1. Promotes progressive food production techniques;
2. Builds international awareness of the importance of plant genetic resources;
3. Supports capacity building;
4. Practices knowledge sharing for conservation and use of plant genetic resources;
5. helps countries to use improved technologies to meet the increasing demand for livestock breeding and protection;
6. helps countries to catalogue the animal genetic resources;
7. develop policies and standards to protect public and animal health while managing natural resources;
8. promotes integrated pest management to reduce dependency on chemical pesticides;

9. provides guidance and support to ministries of agriculture, producers' organizations, small and medium agro-enterprises and non-profit business service providers on how to build fair and sustainable relationships between farmers and their buyers.
10. provides support to farmers to help them increase value addition.
11. helps small and medium agro-processing enterprises to improve their competitiveness.

### **Introduction - Indian Agriculture**

Agriculture is a critical sector of the Indian economy contributing about 15 per cent of national Gross Domestic Product (GDP) and more importantly, about half of India's population is wholly or significantly dependent on agriculture and allied activities for their livelihood.

Agriculture including allied activities, accounted for 14.5 per cent of gross domestic product (GDP) at 2004-05 prices, in 2010-11. In terms of composition, out of the total share of 14.5 per cent that agriculture and allied sectors had in GDP in 2010-11, agriculture alone accounted for 12.3 per cent, followed by forestry and logging at 1.4 per cent and fishing at 0.7 per cent.

During the last two decades, Indian Agriculture has been facing major challenges like deceleration in growth rate, degradation of natural resources, inter-sectoral, inter-regional equity, declining input efficiency, etc. However, the 11th Plan had some success in reversing the deceleration of agricultural growth witnessed during the 9th and 10th Plan. The 12th Plan target growth rate for agriculture is 4 percent with foodgrains growth at about 2 percent and non-foodgrains sector (horticulture, livestock and fisheries) growing at about 5-6 percent.

As of 2011, India had a large and diverse agricultural sector, accounting, on average, for about 16 percent of GDP and 10 percent of export earnings. India's arable land area of 159.7 million hectares (394.6 million acres) is the second largest in the world, after the United States. Its gross irrigated crop area of 82.6 million hectares (215.6 million acres) is the largest in the world. India has grown to become among the top three global producers of a broad range of crops, including wheat, rice, pulses, cotton, peanuts, fruits, and vegetables. Worldwide, as of 2011, India had the largest herds of buffalo and cattle, is the largest producer of milk, and has one of the largest and fastest growing poultry industries.

The Statistics Office of the Food and Agriculture Organization ("Country Rank in the World, by commodity"- Food and Agriculture Organization of the United Nations, 2011. These are food and agriculture classification groups) reported



that, per final numbers for 2009, India had grown to become the world's largest producer of the following agricultural produce:

- Fresh Fruit
- Lemons and limes
- Buffalo milk, whole, fresh
- Castor oil seeds
- Sunflower seeds
- Sorghum
- Millet
- Spices
- Okra
- Jute
- Beeswax
- Bananas
- Mangoes, mangosteens, guavas
- Pulses
- Indigenous Buffalo Meat
- Fruit, tropical
- Ginger
- Chick peas
- Areca nuts
- Other Bastfibres
- Pigeon peas
- Papayas
- Chillies and peppers, dry
- Anise, badian, fennel, coriander
- Goat milk, whole, fresh

Per final numbers for 2009, India is the world's second largest producer of the following agricultural produce:

- Wheat
- Rice
- Vegetables, fresh
- Sugar cane
- Groundnuts, with shell
- Lentils
- Garlic
- Cauliflowers and broccoli
- Peas, green
- Sesame seed

- Cashew nuts, with shell
- Silk-worm cocoons, reelable
- Cow milk, whole, fresh
- Tea
- Potatoes
- Onions
- Cotton lint
- Cottonseed
- Eggplants (aubergines)
- Nutmeg, mace and cardamoms
- Indigenous Goat Meat
- Cabbages and other brassicas
- Pumpkins, squash and gourds

In 2009, India was the world's third largest producer of eggs, oranges, coconuts, tomatoes, peas and beans.

### **Indian Agriculture - Some FACTS**

- India's GDP (purchasing power parity) is \$4.515 trillion (2011 est.) The percentage contribution of agriculture, industry, and services sector to total GDP is :  
 agriculture: 17.2%  
 industry: 26.4%  
 services: 56.4% (2011 est)  
 (Note - Agriculture includes farming, fishing, and forestry)
- Percentage distribution of India's labor force by sector of occupation:  
 agriculture: 52%  
 industry: 14%  
 services: 34% (2009 est.)
- Major Crops and Products in order of importance:  
 rice, wheat, oilseed, cotton, jute, tea, sugarcane, lentils, onions, potatoes;  
 dairy products, sheep, goats, poultry; fish
- The total plan outlay for the Department of Agriculture and Cooperation was increased by 18 per cent from ` 17,123 crore in 2011-12 to ` 20,208 crore in 2012-13 in the Union Budget 2012.
- Outlay for Rashtriya Krishi Vikas Yojana (RKVY) increased to `9,217 crore in 2012-13.
- Initiative of Bringing Green Revolution to Eastern India (BGREI) has resulted in increased production and productivity of paddy. Allocation

- for the scheme increased to `1,000 crore in 2012-13 from `400 crore in 2011-12.
- `300 crore to Vidarbha Intensified Irrigation Development Programme under RKVY.
  - Remaining activities to be merged into following missions in Twelfth Plan:
    - (i) National Food Security Mission which aims to bridge the yield gap in respect of paddy, wheat, pulses, millet and fodder. The ongoing Integrated Development of Pulses Villages, Promotion of Nutri-cereals and Accelerated Fodder Development Programme would now become a part of this Mission;
    - (ii) National Mission on Sustainable Agriculture including Micro Irrigation is being taken up as a part of the National Action Plan on Climate Change. The Rainfed Area Development Programme will be merged with this;
    - (iii) National Mission on Oilseeds and Oil Palm aims to increase production and productivity of oil seeds and oil palm;
    - (iv) National Mission on Agricultural Extension and Technology focuses on adoption of appropriate technologies by farmers for improving productivity and efficiency in farm operations; and
    - (v) National Horticulture Mission aims at horticulture diversification. This will also include the initiative on saffron.
  - National Mission for Protein Supplement
    - `2,242 crore project launched with World Bank assistance to improve productivity in the dairy sector. `500 crore provided to broaden scope of production of fish to coastal aquaculture.
  - Target for agricultural credit raised by `1,00,000 crore to `5,75,000 crore in 2012-13.
  - Interest subvention scheme for providing short term crop loans to farmers at 7 per cent interest per annum to be continued in 2012-13. Additional subvention of 3 per cent available for prompt paying farmers.
  - Short term RRB credit refinance fund being set up to enhance the capacity of RRBs to disburse short term crop loans to small and marginal farmers.
  - Kisan Credit Card (KCC) Scheme to be modified to make KCC a smart card which could be used at ATMs.
  - A sum of `200 crore set aside for incentivising research with rewards.
  - Structural changes in Accelerated Irrigation Benefit Programme (AIBP) being made to maximise flow of benefit from investments in irrigation projects.
  - Allocation for AIBP in 2012-13 stepped up by 13 per cent to `14,242 crore.
  - To mobilise large resources to fund irrigation projects, a Government owned Irrigation and Water Resource Finance Company being operationalised to mobilize large resources to fund irrigation projects.

- A flood management project approved by Ganga Flood Control Commission at a cost of `439 crore for Kandi sub-division of Murshidabad District.
- National Mission on Food Processing
  - A new centrally sponsored scheme titled “National Mission on Food Processing” to be started in 2012-13 in co-operation with State Governments.
  - Steps taken to create additional food grain storage capacity in the country.
- Food Security
  - National Food Security Bill, 2011 is before Parliamentary Standing Committee.
  - A national information utility for computerisation of PDS is being created. To become operational by December, 2012.
- The Union Budget 2012 allocates the following funds:
  - ` 25 crore to the Institute of Rural Management, Anand;
  - ` 50 crore to establish a world-class centre for water quality with focus on arsenic contamination in Kolkata;
  - ` 100 crore to Kerala Agricultural University;
  - ` 50 crore for University of Agricultural Sciences Dharwad, Karnataka;
  - ` 50 crore to Chaudhary Charan Singh Haryana Agricultural University, Hissar;
  - ` 50 crore to Orissa University of Agriculture and Technology;
  - ` 100 crore to Acharya N. G. Ranga Agricultural University in Hyderabad;
  - ` 15 crore to National Council for Applied Economic Research;
  - ` 10 crore to Rajiv Gandhi University, Department of Economics, Itanagar;

### **Administration of Agriculture and allied Sectors as per Allocation of Business Rules**

#### **A. AGRICULTURE**

The Ministry of Agriculture (Krishi Mantralaya) is the nodal Ministry and it comprises of the following 3 Departments:

- (i). Department of Agriculture and Cooperation (Krishi aur Sahkarita Vibhag).
- (ii). Department of Agricultural Research and Education (Krishi Anusandhan aur Shiksha Vibhag).
- (iii). Department of Animal Husbandry, Dairying and Fisheries (Pashupalan, Dairy aur Matsyapalan Vibhag).

## **The Department of Agriculture & Co-operation**

<http://agricoop.nic.in/>

The Department of Agriculture & Cooperation is one of the three constituent Departments of Ministry of Agriculture headed by Union Minister for Agriculture, who, at the Minister level, is assisted by Minister of State, in the discharge of his official functions. The other two Departments of the Ministry are Department of Animal Husbandry, Dairying and Fisheries and Department of Agricultural Research and Education, which are independent 'public authority' within the meaning of "The Right to Information Act, 2005".

There are 4 attached offices, 21 subordinate offices, 2 public sector undertakings and 8 autonomous bodies, 11 national - level cooperative organizations and 2 authorities under the administrative control of the Department of Agriculture & Cooperation.

The Department of Agriculture & Cooperation, at secretariat level, is headed by Secretary to the Government of India, who is assisted by Principal Adviser, four Additional Secretaries, one Financial Adviser and one Agriculture Commissioner, both of the rank of Additional Secretary to the Government of India, ten Joint Secretary and Horticulture Commissioner.

In terms of its organizational set up, the Department of Agriculture and Cooperation consists of 24 Divisions and one Technology Mission namely Technology Mission on Oilseeds, Pulses and Maize.

### **I. ATTACHED OFFICES**

1. Directorate of Economics & Statistics, Shastri Bhavan, 'B' Wing, New Delhi-110001
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.IV, Faridabad - 121001(Haryana).
4. Directorate of Marketing & Inspection, N.H.IV, Faridabad-121001 (Haryana).

### **II. SUB-ORDINATE OFFICES**

1. Central Farm Machinery Training & Testing Institute, Tractor Nagar, Distt.-Sehore, Budni-466445 (Madhya Pradesh).
2. Northern Region Farm Machinery Training & Testing Institute, Sirsa Road, Hissar-125001 (Haryana).
3. Southern Region Farm Machinery Training & Testing Institute, Tractor Nagar, Garladinne, Distt. Anantapur (A.P).
4. North Eastern Region Farm Machinery Training & Testing Institute, Biswnath Chariali, Distt. Sonitpur-784176 (Assam).
5. Directorate of Cotton Development, 14, Ramjibhai Kamani Marg, Ballard Estate, P.B.No. 1002, Mumbai-400001 (Maharashtra).
6. Directorate of Jute Development, Nizam Palace Campus ,234/4, Acharya Jagdish Bose Road, Kolkata- 700020 (West Bengal).
7. Directorate of Millets Development, Kendriya Sadan Room No. 210, 2nd Floor, Block-A, Sector-10, Vidyadhar Nagar, Jaipur-302023.
8. Directorate of Tobacco Development, 26 Haddows Road, Shastri Bhawan Annexe, 3rd Floor, 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, 250 A, Patliputra Colony, Patna-800013 (Bihar).
11. Directorate of Wheat Development, CGO Complex, Kamla Nehru Nagar, Ghaziabad-201002 (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, 6th Floor, Vindhyachal Bhavan, Bhopal-462004 (M.P).
15. Central Fertiliser Quality Control & Training Institute, N.H.IV, Faridabad -

121001 (Haryana).

16. National Centre of Organic Farming, C.G.O. Complex, 2/204, B wings, Kamla Nehru Nagar, Ghaziabad -201002 (U.P).

17. Directorate of Cashewnut and Cocoa Development, 8th Floor, SRV School road, Kera Bhawan, Kochi-682011.(Kerala)

18. Directorate of Arecanut and Spices Development, West hill, 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 & Training Centre (NSRTC) GT. Road, Collectry Farm, P.O.- Industrial Estate, Varanasi -221106(U.P.).

### **III PUBLIC SECTOR UNDERTAKINGS**

1. National Seeds Corporation, Beej Bhavan, Pusa Complex, New Delhi-110012

2. State Farms Corporation of India, Farm Bhawan, 14-15, Nehru Place, New Delhi-110019

### **IV AUTONOMOUS BODIES**

1. Coconut Development Board, Kera Bhawan, SRVHS Road, Kochi-682011 (Kerala).

2. National Horticulture Board, 85, Sector-18, Institutional Area, Gurgaon -122015 (Haryana).

3. National Cooperative Development Corporation, 4, Siri Fort Institutional Area, Hauz Khas, New Delhi.

4. National Oilseeds and Vegetable Oils Development Board, 86, Sector-18, Institutional Area, Gurgaon- 122015 (Haryana).

5. Small Farmers' Agri Business Consortium (SFAC), NCUI Auditorium Building, 5th Floor, PHD House, Siri Fort Institutional Area, Hauz Khas, New Delhi-110016

6. National Institute for Agricultural Extension Management (MANAGE), Rajendranagar, Hyderabad- 500030(A.P).

7. National Institute of Agricultural Marketing, Kota Road, Bambala, Near Sanganer, Jaipur- 303906 (Rajasthan).

8. National Institute of Plant Health Management, Rajendranagar,  
Hyderabad-500030 (A.P.)

## **V NATIONAL LEVEL COOPERATIVE ORGANISATIONS**

1. National Cooperative Union of India, 3, Siri Institutional Area, Khelgaon Marg, New Delhi-110016
2. National Agricultural Cooperative Marketing Federation of India Limited, NAFED House, Sidhartha Enclave, Ashram Chowk, New Delhi.
3. National Federation of Cooperative Sugar Factories Ltd., Ansal Plaza, Block C, 2nd Floor, Khelgaon Marg, New Delhi- 110049.
4. National Heavy Engineering Cooperative Ltd.,16, Mahatma Gandhi Road, Pune-400001 (Maharashtra).
5. National Federation of Urban Cooperative Banks and Credit Societies Ltd., B-14, 3rd Floor, Naraina Shopping Complex, Naraina Vihar, New Delhi-110028.
6. The All India Federation of Cooperative Spinning Mills Ltd., Canada Building, 2nd Floor, 226- D.N. Road, Mumbai-400001 (Maharashtra).
7. National Cooperative Agriculture and Rural Development Banks Federation Ltd., "Takshila" 2nd Floor, G.M. Pasta Road, Dadar (East), Mumbai-400014 (Maharashtra).
8. National Federation of State Cooperative Banks Ltd., J.K. Chambers, 5th Floor, Plot No. 76, Sector-17, Vashi, Navi Mumbai-400703 (Maharashtra).
9. National Federation of Labour Cooperatives Ltd., Plot No. 11, Sarita Vihar Institutional Area, Near Telephone Exchange, New Delhi-110044.
10. National Cooperative of Tobacco Growers' Federation Ltd., Anand (Gujarat).

## **VI AUTHORITIES**

1. Protection of Plant Varieties and Farmers' Rights Authority, NASC Complex, DPS Marg, Opposite Todapur village, New Delhi-110012.
2. National Rainfed Area Authority (NRAA)

### 24 Divisions in the Department and 1 Technology Mission

- 1 Administration Division
- 2 Agricultural Census Division
- 3 Agricultural Marketing Division
- 4 Budget, Finance & Accounts



- 5 Credit Division
- 6 Cooperation Division
- 7 Crops Division
- 8 Drought Management Division
- 9 Economic Administration Division
- 10 Extension Division
- 11 General Coordination Division
- 12 Hindi Division
- 13 Horticulture Division
- 14 Information Technology Division
- 15 Integrated Nutrient Management Division
- 16 International Cooperation Division
- 17 Mechanisation & Technology Division
- 18 Natural Resources Management Division
- 19 Plant Protection Division
- 20 Policy & Plan Division
- 21 Rainfed Farming System Division
- 22 Seeds Division
- 23 Technology Mission on Oilseeds, Pulses & Maize (TMOP&M)
- 24 Trade Division
- 25 Vigilance Division

**Functions and Duties**

The functions and duties performed by the Department of Agriculture and Cooperation relate to the matters as have been assigned to it in the Government of India (Allocation of Business) Rules, 1961, as amended from time to time. The matters presently assigned to the Department under the said Rules are reproduced below:

**DEPARTMENT OF AGRICULTURE AND COOPERATION  
(KRISHI AUR SAHKARITA VIBHAG)**

**PART I**

The following subjects which fall within List I of the Seventh Schedule to the Constitution of India:

1. Liaison with international Agri-organisations like Food and Agriculture organization of the United Nations, handling of CARE goods concerning agriculture, etc.
2. Participation in international conferences, associations and other bodies concerning agriculture and implementation of decisions made thereat.
3. Convention on Locust Control.
4. Plant Quarantine.
5. Industries, the control of which by the Union is declared by Parliament by law to be expedient in Public interest; as far as these relate to:-
  - (a) Development of agricultural industries including machinery, fertilizer and seeds but excluding cotton, ginning and pressing with the limitation that in regard to the development of agricultural industries, including machinery and fertilizer, the functions of the Department of Agriculture and Cooperation do not go further than the formulation of demands and the fixation of targets;
  - (b) Shellac Industry.
6. Agricultural Census.
7. Matters relating to damage to crops due to natural calamities.
8. Co-ordination of relief measures necessitated by drought.
9. Matters relating to loss of human life due to drought.
10. Indian People's Natural Calamity Trust.
11. Technology Mission on Oilseeds and Pulses.

**PART II**

The following subjects which fall within List III of the Seventh Schedule to the Constitution of India (as regards legislation only):

12. Adulteration of agricultural products other than foodstuffs.
13. Economic Planning (Agricultural Economics and Statistics)
14. Professions (excluding Veterinary Practice).
15. Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting plants including locusts.

16. Price control of agricultural commodities except foodgrains, sugar, vanaspati, oilseeds, vegetable oils, cakes and fats, jute, cotton and tea.
17. Administration of the Dangerous Machine (Regulation) Act, 1983 (35 of 1983).

### **PART III**

For the Union Territories the subjects mentioned in Parts I and II above, so far as they exist in regard to these territories and, in addition, to the following subjects which fall within List II of the Seventh Schedule to the Constitution of India:

18. Agriculture (Other than agricultural education and research) protection against pests and prevention of plant diseases.
19. Co-operation in agricultural sector, agricultural credit and indebtedness.
20. General Policy relating to the marketing of agricultural produce including pricing, exports, etc.
21. Setting up of agricultural markets in rural areas.
22. The Agricultural Produce (Grading and Marking) Act, 1937 (1 of 1937).
23. Insurance (Crop).
24. General Policy in the field of Co-operation and Co-ordination of cooperation activities in all sectors.

Note: The Ministries concerned are responsible for co-operatives in the respective fields.

25. Matters relating to National Cooperative Organisation.
26. National Cooperative Development Cooperation.
27. Incorporation, regulation and winding up of Co-operative societies with objects not confined to one State.
28. Training of personnel of co-operative departments and co-operative institutions (including education of members, office bearers and non-officials).

### **PART IV**

General and Consequential:

29. All Matters relating to international cooperation and assistance in agriculture and allied subjects other than the items of work allocated to Department of Agricultural Research & Education..
30. Agriculture and Horticulture.
31. Bio-aesthetic Planning.
32. Agricultural Production-Grow more food.
33. Land Reclamation.
34. Infrastructure for post harvest management of agriculture and horticulture.
35. National Land Use and Conservation Board.
36. Development of Cotton, Jute and Sugarcane.
37. Soil Survey in connection with development programmes.
38. Financial assistance to State Soil Conservation Schemes.
39. Projection of demand of fertilizers and manures at all-India, zone or region level; fixation of targets, nutrient-wise, for zones or regions.

40. Administration of the Fertiliser (Control) Order, 1957.
41. Monitoring of Pesticides Residues at National Level.
42. Administration of the Insecticides Act, 1968 (46 of 1968).
43. Agricultural Implements and Machinery.
44. Organisation and Development of extension education and training in the country.
45. Crop campaigns, crop competitions and farmers organizations.
46. Production of oil seeds.
- 46A. Production of Plant Material, Development of Nurseries and Plantations for bio fuels including coordination with other Ministries or Departments in this regard.
47. Schemes received from States and Union Territories for the settlement of landless agricultural labourers.
48. Mechanised Farms.
49. Organic Farming (all matters including development and promotion but excluding matters relating to certification of organic foods/products for export purposes).
50. On Farm Water Management.
51. Warehousing in rural areas including rural godowns.
52. All attached and subordinate offices or other organizations concerned with any of the subjects specified in this list except the Directorate of Agricultural Aviation.
53. Quality control of fertilizers.

**Department of Agricultural Research and Education**

<http://dare.nic.in/>

The Department of Agricultural Research And Education (DARE) has the following two autonomous bodies under its administrative control:

- Indian Council of Agricultural Research (ICAR)
- Central Agricultural University (CAU), Imphal

DARE coordinates and promotes agricultural research & education in the country. DARE provides the necessary government linkages for the Indian Council of Agricultural Research (ICAR), the premier research organisation with a scientific strength of about 25000 and a countrywide network of 49 Institutes including 4 deemed to be University status, 6 National Bureaux, 18 National Research Centres, 24 Project Directorates, 89 All India Coordinated Research Projects and 45 Agriculture Universities spread all over the country.

DARE is the nodal agency for International Cooperation in the area of agricultural research and education in India. The Department liaises with foreign governments, UN, CGIAR and other multilateral agencies for cooperation in various areas of agricultural research. DARE also coordinates admissions of foreign students in various Indian agriculture universities/ ICAR Institutes.

### Functions and Duties of the Department

## **DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION (KRISHI ANUSANDHAN AUR SHIKSHA VIBHAG)**

### **PART I**

The following subjects which fall within List I of the Seventh Schedule to the Constitution of India:

1. International cooperation and assistance in the field of agricultural research and education including relations with foreign and international agricultural research and education institutions and organisations.
2. Fundamental, applied and operational research and higher education including coordination of such research and higher education in agriculture, agroforestry, animal husbandry, dairying, fisheries, agricultural engineering and horticulture including agricultural statistics, economics and marketing.
3. Coordination and determination of standards in institutions for higher education or research and scientific and technical institutions in so far as they relate to food and agriculture including animal husbandry, dairying and fisheries. Development of Human Resources in Agricultural Research/Extensions and Education.
4. Cess for financing to the Indian Council of Agricultural Research and the Commodity Research Programmes other than those relating to tea, coffee and rubber.
5. Sugarcane research.

### **PART II**

For Union Territories the subjects mentioned in Part I above, so far as they exist in regard to these Territories and in addition the following subject which falls within List II of the Seventh Schedule to the Constitution of India:

6. Agricultural Education and Research.

### **PART III**

General and Consequential:

7. Plant, animal and fish introduction and exploration.
8. All India Soil and Land Use Survey relating to research training, correlation, classification, soil mapping and interpretation.
9. Financial assistance to State Governments and Agricultural Universities in respect of agricultural research and educational schemes and programmes.
10. National Demonstrations.
11. Indian Council of Agricultural Research and its constituent Institutes, National Research Centres, Project Directorates, Bureaux and All India Coordinated Projects.
12. Research and Development on production and improvement of bio-fuels plants.

#### **Department of Animal Husbandry, Dairying and Fisheries**

<http://www.dahd.nic.in/dahd/default.aspx>

The Department of Animal Husbandry and Dairying (AH&D) - now renamed as Department of Animal Husbandry Dairying & Fisheries (DADF) is one of the Departments in the Ministry of Agriculture and came into existence w.e.f. 1st February, 1991, by converting two divisions of the Department of Agriculture and Cooperation namely Animal Husbandry and Dairy Development into a separate Department. The Fisheries Division of the Department of Agriculture and Cooperation and a part of the Ministry of Food Processing Industries were later transferred to this Department w.e.f. 10th October, 1997.

The Department is responsible for matters relating to livestock production, preservation, protection from disease and improvement of stocks and dairy

development, and also for matters relating to the Delhi Milk Scheme and the National Dairy Development Board. It also looks after all matters pertaining to fishing and fisheries, inland and marine.

The Department advises State Governments/Union Territories in the formulation of policies and programmes in the field of Animal Husbandry, Dairy Development and Fisheries. The main thrust areas are:

- Development of requisite infrastructure in States/UTs for improving productivity,
- Preservation and protection of livestock through provision of health care,
- Strengthening of Central livestock farms (Cattle, Sheep and Poultry) for development of superior germ plasm for distribution to states and,
- Expansion of Aquaculture in fresh & brackish water, and welfare of fisher-folk etc

**(NOTE: meaning of**

1. Husbandry - The agricultural practice of breeding and caring for farm animals.
2. Plant Quarantine - the group of measures taken by the state to prevent the introduction and spread of the pests, diseases, and weeds presenting the greatest danger to farm crops.
3. Horticulture - The art or practice of garden cultivation and management. It is the science or art of cultivating fruits, vegetables, flowers, or ornamental plants.)

**Functions and Duties of the Department**

**DEPARTMENT OF ANIMAL HUSBANDRY, DAIRYING AND FISHERIES  
(PASHUPALAN, DAIRY AUR MATSYAPALAN VIBHAG)**

**PART I**

The following subjects which fall within List I of the Seventh Schedule to the Constitution of India:

1. Industries, the control of which by the Union is declared by Parliament by law to be expedient in Public interest as far as these relate to Development of Livestock, fish and birds feed and dairy, poultry and fish products with the limitation that in regard to the development of industries, the functions of the Department of Animal Husbandry and Dairying do not go further than the formulation of the demand and fixation of targets.

2. Liaison and cooperation with international organizations in matters relating to livestock, poultry and fisheries development.
3. Livestock Census.
4. Livestock Statistics.
5. Matters relating to loss of livestock due to natural calamities.
6. Regulation of Livestock importation, Animal Quarantine and Certification.
7. Fishing and fisheries (inland, marine and beyond territorial waters).
8. Fishery Survey of India, Mumbai.

## **PART II**

The following subjects which fall within List III of the Seventh Schedule to the Constitution of India (as regards legislation only):

9. Profession of Veterinary Practice.
10. Prevention of the extension from one State to another or infectious or contagious diseases or pests affecting animals, fish and birds.
11. Conversion of indigenous breeds; introduction and maintenance of Central Herd Books for indigenous breeds of livestock.
12. Pattern of financial assistance to various State Undertakings, Dairy Development Schemes through State agencies/Co-operative Unions.

## **PART III**

For the Union Territories the subjects mentioned in parts I and II above, so far as they exist in regard to these territories and, in addition, to the following subjects which fall within List II of the Seventh Schedule to the Constitution of India:

13. Preservation, protection and improvement of stocks and prevention of diseases of animals, fish and birds, Veterinary training and practice.



14. Courts of Wards.
15. Insurance of livestock, fish and birds.

#### **PART IV**

16. Matters relating to cattle utilisation and slaughter.
17. Fodder development.

#### **B. FOOD PROCESSING**

##### **Ministry of Food Processing**

<http://mofpi.nic.in/>

The Ministry of Food Processing Industries (MOFPI) is a ministry of the Government of India is responsible for formulation and administration of the rules and regulations and laws relating to food processing in India. The ministry was set up in the year 1988, with a view to develop a strong and vibrant food processing industry, to create increased employment in rural sector and enable farmers to reap the benefits of modern technology and to create a of surplus for exports and stimulating demand for processed food.

#### **C. PUBLIC DISTRIBUTION**

##### **Ministry of Consumer Affairs, Food and Public Distribution**

<http://fcamin.nic.in/>

The Department of Food & Public Distribution (<http://dfpd.nic.in/>) under the Ministry of Consumer Affairs, Food and Public Distribution is the nodal Department whose primary Policy objective is to ensure food security for the country through timely and efficient procurement and distribution of foodgrains. This involves procurement of various foodgrains, building up and maintenance of food stocks, their storage, movement and delivery to the distributing agencies and monitoring of production, stock and price levels of foodgrains. The focus is on incentivizing farmers through fair value of their produce by way of Minimum Support Price mechanism, distribution of foodgrains to Below Poverty Line (BPL) families and covering poor households at the risk of hunger under Antyodaya Anna Yojna (AAY), establishing grain banks in food scarce areas and involvement of Panchayati Raj Institutions in Public Distribution System (PDS).

The Department is also responsible for formulation of policies concerning the sugar sector such as fixing of Fair and Remunerative Price (FRP) of sugarcane

payable by Sugar factories, development and regulation of sugar industry (including training in sugar technology), fixation of levy price of sugar and its supply for PDS and regulation of supply of free sale sugar. The Department also formulates policies on export and import of foodgrains, sugar and edible oils.

#### **D. PANCHAYATS**

The 73rd amendment to the constitution accorded constitutional status to the Panchayats. Subject to the provisions of the constitution, the legislature of state may, by law endow the Panchayats with such powers and authority as may be necessary to enable them to function as institution of self government and such law may contain provisions for the devolution of powers and responsibilities upon Panchayats at the appropriate level, subject to such conditions as may be specified therein, with respect to:

a. the preparation of plans for economic development and social justice; and  
b. The implementation of schemes for economic development and social justice as may be entrusted to them including those in relation to the matters listed in the Eleventh (XI) Schedule, Article 243G of the Constitution of India, which are as follows:

1. agriculture, including agricultural extension
2. land improvement, implementation of land reforms, land consolidation and soil conservation
3. minor irrigation, water management and watershed development
4. animal husbandry, dairying and poultry
5. fisheries
6. social forestry and farm forestry
7. minor forest produce
8. small scale industries, including food processing industries
9. khadi, village and cottage industries
10. rural housing
11. drinking water
12. fuel and fodder
13. roads, culverts bridges, ferries waterways and other means of communication
14. rural electrification including distribution of electricity
15. non-conventional energy sources
16. poverty alleviation programme
17. education, including primary and secondary schools
18. technical training and vocational education

19. adult and non- formal education
20. libraries
21. cultural activities
22. markets and fairs
23. health and sanitation, including hospitals, primary health centres (PHC) and dispensaries
24. family welfare
25. women and child development
26. social welfare, including welfare of the handicapped and mentally retarded
27. welfare of the weaker sections, and in particular, of the Scheduled Castes and Scheduled Tribes
28. Public Distribution System (PDS)
29. Maintenance of community assets.

### **Legislations Regulating Agriculture and Allied Sectors**

Agricultural law deals with law on Agricultural infrastructure, seed, water, fertilizer, pesticide, etc. With implementation of modern technologies, issues like credit, intellectual property, trade and commerce related to agricultural products are also dealt within the sphere of this law.

Classification of agricultural laws

Agricultural legislations are covered under the following broad categories –

- land legislations and reforms;
- legislation and reforms of input management [legislations related to fertilizer, seed, pests and pesticides, genetically modified organisms (GMOs), agricultural biotechnology and other inputs];
- IPR laws related to Agriculture
- labour laws related to Agriculture;
- legislations in agricultural marketing;
- legislations in livestock sector;
- legislations of agriculture credit and finance;
- legislations in co-operative sector
- taxation legislations related to agriculture
- Agricultural policy

#### **History of agricultural laws of India**

The agriculture sector has slowly shifted from subsistence to semi-commercial, and the traditional systems have been replaced by improved production systems, which are technology-driven. This transformation in Indian agriculture has been possible by technology development, adoption, policies, and hard work of farmers, supported by the legislative measures with codified laws for observation in agricultural and allied activities. Although agricultural

legislations in the country were the legacy of British, real efforts were commenced only after 1947 to alter the economic condition of farmers and status of farming through legislative measures. The democratic governments of states and centre had moved in a large way to remove the most unhealthy impediments to the progress of the agrarian sector. Since Five-Year Plans became an integral part of the development process, agricultural legislations also became portion of a purposeful national effort for changing the socio-economic condition of the society.

In the early period, the legislations could be categorized into main four groups such as:

- Abolition of the intermediaries,
- Tenancy Reforms,
- Ceiling of Land holdings, and
- laws relating to Gramdan and Bhoodan.

The abolition of Zamindari and similar measures helped actual cultivators to coordinate directly with the state. Similarly, the foremost cause of enhanced productivity was reforms in tenancy laws in most states. The land reforms measures in the country adopted the principle of conferring ownership on the tenants, although the laws varied from state to state. Similarly, to achieve social justice and redistribution of agricultural land, laws were passed in almost all states to restrict the size of agricultural holdings. As a result, more than 1 million ha of agricultural land was declared surplus with the government for distribution to those who needed it the most. For facilitating the implementation of these laws, most of them have been included in the Ninth Schedule of the Constitution of India, to place these laws above challenge in the courts of law, by necessary amendments. In addition to these, the Bhoodan Movement, started in early fifties by Acharya Vinoba Bhave to collect the donation of land for distribution among the landless was subsequently supported by legislative sanction and approval by states through series of laws and rules.

The land-reforms measures attempt to rationalize the agrarian structure and the land-man relationship. A dynamic approach towards the reorganization of agricultural operations was essential for agro-progress. A number of legislative measures have been taken to facilitate land use and management. The consolidation of land-holdings is probably one of the major steps in this direction. To overcome the problem of fragmented and dispersed holdings, the voluntary approach was slowly replaced by legislative measures such as: Bombay Prevention of Fragmentation and Consolidation of Holdings Act, 1948; the Punjab Holdings (Consolidation and Holding) Act, 1953; The UP Consolidation of Holdings Act, 1953; The Rajasthan Holdings (Consolidation and Prevention of Fragmentation) Act, 1954; The MP Land Revenue Code, 1959; The Jammu and Kashmir Consolidation Holdings Act, 1960 etc. Similar laws were enacted in Bihar (1966), Assam (1960), Andhra Pradesh (1956), Himachal Pradesh

(1953) and other states during 1974–75. To further support the consolidation efforts, some states have enacted legislative measures to facilitate the organization of co-operative joint-farming societies on voluntary basis. In some states, surplus land is allotted to co-operative societies of landless labourers.

## **LIST OF AGRICULTURAL LAWS**

### **A. Central laws**

- i. The Agricultural Produce (Grading and Marking) Act, 1937 & the General Grading and Marking Rules, 1988
- ii. The Seeds Act, 1966 & The Seeds Rules, 1968
- iii. Insecticides Act, 1968
- iv. Co-operative Societies Act, 1912
- v. Multi-State Cooperative Societies Act, 2002
- vi. The Protection of Plant Varieties and Farmers' Rights Act, 2001

### **B. State laws**

#### **I. Andhra Pradesh**

- i. The Andhra Pradesh Agricultural Produce and Livestock Markets Act, 1966
- ii. Andhra Pradesh (Agricultural Produce and Livestock) Markets Rules, 1969
- iii. Andhra Pradesh Cotton Seeds (Regulation of Supply, Distribution, Sale and Fixation of Sale Price) Act, 2007
- iv. Andhra Pradesh Non-Agricultural Land Assessment Act, 1963
- v. Andhra Pradesh Irrigation Utilisation and Command Area Development Act, 1984
- vi. The Andhra Pradesh Muttas (Abolition and Conversion into Ryotwari) Regulation, 1969

#### **II. Arunachal Pradesh**

- i. Arunachal Pradesh Water Resources Regulatory Authority Act, 2006
- ii. Arunachal Pradesh Agricultural Produce Marketing Regulation (Amendment) Act, 2006
- iii. Arunachal Pradesh Co-operative Societies Act, 1978
- iv. Arunachal Pradesh Soil and Water Conservation Act, 1991
- v. Arunachal Pradesh Agricultural Produce Marketing (Regulation) Act, 1989
- vi. Arunachal Pradesh Agricultural Service Rule, 2005

#### **III. Assam**

- i. The Assam Agricultural Credit Operations and Miscellaneous Provisions (Banks) Act 1977
  - ii. The Assam Agricultural Pests and Diseases Act, 1950
  - iii. The Assam Agricultural Produce Market Act, 1972
- IV. Goa**
- i. Goa, Daman and Diu Agricultural Tenancy Act, 1964
  - ii. Goa Fruit and Ornamental Plant Nurseries (Regulation) Act, 1995
  - iii. The Goa Fruit and Ornamental Plant Nurseries (Regulation) Rules, 1997
  - iv. Goa, Daman and Diu Agricultural Tenancy Act, 1964
  - v. Goa, Daman and Diu Agricultural Tenancy (Special Rights and Privileges of Tenants). Rules, 1977
- V. Gujarat**
- i. Gujarat Agricultural Universities Act, 2004
  - ii. Gujarat Fisheries Act, 2003
  - iii. Gujarat Fisheries Rules, 2003
- VI. Himachal Pradesh**
- i. The Himachal Pradesh Holdings (Consolidation and Prevention of Fragmentation) Act, 1971
  - ii. The Himachal Pradesh Agricultural Credit Operations and Miscellaneous Provisions (Banks) Act, 1972
  - iii. Himachal Pradesh Agricultural Credit Operations and Miscellaneous Provisions (Banks) Rules, 1975
  - iv. The Himachal Pradesh Agricultural Pests, Diseases and Noxious Weeds Act, 1969
  - v. Himachal Pradesh Agricultural Pests, Diseases and Noxious Weeds Rules, 1971
  - vi. The Himachal Pradesh Agricultural and Horticultural Produce Marketing (Development and Regulation) Act, 2005
  - vii. The Himachal Pradesh Co-operative Agriculture and Rural Development Banks Act, 1979
  - viii. The Himachal Pradesh Co-operative Agriculture and Rural Development Banks Rules, 1990
  - ix. The Himachal Pradesh Debt Reduction Act, 1976
  - x. Himachal Pradesh Debt Reduction Rules, 1982
  - xi. The Himachal Pradesh Universities of Agriculture, Horticulture and Forestry Act, 1986
  - xii. Himachal Pradesh Livestock Improvement Act, 1968
  - xiii. Himachal Pradesh Livestock Improvement Rules, 1969
  - xiv. The Himachal Pradesh State Agricultural Marketing Board (Conduct of Business) Regulations, 2006

- xv. Himachal Pradesh State Agricultural Marketing Board and Committees (Employees Contributory Provident Fund) Regulation, 2006

**VII. Haryana**

- i. The Haryana and Punjab Agricultural Universities (Haryana Amendment) Act, 1991
- ii. The Haryana Relief of Agricultural Indebtedness Act, 1989
- iii. The Punjab Agricultural Produce Markets (Haryana Amendment) Act, 2005
- iv. East Punjab Agricultural Pests, Diseases and Noxious Weeds Act, 1949
- v. East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act, 1948
- vi. East Punjab Improved Seeds and date Seedlings Act, 1949
- vii. The Punjab Abolition of Village Cess (Kuri Kamani) Act, 1950
- viii. Punjab Agricultural Produce Markets (Validation) Act, 1953
- ix. Punjab Livestock Improvement Act, 1953
- x. Haryana Murrah Buffalo and Other Milch Animal Breed (Preservation and Development of Animal Husbandry and Dairy Development Sector) Act, 2001
- xi. Punjab Relief of Indebtedness Act, 1934
- xii. The East Punjab Cotton (Statistics) Act, 1948
- xiii. The East Punjab Displaced Persons (Land Resettlement) Act, 1949
- xiv. The Punjab New Capital (Periphery) Control Act, 1952
- xv. The Punjab Sugarcane (Regulation of Purchase and Supply) Act, 1953
- xvi. The Punjab Warehouses Act, 1957
- xvii. The Punjab Fruit Nurseries Act, 1961
- xviii. The Punjab Agricultural Produce Markets Act, 1961
- xix. The Punjab Land Improvement Schemes Act, 1963
- xx. The Punjab Thur and Sem Lands (Reclamation) Act, 1963
- xxi. Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963
- xxii. The Haryana Agricultural Credit Operations and Miscellaneous Provisions (Banks) Act, 1973
- xxiii. Haryana Development and Regulation of Urban Areas Act, 1975
- xxiv. Haryana Co-operative Societies (Amendment) Act, 2009

**VIII. Jharkhand**

- i. Jharkhand State Unaided Educational Institution (Grant) Amendment Act, 2007

- ii. Jharkhand Agriculture University (Amendment) Act, 2008
- iii. Jharkhand State Agriculture Produce Market (Amendment) Act, 2007

**IX. Jammu & Kashmir**

- i. The Jammu and Kashmir Land Improvement Schemes Act, 1972
- ii. The Jammu and Kashmir Land Improvement Schemes Rules, 1973
- iii. The Jammu and Kashmir Livestock Improvement Act, 1996
- iv. Jammu and Kashmir Prohibition on Conversion of Agricultural Land for Non-agricultural Purposes Act, 2010
- v. Jammu and Kashmir Brick Kilns (Regulation) Act, 2010
- vi. The Jammu and Kashmir State Lands (Vesting of Ownership to the Occupants) Rules, 2007

**X. Karnataka**

- i. Karnataka Agricultural Credit Operations and Miscellaneous Provisions Act, 1974

**XI. Kerala**

- i. Kerala Agricultural Income Tax Act, 1991
- ii. The Kerala Agricultural Workers' Act, 1974
- iii. The Kerala Agricultural Debtors (Temporary Relief Act), 2001
- iv. The Kerala Agricultural University Act, 1971
- v. The Kerala State Co-operative Agricultural and Rural Development Banks Act, 1984
- vi. The Kerala Raw Cashewnuts (Marketing and Transport and Fixation of Minimum Price) Act, 1981
- vii. Kerala Cashew Workers Relief and Welfare Fund Act, 1979
- viii. Kerala Raw Cashewnuts (Procurement and Distribution) Act, 1981
- ix. The Kerala Plantation Tax, 1960
- x. The Kerala Agriculturists' Debt Relief Act, 1970
- xi. Kerala Plant Diseases and Pests Act, 1972
- xii. Kerala Co-operative Societies Act, 1969
- xiii. Kerala Conservation of Paddy Land and Wetland Act, 2008
- xiv. Kerala Forest (Vesting and Management of Ecologically Fragile Lands Act, 2003
- xv. Kerala Farmers' Debt Relief Commission Act, 2006
- xvi. Kerala Appropriation Act, 2010

**XII. Maharashtra**

- i. Maharashtra Agricultural Produce Marketing (Regulation) Act, 1963
- ii. Bombay Tenancy And Agricultural Lands Act, 1948



- iii. The Maharashtra Agricultural Lands (Ceiling On Holdings) Act, 1961
  - iv. The Bombay Village Panchayat Act, 1958
  - v. Maharashtra Restoration Of Lands To Schedule Tribes Act 1974
  - vi. Maharashtra Restoration Of Lands To Schedule Tribes Rules 1975
  - vii. The Maharashtra Co-operative Society Act, 1960
- XIII. Madhya Pradesh**
- i. Madhya Pradesh Sahakari Krishi aur Gramin Vikas Bank Adhinyam, 1999
  - ii. Madhya Pradesh Irrigation Act, 1931
  - iii. The Madhya Pradesh Agricultural Cattle Preservation Act, 1959
  - iv. The Madhya Pradesh Agricultural Cattle Preservation Rules, 1959
  - v. Gwalior Vyapar Mela Pradhikaran Adhinyam, 1996
- XIV. Mizoram**
- i. The Mizoram Organic Farming Act, 2004
  - ii. The Mizoram Oil Palm (Regulation of Production and Processing) Act, 2004
  - iii. The Produce Cess Laws (Abolition) Act, 2006
- XV. Odisha**
- i. The Orissa Agricultural Produce Markets Act, 1956
  - ii. The Orissa Agricultural Produce Markets Rules, 1958
  - iii. Orissa Zilla Parishad Act, 1994
  - iv. The Orissa Preservation of Private Forests Act, 1947
  - v. The Agriculturists' Loans (Orissa Amendment) Act, 1937
  - vi. Orissa Co-operative Land Mortgage Bank Act, 1938
  - vii. Odisha Kendu Leaves (Control of Trade) Act, 1961
  - viii. Orissa Appropriation (No.3) Act, 1990
  - ix. Orissa Debt Relief Act, 1980
  - x. Odisha Sugarcane Cess Act, 1959
  - xi. Odisha Revenue Administration (Units) Act, 1963
  - xii. Odisha Agricultural Year Act, 1963
- XVI. Punjab**
- i. The Punjab Agricultural Produce Markets Act, 1961
  - ii. The Punjab Agricultural Produce Markets (General) Rules, 1962
  - iii. Punjab Minor Canals Act, 1905
  - iv. The Agriculturists Loans Act, 1884
  - v. The Land Improvement Loans Act, 1883
  - vi. Punjab Reclamation of Land Act 1959

- vii. East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act 1948
  - viii. Punjab Tenancy Act, 1887
  - ix. Pepsu Tenancy and Agricultural Lands Act, 1955
  - x. Pepsu Tenancy and Agricultural Lands Rules, 1958
- XVII. Puducherry**
- i. Pondicherry Town and Country Planning Act, 1969
  - ii. The Pondicherry Ground Water (Control and Regulation) Act, 2002
- XVIII. Rajasthan**
- i. Rajasthan Gaushala Act, 1960
  - ii. Rajasthan Live-Stock Improvement Act, 1958
  - iii. Rajasthan State Cattle Fairs Act, 1963
  - iv. Rajasthan Farmers' Participation in Management of Irrigation System Act, 2000
- XIX. Tamil Nadu**
- i. Tamil Nadu Agricultural Labourers Farmers (Social Security and Welfare) Act , 2006
  - ii. Tamil Nadu Agricultural Labourers Farmers (Social Security and Welfare) Rules , 2006
  - iii. Tamil Nadu farmers' management of irrigation systems act, 2000
- XX. Tripura**
- i. The Tripura Agricultural Debtors Relief Act,1975
  - ii. Tripura Agricultural Indebtedness Relief Act, 1979
  - iii. Tripura Agricultural Indebtedness Rules, 1980
  - iv. Tripura Plant diseases and Pests Act, 1969
  - v. The Tripura Cooperative Societies Act, 1974
  - vi. Tripura Agricultural Produce Markets Act, 1980
  - vii. Tripura Agricultural Credit Operations Act, 1976

## **1. Land Legislations And Reforms**

Land, land tenures, land holdings, consolidation etc. are under the exclusive legislative and administrative jurisdiction of the states as provided in Entry No.18 of List II (State List) in the Seventh Schedule of the Constitution. However, the Central Government has been playing an advisory and co-ordinating role in the field of land reforms since the First Five-Year Plan.

The major objective of land reforms have been the re-ordering of agrarian relations to achieve an egalitarian social condition, elimination of exploitation in land relations, realizing the age-old goal of land to the tiller, enlarging the land base of the rural poor, increasing agricultural productivity and infusing an element of equality in local institutions.

The Department of Land Resources in the Union Ministry of Rural Development has been playing a crucial role in evolving a national consensus for initiating effective land reforms which include abolition of Zamindari system and all intermediaries since the beginning of the fifties, introduction of family ceiling in the mid fifties, reduction of the ceiling limit, consolidation of land holdings and monitoring the progress of the distribution of ceiling surplus land as part of the 20-point programme of the Central Government.

### **The Land Acquisition Act, 1894**

Land Acquisition may be defined as the action of the government whereby it acquires land from its owners in order to pursue certain public purpose or for any company. This acquisition is subject to payment of compensation to the owners or to persons interested in the land. Land acquisitions by the government generally are compulsory in nature, not paying heed to the owner's unwillingness to part with the land.

The Act authorizes governments to acquire land for public purposes such as planned development, provisions for town or rural planning, provision for residential purpose to the poor or landless and for carrying out any education, housing or health scheme of the Government.

It was enacted for building an adequate stock of urban land for public interest purposes such as low-income housing, road widening, development of parks and other amenities. Such land is typically acquired by the government through payment of compensation to landowners as per market value.

The Act also specifies the public officers who are authorized for such acquiring of land on behalf of the State. They include the Collector, Deputy Commissioner and also any officer who is specially appointed by the appropriate government under the authority of law.

The steps involved in land acquisition are –

- A notification is published in official gazette and in two daily newspapers whenever it appears to the appropriate Government the land in any locality is needed for any public purpose. Thereupon it shall be lawful for any officer authorized by such Government to enter upon and survey and take levels of any land in such locality, to dig or bore into the sub-soil, to do all other acts necessary to ascertain whether the land is adapted for such purpose, to set out the boundaries of the land proposed to be taken and the intended line of the work (if any) proposed to be made thereon, to mark such levels, boundaries and line by placing marks and cutting trenches.
- Declaration should be made that the land is required for public purpose under the signature of a Secretary to such Government. Every declaration should be published in the Official Gazette and in two daily newspapers

circulating in the locality in which the land is situated. After declaration, Collector will take order for acquisition. The Collector will thereupon cause the land to be marked out.

- The Collector should then give public notice at convenient places on or near the land to be taken; stating that the Government intends to take possession of the land and that claims to compensations for all interests in such land may be made to him.
- The collector will then make inquiry into measurements, value, claims and awards.
- The Collector should make an award within a period of two years from the date of the publication of the declaration and if no award is made within that period, the entire proceeding for the acquisition of the land will lapse.
- After making an award for possession of the land, land will vest absolutely in the Government, free from all encumbrances.

### **The Land Acquisition, Rehabilitation and Resettlement, Bill, 2011**

The Land Acquisition Act, 1894 is the general law relating to acquisition of land for public purposes and also for companies and for determining the amount of compensation to be made on account of such acquisition. The provisions of the said Act have been found to be inadequate in addressing certain issues related to the exercise of the statutory powers of the State for involuntary acquisition of private land and property. The Act does not address the issues of rehabilitation and resettlement to the affected persons and their families.

The Land Acquisition, Rehabilitation and Resettlement Bill, 2011 seeks to balance the need for facilitating land acquisition for various public purposes including infrastructure development, industrialisation and urbanisation, while at the same time meaningfully addressing the concerns of farmers and those whose livelihoods are dependent on the land being acquired. The issue of who acquires land is less important than the process of land acquisition, compensation for land acquired and the Rehabilitation and Resettlement process, package and conditions. The Bill specifies these irrespective of the ratios of private and government acquisition. The objective is to make the process of land acquisition easy, transparent and fair for both sides in each instance.

The Land Acquisition, Rehabilitation and Resettlement Bill, 2011 was introduced in Lok Sabha on 7<sup>th</sup> September 2011 and was referred to the Parliamentary Standing Committee on 13<sup>th</sup> September 2011. The Standing Committee on Rural Development submitted its report on 17<sup>th</sup> May 2012.

Two Bills on similar lines were introduced in Lok Sabha in 2007. Earlier, the Land Acquisition (Amendment) Bill, 2007 and Rehabilitation and Resettlement Bill, 2007 were introduced in the Lok Sabha on 6<sup>th</sup> December, 2007 and were referred to the Parliamentary Standing Committee on Rural Development for Examination and Report. The Standing Committee presented its reports (the 39<sup>th</sup>

and 40th Reports) to the Lok Sabha on 21st October, 2008 and laid the same in the Rajya Sabha on the same day. Based on the recommendations of the Standing Committee and as a consequence thereof, official amendments to the Bills were proposed. The Bills, along with the official amendments, were passed by the Lok Sabha on 25th February, 2009, but the same lapsed with the dissolution of the 14th Lok Sabha.

The Purpose of the Bill -

- To ensure a humane, participatory, informed consultative and transparent process for land acquisition for industrialization,
- development of essential infrastructural facilities
- and urbanization with the least disturbance to the owners of the land and other affected families
- and provide just and fair compensation to the affected families whose land has been acquired or proposed to be acquired or are affected by such acquisition
- and make adequate provisions for such affected persons for their rehabilitation and resettlement thereof,
- and for ensuring that the cumulative outcome of compulsory acquisition should be that affected persons become partners in development leading to an improvement in their post acquisition social and economic status and for matters connected therewith or incidental thereto.

The important provisions of the Bill -

- The provisions of the 2011, Bill relating to land acquisition, rehabilitation and resettlement, shall apply, when the appropriate Government acquires land, —

(a) for its own use, hold and control; or

(b) with the purpose to transfer it for the use of private companies for public purpose (including Public Private Partnership projects but not including national or state highway projects); or

(c) on the request of private companies for immediate and declared use by such companies of land for public purposes:

Provided that no land shall be transferred by way of acquisition, in the Scheduled Areas in contravention of the law relating to land transfer, prevailing in such Scheduled Areas.

- The provisions relating to rehabilitation and resettlement under this Act shall apply in the cases where, —

(a) a private company purchases or acquires land, equal to or more than one hundred acres in rural areas or equal to or more than fifty acres in urban areas, through private negotiations with the owner of the land as per the provisions of section 42;

(b) a private company requests the appropriate Government for acquisition of a part of an area so identified for a public purpose:

Provided that where a private company requests the appropriate Government for partial acquisition of land for public purpose then the rehabilitation and resettlement entitlements shall be applicable for the entire area identified for acquisition by the private company and not limited to the area for which the request is made.

- Every acquisition requires a Social Impact Assessment (SIA) by an independent body followed by a preliminary notification and a final award by the District Collector. The Social Impact Assessment Study will include –
  - assessment of nature of public interest involved;
  - estimation of affected families and the number of families among them likely to be displaced;
  - study of socio-economic impact upon the families residing in the adjoining area of the land acquired;
  - extent of lands, public and private, houses, settlements and other common properties likely to be affected by the proposed acquisition;
  - whether the extent of land proposed for acquisition is the absolute bare minimum extent needed for the project;
  - whether land acquisition at an alternate place has been considered and found not feasible;
  - study of social impact from the project, and the nature and cost of addressing them and their impact on the overall costs of the project and benefits *vis-à-vis* the social and environmental costs.
- The Social Impact Assessment Report should be evaluated by an independent multi-disciplinary expert group constituted by the Government.
- In the case of urgency, the appropriate government shall acquire the land after 30 days from the date of the issue of the notification (without SIA). This clause may be used only for defence, national security, and conditions arising out of a national calamity.
- The compensation for the land acquired shall be based on the higher of (a) the minimum land value, specified in the Indian Stamp Act, 1899 for the registration of sale deeds; and (b) the average sale price (50% of all sale deeds registered in the previous 3 years for similar property in the near village or vicinity area may be taken into account). This amount is further doubled in case of rural areas. The value of the assets (trees, plants, buildings etc) attached to the land being acquired will be added to this amount. This total amount reached will then be multiplied by two to get the final compensation amount; in case of the urgency clause, an

additional 75% of the market value shall be given. (Clause 26, 27 & 28 & First Schedule)

- If an acquired land which is transferred to a person for a consideration, is left unutilised for a period of 10 years from the date it was acquired, it shall be returned to the Land Bank or the appropriate government. Upon every transfer of land without development, twenty per cent. of the appreciated land value shall be shared with the original land owners.
- Twenty-five infrastructural amenities are proposed to be provided in the resettlement area including schools and play grounds, health centres, roads and electric connections, assured sources of safe drinking water, Panchayat Ghars, Anganwadis, places of worship, burial and cremation grounds, village level post offices, fair price shops and seed-cum-fertilizers storage facilities.
- The benefits under the new law would be available in all the cases of land acquisition under the Land Acquisition Act, 1894 where award has not been made or possession of land has not been taken.

## **2. Legislations And Reforms In Input Management**

In the mid-sixties, the course of Indian agriculture drastically altered for good. The green revolution was set in and for the first time food security was achieved by the combination technology, which was economically viable and inspiring to the farmers. Good water services and extensive supply of improved seeds including hybrid technology, fertilizers, pesticides and electricity, and adoption of public policies in terms of input-output pricing and marketing made it further possible. The green revolution not only gave the requisite food security but also gave much needed self confidence to a beleaguered nation which was often reeling under the impacts of drought, calamities, shortages and supply-chain disruption. It was the transformation of agrarian input-industry into a full-fledged business. Seed industry, fertilizer industry and pesticide industry grew at rapid speed and began competing with world players.

### **i. Fertilizer legislations**

Various legislations on fertilizers in India are inherited from "Entry - 33" of list III (Concurrent List) of VII Schedule of the Constitution which empowers the Central Government to regulate trade, commerce and the production, supply and distribution of any product or any industry, where the control by the Union is declared by Parliament (by law), to be expedient in public interest. In exercise of this power, the Parliament enacted the Industries (Development and Regulation) Act, 1951 (IDRA). The Section 2 of the IDRA declares that it is expedient in public interest that the Union shall take under its control the industries specified in its First Schedule. At serial number 13 of the said Schedule, "Fertilisers - Inorganic, Organic and Mixed" has been included. Subsequently, in exercise of the powers conferred under VII Schedule - List III -

Entry 33, read with section 2 of IDRA, the Central Government enacted the Essential Commodities Act, 1955 (1 of 1955) (ECA), to control the production, supply and distribution of, and trade and commerce in certain commodities, in the interest of the general public. Under section 2 (a) (xi) of the ECA, the Central Government declared “ Fertilizers whether inorganic, organic or mixed” as an Essential Commodity, vide notification S.R.O. No. 10 dated 29.3.1957. Section 3 of the ECA empowers the Central Government to make order providing for regulating or prohibiting the production supply and distribution of any essential commodity and trade and commerce therein so as to maintain or increase its supply or for securing its equitable distribution and availability at fair price, etc. the Central Government promulgated the following orders in exercise of the powers conferred under Section 3 of the ECA to regulate manufacture, quality, sale, distribution, price movement, etc. of fertilizers:

a) Fertilizer (Control) Order, 1957/1985 (FCO) -

Initially, the Fertilizer Control Order (FCO) was issued in 1937 and came into force w.e.f. 15 May 1957. Since then, a lot of changes in fertilizer technology, production and distribution system has taken place. A number of new products like micronutrients also came into the market. Need was also felt to make the provisions of the FCO more stringent and up-to-date so that the fertilizer quality control machinery is more effective. This led to several amendments in the FCO, 1957. Subsequently, an overall review of the FCO, 1957 was conducted by the ‘FCO Review Committee’ set up by the Central Government. Finally, the revised FCO called FCO, 1985 was issued on 25 September 1985, which came into force with immediate effect.

The objectives of the FCO are to protect the interest of the farmers as well as that of genuine traders/manufacturers from the exploitation by unscrupulous elements. These are achieved by ensuring the availability of fertilizers of right quality and at right time by regulating their quality, price, distribution, sale etc. The enforcement of the FCO is entrusted to the state governments, who have been vested with adequate powers in this regard.

Important features of the structure of FCO, 1985, include: definitions, price control, allocation of fertilizers, manufacture of mixtures of fertilizers, packing/marketing of containers, minimum laboratory facilities to be maintained by manufacturers, disposal of non-standard fertilizers, sale/use of fertilizers for non-agricultural/industrial purposes, authorization of wholesale and retail dealers and sale of fertilizers, registration of industrial dealers, provision for referee laboratory, maintenance of books and accounts and submission of returns, other restrictions on manufacture, import, sale, storage, distribution, etc.; enforcement agencies, inspectors – powers and responsibilities: search/seizure, drawal of samples and analysis, reanalysis fees and advisory committees, minimum laboratory facilities to be maintained by notified laboratories, specification for provisional fertilizers, punishment–suspension/debarment/cancellation; and appeals and prosecution.



b) Fertilizers (Control) Order, 1985 –

The fertilizers (Control) Order, 1957, initially came into being to regulate the sale, price and quality of fertilizers. The various provisions of the Order were reviewed from time to time and led to issuance of a revised Fertilizer (Control) Order, 1985. The revised FCO 1985 came into effect on 25.9.85. The Department of Agriculture & Cooperation, Ministry of Agriculture is the implementing agency for FCO.

c) Fertilizer (Movement Control) Order, 1960/1973/2001 (FMCO) -

The Fertilizer (Movement Control) Order (FMCO), 1969 was first issued on 31 December 1960 and came into force on 1 January 1961. This was revised on 23 October 1967. Subsequently, FMCO, 1973, was issued on 25 April 1973, which came into force on the date of its publication. The order was subsequently several times. The objective of FMCO is to ensure the equitable distribution of fertilizers in various states and to stop the unauthorized inter-state movement of fertilizers. This Order prohibits the inter-state movement of fertilizers, except by manufacturers listed in the schedule to the Order, by the Food Corporation of India, central housing Corporation, State Warehousing Corporation or in accordance with the authority of the Central Government or the states. The enforcement of this order has been entrusted to the state government.

**ii. Seed legislations**

Seeds are basic and critical input for enhancing agricultural production and productivity. Seed is the most important determinant of agricultural production potential, on which the efficacy of other agriculture inputs is dependent. Seeds of appropriate characteristics are required to meet the demand of diverse agro-climatic conditions and intensive cropping systems. Sustained increase in agriculture production and productivity is dependent, to a large extent, on development of new and improved varieties of crops and an efficient system for timely supply of quality seeds to farmers.

Measures of seed legislation with respect to quantity and quality were initiated in the country by establishment of National Seed Corporation during 1963 under Ministry of Agriculture. The seed sector in India during the period was dominated by the Public sector. The NSC was the Central Body to produce seeds of superior dwarf varieties in rice, wheat and, superior hybrids in maize, pearl millet and sorghum. This was followed by various seed legislations enacted by Government of India.

Though seed act had been implemented in European countries at the fag end of eighteenth century, India did not have an act to designate seed quality parameters. This void was fulfilled during 1966, when the Seed Act was formed and followed by Seed Rules in 1968. Both were adopted during 1969 for the whole of India except Sikkim and Kashmir. Amendments were made

subsequently for the Seeds Act during the years 1972, 1973, 1974 & 1981. With newer varieties coming into the agricultural scenario, the seeds control order was formed insisting on compulsory licensing of the dealer. This was made even more stringent by bringing the seeds under the Essential Commodity Act, 1955. To help Multinational Corporations in utilizing the manpower and knowledge base of our country, the Plants, Varieties and Fruits Order was passed during 1989 and amended subsequently during 1998, 2000 and 2001. Finally the order was revised by another order, Plant Quarantine (Regulation of import into India) Order in 2003. Signing of WTO in 1995 paved the way for private research and development of varieties. In order to regulate such varieties, the protection of Plant Varieties and Farmers' Right Act was passed in 2001 which was followed by National Seed Policy, 2002 and Seeds Bill, 2004.

### **Seeds Act, 1966**

The Seeds Act was enacted in 1966 to ensure that farmers get good quality seeds. The rapid development of agricultural production with the introduction of hybrid varieties of maize, jowar and bajra, and dwarf varieties of wheat and paddy, however, necessitated the enactment of seed legislation. On 29<sup>th</sup> December 1966, the Seeds Act was passed. It came into force throughout the country on 2<sup>nd</sup> October 1969.

The Act consists of 25 sections.

Important provisions of the Act are –

- a) It is applicable only to notified kinds/varieties of seed and vegetative propagating materials used for sowing.
- b) “Seed” means any of the following classes of seeds used for sowing or planting-
  - (i) seeds of food crops including edible oil seeds and seeds of fruits and vegetables;
  - (ii) cotton seeds;
  - (iii) seeds of cattle fodder;and includes seedlings, and tubers, bulbs, rhizomes, roots, cuttings, all types of grafts and other vegetatively propagated material, of food crops or cattle fodder;
- c) The Act provides for the formation of an apex advisory body, namely, the Central Seed Committee; the Central Seed Certification Board; establishment of Seed Certification Agencies; and Central and State Seed Testing Laboratories, etc.
- d) Constitution of a Central Seed Committee (comprising eight members) to advise the Central and State Governments on matters arising out of the administration of this act and carry out other functions assigned to it by the Act.
- e) Establishing a Central Seed Laboratory as well as State Seed Laboratory to carry out seed analysis of notified variety.

- f) Constitution of a certification agency for undertaking the process of certification. Certification agency has the power to recommend notification of suitable variety and grant of notification certificate provided the seed meets minimum limits of germination and purity. Agency can revoke the certificate if the agency is convinced that the holder has obtained certificate by misrepresentation or not complied with the conditions.
- g) Appointment of a seed analyst to undertake seed testing.
- h) Appointment of seed inspector who is deemed to be a public servant within the meaning or section 21 of the Indian Penal Code. Seed inspector is empowered to draw samples from any seller or a purchaser and verify the quality by sending samples to a seed analyst in the seed testing laboratory.
- i) The Act provides for the provisions for notification of kinds/varieties to be brought under the purview of the Seeds Act; regulation regarding the sale of seed; and the establishment of a suitable seed law enforcement machinery. Under the Act the Central Govt. is empowered to make rules to carry out the purposes of the Act and to give directions to State Govt.
- j) The Central Government after consultation with the Central Seed Committee can issue notification for such kinds/varieties for which it is of the opinion that it has become necessary or expedient to regulate the quality of seed to be sold for the purposes of agriculture. The notification brings such kinds/varieties under the purview of the Seeds Act.
- k) The committee is empowered to fix the minimum limits of germination and purity of seed for a variety to be notified as well as for marking or labeling a seed lot to be sold commercially.
- l) The Act regulates the sale of seeds of notified varieties by compulsory truthful labeling revealing the true identity of the variety, germination as well as purity.
- m) Under Section 7 of the Act, the seeds of notified kinds/varieties can be sold in containers only, if they are either (a) labelled or, (b) certified and meet the minimum prescribed requirements.
- n) Section 17 covers the restriction on import and export of seeds of notified varieties. Any variety imported or exported should meet the minimum limits of seed germination and purity marked or labeled on the container truly.
- o) The person who contravenes any provision of the Seeds Act or any rule thereunder, or prevents a seed inspector from taking a sample under this Act, or prevents a seed inspector from excising any other power conferred on him by, or under, the Seeds Act, on conviction is punishable:

- a. For the first offence with a fine which may extend to five hundred rupees; and
  - b. In the event of such a person having been previously convicted of an offence under this section, with imprisonment for a term which may extend upto six months, or with a fine which may extend to one thousand rupees, or with both.
  - c. Forfeiting of property. When any person has been convicted under this Act, for the contravention of any of the provisions of this Act or the Rules made thereunder, the seed in respect of which the contravention has been committed may be forfeited to the Government.
  - d. Offences by companies. Where an offence under this Act has been committed by a company every person who, at the time the offence was committed, was in charge of, and was responsible to the company for the conduct of the business of the company as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly.
- p) The Act does not apply to any seed of any notified kind or variety grown by a person and sold or delivered by him on his own premises direct to another person for being used by that person for the purpose of sowing or planting.

### **Seeds Rules, 1968**

The Seeds Rules contains 39 Rules under 11 Parts and 8 forms.

Important provisions of the Rules are -

- a) Part II of the Rules deals with the specific functions entrusted to the Central Seed Committee by the act such as recommendation for Seed Testing fee, advice on the suitability of seed testing laboratory, recommendation for the procedure and standards for seed certification and testing. Also the rules provide details of traveling and daily allowances payable to the members of the committee.
- b) Part III of the Rules describes the specific functions entrusted to the Central Seed Laboratory such as coordinating with State Seed Laboratories for uniformity in test results, collecting data on quality of seeds available in the market and any other function assigned to it by the Central Government.
- c) Specific functions entrusted to the Certification Agency such as outlining the procedure for submission of applications, growing, harvesting and processing and storage of seeds indented for certification, maintaining a list of recognized nucleus seed breeders, inspection of seed production fields, seed processing plant and seed stores, grant of certificates are covered under Part IV of the Rules.

- d) Rules for marking or labeling of seed lots indented for certification have been provided in Part V of the Rules. The label should contain name of the person or agency that produced the seed and shall be responsible for the accuracy of information given in the unopened original container. The label should contain the name, the address of the person offering the sale of the seed, name of the variety, germination and purity level of the seed, net weight of the seed, date of seed testing and a statement if the seed is treated. Any transparent cover used solely for the purpose of packing during transport or delivery need not be marked or labeled.
- e) Part VI deals with the requirements for Certification. Three classes of certified seed have been specified in this section, viz. Foundation (progeny of breeder seed), Registered (progeny of foundation seed) and Certified (progeny of registered / foundation seed) and each class shall meet the specific standards. Certification agency has the discretion of producing certified seed from certified seed provided that it does not exceed three generations and the genetic purity is not significantly altered.
- f) Procedure for certification of seeds has been covered in Part VII of the Rules. Application has been outlined by the certification agency containing the name and details of the applicant, the name of the seed to be certified, class & source of the seed, germination and purity and mark or label. A fee of Rs. 25 is levied for certification. Once certified, the certification tag containing information such as name and address of the certification agency, name of variety, lot number, name and address of the producer, date of issue of its certificate and its validity, an appropriate sign, to designate certified seed. The colour of the tag shall be white for foundation, purple for registered and blue for certified seed. The holder of certificate shall allow any seed inspector to enter and inspect the seeds kept for sale, registers or other documents.
- g) Part VIII of the Rules deals with the provision of Appeal.
- h) Qualification and duties of seed analyst and seed inspectors have been provided in the Part IX of the Rules. Seed analyst should possess a Master Degree in Agriculture/ Agronomy/ Botany/ Horticulture from a recognized University with at least one year experience in Seed Technology or possess a Bachelors degree in Agriculture/Botany from a recognized university with a minimum of three years experience in Seed Technology for this purpose. Seed analyst shall analyze the seed samples according to the provisions of the Act. Seed Inspector shall be a graduate in agriculture with at least one year experience in Seed Technology.

- i) Procedure for sealing, fastening, dispatch and analysis of samples has been covered under Part X of the Rules.
- j) Person carrying on the business of sale of seed should maintain stock record of seeds and record of the sale of seeds.

### **Seeds (Control) Order, 1983**

The Ministry of Civil Supplies through an order dated 24 February 1983 had declared the seed for sowing or planting of food crops, fruits, vegetables, cattle fodder and jute to be essential commodities in exercise of power conferred by Section 2(a)(viii) of Essential Commodities Act, 1955. It was followed by the issue of Seeds (Control) Order dated 30 December 1983 by the Ministry of Agriculture, Department of Agriculture and Co-operation in exercise of powers contained in Section 3 of Essential Commodities Act which deals with Central Government's power to control and regulate production, supply and distribution of essential commodities. A number of Seeds Dealers' Association and Bodies had challenged the order in the High Court on the ground that seeds of the above mentioned categories do not constitute essential commodities. However, the Supreme Court in its order dated 20 October 1993 upheld the validity of the Seeds (Control) Order. After consideration of all relevant aspects, it was decided that the order be implemented by the state governments with effect from 01 July 1994. Joint Secretary (Seeds), Government of India, Ministry of Agriculture, Department of Agriculture and Co-operation has been appointed as Seed Controller for implementation of the Seeds (Control) Order.

The Order contains 18 clauses, 4 Forms and 1 Schedule.

Important provisions of the Order are –

- a) A person carrying on the business of selling, exporting and importing of seeds needs to obtain a licence.
- b) The licence provided to a seed dealer remains valid only for 3 years from the date of its issue which can be later renewed.
- c) The seed dealer has to display the stock position (opening and closing) on daily basis along with a list indicating prices or rates of different seeds.
- d) A cash or credit memorandum has to be given by the dealer to purchaser of seeds, compulsorily.
- e) The State Government is empowered with appointing a licensing authority, inspectors and mode of action for supply regulation.
- f) Under this order the time period for completion of seed analysis in case of any doubt about quality is 60 days compared to 30 days under Seed Rules.
- g) Cancellation of licence if obtained through misrepresentation.
- h) Provision for appeal has been provided.
- i) Provision for amendment of licence and need for maintenance of records and submission of monthly returns in Form C by the dealer to

the licensing authority by the 5<sup>th</sup> day of every month has been provided under the Order.

### **National Seed Policy 2002**

The National Seed Policy, 2002 provides that all import of seeds and planting materials, etc. will be allowed freely subject to EXIM Policy Guidelines. The Policy also provides that seed and planting materials imported for sale into the country will have to meet minimum seed standards of seed health, germination, genetic and physical purity as prescribed. All importers will make available a small sample of imported seed to the Gene Bank maintained by National Bureau of Plant Genetic Resources (NBPGR).

The main features of the National Seeds Policy, 2002 –

- development of new and improved varieties of plants,
- timely availability of quality seeds,
- compulsory registration of seeds,
- creation of infrastructure facilities,
- quality assurance, promotion of seed industry,
- abolition of licensing for seed dealers,
- facility for import of best quality seeds,
- encouragement for export of seeds and
- creation of Seed Banks and National Seed Grid.

The initiatives will encourage investment in research and development.

### **The Seeds Bill, 2004**

The Seeds Bill seeks to regulate the production, distribution and sale of seeds. It requires every seller of seeds (including farmers) to meet certain minimum standards. The Standing Committee has recommended that farmers selling or exchanging seeds from other farmers be exempt from this requirement. The Bill has been pending since December 2004. The government has proposed new amendments to the Bill in April 2010 and November 2010, accepting most of the recommendations given by the Standing Committee.

The Seeds Bill, 2004 aims to regulate the quality of seeds sold, and replaces the Seeds Act, 1966. All varieties of seeds for sale have to be registered. The seeds are required to meet certain prescribed minimum standards. Transgenic varieties of seeds can be registered only after the applicant has obtained clearance under the Environment (Protection) Act, 1986. In addition, the label of a seed container has to indicate specified information.

The Bill exempts farmers from the requirement of compulsory registration. Farmers are allowed to sow, exchange or sell their farm seeds and planting material without having to conform to the prescribed minimum limits of

germination, physical purity and genetic purity (as required by registered seeds). However, farmers cannot sell any seed under a brand name. If a registered variety of seed fails to perform to expected standards, the farmer can claim compensation from the producer or dealer. The Bill provides for setting up a compensation committee that shall hear and decide these cases. It also provides for an appellate mechanism to be set up by notification. The penalty for contravening any provision of the Act or selling misbranded or substandard seeds is a fine ranging between Rs 25,000 and Rs 1 lakh. The penalty for giving false information may incur a prison term for upto a year and/or a fine of upto Rs 5 lakh.

### **iii. Pests and pesticide/insecticide legislations**

The Insecticides Act, 1968 and Insecticides Rules, 1971 regulate the import, registration process, manufacture, sale, transport, distribution and use of insecticides (pesticides) with a view to prevent risk to human beings or animals and for all connected matters, throughout India. All insecticides (pesticides) have to necessarily undergo the registration process with the Central Insecticides Board & Registration Committee (CIB & RC) before they can be made available for use or sale.

According to Section 3 (e) of Insecticides Act, 1968, the word "insecticides" means (i) any substance specified in the Schedule; or (ii) such other substances (including fungicides and weedicides) as the Central Government may, after consultation with the Board, by notification in the Official Gazette, include in the schedule from time to time; or (iii) any preparation containing any one or more of such substances. Thus, technically all insecticides (pesticides) in India are those substances that are listed on the "Schedule" of the Insecticides Act, 1968. The Schedule to the Act enumerates an exhaustive list of Insecticides which are legally covered under the Act.

The Registration Certificate mandates that a label be put on the packaging, which clearly indicates the nature of the insecticide (Agricultural or Household use), composition, active ingredient, target pest(s), recommended dosage, caution sign and safety precautions. Therefore, a pesticide labelled for agriculture should not be used in a household.

Registration - Any person desiring to import or manufacture any insecticide may apply to the Registration Committee for the registration of such insecticide. On receipt of such application, the Committee will make an inquiry and will check the claims made by the importer and after payment of a prescribed fee, allot a registration number and issue a certificate of registration in token thereof within a period of twelve months. The application will be refused if the Committee is of opinion that the precaution claimed by the application involves serious risk to human beings or animals.



The Central Insecticides Board & Registration Committee scrutinizes and periodically reviews all pesticides and their usage.

**iv. Plant quarantine legislations**

Plant quarantine is a government endeavor enforced through legislative measures to regulate the introduction of planting material, plant products, soil, living organisms etc. in order to prevent inadvertent introduction of pests and pathogens harmful to the agriculture of a region and if introduced, prevent their establishment and further spread.

As early as in 1914, the Government of India passed a comprehensive Act, known as Destructive Insects and Pests (DIP) Act, to regulate or prohibit the import of any article into India likely to carry any pest that may be destructive to any crop, or from one state to another. The DIP Act has since undergone several amendments. In October 1988, New Policy on Seed Development was announced, liberalizing the import of seeds and other planting material. In view of this, Plants, Fruits and Seeds (Regulation of import into India) Order (PFS Order) first promulgated in 1984 was revised in 1989. The PFS Order was further revised in the light of World Trade Organization (WTO) Agreements, and the Plant Quarantine (Regulation of Import into India) Order 2003 [hereafter referred to as PQ Order], came into force on January 1, 2004 to comply with the Sanitary and Phytosanitary Agreement. Several amendments were notified. The PQ Order ensures the incorporation of “Additional/Special Declarations” for import commodities free from quarantine pests, on the basis of pest risk analysis (PRA) following international norms, particularly for seed/ planting material.

**v. Genetically modified organisms (GMOs) and agricultural biotechnology**

Cultivation of food crops began ten thousand years back when humans discovered that the cereal grains they have been collecting from natural stands could be grown in their own backyards. Since then, contemporary knowledge and tools have been used to select the plant types most suited to the human needs. Selection of easily threshing wheat, non-shattering rice, cobs of maize, and fruits with large edible parts are some of the well-known examples. Genetic modification of crops continues even in the most primitive tribal populations. They select the best cobs of maize, and ears of sorghum and millets, and hang them at the entrance of their houses. Domestication brought about large changes in morphological, physiological and biochemical characters by indirectly selecting them, though the process was slow. Rediscovery of the Mendel’s laws of inheritance in 1900, and the birth of the science of Genetics, provided knowledge based plant improvement, and the rate of change accelerated. Hybridization to combine the desired characters from different accessions, exploitation of hybrid vigor, development of polyploids, and amphiploids, induction of mutations, chromosomal translocations using radiations and

chemical mutagens added new tools, and further hastened the pace of change. However, in all these methods the genetic manipulations were made at the cell level, and selection was based on the phenotype. In the mid 1970's it was discovered that the isolated genetic material (DNA) can be cut at defined sites using specific restriction enzymes, cloned, and the desired DNA sequences (genes) can be introduced into the resident genomes, and expressed. This process of precisely manipulating the genetic material at molecular level is known as the recombinant DNA (r-DNA) technology, or as genetic engineering. The new techniques also made it possible to directly select for the presence or absence of the gene(s) and not on the phenotype as in the past.

First such plants expressing a bacterial antibiotic resistance gene were produced in 1983. Since then, a large variety of plants expressing genes from microbes, reproductively isolated plants, animals, and even human genes have been developed. Thus the gene pool available for the improvement of crop plants has been enlarged to include the genes available in the entire biodiversity. Further, the existing genes can be modified at molecular level or new genes can be synthesized. Such plants are popularly referred as Genetically Modified Organisms (GMO's). Crop plants developed using classical methods of selection, hybridization and mutations are all genetically modified, and hence, the terms Genetically Engineered Organisms (GEO's) clearly differentiates them on the basis of the technique used for their development.

With the advent in molecular biology sciences and DNA-recombinant technology, the last few years has seen a spurt of activities in the agricultural biotechnology and its commercial application for improvement of crops, animals and micro-organisms.

India's rich biodiversity is congenial for producing a number of crops and thus the use of GMOs will be useful for expanding the Indian economy and also for alleviating problems of feeding the growing population. The GMOs must be used wherever it is most economic, viable, safe and usable so as to derive maximum benefits.

### **Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms, Genetically Engineered Organisms or Cells, Rules, 1989**

The use of GMOs in India is regulated by the Biosafety laws namely "Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms, Genetically Engineered Organisms or Cells, Rules, 1989" contained under the Environmental (Protection) Act, 1956. The Department of Biotechnology has a compendium of guidelines for doing DNA research. There are three important statutory bodies dealing with GMOs, namely: 1) Institutional Bio Safety Committee (IBSC), which is the mediating body between the Project Investigator and Review Committee of Genetic Manipulation (RCGM) constituted within an institution; 2) RCGM which approves and monitors all biotechnological research activities in the country, besides giving permission for the import of transgenic

materials for research purpose only; and 3) Genetic Engineering Approval Committee, which gives approval for any import and large-scale field release of GMOs.

In India, a special monitoring-cum-evaluation committee has been set up by RCGM to monitor the projects involving transgenic plants. The committee also advises the RCGM on the risks and the benefits involved in the use of transgenic plants. A registration document containing all Biosafety aspects (viz., the characteristics of the donor organisms providing the target nucleic acid, characteristics of the vectors used, characteristics of the transgenic inserts and characteristics of the transgenic plants) should be submitted for approval of any genetically engineered organism. The import and shipment of transgenic for research purpose should be routed through the National Bureau of Plant Genetic Resources (NBPGR) with phytosanitary certificate. RCGM will issue an import certificate based on safety and national need.

Approval of the concerned authorities should be obtained for the following activities under the Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms / Genetically engineered organisms or cells, Rules, 1989 -

- No person should import, export, transport, manufacture, process, use or sell any hazardous Micro-organisms except with the approval of the Genetic Engineering Approval Committee.
- Use of these Micro-organisms is restricted to the laboratories notified by Ministry of Environment and Forests for this purpose under the Environment Protection Act, 1986.
- Licence should be obtained for operating or using genetically engineered organisms/Microorganisms for scale up or pilot operations.
- Consent of Genetic Engineering Approval Committee should be obtained with respect to discharge of genetically engineered organisms or cells into the environment.
- Approval should be obtained from the Genetic Engineering Approval Committee for production, sale, import or use of any substance or product with genetically engineered organisms or cells or microorganisms.
- Approval from the Genetic Engineering Approval Committee should be obtained for production, sale, import or use of Food stuffs, ingredients in food stuffs and additives including processing and containing or consisting of genetically engineered organisms or cells.

### **The Biological Diversity Act, 2002**

The Biological Diversity Act 2002 was born out of India's attempt to realise the objectives enshrined in the United Nations Convention on Biological Diversity (CBD) 1992 which recognizes the sovereign rights of states to use their own Biological Resources. The Act aims at the conservation of biological resources and associated knowledge as well as facilitating access to them in a sustainable

manner and through a just process. For the purpose of implementing the objects of the Act, it has established the National Biodiversity Authority in Chennai. Biological Diversity means the variability among living organisms from all sources and the ecological complexes of which they are part and includes diversity within species or between species and of eco-systems.

The important provisions of the Act are –

1. No transfer of Indian genetic material outside the country, without specific approval of the Indian Government.
2. No claim allowed for Intellectual Property Right (IPR), such as a patent, over biodiversity or related knowledge, without permission of the Indian Government.
3. Regulate collection and use of biodiversity by Indian nationals, while exempting local communities from such restrictions.
4. Measures for sharing of benefits from the use of biodiversity, including transfer of technology, monetary returns, joint Research & Development, joint IPR ownership, etc.
5. Measures to conserve and sustainably use biological resources, including habitat and species protection, environmental impact assessments (EIAs) of projects, integration of biodiversity into the plans, programmes, and policies of various departments/sectors.
6. Provisions for local communities to have a say in the use of their resources and knowledge, and to charge fees for this.
7. Protection of indigenous or traditional knowledge, through appropriate laws or other measures such as registration of such knowledge.
8. Regulation of the use of genetically modified organisms.
9. Setting up of National, State, and Local Biodiversity Funds, to be used to support conservation and benefit-sharing.
10. Setting up of Biodiversity Management Committees (BMC) at local village level, State Biodiversity Boards (SBB) at state level, and a National Biodiversity Authority (NBA).

#### **Guidelines applicable for GMOs**

- Recombinant DNA Safety Guidelines, 1990
- Revised guidelines for research in transgenic plants & guidelines for toxicity and allergenicity evaluation of transgenic seeds, plants and plant parts, 1998
- Guidelines and Standard Operating Procedures (SOPs) for Confined Field Trials of Regulated, Genetically Engineered (GE) Plants – 2008
- Guidelines for the Safety Assessment of Foods Derived from Genetically Engineered Plants – 2008
- Protocols for Food and Feed Safety Assessment of GE crops - 2008

### 3. IPR Laws Related To Agriculture

Protection of plant varieties and farmers' rights

Enforcement of legal protection for innovation in plant breeding by the plant breeders and traditional farming communities in producing suitable varieties producing food, fodder, fibre, fuel and other commodities, provide adequate incentive for research, promote trade and regulate use of plant genetic resources. The issue of plant variety protection through enforcement of plant breeders' rights was brought into major focus by the General Agreement on Tariffs and Trade (GATT) that culminated into the establishment of the World Trade Organisation (WTO) in 1995. India, having ratified the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of WTO, inter alia was expected to make provision for giving effect to sub-paragraph(b) of paragraph 3 of article 27 in Part II of the said agreement relating to protection of plant varieties.

The Government of India enacted the Protection of Plant Varieties and Farmers' Rights (PPV & FR) Act in 2001 to provide for the establishment of an effective Sui generis system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new plant varieties of economic importance. The PPV & FR Rules were notified on 12 September 2003.

Subsequently, for purposes of the Act, the Government of India having exercised the powers conferred by the sub section (1) of the section 3 of this Act established the Protection of Plant Varieties and Farmers' Rights Authority on 11 November 2005 vide Gazette notification no 1588(E). The Act consists of 97 sections while the Rules consist of 76 rules and 4 schedules.

The objectives of the Act are:

- to establish an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants;
- to recognize and protect the rights of the farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties;
- to protect plant breeders' rights to stimulate investment for research and development both in the public and private sector for development of new plant varieties;
- to facilitate the growth of seed industry in the country that will ensure the availability of high quality seeds and planting material to the farmers.

Salient features of the Act -

The Act is unique in the sense that it concurrently recognizes the rights of breeders, farmers, communities and researchers. It confers an exclusive right upon the breeder or his successor, his agent or licensee, to produce, sell, market,

distribute, import or export of the registered variety. As far as farmers' rights are concerned, the Act recognizes a farmer as cultivator, conserver and breeder and provides that the farmers' variety can be registered. Further, the Act provides for compulsory licence of a registered variety, if the seeds/propagating material is not available to the public at a reasonable price or quantity. Any person or group of persons or any organization can also claim for benefit sharing if the plant genetic material belonging to them is shared in the development of a registered variety. The researchers are conferred the right to use any registered variety for conducting experiment or research and the use of a variety by any person as an initial source of variety for the purpose of creating the other varieties. India is a pioneer country where a National legislation has been enacted to establish and secure Farmers' Rights. The Act also recognizes the past, present and future contributions of the farming community and provides an opportunity to award the communities for their contributions in agro-biodiversity conservation.

Farmer's rights have been defined as follows:

The farmer shall be deemed to be entitled to save, use, sow, resow, exchange, share, or sell his farm produce including seed of a variety protected under this act in the same manner as he was entitled before the coming into force of this Act but the farmer shall not be entitled to sell branded seed of a variety protected under this Act.

Plants are not patentable in India. However the plants can be protected under the provision of the Plant Variety Protection and Farmers Rights Act.

Duration of protection of a registered plant variety - The duration of protection of registered varieties is different for different crops which are as below:

1. For trees and vines - 18 years.
2. For other crops - 15 years.
3. For extant varieties - 15 years from the date of notification of that variety by the Central Government under section 5 of the Seeds Act, 1966.

Registration of Plants - Registration of a plant variety gives protection only in India and confers upon the rights holder, its successor, agent, or licensee the exclusive right to produce, sell, market, distribute, import, or export the variety.

Application for registration (Chapter III of the Act) - The application for protection under the Act can be made by any of the following persons:

- Any person claiming to be the breeder of the variety;
- Any successor of the breeder of the variety;
- Any person being the assignee or the breeder of the variety in respect of the right to make such application;
- Any farmer or group of farmers or community of farmers claiming to be breeder of the variety;
- Any person authorized to apply on behalf of farmers; or

- Any university or publicly funded agricultural institution claiming to be breeder of the variety.

Criteria for registration of new variety: -

**Novelty** - A new variety is deemed to be novel if, at the date of filing of the application for registration for protection, the propagating and harvested material of such variety has not been sold or otherwise disposed of by or with the consent of its breeder or his successor for the purposes of exploitation of such variety for a certain period of time before the date of filing of the application. For sale or disposal of a new variety in India, this time period is earlier than one year. Outside of India, in the case of trees and vines, the time period is earlier than six years. In any other case in India, it is earlier than four years.

**Distinctiveness** - A new variety is deemed distinct if it is clearly distinguishable by at least one essential characteristic from any other variety whose existence is a matter of common knowledge in any country at the time of filing of the application.

**Uniformity** - A new variety is deemed uniform if subject to the variation that may be expected from the particular features of its propagation it is sufficiently uniform in its essential characteristics.

**Stability** - A new variety is deemed stable if its essential characteristics remain unchanged after repeated propagation or, in case of a particular cycle of propagation, at the end of each such cycle.

Prerequisites for filing an application form for registration of plant variety -

- (i) Denomination assigned to such variety.
- (ii) Accompanied by an affidavit that variety does not contain any gene or gene sequences involving terminator technology.
- (iii) Complete passport data of parental lines with its geographical location in India and all such information relating to the contribution if any, of any farmer (s), village, community, institution or organization etc in breeding, evolving or developing the variety.
- (iv) Characteristics of variety with description for Novelty, Distinctiveness, Uniformity and Stability.
- (v) A declaration that the genetic material used for breeding of such variety has been lawfully acquired.
- (vi) A breeder or other person making application for registration shall disclose the use of genetic material conserved by any tribal or rural families for improvement of such variety.

Guidelines for submission of applications for Registration of Plant Varieties are as under:

- 1) Every application in triplicate must be in writing and signed by the applicant or their representative. Application should be submitted in hard copy along with all essential requirements by hand till further notice. Application should be in Form 1.

- 2) 2. Applications will be received only on Monday to Thursday from 10:00 Hours to 15:00 hours. No application will be accepted on Friday, Saturday and Sunday and Public Holidays.
- 3) Every application must have the name of the applicant, their address and nationally as well as the address of service of their agent (if Applicable).
- 4) A person can file upto a maximum of three applications per day.
- 5) Until otherwise notified in the plant Variety Journal of India, each application should be accompanied with an application charge of Rs. 200/- each by demand draft drawn in favour of the "The Registrar, Plant Variety Registrar, New Delhi".
- 6) The Application will be received on "first come first serve" basis.
- 7) No applications will be received after business hours.
- 8) On successful submission of application, the application will receive an acknowledgement slip.
- 9) After submission of application, it will be processed according to the provisions of the Rule 29(2) of the Protection of Plant Varieties and Farmers' Right Rules, 2003.
- 10) After depositing the stipulated fees for conducting DUS tests, the office of the Registrar shall issue receipt and number which shall be used for all future references including the checking of the status of application on line.

### **Other forms of Intellectual protection in Agriculture**

Marks used in commerce can be applied to both agricultural and industrial products and services. Trademarks can be applied to market seeds or spraying services.

Geographical Indications are often used in agriculture. Geographical Indications of Goods are defined as that aspect of industrial property which refers to the geographical indication referring to a country or to a place situated therein as being the country or place of origin of that product. Many geographical indications relate to agricultural products or those derived from them. Some of them are - Basmati Rice, Darjeeling Tea, Alphonso Mango, Nagpur Orange, Bikaneri Bhujia, Agra Petha etc.

The registration of a geographical indication is not compulsory; however, it offers better legal protection to facilitate an action for infringement. The registered proprietor and authorized users can initiate infringement actions. The authorized users can exercise the exclusive right to use the geographical indication. The registration of a geographical indication is valid for a period of 10 years. It can be renewed from time to time for further period of 10 years each. If a registered geographical indication is not renewed it is liable to be removed from the register.



#### **4. Labour Laws Related To Agriculture**

Agriculture is not only about decreasing commodity prices and subsidies; it is also about employment opportunities and chances for poor people to work themselves out of poverty.

According to the National Commission on Labour "an agricultural labourer is one who is basically unskilled and unorganised and has little for its livelihood, other than personal labour."

Agricultural workers constitute by far the largest segment of workers in the unorganised sector. Due to their low social status in the rural hierarchy and economic problems such as inadequacy of employment opportunities, poor security of tenure, low income and inadequacy of diversification of economic activity, the situation of the agricultural labour is indeed quite bad. And being dispersed and unorganized, agricultural labourers have minimal bargaining power to demand a rational wage structure. Agricultural operations are seasonal and agricultural workers are faced with unemployment during the lean months, which can be as long as 6 months.

Agricultural wages have been traditionally low due to low productivity, large disguised unemployment in agriculture due to lack of sufficient employment opportunities elsewhere. However, in recent years there is a perceptible change in this trend due to rapid economic growth and adoption of policies for employment generation including promotion of self employment opportunities. Major policy measures influencing the wage increase are Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) and Minimum Wages Act, 1948 implemented by the government.

Agricultural labourers can be divided in the following manner:

- Landless agricultural labourers
- Very small cultivators whose main source of earnings due to their small and sub-marginal holdings is wage employment

The labour legislations applicable to agricultural workers are -

- Minimum Wages Act, 1948
- Plantation Labour Act, 1951
- Bonded Labour System (Abolition) Act, 1976
- Equal Remuneration Act, 1976
- Child Labour (Prohibition and Regulation) Act, 1986
- Unorganised Workers' Social Security Act, 2008

#### **Minimum Wages Act, 1948**

The main object of the Act is to provide for fixing minimum rates of wages in certain establishments.

The concept of Minimum Wages was first evolved by ILO in 1928 with reference to remuneration of workers in those industries where the, level of wages was

substantially low and the labour was vulnerable to exploitation, being not well organised and having less effective bargaining power.

On the recommendation of the 8<sup>th</sup> Standing Labour Committee, the Minimum Wages Bill was introduced in the Central Legislative assembly on 11.4.1946 to provide for fixation of minimum wages in certain employments. The Minimum Wages Bill was passed by the Indian Dominion Legislature and came into force on 15th March, 1948. Under the Act both State and Central Government are "Appropriate Governments" for fixation/revision of minimum rates of wages for employments covered by the Schedule to the Act. The minimum rates of wages also include Special Allowance (Variable Dearness Allowance) linked to Consumer Price Index Number which are revised twice a year effective from April and October. The rates of wages once fixed are revised at an interval not exceeding of five years. The minimum wages covers all workers in the sectors - agricultural, industrial and small-scale sectors.

As per Government of India, for all the States, the minimum wages have been fixed at about Rs 40 to 60 per day per person, average about Rs 50 per day for 25 days per month. There are 45 scheduled employments in the Central sphere and 1232 in the state sphere for which minimum wages have been fixed. To protect the wages against inflation they were linked to rise in the Consumer Price Index. The variable dearness allowance (VDA) came into being in 1991 and the allowance is revised twice a year.

### **Bonded Labour**

Forced or bonded labour is higher in agriculture than in other sectors.

Bonded labour is prohibited in India by law. Though the Constitution directly and indirectly prohibits the practice, vide Articles 21, 23 (1) and 24, a specific law that prohibits the practice, the Bonded Labour System (Abolition) Act was legislated only in 1976. The object of the Act is to provide for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of the weaker sections of the people and for matters connected therewith or incidental thereto. In states like Kerala, where land reforms has been implemented by statute since the past four decades, bonded labour virtually has been eliminated as opposed to states like Gujarat, Uttar Pradesh, Bihar, Tamil Nadu and Karnataka where large extents of lands are still held by families that practice feudal forms of land ownership and labour employment.

According to the definition given in section 2(g) of the Act, bonded labour means service arising out of loan/debt/advance. It represents the relationship between a creditor and a debtor wherein the debtor undertakes to mortgage his services or the services of any of his family members to the creditor for a specified or unspecified period with or without wages accompanied by denial of choice of alternative avenues of employment, or to deny him freedom of movements, then the person would normally be covered under the definition of a bonded labour.

Owing to the lack of livelihood options, large number of rural population are forced to work for landlords and eventually end up in perpetual debt traps resulting in entire families and villages ending up as bonded to the landlord for generations.

### **Unorganized Workers' Social Security Act, 2008**

'Unorganized Sector Worker' means a person who:

1. works for wages or income; and
2. directly or through any agency or contractor or who works on his own or her own account or is self employed; and
3. in any place of work including his or her home, field or any public place; and
4. who is not availing of benefits under the ESIC Act and the P.F Act, individual insurance and pension schemes of LIC, private insurance companies, or other benefits as decided by the Authority from time to time.

This includes all workers in all types of occupations including agriculture.

This Act builds a social security system for the unorganized workers. It does the following:

1. It redefines worker so as to include all types of workers, not only those who have a fixed employer. In so doing, it brings in all the self employed workers as well as casual, contract, home based etc.
2. It identifies each worker and gives him/her a unique social security number and social security card.
3. It offers a variety of social security benefits to the unorganized worker. These would include health insurance, maternity benefit and pensions. As these schemes become successful, the trust and participation of workers' builds up, and more funds come in, a variety of different benefits can be included such as children's education, housing, skill building etc.
4. It binds the Central Government to providing a minimum amount of benefits and funds.
5. It creates a structure, an architecture that works with but does not rely solely on the Government system. It creates a participatory structure that builds on already existing civil society, government and semi-government organizations which have a good record.
6. It encourages the unorganized workers to organize around the social security structures and benefits, creating a voice and space for them.

### **The Kerala Agricultural Workers Act, 1974**

This Act has introduced a new dimension in legislation for agricultural labour. This enactment provides for the security of employment and welfare of agricultural workers. Important provisions of this Act are -

- The Act provides for the welfare of agricultural workers in the state of Kerala and regulate the conditions of their work.

- The land owner should not employ any agricultural worker other than an agricultural worker who has worked in the same land during the previous agricultural season.
- The Govt. is authorised to frame an Agricultural Workers' Welfare Fund Scheme for the establishment of a welfare fund under this Act for the welfare of agricultural workers.
- The daily hours of work of an adult agricultural worker, adolescent or child are limited to 8 hours and 6 hours respectively.
- The period of work on an agricultural worker shall not exceed four hours and he shall not work more than four hours before he has had an interval for rest for at least half an hour.
- An agricultural worker is entitled to receive a prescribed wage notified under the Act.
- The prescribed wages for harvest shall be paid at the threshing floor itself. Unless the prescribed wages is paid, no portion of the produce shall be removed from the threshing floor.
- If any land owner pays less than the prescribed wages or refuses to pay the prescribed wages or refuses to pay the prescribed wages, the agricultural worker or an official of the union may apply to the official of the union may apply to the conciliation officer for a direction to pay the prescribed wages.
- Where an agricultural dispute exists or is apprehended, the conciliation officer may hold conciliation proceedings for the purpose of bringing about settlement of the dispute. If a settlement is arrived conciliation officer shall send a report to the district Labour Officer together with a memorandum of settlement. If no settlement is arrived, the conciliation officer shall after the close of the investigation, send a full report to the District Collector, through the District Labour Officer.
- If the district Collector is satisfied, that he may refer the dispute to the Agricultural Tribunal for adjudication. If no such reference is made, he shall record and communicate his reasons to the parties concerned.

### **Plantation Labour Act, 1951**

The Plantation Labour Act, 1951 provides for the welfare of plantation labour and regulates the conditions of work in plantations. According to the Act, the term 'plantation' means "any plantation to which this Act, whether wholly or in part, applies and includes offices, hospitals, dispensaries, schools, and any other premises used for any purpose connected with such plantation, but does not include any factory on the premises to which the provisions of the Factories Act, 1948 apply."

It will apply to the following plantations i.e. any land used or intended to be used for growing tea, coffee, rubber cinchona or cardamom which admeasures 5 hectares or more and in which fifteen or more persons are employed or were

employed on any day of the proceeding twelve months. However, the State Governments are free to declare any plantation land less than 5 hectares or less than 15 persons to be covered by the Act.

Section 3-B of the Act makes it compulsory for every employer of a plantation to register it within sixty days of its coming into existence.

In every plantation effective arrangements should be made by the employer to provide and maintain at convenient place a sufficient supply of wholesome drinking water for all workers. There should be a sufficient number of conveniently situated & accessible separate latrines and urinals for males and females in every plantation. All of these are to be maintained in a clean and sanitary condition. Medical facilities for workers and their families (as prescribed by the state government) have to be maintained and made available by the Employer. The employer must provide and maintain suitable rooms for children where the number of women workers (including women workers employed by any contractor) is more than fifty or the number of children of women workers (including women workers employed by any contractor) is twenty or more. Every employer should make provision in the Plantation for recreational facilities for the workers and their children as prescribed by the state government. Canteen should be provided in plantations employing one hundred and fifty workers or more. Every worker (including his family) is entitled to a housing accommodation after six months of continuous service whether staying inside or outside a plantation and who has expressed a desire in writing to live in the plantation. The requirement of continuous service of six months will not apply to a worker who is the member of the family of a diseased worker who was residing in the plantation. In plantations that employ three hundred workers or more, the employer has to employ welfare officers. Forty-eight hours a week for Adult workers and twenty seven hours a week for adolescent or child workers are the weekly hours prescribed under the Act. Maximum hours of work are 9 hours a day and 54 hours a week. The worker is entitled to overtime wages at twice the rates of ordinary wages. He/she also has a right to one weekly holiday. Working on a holiday or the day of rest of the worker will entitle worker for double the wages as in overtime work. The Employers are under obligation to maintain a register of accidents and notify the authorities of any accident where a plantation Worker suffers death or body injury and he is unable to report for work for forty eight hours or more.

## **5. Legislations In Agricultural Marketing**

In India, the organised marketing of agricultural commodities has been promoted through a network of regulated markets. Most state governments and UT administrations have enacted legislations to provide for the regulation of agricultural produce markets.

The purpose of state regulation of agricultural markets was to protect farmers from the exploitation of intermediaries and traders and also to ensure better prices and timely payment for their produce.

The Department of Agriculture and Cooperation also formulated a model law on agricultural marketing for guidance in 2003 and adoption by the 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 (PPP) in the management and development of agricultural markets in India. Provision has also been made in the Act for constitution of State Agricultural Produce Marketing Standards Bureau for the promotion of grading, standardisation and quality certification of agricultural produce. This would facilitate pledge financing, direct purchasing, forward/future trading and exports.

The Agricultural Produce Market Act exists in all the states and the union territories, except in Kerala, Manipur and the union territories of Andaman and Nicobar Islands, Dadra and Nagar Haveli, Lakshadweep, and Daman and Diu, to protect the farmers from exploitation by middlemen and traders.

The Agricultural produce (Grading and Marking) Act, 1937 provides for the grading and marking of the agriculture and allied commodities. Agricultural produce has been defined to include all produce of agriculture or horticulture, and all articles, food or drink, wholly or partly manufactured from any such produce, and fleeces and the skins of animals. Standards prescribed under the provision of the Act are popularly known as 'Agmark' standards. The system of grading and quality control under Agmark certification benefits both the sellers and buyers in view of the fact that the government acts as the third party to guarantee quality of the products with this certification mark. Vegetable oils, *ghee*, spices, wheat *atta*, *besan*, honey, pulses, etc. are popularly graded and certified under Agmark.

## **6. Legislations In Livestock Sector**

India ranks first in milk production in the world. Recognizing the importance of livestock in the rural economy, Article 49 of the Constitution prescribes that all states shall endeavour to organize agriculture and animal husbandry on modern and scientific lines and shall take steps for preservation and improvement in breeding, conservation of local breeds, prohibition of slaughter of cows, calves and other cattle.

Legislation for upgrading of livestock through improved breeding has been passed in almost all the states. The legislative measure provides for the elimination of defective breeding bulls through compulsory castration.

The regulation of import and export of livestock and livestock products, control of exotic disease and certification as per OIE regulations is done through the Animal Quarantine and Certification Services (AQ&CS) under the control of

Department of Animal Husbandry Dairying and Fisheries (DADF) through Stations located at New Delhi, Mumbai, Kolkata and Chennai. These Stations are equipped to deal with all imports into the country. Their functions include testing of imported livestock and livestock products for quarantine purposes, export certification of livestock/livestock products as per the requirements of the importing country and as prescribed in the Terrestrial Animal Health Code of OIE and/or implementation of various provisions of the Livestock Importation Act, 1898.

Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 aims to provide for the prevention, control and eradication of infectious and contagious diseases affecting animals, for prevention of outbreak or spreading of such diseases from one State to another, and to meet the international obligations of India for facilitating import and export of animals and animal products and for matters connected therewith or incident thereto.

The Agricultural produce (Grading and Marking) Act, 1937 provides for the grading and marking of the agriculture and allied commodities with a view to facilitating their organized marketing. Poultry products like eggs, and byproducts like hides and skins, also come under the Act. The carcass, meat and products thereof have been included in the Schedule of the Act.

The Government of India promulgated the Milk and Milk Product Order (MMPO), 1992 on 9 May 1992 under the provisions of Essential Commodities Act, 1955 consequent to de-licensing of the dairy sector in 1991. The MMPO regulates milk and milk products production in the country. The order requires no permission for units handling less than 10,000 litres of milk per day or milk solids up to 500 tons per annum (TPA). The MMPO prescribes state registration to plants producing between 10,000 to 75,000 litres of milk per day or manufacturing milk products containing between 500 to 3,750 tons of milk solids per year. Plants producing over 75,000 litres of milk per day or more than 3,750 tons per year of milk solids have to be registered with the Central Government. The MMPO also specifies that the registering authority must enforce the sanitary and hygienic regulations to ensure the quality of the production process.

## **7. Legislations Of Agricultural Credit And Finance**

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 the villages in the country), wider coverage and outreach extending to the remotest part of country, the Cooperative Credit Institutions, both in short and long-term structure are the main institutional agency for dispensation of agricultural credit. The Government has initiated several measures to galvanize the institutional credit system to make them more responsive to the needs of farmers.

Banks are issuing Kisan Credit Cards to farmers for providing adequate and timely support from the banking system for their cultivation needs including purchase of all inputs in a flexible and cost effective manner.

## **8. Legislations In Co-Operative Sector**

The co-operative sector has engaged in several economic activities such as disbursement of credit, distribution of agricultural inputs like seeds, fertilizers and agro-chemicals; and in arranging storage, processing and marketing of farm produce. Co-operatives enable farmers in getting quality inputs at reasonable price as well as in getting remunerative returns for their farm produce through co-operative agro-processing units in respect of milk, sugarcane, cotton, fruits, vegetables, etc. Effectively, major agriculture processing, distribution, supplies and agro-marketing across India are carried on through co-operatives.

The Co-operative Movement was introduced into India by the Government as the only method by which the farmers could overcome their burden of debt and keep them away from the clutches of the money-lenders. The Co-operative Credit Societies Act, 1904 was passed by the Government of India and rural credit societies were formed. Through the appointment of registrars and through vigorous propaganda, the Government attempted to popularize the Movement in the rural areas. Within a short period, the Government realized some of the shortcomings of the 1904 Act and, therefore, passed a more comprehensive Act, known as the Co-operative Societies Act of 1912.

The Cooperative Societies Act, 1912 is a Central Act. However, 'Cooperative Societies' is a State Subject (Entry 32 of List II of Seventh Schedule to Constitution, i.e. State List). Though the Act is still in force, it has been specifically repealed in almost all the States and those States have their own Cooperative Societies Act.

In order to cover Cooperative Societies with membership from more than one province, the Government of India enacted the Multi-Unit Cooperative Societies Act, 1942. This Act was an enabling legislative instrument dealing with incorporation and winding up of cooperative societies having jurisdiction in more than one province. It was later replaced by 1984 Act. The 1984 Act was replaced by 2002 Act.

Laws regulating Cooperative Societies in India are:

- (a) Cooperative Societies Act, 1912;
- (b) State Cooperative Societies Acts of individual states;
- (c) Multi-State Cooperative Societies Act, 2002 for the multi-state Cooperative societies with Area of operation in more than one State.
- (d) Companies Act, 1956 (for producer companies)
- (e) State specific Acts relating to cooperative societies

The different types of co-operative societies that exist in our country are as follows -



1. **Consumers' Co-operative Society:** These societies are formed to protect the interest of general consumers by making consumer goods available at a reasonable price. They buy goods directly from the producers or manufacturers and thereby eliminate the middlemen in the process of distribution.
2. **Producers' Co-operative Society:** These societies are formed to protect the interest of small producers by making available items of their need for production like raw materials, tools and equipments, machinery, etc. Handloom societies like APPCO, Bayanika, Haryana Handloom, etc., are examples of producers' co-operative society.
3. **Co-operative Marketing Society:** These societies are formed by small producers and manufacturers who find it difficult to sell their products individually. The society collects the products from the individual members and takes the responsibility of selling those products in the market.
4. **Co-operative Credit Society:** These societies are formed to provide financial support to the members. The society accepts deposits from members and grants them loans at reasonable rates of interest in times of need.
5. **Co-operative Farming Society:** These societies are formed by small farmers to work jointly and thereby enjoy the benefits of large-scale farming.
6. **Housing Co-operative Society:** These societies are formed to provide residential houses to members. They purchase land, develop it and construct houses or flats and allot the same to members. Some societies also provide loans at low rate of interest to members to construct their own houses.

## 9. Taxation Legislations Related To Agriculture

Taxes on agriculture consist mainly of land revenue, cesses and surcharges on land revenue, cesses on crops and agricultural income tax.

Traditionally, land revenue is the oldest of all taxes and at present the most important tax on agricultural land. The land tax is levied and collected by state governments.

Agricultural Income Tax is levied and collected by the states. Bihar was the first to levy this tax in 1938. At present the states which have levied agricultural income tax are Assam, West Bengal, Bihar, U.P., Rajasthan, M.P., Orissa, Karnataka, Tamil Nadu and Kerala.

### **Income Tax Act, 1961**

Agriculture income is exempt under the Income Tax Act of 1961. This means that income earned from agricultural operations is not taxed. The reason for

exemption of agriculture income from Central Taxation is that the Constitution gives exclusive power to make laws with respect to taxes on agricultural income to the State Legislature. However while computing tax on non-agricultural income agricultural income is also taken into consideration.

Income earned from any of the three sources will be termed as Agricultural Income –

- Any rent received from land which is used for agricultural purpose.
- Any income derived from such land by agricultural operations including processing of agricultural produce, raised or received as rent in kind so as to render it fit for the market, or sale of such produce.
- Income attributable to a farm house subject to the condition that building is situated on or in the immediate vicinity of the land and is used as a dwelling house, store house etc. Income from such farm houses is considered agricultural income. The definition of `farm houses` covers buildings owned and occupied by both cultivators of agricultural land and assesseees who receive rent or revenue from agricultural land. The sole purpose of such farmhouses should be for use as dwellings for the cultivators or use as store houses. Normally, the annual value of a building is taxable as `income from house property`. However, in the case of a farm house, the annual value would be deemed agricultural income and would, thus, be exempt from tax.
- Income earned from carrying nursery operations is also considered as agricultural income and hence exempt from income tax.

Certain other incomes which are generally treated as Agricultural income –

- Income from sale of replanted trees.
- Rent received for agricultural land.
- Income from growing flowers and creepers.
- Share of profit of a partner from a firm engaged in agricultural operations.
- Interest on capital received by a partner from a firm engaged in agricultural operations.
- Income derived from sale of seeds.

The following incomes will not be treated as agricultural income –

- Income from poultry farming.
- Income from bee hiving.
- Income from sale of spontaneously grown trees.
- Income from dairy farming.
- Purchase of standing crop.
- Dividend paid by a company out of its agriculture income.
- Income of salt produced by flooding the land with sea water.
- Income from butter and cheese making.
- Receipts from TV serial shooting in farm house are not agriculture income.

- Income from Plantation companies

Although agricultural income is fully exempt from tax, the Finance Act, 1973, introduced a scheme whereby agricultural income is included with non-agricultural income in the case of non-corporate assessees who are liable to pay tax at specified slab rates. The process of computation is as follows:

(a) Income tax is first calculated on the net agricultural income plus the assessee's total income from non-agricultural sources.

(b) Income tax is then calculated on the basic exemption slab increased by the assessee's net agricultural income.

(c) The difference between (a) and (b) is the amount of tax payable by the assessee.

This process of computation is, however, followed only if the assessee's non-agricultural income is in excess of the basic exemption slab.

### **Service Tax**

Service tax is a tax which is payable on services provided by the service provider. In terms of Section 66B of the Act, service tax will be leviable on all services provided in the taxable territory by a person to another for a consideration other than the services specified in the negative list. The services specified in the negative list therefore go out of the ambit of chargeability of service tax. The negative list of service is specified in the Act itself in Section 66D.

The following services relating to agriculture or agricultural produce are covered in the negative list -

- agricultural operations directly related to production of any agricultural produce including cultivation, harvesting, threshing, plant protection or seed testing;
- supply of farm labour;
- processes carried out at the agricultural farm including tending, pruning, cutting, harvesting, drying cleaning, trimming, sun drying, fumigating, curing, sorting, grading, cooling or bulk packaging and such like operations which do not alter essential characteristics of agricultural produce but makes it only marketable for the primary market;
- renting of agro machinery or vacant land with or without a structure incidental to its use;
- loading, unloading, packing, storage and warehousing of agricultural produce;
- agricultural extension services;
- services provided by any Agricultural Produce Marketing Committee or Board or services provided by commission agent for sale or purchase of agricultural produce;

Agriculture means the cultivation of plants and rearing of all life-forms of animals, except the rearing of horses, for food, fibre, fuel, raw material or other similar products. (Sec.65B(3) of Finance Act)

Agricultural produce means any produce of agriculture on which either or no further processing is done or such processing is done as is usually done by a cultivator or producer which does not alter its essential characteristics but makes it marketable for primary market. (Sec.65B(5) of Finance Act)

Some of the activities covered under agriculture and agricultural produce are -

- Activities like breeding of fish (pisciculture), rearing of silk worms (sericulture), cultivation of ornamental flowers (floriculture) and horticulture, forestry will be covered under the definition of agriculture.
- Plantation crops like rubber, tea or coffee will be covered under agricultural produce.
- Making of potato chips or tomato ketchup etc will not be covered under agricultural produce because they are manufactured through processes that alter the essential characteristics of farm produce, namely potatoes and tomatoes.
- Cleaning of wheat would be covered in the negative list entry even if the same is done outside the farm.
- Shelling of paddy would not be covered in the negative list entry relating to agriculture as this process is never done on a farm but in a rice sheller normally located away from the farm.
- If shelling is done by way of a service i.e. on job work then the same would be covered under the exemption relating to 'carrying out of intermediate production process as job work in relation to agriculture. (This is covered under the mega notification.)
- Agricultural products like cereals, pulses, copra and jaggery will be covered in the ambit of 'agricultural produce' even if certain amount of processing is done by a person other than a cultivator or producer.
- Processes of grinding, sterilizing, extraction packaging in retail packs of agricultural products, which make the agricultural products marketable in retail market, will not be covered in the negative list, since only the processes which make the agricultural produce marketable in the primary market are covered in the negative list.
- If vacant land has a structure like storage shed or a green house built on it which is incidental to its use for agriculture then its lease would be covered under the negative list entry.

### **10. National Agricultural Policy, 2000**

The first ever National Agriculture Policy was announced on 28th July, 2000. The National Policy on Agriculture seeks to actualise the vast untapped growth potential of Indian agriculture, strengthen rural infrastructure to support faster agricultural development, promote value addition, accelerate the growth of agro

business, create employment in rural areas, secure a fair standard of living for the farmers and agricultural workers and their families, discourage migration to urban areas and face the challenges arising out of economic liberalization and globalisation. Over the next two decades, it aims to attain:

- A growth rate in excess of 4 per cent per annum in the agriculture sector;
- Growth that is based on efficient use of resources and conserves our soil, water and bio-diversity;
- Growth with equity, i.e., growth which is widespread across regions and farmers;
- Growth that is demand driven and caters to domestic markets and maximizes benefits from exports of agricultural products in the face of the challenges arising from economic liberalization and globalisation;
- Growth that is sustainable technologically, environmentally and economically.

The policy seeks to promote technically sound, economically viable, environmentally non-degrading, and socially acceptable use of country's natural resources - land, water and genetic endowment to promote sustainable development of agriculture.

The use of bio-technologies will be promoted for evolving plants which consume less water, are drought resistant, pest resistant, contain more nutrition, give higher yields and are environmentally safe. Conservation of bio-resources through their ex situ preservation in Gene Banks, as also in situ conservation in their natural habitats through bio-diversity parks, etc., will receive a high priority to prevent depletion of bio-diversity.

Balanced and conjunctive use of bio-mass, organic and inorganic fertilizers and controlled use of agro chemicals through integrated nutrients and pest management (INM & IPM) will be promoted.

A regionally differentiated strategy will be pursued, taking into account the agronomic, climatic and environmental conditions to realize the full growth potential of every region. Special attention will be given to development of new crop varieties, particularly of food crops, with higher nutritional value.

A major thrust will be given to development of rainfed and irrigated horticulture, floriculture, roots and tubers, plantation crops, aromatic and medicinal plants, bee-keeping and sericulture for augmenting food supply, promoting exports and generating employment in the rural areas.

Development of animal husbandry, poultry, dairying and aqua-culture will receive a high priority in the efforts for diversifying agriculture, increasing animal protein availability in the food basket and for generating exportable surpluses.

An integrated approach to marine and inland fisheries, designed to promote sustainable aquaculture practices, will be adopted.

The regionalization of agricultural research based on identified agro-climatic zones will be accorded high priority. Application of frontier sciences like biotechnology, remote sensing technologies, pre and post-harvest technologies, energy saving technologies, technology for environmental protection through national research system as well as proprietary research will be encouraged. The research and extension linkages will be strengthened to improve quality and effectiveness of research and extension system.

Adequate and timely supply of quality inputs such as seeds, fertilizers, plant protection chemicals, bio-pesticides, agricultural machinery and credit at reasonable rates to farmers will be the endeavour of the Government.

The Government will endeavour to create a favourable economic environment for increasing capital formation and farmer's own investments by removing distortions in the incentive regime for agriculture, improving the terms of trade with manufacturing sectors and bringing about external and domestic market reforms.

Rural electrification will be given a high priority as a prime mover for agricultural development. The quality and availability of electricity supply will be improved and the demand of the agriculture sector will be met adequately in a reliable and cost effective manner.

Bridging the gap between irrigation potential created and utilized, completion of all on-going projects, restoration and modernization of irrigation infrastructure including drainage, evolving and implementing an integrated plan of augmentation and management of national water resources will receive special attention for augmenting the availability and use of irrigation water.

Emphasis will be laid on development of marketing infrastructure and techniques of preservation, storage and transportation with a view to reducing post-harvest losses and ensuring a better return to the grower.

Setting up of agro-processing units in the producing areas to reduce wastage, especially of horticultural produce, increased value addition and creation of off-farm employment in rural areas will be encouraged.

Institutional reforms will be pursued so as to channelise their energies for achieving greater productivity and production.

The Government will provide active support for the promotion of cooperative form of enterprise and ensure greater autonomy and operational freedom to them to improve their functioning.

Endeavour will be made to provide a package insurance policy for the farmers, right from sowing of the crops to post-harvest operations, including market fluctuations in the prices of agricultural produce.

The price structure and trade mechanism will be continuously reviewed to ensure a favourable economic environment for the agriculture sector and to bring about an equitable balance between the rural and the urban incomes. Quality consciousness amongst farmers and agro processors will be created. Grading and standardization of agricultural products will be promoted for export enhancement. Application of science and technology in agriculture will be promoted through a regular system of interface between Science and Technology institutions and the users/potential users to make the sector globally competitive.

The database for the agriculture sector will be strengthened to ensure greater reliability of estimates and forecasting which will help in the process of planning and policy making.

### **Food Processing**

The Indian Parliament passed the Food Safety and Standards Act, 2006 that overrides all other food related laws. It will specifically repeal eight laws:

The Prevention of Food Adulteration Act, 1954

The Fruit Products Order, 1955

The Meat Food Products Order, 1973

The Vegetable Oil Products (Control) Order, 1947

The Edible Oils Packaging (Regulation) Order, 1998

The Solvent Extracted Oil, De oiled Meal, and Edible Flour (Control) Order, 1967

The Milk and Milk Products Order, 1992

Essential Commodities Act, 1955 relating to food

The Act establishes a new national regulatory body, the Food Safety and Standards Authority of India, to develop science based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. All food imports will therefore be subject to the provisions of the Act and any rules and regulations made under the Act.

As a temporary measure, the standards, safety requirements and other provisions of the repealed Acts and Orders and any rules and regulations made under them will continue to be in force until new rules and regulations are put in place under the Food Safety and Standards Act, 2006. For that reason, importers will for some time have to continue to take into account the provisions of those repealed Acts and Orders.

### **Prevention of Food Adulteration Act**

There is an appeal process for amending rules, although this is time-consuming. The Central Committee for Food Standards, chaired by the Director General of Health Services, is the decision-making entity Syrups.

### Agricultural Inputs

Improvement in yield, which is key to long-term growth, depends on a host of factors including technology, use of quality seeds, fertilizers, pesticides, micronutrients, and irrigation. Each of these plays a role in determining yield level and in turn augmentation in the level of production.

#### Rubber

India is the fourth largest producer of natural rubber (NR) with a share of 8.2 per cent in world production in 2010. Despite not having geographically very favourable regions for growing NR, India continued to record the highest productivity among major NR-producing countries. As per the Economic Survey 2012, the production of NR in 2011-12 was projected at 9.02 lakh tonnes, an increase of 4.6 per cent over 2010-11. India continues to be the second largest consumer of NR with 8.8 per cent share of world consumption in 2010. Consumption of NR in 2011-12 was projected at 9.77 lakh tonnes, an increase of 3.1 per cent over the previous year.

#### Coffee

India is the sixth largest producer of coffee after Brazil, Vietnam, Colombia, Indonesia, and Ethiopia. With 2 per cent share in global area under coffee, India contributes about 4 per cent to world coffee production as well as international trade. Coffee is cultivated in an area about 4.0 lakh ha primarily in the southern states of Karnataka, Kerala, and Tamil Nadu. Presently consumption in the country is over 1 lakh tonnes and India produces about 3 lakh tonnes of coffee comprising both Arabica (32 per cent) and Robusta (68 per cent) coffee. As per the Economic Survey 2012, the country's coffee production reached a high of 3.02 lakh tonnes during 2011-12 and was expected to touch an all-time record production of 3.22 lakh tonnes during 2011-12, an increase of 6.7 per cent over 2010-11 production. Over the past two decades, coffee cultivation has been promoted in the tribal regions of Andhra Pradesh, Orissa, and the north-eastern states primarily with the objective of tribal development and afforestation. Indian coffee is primarily an export oriented commodity with about 70 per cent of production being exported.



## Tea

India is the largest producer and consumer of black tea in the world. Tea is grown in 16 states in India. Assam, West Bengal, Tamil Nadu, and Kerala account for about 95 per cent of total tea production. Tea production in India during the year 2010-11 has been estimated at 0.97 million tonnes as against 0.99 million tonnes in 2009-10.

## Exports and Imports

India's trade policy on agricultural items is guided by the twin objectives of ensuring food security and building export markets for enhancing the income of farmers, depending on domestic availability. In September 2011, government has put the exports of wheat, non-basmati rice, and cotton under open general licence.

India is among 15 leading exporters of agricultural products in the world. As per the International Trade Statistics 2011, published by the World Trade organization (WTO), India's agricultural exports amounted to US \$ 23.2 billion with a 1.7 per cent share of world trade in agriculture in 2010. On the other hand, India's agricultural imports amounted to US \$ 17.5 billion with a 1.2 per cent share of world trade in agriculture in 2010.

## Seeds

Good quality seed is one of the most important inputs for enhancing agricultural productivity and production. Efficacy of other agricultural inputs such as fertilizers, pesticides, and irrigation is largely determined by it. Seed quality is estimated to account for 20-25 per cent of productivity. It is, therefore, important that quality seeds are made available to the farmers. Since the year 2005-06, the central government has been implementing a central-sector scheme known as 'Development and Strengthening of Infrastructure Facilities for Production and Distribution of Quality Seeds' to address the gaps in infrastructure and to increase availability of quality seeds for different crops through various interventions. The objective of the scheme is to ensure production and multiplication of highyielding certified/quality seeds of all crops in sufficient quantities and make them available to farmers at affordable prices.

An amount of ₹187.83 crore till 15<sup>th</sup> February 2012 had been released as grants-in-aid under different components of the scheme. Although this scheme has contributed to doubling the availability of quality seeds in the last five years,

it requires major changes and upgradation to meet the challenges of the rapidly evolving seed sector and ensure wider use of quality seeds.

Accordingly, a National Mission on Seeds for the Twelfth Plan Period had been proposed. The New Policy on Seed Development (NPSD) was formulated way back in 1988 with a view to providing the best planting material available abroad to Indian farmers. The policy has, over the years, facilitated import of seeds under various categories. The policy permits initial import of small quantities of seeds of cereals, oilseeds, pulses, etc. for in-house trial by the importer. Based on satisfactory results of multi-location trials, importers are permitted to import in bulk. Subsequently, NPSD 1988 was revised to allow import of seeds of wheat and paddy, coarse cereals, pulses, and oilseeds under prescribed conditions. The revisions in NPSD could usher in an enabling environment for speedy trial and evaluation of seeds, thereby facilitating timely imports.

In response to the changes that have taken place in the seed sector, the Seed Act 1966 is proposed to be replaced by a suitable legislation to

- (i) create an enabling climate for growth of the seed industry,
- (ii) enhance the seed replacement rates,
- (iii) boost export of seeds and encourage import of useful germplasm, and
- (iv) create a conducive atmosphere for the application of frontier sciences in variety development and enhanced investment for R&D.

Presently, the Bill is under consideration for moving official amendments to it based on suggestions received from various quarters.

FDI policy for agriculture sector was amended to allow 100 per cent FDI under automatic route for 'development of seed'. Earlier, FDI was permitted for 'development of seed under controlled condition'.

### Mechanization and Technology

Farm mechanization has immense potential for improving farm productivity. Empirical data reaffirm that availability of farm power has a direct correlation to agricultural productivity. Appropriate crop and region-specific agricultural equipment enable efficient utilization of farm inputs making farming viable and attractive. Though the country has been witnessing considerable progress in farm mechanization, its spread across the country still remains uneven. Current farm power availability hovers around 1.7 kw/ha which is much lower than that of Korea (7+ kw/ha), Japan (14+kw/ha), and the USA (6+kw/ha). It is estimated that in order to upscale farm productivity so as to grow more food given the stagnant net sown area, farm power availability must reach at least 2.0 kw/ha by the end of Twelfth Five Year Plan. Gradual increase in farm

mechanization will also help release agricultural labour for other emerging and valued sectors, thus contributing more towards GDP.

So far in India, 'tractors' have been the major symbol of agriculture mechanization. Indian agriculture is dominated by small and marginal farmers, whose smaller landholding and weaker economic status render single ownership of much high-value agricultural machinery and equipment. In this context, supporting and franchising rural entrepreneurs for establishing custom hiring or farm service centers will help extending benefits of farm mechanization to so far 'excluded farmers' category.

### Fertilizers

India is meeting 80 per cent of its urea requirement through indigenous production but is largely import dependent for meeting the requirements of potassic (K) and phosphatic (P) fertilizers. Chemical fertilizers have played a significant role in the development of the agricultural sector. Consumption of chemical fertilizers has steadily increased over the years.

The Nutrient Based Subsidy (NBS) Policy for fertilizers was implemented in 2010. Under the NBS Policy, a fixed subsidy is announced on per kg basis of nutrient annually. An additional subsidy is also given to micro-nutrients. With the objective of providing a variety of subsidized fertilizers to farmers depending upon soil and crop requirements, the government has included seven new grades of complex fertilizers under the NBS. Under this scheme, manufacturers /marketers are allowed to fix the maximum retail price (MRP). Farmers pay only 50 per cent of the delivered cost of P and K fertilizers, the rest is borne by the Government of India in the form of subsidy.

### Irrigation

Irrigation is one of the most important inputs required at different critical stages of plant growth of various crops for optimum production. The Government of India has taken up augmentation of irrigation potential through public funding and is assisting farmers to create potential on their own farms. Substantial irrigation potential has been created through major and medium irrigation schemes.

The central government initiated the Accelerated Irrigation Benefit Programme (AIBP) from 1996-97 for extending assistance for the completion of incomplete irrigation schemes. Under this programme, projects approved by the Planning Commission are eligible for assistance. Under the AIBP, ₹ 50,380.64 crore of central loan assistance (CLA)/grant has been released up to 30 November 2011. As on 31 March 2011, 290 projects were covered under the AIBP and 134 completed. During 2010-11, an irrigation potential of 566.24 thousand ha is reported to have been created by states, from major / medium / minor irrigation projects under the AIBP. While the higher irrigation potential would help augment production and productivity, assured remuneration from such production is vital for development of agriculture.

### **Agricultural Produce and Pricing**

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 safeguarding the interests of consumers by making available food supplies at reasonable prices. The price policy also seeks to evolve a balanced and integrated price structure in keeping with the overall needs of the economy. To achieve this end, the government announces minimum support prices (MSPs) for major agricultural commodities each season and organizes purchase operations through the Food Corporation of India, and cooperative and other agencies designated by state governments. The government decides on the MSPs 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 are considered important for fixation of support prices.

In the year 2011-12, the MSPs of various agricultural crops have been increased. The MSPs of some major crops exhibit a rising trend in line with costs and as incentive for higher output.

National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) appoints state agencies to undertake Price Support Scheme (PSS) operations. The losses, if any, incurred by the central agencies on undertaking PSS operations are reimbursed up to 15 per cent by the central government. Apart from this, government provides working capital to the central agencies for undertaking PSS operations.

The government also implements the Market Intervention Scheme (MIS) for horticultural and agricultural commodities, generally perishable in nature and not covered under the PSS, thus helping farmers get remunerative prices for their produce.

The MIS is contingent on the specific request of a state/union territory (UT) government which is ready to bear 50 per cent loss (25 per cent in the case of north-eastern states), if any, incurred on its implementation. However, the loss is restricted up to 25 per cent of total procurement value. Profit earned, if any, in implementing the MIS is retained by the procuring agencies.

### **Animal Husbandry, Dairying and Fishing**

The Eleventh Five Year Plan envisaged overall growth of 6-7 per cent per annum for the sector. In 2010-11, this sector contributed 121.84 million tones of milk, 63.02 billion eggs, 42.99 million kg wool, and 4.83 million tonnes of meat.

#### **Dairy Sector**

India ranks first in the world in milk production, which went up from 17 million tonnes in 1950-51 to 121.84 million tonnes in 2010-11. The Indian dairy sector acquired substantial growth momentum from the Ninth Plan onwards, achieving an annual output of 121.84 million tones of milk during 2010-11. This represents sustained growth in the availability of milk and milk products for the growing population of the country.

In India, Dairying has become an important secondary source of income for millions of rural families and has assumed an important role in providing employment and income-generating opportunities.

The Ministry of Agriculture is implementing important schemes, namely the Intensive Dairy Development Programme, Strengthening Infrastructure for Quality and Clean Milk Production, and Assistance to Cooperative and Dairy Entrepreneurship Development Scheme, in the dairy sector. A major programme for genetic improvement called the National Project for Cattle and Buffalo Breeding (NPCBB) was also launched in 2000. The NPCBB envisaged genetic upgradation and development of indigenous breeds on priority basis.

A centrally sponsored scheme for livestock insurance is being implemented in all the states with the twin objectives of providing protection mechanism to farmers and cattle rearers against any eventual loss of their animals due to death and to demonstrate the benefit of the insurance of livestock and popularize it with the ultimate goal of attaining qualitative improvement in livestock and its products.

#### **Poultry Sector**

The poultry sector encompasses a range of farming systems from highly industrialized and export-oriented at one end to backyard, small and marginal model (or systems), addressing livelihood issues at the other end. The per capita availability is around 53 eggs per year in the year 2010-11. Exports of poultry products were around ` 372 crore in 2009- 10 as per the Agricultural and Processed Food Products Export Development Authority (APEDA).

Four regional Central Poultry Development Organizations located at Chandigarh, Bhubaneswar, Mumbai, and Hessarghatta are focusing on production of stocks suitable for backyard rearing, training to the farmers to upgrade their technical skills. The Central Poultry Performance Testing Centre gives valuable information relating to different genetic stock available in the country. The “Poultry Development” scheme comprising three components, namely Assistance to State Poultry Farms, Rural Backyard Poultry Development, and Poultry Estates, is being implemented.

In order to encourage entrepreneurship skills of individuals, a central-sector ‘Poultry Venture Capital Fund’ Scheme is also being implemented on capital subsidy mode since 1 April 2011, covering various poultry activities.

### Livestock health

To ensure disease-free status and be compatible with the standards laid down by the World Animal Health Organization, many animal health schemes have been initiated. The Government of India provides financial assistance to states/UTs to control major livestock diseases and strengthen veterinary services including reporting of animal diseases through various centrally sponsored schemes. Major achievements include carrying out 81 million vaccinations and maintaining the country’s Rinderpest-free and contagious bovine pleuropneumonia- free status.

The Ministry of Agriculture is also implementing a World Bank- assisted project on ‘Preparedness, Control and Containment of Avian Influenza’ which envisages surveillance, capacity building in terms of training and laboratory infrastructure, and logistical support for undertaking control and containment measures at the time of outbreaks. All avian influenza outbreaks reported in the country have been effectively controlled. The last outbreak was reported in February, 2012 in Odisha where Control & Containment operations are being carried out.

### Fisheries

The fisheries sector contributed 0.7 per cent of total GDP at factor cost and 5.0 per cent of GDP at factor cost from agriculture, forestry, and fishing in the year 2010-

11 (Quick Estimates). Fish production increased from 3.8 million tonnes in 1990-91 to 8.29 million tonnes in 2010-11. Fishing, aquaculture, and allied activities are reported to have provided livelihood to over 14 million people in 2010-11, apart from being a major foreign exchange earner.

### **Agricultural Credit and Insurance**

Agricultural credit plays an important role in improving agricultural production and productivity and mitigating distress of farmers. Government has taken several measures for improving agricultural credit flow and bringing down the rate of interest on farm loans.

Important achievements/ initiatives taken by the government in recent years are the following.

(i) Farmers have been receiving crop loans up to a principal amount of ` 3 lakh at 7 per cent rate of interest since 2006-07. In 2009-10, government provided an additional 1 per cent interest subvention to those farmers who repaid their short-term crop loans as per schedule. This subvention was raised to 2 per cent in 2010-11 and further to 3 per cent in 2011-12. Thus the effective rate of interest for such farmers became 4 per cent per annum.

(ii) Initiative has been taken to provide kisan credit cards (KCC) to all eligible and willing farmers in a time-bound manner. The scheme includes reasonable components of consumption credit and investment credit within the overall credit limit to provide adequate and timely credit support to farmers for their cultivation needs. About 10.78 crore KCCs had been issued up to October 2011.

(iii) The government is implementing a revival package for Short-term Rural Cooperative Credit Structure involving financial outlay of ` 13,596 crore. Twenty-five state governments have signed a memorandum of understanding with the Government of India and the National Bank for Agriculture and Rural Development (NABARD). This covers 96 per cent of the primary agricultural cooperative societies (PACS) and 96 per cent of the central cooperative banks in the country. As of November 2011, an amount of ` 9,002.98 crore had been released by NABARD as Government of India share for recapitalization of 53,205 eligible PACS in seventeen states.

In the case of Agricultural insurance, there are various major crop insurance schemes under implementation in the country, viz:

1. National Agricultural Insurance Scheme (NAIS)

2. Modified NAIS (MNAIS)
3. Pilot Weather Based Crop Insurance Scheme (WBCIS)

### **Agriculture Marketing**

Marketing of agricultural produce is a very crucial activity for the farming community, particularly for those who are small producers and have small surpluses. Emerging areas such as horticulture, floriculture, organic farming, genetic engineering, food processing and packaging have a high potential of growth. It is necessary to improve cold storage and cold transportation facilities and develop efficient marketing and export networks to fully exploit production and export potentials in respect of these products.

The role of the agriculture market is to deliver agricultural produce from the farmer to the consumer in the most efficient way. Agriculture markets are regulated in India through the Agricultural Produce Market Committees (APMC) Acts. According to the provisions of the APMC Acts of the states, every APMC is authorized to collect market fees from the buyers/traders in the prescribed manner on the sale of notified agricultural produce. The relatively high incidence of commission charges on agricultural /horticultural produce renders their marketing cost high, which is an undesirable outcome. All this suggests that a single point market fee system is necessary for facilitating free movement of produce, bringing price stabilization, and reducing price differences between the producer and consumer market segments.

Some state governments have granted licences to the private sector for setting up of markets and direct purchase from the farmers in order to provide alternative marketing channels. There is considerable potential for agricultural markets to be competitive.

Agmarknet  
[www.agmarknet.nic.in/](http://www.agmarknet.nic.in/)

As a step towards globalisation of agriculture, the Directorate of Marketing & Inspection launched an Information and Communication Technology Project, Agricultural Marketing Information System Network (AGMARKNET)" in the country, during the Ninth Plan, for linking all important APMCS (Agricultural

Produce Market Committees), State Agricultural marketing Boards /Directorates and the Directorate of Marketing & Inspection's regional offices located throughout the country, for effective information exchange on market prices.



This AGMARKNET project had networked more than 735 Agricultural Produce Wholesale Markets (APWMs), 75 State Agricultural Marketing Boards/ Directorates and DMI Regional Offices during 2000-02 and embarked upon additional 2000 Markets during the Tenth Plan Period (2002-2007).

Agmarknet portal is a govt. of India portal on agricultural marketing backed by a wide area information network connecting agricultural markets, State Marketing boards/Directorates and also providing linkages to the websites of the important National and International Organisations.

The Portal provides both static and dynamic information relating to agricultural marketing in India . The static information is about infrastructure- related (Storage, warehousing, Cold Storage, grading and packing facilities), Market - related (market fee/ charges, weighment, handling, market functionaries, development programmes, market laws, composition of market Committees, income and expenditure, etc) and Promotion-related information (Standards, Grades, Labelling, Sanitary and Phyto-Sanitary requirements, Pledge Financing, Marketing Credit and new opportunities available, etc.). The dynamic part comprise Price-related information comprising maximum, minimum and model prices of varieties, total arrivals and dispatches with destination.

The portal is run by the Directorate of Marketing & Inspection (DMI) with the technical assistance of National Informatics Centre as consultant on Turn-key basis. The computer facility has been provided at different markets at grassroot level and connected to internet with DMI Headquarters. An individual market centers enters the data in the prescribed format, using the customized application software "Agmark". The information is either sent through State Government or directly to DMI Headquarters, Faridabad. From Faridabad it is uploaded to the portal. The data from DMI Hqrs. is transferred to portal twice in a day, first at 1100 hrs. and then at 1600 hrs. except on market/public holidays.

### **Food Security and The National Food Security Bill 2011**

FOOD SECURITY LIES WITH THE MINISTRY OF CONSUMER AFFAIRS, FOOD AND PUBLIC DISTRIBUTION. The primary Policy objective of the Department of Food & Public Distribution under the THE MINISTRY OF CONSUMER AFFAIRS, FOOD AND PUBLIC DISTRIBUTION is to ensure food security for the country through timely and efficient procurement and distribution of foodgrains.

The President of India in her address to the Joint Session of Parliament on 4th June, 2009, announced that the Government proposes to enact a new law – the National Food Security Act – that will provide a statutory basis for a framework which assures food security for all. In pursuance of the above, a draft National Food Security Bill was prepared by the Department of Food & Public Distribution after holding consultations with various stakeholders. The draft Bill was considered and approved by the Cabinet in its meeting held on 18.12.2011, for introduction in Parliament. The National Food Security Bill, 2011 has been introduced in Lok Sabha on 22nd December, 2011.

### **The National Food Security Bill 2011**

The National Food Security Bill, 2011 was introduced in the Lok Sabha by the Minister of Food, Consumer Affairs and Public Distribution on December 22, 2011. The Bill was referred to the Standing Committee on Food, Consumer Affairs and Public Distribution (Chairman: Vilas Baburao Muttemwar) on January 5, 2012. The Committee was due to submit its report in April 2012.

#### **Highlights of the Bill**

- The Bill proposes foodgrain entitlements for up to 75 percent of the rural and up to 50 percent of the urban population. Of these, at least 46 percent of the rural and 28 percent of the urban population will be designated as priority households. The rest will be designated as general households.
- Priority households will be entitled to 7 kg of subsidised foodgrains per person per month. General households will be entitled to at least 3 kg.
- The central government will determine the percentage of people in each state that will belong to the priority and general groups. State governments will identify households that belong to these groups.
- The Bill proposes meal entitlements to specific groups. These include: pregnant women and lactating mothers, children between the ages of six months and 14 years, malnourished children, disaster affected persons, and destitute, homeless and starving persons.
- Grievance redressal mechanisms will be set up at the district, state, and central levels of government.
- The Bill proposes reforms to the Targeted Public Distribution System.

#### **Key Issues and Analysis**

- The Bill classifies beneficiaries into three groups. The process of identifying beneficiaries and placing them into these groups may lead to large inclusion and exclusion errors.

- Several entitlements and the grievance redressal structure would require state legislatures to make adequate budgetary allocations. Implementation of the Bill may be affected if states do not pass requisite allocations in their budgets or do not possess adequate funds.
- The Bill does not provide a rationale for the cut-off numbers prescribed for entitlements to priority and general households.
- The grievance redressal framework may overlap with that provided in the Citizens' Charter Bill that is pending in Parliament.
- Schedule III of the Bill specifies goals which may not be directly related to food security. It is unclear why these have been included in the Bill.
- The Bill provides similar definitions for starving and destitute persons. However, entitlements to the two groups differ.

### **Accounting for Agricultural Activities**

Agricultural activity is

- a specialized activity defined as
- an entity's management of the biological transformation of biological assets for sale,
- into agricultural produce or
- into additional biological assets.

A diverse range of activities fall under agricultural activities. Examples are

- raising livestock,
- forestry,
- annual or perennial cropping,
- cultivating orchards and plantations,
- floriculture and
- aquaculture (including fish farming).

Common features of agricultural activities are

- capability of change,
- management of change and
- Measurement of change.

*Activities that are not "Agricultural Activities"*

Managing recreational activities such as zoos and game parks is not agricultural activity.

### *What are Biological Assets?*

Biological assets are living animals or plants, such as sheep, trees and vines. Biological assets are not those harvested from unmanaged sources. Rather they are the product of controlled processes by an entity to manage their growth and maturation. Assets such as wine that are subject to a lengthy maturation period are not biological assets. These processes are analogous to the conversion of raw materials to a finished product rather than biological transformation. Biological assets may be sold, transformed into agricultural produce, or into additional biological assets.

### *What are Harvested Products of Biological Assets?*

Agricultural produce such as wool, logs and grapes are the harvested products of biological assets.

### *Is the Produce or Harvest from a biological asset considered biological asset as well?*

The produce or harvest from a biological asset is treated as inventory. The harvested produce is transferred to inventory at fair value less costs to sell. However, while the produce is still growing or attached to the biological asset, its value forms part of the value of the biological asset.

As an industry, agriculture has evolved from subsistence production to modern, sometimes complex, businesses utilizing land, labor, and capital with the expectation of generating a profit. The need to measure financial position and financial performance increased when agricultural producers began to rely more on capital, either borrowed or invested, and less on labor and land.

Financial analysis of an agricultural business must focus on both its present position (called “financial position”) and the results of operations and past financial decisions (called “financial performance”).

Financial position refers to the total resources controlled by a business and total claims against those resources, at a single point in time. Measures of financial position provide an indication of the capacity of the business to withstand risk from future farming operations and provide a benchmark against which to measure the results of future business decisions.

Financial performance refers to the results of production and financial decisions, over one or more periods of time. Measures of financial performance include the impact of external forces that are beyond anyone’s control (drought, grain

embargoes, etc.), and the results of operating and financing decisions made in the ordinary course of business.

Financial measures, particularly selected financial ratios, have been accepted as a method to measure financial position and financial performance. Simply stated: Financial ratios are the result of a comparison using two elements of financial data. A financial ratio may be expressed either as a percent (such as XX%) or as a comparison to one (such as XX:1), which is sometimes alternatively referred to as the “number of times”.

Every type of farming enterprise has its own set of risk factors: length of business cycle; requirements for machinery, equipment, and land; susceptibility to weather; sensitivity to the vagaries of nature; etc. The differences in farming enterprises are compounded because there are different degrees of diversification and economic integration found among farm operations. Thus, it might be unreasonable to use the same guidelines for particular financial measures to analyze the financial position and financial performance of an apple orchard, vineyard, cattle ranch, corn/soybean farm, dairy, turkey operation, broiler producer, citrus grove, peanut farmer, and cranberry producer.

Some of the very frequently used Financial Measures

#### Liquidity

1. Current Ratio
2. Working Capital

#### Solvency

3. Debt/ Asset Ratio
4. Equity/ Asset Ratio
5. Debt/Equity Ratio

#### Profitability

6. Rate of Return on Agricultural Assets
7. Rate of Return on Agricultural Equity
8. Operating Profit Margin Ratio
9. Net Agricultural Income

#### Repayment Capacity

10. Term Debt and Capital Lease Coverage Ratio
11. Capital Replacement and Term Debt Repayment Margin

#### Financial Efficiency

12. Asset Turnover Ratio
13. Operational Ratios
  - a. Operating Expense Ratio
  - b. Depreciation/ Amortization Expense Ratio
  - c. Interest Expense Ratio
  - d. Net Agricultural Income from Operations Ratio

#### **Accounting**

The changes that have taken place in the field of agriculture have increased the need for more complete and accurate agricultural financial information. It includes

- increased volatility in net income,
- increased complexity of the financial structure of farm operations and their accounting transactions, and
- more stringent loan review requirements for lenders.

Lenders, accountants, academicians, and others in the agricultural and finance field have worked their way to fill the gap with countless programs, forms, software packages and other tools to assist the agriculturist in providing more complete information.

Most of these tools have been designed to provide more detailed information by imposing not just greatly different record keeping requirements or accounting system changes on the part of the agriculturists. Therefore, the “financial statements” that are being used by many agricultural producers and lenders today are, in fact, abbreviated accounting systems. They are designed to arrive at an accrual adjusted income figure for the operation by adjusting balance sheet and cash basis income information supplied by the agricultural producer.

Those engaged in agriculture should follow easy and simple method of accounting in the first place in order to have better control of their transactions and consequently the income earned out of them.

(a) Maintaining cash and bank book wherein all the transactions of all cash and bank payments/ receipts are recorded.

(b) Following which a journal book needs to be maintained for the purpose of recording all the transactions pertaining to -

- Purchases of fertilizers, seeds, pesticides, manure, diesel, tools & implements, packing material, consumables, stores and spares, etc, for credit
- Sale of products, by products, waste and scrap, etc. for credit

(c) A ledger book which has the record of all transactions duly posted from the journal books into various accounts heads namely

- Purchase & Sale A/cs
- Expenditure A/cs consisting of the following heads namely
  - Salaries & wages,
  - Electricity charges,
  - Fuel expenses,
  - Canal/ pipeline repairs & maintenance expenses,
  - Harvesting expenses,
  - Stacking and storage charges,
  - Insurance on crop/ vehicle / worker / live stocks,
  - Inward transport charges,
  - Outward transport charges,
  - Interest/Financial charges,
  - Rent,
  - Hire charges,
  - Land Development expenses,
  - Tenancy charges
- Asset A/cs namely Land, Building, Vehicle, Machinery, Stock, Sundry Debtors, etc., and liabilities such as Sundry Creditors.

(d) Base/Source documents of the journal books namely vouchers, bills, receipts, invoices, labour attendance and wage sheets, etc.,

(e) Once all of the above are maintained it becomes easier to prepare the Financial Statements of the Agricultural Operations namely Profit and Loss Account and Balance Sheet can be prepared based on the above accounting books

(f) It is also important to maintain a detailed filing of relevant information as listed below:

- Agreements & Contracts
- Title Deeds of Assets Suppliers
- Contractors
- Service providers
- Dealers
- Agents and their price lists

- Insurance Policies
- Insurance Claims Statements
- Weighment slips
- Physical verification statements
- Licenses & Registration certificates
- Cheque book counter foils and pay in slip counter foils
- Bank Statements

### **Standards on Accounting for Agricultural Activities**

- Till date there is no existing Accounting Standard on agricultural accounting in India.
- “Statement of Position 85-3, Accounting by Agricultural Producers and Agricultural Cooperatives”, issued by the American Institute of Certified Public Accountants (AICPA) in April 1985 provides accounting guidance for inventories, development costs of land, perennial crops, and breeding livestock.
- International Accounting Standard IAS 41, Agriculture, is the first standard that specifically covers the primary sector. The Standard becomes operative for annual financial statements covering periods beginning on or after 1<sup>st</sup> January 2003. IAS 41 introduces a fair value model to agriculture accounting. This is a major shift away from the traditional cost model widely applied in primary industry.
- IAS 41 will particularly impact those agricultural activities where the income-producing biological assets are expected to have economic lives that stretch beyond one accounting period. IAS 41’s recognition and measurement rules should be applied as follows:
  - biological assets for sale should be accounted for in accordance with IAS 41 up to the point of sale;
  - additional biological assets should be recognised as biological assets at the point of generation; and agricultural produce should be recognised as inventory at the point of harvest.
- IPSAS 27—Agriculture - This International Public Sector Accounting Standard (IPSAS) is drawn primarily from International Accounting Standard (IAS) 41, “Agriculture” published by the International Accounting Standards Board (IASB).
- AASB 141 - Agriculture by Australian Accounting Standards Board. The objective of this Standard is to prescribe the accounting treatment and disclosures related to agricultural activity.

### **Aspects of Agricultural Accounting**



## Balance Sheet

*Capital Asset:* Both net book value (cost less accumulated depreciation) and market value information for capital assets are needed for purposes of analysis. This information can be provided in a balance sheet format acceptable to the agricultural producer and other interested parties using those balance sheets. These alternative formats may include market values of capital assets on the face of the balance sheet and cost information in supporting schedules, parenthetical disclosure of cost information, or a double-column approach to presenting the balance sheet.

*Raising Breeding Stock:* A full cost absorption approach for treatment of raised breeding stock is recommended. However, for analytical purposes, alternative methods can be used that establish an estimated "base value" for balance sheet representation.

*Deferred Taxes:* A full adoption of relevant accounting standard is preferred for deferred income taxes; an alternative calculation approach can be used for the purpose of financial analysis.

*Accounting for Inventories of Grain and Livestock:* It is recommended that "market valuation" (sales price less cost of disposal) shall be used for all grain and livestock inventories held for sale, as long as the three conditions listed in Paragraph 39 of Statement of Position 85-3, Accounting by Agricultural Producers and Agricultural Cooperatives (AICPA, April, 1985) apply namely

- The product has a reliable, readily determinable and realizable market price.
- The product has relatively insignificant and predictable costs of disposal.
- The product is available for immediate delivery

*Inventory Items for Resale:* For inventories of items purchased for resale, there are conceptually two subcategories.

1. The first subcategory includes those items (such as feeder livestock, harvested crops, etc.) which are actually purchased with the intention of being resold in the same form (although the feeder livestock would be heavier when finally sold).
2. The second subcategory includes those items, primarily feedstuffs, that are not purchased with the intent of being resold, but instead are intended to be consumed as an input in producing another item that will eventually be sold (e.g., feedstuffs that will be consumed by finishing livestock or be converted into milk, eggs or other products). However, these purchased items could be resold in the same form as they were originally purchased.

For items of the first subcategory, the market valuation is acceptable but not preferred to valuation using the lower of cost or market.

For items of the second subcategory, the lower of cost or market valuation method should be used.

*Other Items that Serve as Raw Materials in the Production Process:* This category would include seed, fertilizer, fuel, and other supplies. It is recommended that these items are valued at cost.

*Growing Crops:* Accumulate direct costs and report this "Investment in Growing Crops" on a cost basis.

*Government Loan Programs:* The commodity be shown at the higher of net realizable value or the government loan rate. In cases where net realizable value exceeds the loan rate, accrued interest on the loan should be reported, limited by the constraint that the total of the loan amount plus accrued interest should not exceed the net realizable value.

### **Income Statement (Statement of Earning and Comprehensive Income)**

(a) the general income statement format should include a calculation of gross revenues and net farm income, both on an accrual adjusted basis;

(b) a charge for unpaid family labor and management should not be included on the income statement; and

(c) incidental revenue and expenses should be separately reported on the income statement after net farm income.

Income from non-farm related sources (wages and personal asset income) should not be shown on the income statement, but reflected on the statement of owner equity (net worth).

### **Statement of Cash Flows**

The accounting pronouncements that cover the Statement of Cash Flows "encourage" enterprises to use the direct method. When the direct method is used, a reconciliation of net income and net cash flow from operating activities is required to be provided in a separate schedule.

### **Statement of Owner Equity (or Statement of Net Worth)**

The format of this statement is driven directly by decisions made in the selection of valuation alternatives on the balance sheet, as well as certain types of non-recurring items that may, or may not, be included in the income statement. It is

critical that this statement reconcile the equity amount shown at the beginning of the period with the end of the period.

The views expressed above are based on the Farm Financial Standard Council (FFSC) in their "Financial Guidelines for Agricultural Producers". The term Accounting Standard/GAAP in the above discussion refers to the Statements of Financial Accounting Standards (SFAS or simply FAS issued by the FASB). "Statement of Position 85-3" refers to "Statement of Position 85-3, Accounting by Agricultural Producers and Agricultural Cooperatives", issued by the American Institute of Certified Public Accountants (AICPA) in April 1985.

### **IAS 41 on Agriculture**

Under IAS 41 on Agriculture issued by International Accounting Standards Board (IASB) the following views have been adopted

- Agricultural activity - the management by an entity of the biological transformation of biological assets for sale, into agricultural produce or into additional biological assets.
- Biological transformation - comprises the processes of growth, degeneration, production and procreation that cause qualitative or quantitative changes in a biological asset.
- Biological asset - a living animal or plant.
- Agricultural produce - the harvested product of the entity's biological assets.
- Agricultural activities are distinguished by the fact that management facilitates and manages biological transformation and is capable of measuring the change in the quality and quantity of biological assets (as per IAS 41).
- Managing recreational activities - for example, game parks and zoos - is not agricultural activity.
- Land owned by the entity and used for agricultural activity is subject to the recognition and measurement principles of IAS 16, 'Property, plant and equipment'. Land owned by a third party and rented to the entity for the purposes of agricultural activity is likely to be the third party's investment property and is accounted for in accordance with IAS 40, 'Investment Property
- Not all the activities in an integrated business is treated as being in the scope of IAS 41.
- Under IAS 41 biological assets are to be measured on initial recognition and at each balance sheet date at their fair value less costs to sell, though exceptions do exist.
- One, where the standard permits departure from current fair value: at the early stage of an asset's life; and Two, when fair value cannot be measured reliably on initial recognition an entity can depart from using fair value

- Under IAS 41 Fair Value is the amount for which the asset could be exchanged between knowledgeable, willing parties in an arm's length transaction. It represents a market price for the asset based on current expectations.
- The Fair Value Logic under IAS 41 is as follows
  - Price for the asset in an active market.
  - Recent transaction price for the asset if there is no active market.
  - Market prices for similar assets, adjusted for the points of difference.
  - Sector benchmarks.
  - Present value of the future cash flows expected to be generated from the asset.
- Under IAS 41 Contract prices are not relevant in determining fair value, because fair value reflects the current market in which a willing buyer and seller would enter into a transaction.
- When it comes to Revenue Recognition, the sale of agricultural produce is clearly revenue as defined by IAS 18, 'Revenue'. Revenue comprises the fair value of the consideration received or receivable only for the sale of agricultural produce and/or biological assets. It is stated net of sales taxes, rebates and discounts.
- Disclosure of various income categories under IAS 41 may be given on the face of the income statement or in the notes, as there is no specific requirement in IAS 41 on where to show it. In practice, most entities show this on a separate line in the income statement. IAS 1, 'Presentation of financial statements', requires revenue to be shown in the income statement; disclosure only in the notes is not acceptable.
- Agricultural produce is measured at fair value less cost to sell on initial recognition, which becomes cost of the agricultural produce. It is best to present the cost of the produce as a cost of goods sold, thereby separating the production phase from the selling phase, according to IAS 1 para 32 offsetting or showing a net position is not permitted.
- The standard requires the entity should show the carrying value of biological assets, either in total or per group of biological assets using the prior accounting period data as this gives more relevant information. Information to be given includes the following
  - (a) the gain or loss arising from changes in fair value less costs to sell;
  - (b) increases due to purchases;
  - (c) decreases attributable to sales or reclassification to held for sale (IFRS 5);
  - (d) decreases due to harvest;
  - (e) increases resulting from business combinations;
  - (f) net exchange differences; and

- (g) other changes.

### **Major Schemes/ Programmes in Agriculture Sector**

The Department of Agriculture and Cooperation (DAC) has been assigned responsibility of formulation and implementation of National Policies and Programmes aimed at enhancing agricultural production and productivity through optimum utilization of natural resources of land, water, soil, etc. In furtherance of this basic objective, a number of schemes and programmes are under implementation. Important schemes being implemented are:

#### **1. National Food Security Mission (NFSM)**

[www.nfsm.gov.in/](http://www.nfsm.gov.in/)

In view of the stagnating food grain production and an increasing consumption need of the growing population, Government of India launched this Centrally Sponsored Scheme, 'National Food Security Mission' in August 2007.

The National Development Council (NDC) in its 53rd meeting held on 29th May, 2007 adopted a resolution to launch a Food Security Mission comprising rice, wheat and pulses to increase the production of rice by 10 million tons, wheat by 8 million tons and pulses by 2 million tons by the end of the Eleventh Plan (2011-12). Accordingly, A Centrally Sponsored Scheme, 'National Food Security Mission', has been launched from 2007-08 to operationalize the above mentioned resolution. 1.2 The National Food Security Mission will have 3 components (i) Rice (ii) Wheat & (iii) Pulses.

#### **Objective of NFSM**

The major objective of this scheme is to increase production and productivity of wheat, rice and pulses on a sustainable basis so as to ensure food security of the country. The approach is to bridge the yield gap in respect of these crops through dissemination of improved technologies and farm management practices.

#### **NFSM will have three components**

National Food Security Mission - Rice (NFSM-Rice)

National Food Security Mission - Wheat (NFSM-Wheat)

National Food Security Mission - Pulses (NFSM-Pulses)

Total financial implications for the NFSM will be Rs.4882.48 crores during the XI Plan (2007-08 – 2011-12). Beneficiary farmers will contribute 50% of cost of the activities / work to be taken up at their / individual farm holdings.

Beneficiaries can choose to draw loans from the Banks, in which case subsidy amount prescribed for a particular component for which the loan availed will be released to the Banks.

The implementation of the NFSM would result in increasing the production of rice by 10 million tones, wheat by 8 million tones and pulses by 2 million tones by 2011-12. It would also create additional employment opportunities.

States covered under NFSM:

- NFSM is being implemented in 482 districts of 19 States viz. Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.
- About 20 million hectares of rice area and 13 million hectares of wheat area is included in these districts that roughly constitute about 50% of cropped area for wheat and rice. For pulses, additional 4.5 million ha (20% cropped area) would be created.
- 133 districts of 12 States (AP, Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, MP, Orissa, Tamil Nadu, U.P. and West Bengal) will be covered under NFSM-Rice.
- 138 districts of 9 States (Punjab, Haryana, UP, Bihar, Rajasthan, MP, Gujarat, Maharashtra and West Bengal) will be covered under NFSM-Wheat.
- 168 districts of 14 States (AP, Bihar, Chhattisgarh, Gujarat, Karnataka, MP, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Punjab, Haryana, UP and West Bengal) will be covered under NFSM-Pulses.

**2. Rashtriya Krishi Vikas Yojana (RKVY)**

<http://rkvy.nic.in/>

Rashtriya Krishi Vikas Yojana is a State Plan Scheme of Additional Central Assistance launched in August 2007 as a part of the 11th Five Year Plan by the Government of India.

Concerned by the slow growth in the Agriculture and allied sectors, the National Development Council (NDC), in its meeting held on 29th May, 2007 resolved that a special Additional Central Assistance Scheme (RKVY) be launched.

Rashtriya Krishi Vikas Yojana (RKVY) was launched in 2007-08 with an outlay of ` 25,000 crore for 11th Five Year Plan to incentivize States to enhance public investment to achieve 4% growth rate in agriculture and allied sectors during 11th Five Year Plan.

### Features of RKVY

- The guidelines under RKVY are applicable to all the States and Union Territories that fulfill the eligibility conditions.
- The RKVY will be a State Plan Scheme. The eligibility for assistance under the scheme would depend upon the amount provided in State Plan Budgets for Agriculture and allied sectors, over and above the base line percentage expenditure incurred by the State Governments on Agriculture and allied sectors.
- Each state will ensure that the baseline share of agriculture in its total State Plan expenditure (excluding the assistance under the RKVY) is at least maintained, and upon its doing so, it will be able to access the RKVY funds.
- It will be permissible for the states to initiate specific projects with definite time-lines, and clear objectives for Agriculture and allied sectors excluding forestry and wild life, and plantations (ie., Coffee, Tea and Rubber).
- The pattern of funding is 100% Central grant and the eventual goal is that the additional investments made through the RKVY scheme will lead to at least 4% growth in agriculture.
- The states are given sufficient flexibility under the scheme to make appropriate local choices so that the outcomes are as envisaged in the RKVY objectives.
- The scheme requires States to prepare District and State Agriculture Plans for creation of such infrastructure, which are essential to catalyse the existing production scenario for achieving higher production.
- The projects of the State Governments are approved by the State Level Sanctioning Committees (SLSCs) under the Chairmanship of Chief

Secretary of the respective States. Funds are routed through State Agriculture Department, which is the nodal Department for the scheme.

### Sub-schemes of RKVY

RKVY is projectised and States have taken up over 5300 projects in last five years across all segments of agriculture and allied sectors both for increasing production and productivity and creating infrastructure. RKVY format has also enabled taking up national priorities as sub-schemes, while keeping States' flexibility of project selection and implementation intact.

In all, nine special programme / schemes with focused objectives are being implemented as sub-schemes of RKVY. These sub-schemes are:

- i. Bringing green revolution to Eastern India - covering States of Assam, Bihar, Chattisgarh, Jharkhand, Orissa, Eastern UP and West Bengal, with objective of improvement in the rice based cropping system by intensive cultivation through promotion of recommended agricultural technologies and package of practices.
- ii. Integrated Development of 60,000 Pulses Villages in Rainfed Areas-Scheme is in operation for attaining self-sufficiency in production of pulses within next three years in 60,000 pulses villages in rainfed areas for increasing crop productivity and strengthening market linkages.
- iii. Special Programme on Oil Palm Area Expansion (OPAE): Aims to bring 60,000 ha. under oil palm plantation and integrating the farmers with the markets.
- iv. Vegetable Initiative for Urban Clusters: Aims to meet the growing demand for vegetables by a robust increase in the productivity and market linkages.
- v. Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP): Aims to promote higher production of bajra, jowar, ragi and other millets in 1000 compact blocks covering about 25,000 villages and to provide market linked production support to ten lakh millet farmers in the arid and semi-arid regions of the country, upgrade millet processing technologies and create awareness regarding their health benefits to promote balanced nutrition.
- vi. National Mission for Protein Supplements (NMPS): Aims to take up activities to promote animal based protein production through livestock development, dairy farming, piggery, goat rearing and fisheries in selected blocks.
- vii. Accelerated Fodder Dev. Programme (AFDP): Aims to accelerate production



of fodder through intensive promotion of technologies to ensure its availability throughout the year to benefit farmers in 25,000 villages.

viii. Rainfed Area Development Programme (RADP): Aims to improve quality of life of farmers, especially small and marginal farmers by offering a complete package of activities to maximize farm returns for enhancing food and livelihood security of farmers.

ix. Saffron Mission: Revival of saffron cultivation in J&K.

### Outlay of RKVY

Outlay of RKVY has been stepped up year on year. States have been released ` 14598.31 crores during 2007-08 to 2010-11.

RKVY links 50% of Central Assistance to States by stepping up percentage of State Plan expenditure on agriculture & allied sectors. States have indeed increased allocation to agriculture and allied sector from ` 8770.16 crore(4.88%) in 2006-07 to ` 22158.46 crore( 6.04%) in 2010-11.

RKVY has emerged as the principal instrument in financing development of agriculture and allied sectors in the country. Its convergence with other Central Government Schemes i.e. National Rural Employment Guarantee Scheme (NREGS) has also helped to bolster development of the agrarian economy.

### **3. National Horticulture Mission (NHM)**

A National Horticulture Mission has been launched as a Centrally Sponsored Scheme to promote holistic growth of the horticulture sector through an area based regionally differentiated strategies. The scheme is fully funded by the Government and different components proposed for implementation financially supported on the scales laid down.

The Mission was launched in 2005-06 for holistic development of horticulture sector duly ensuring horizontal and vertical linkages, with active participation of all stake-holders. All States and three Union Territories of Andaman Nicobar Islands, Lakshadweep and Puducherry are covered under the Mission except the eight North Eastern States including Sikkim, and the States of Jammu &

Kashmir, Himachal Pradesh and Uttarakhand, which are covered under Horticulture Mission for North East and Himalayan States (HMNEH). At present, 372 districts in 18 States and 3 Union Territories have been covered under NHM.

All horticulture crops such as fruits, spices, flowers, medicinal and aromatic plants, plantation crops of Cashew and Cocoa are included for area expansion, whereas vegetables are covered through seed production, protected cultivation, Integrated Nutrient Management (INM) / Integrated Pest Management (IPM) and organic farming.

#### **4. Horticulture Mission for North East and Himalayan States (HMNEH)**

<http://tmnehs.gov.in/>

In order to improve livelihood opportunities and to bring prosperity to the North Eastern Region (NER) including Sikkim, Government of India launched a “Technology Mission for Integrated Development of Horticulture in North Eastern States including Sikkim (TMNE)” in 2001-02. Considering the potential of Horticulture for socio-economic development of Jammu & Kashmir, Himachal Pradesh and Uttarakhand, Technology Mission was extended to these States from 2003-04. The Mission is based on the “end-to-end approach” taking into account the entire gamut of horticulture development, with all backward and forward linkages, in a holistic manner. The mission has now been renamed as Horticulture Mission for North East and Himalayan States (HMNEH).

The HMNEH mission covers all the North Eastern States including Sikkim and three Himalayan states namely Jammu & Kashmir, Himachal Pradesh and Uttarakhand. The mission consists of four mini missions which individually address specific goals and cover entire spectrum of horticulture right from production to consumption through backward and forward linkage.

Implementation of Mission since inception upto 2010-11 has helped in bringing in an additional area of 579910 ha. under various horticulture crops in these states. So far, 355523 farmers including women farmers have been trained on various aspects of horticulture.

#### **Objectives**

The specific Objectives of the Horticulture Mission are:

Ø To improve productivity and quality of horticulture crops through adoption of improved varieties/technologies and upgradation of existing production /farming technologies.

Ø To reduce post harvest losses, and improve marketability of the produce and its availability to consumers.

Ø To promote better utilization and increased consumption of the produce to ensure higher returns to farmers/producers and better nutritional health to the people.

Ø To promote exports and export-oriented growth.

Ø To develop a strong base for transfer of technology and human resource development to support development activities.

#### Structure of the Horticulture Mission

Department of Agriculture will be the nodal department for the Horticulture Mission for coordination and implementation.

The Horticulture Mission has structure of four Mini Missions viz.

- Mini Mission-I for Research & Development.
- Mini Mission-II for Improving Production and Productivity
- Mini Mission-III for Post-harvest Management and Marketing
- Mini Mission-IV for Processing and value addition.

Mini Mission-I(MM-I) : Research - Coordinated and implemented by Indian Council of Agricultural Research. This Mini Mission concentrates on technology generation appropriate to the region. Major components under MM-I are supply of basic seed and planting material, technology standardization and refinement, on farm demonstration and training.

Mini Mission-II(MM-II) : Production and productivity - coordinated by Department of Agriculture & Cooperation and implemented by State Departments of Horticulture/ Agriculture. This Mini Mission aims at increasing production and productivity of horticulture crops by adoption of improved production of technologies.

Mini Mission-III(MM-III) : Post harvest management and Marketing coordinated by Department of Agriculture & Cooperation, implemented by Directorate of Marketing & Inspection and National Horticulture Board. This Mini Mission

aims at generation of efficient post-harvest management techniques, which include development of cold storage facilities, efficient transport and marketing facilities.

Mini Mission-IV(MM-IV) : Settin up of new processing units, up gradaton and modernization of existing processing units and other promotional activities - coordinated and implemented by Ministry of Food Processing Industries.

At National Level the implementation of all the four Mini Missions are being regularly reviewed and monitored by a Central Steering Committee headed by Secretary (A&C). In addition the Mini Mission wise programmes are being reviewed and monitored by concerned Steering Committees headed by DG (ICAR) for MM-I, Additional Secretary (DAC) for Mini Mission II & III and Secretary (MFPI) for Mini Mission - IV.

At State level, the programmes are being reviewed and monitored by State Level Steering Committee headed by Chief Secretary of concerned States.

## **5. Micro Irrigation**

Micro Irrigation technology carries desired water and nutrients mixture direct to the root zone of the plant, drop by drop or in tiny streams or sprays through a network of plastic pipes and tubes resulting in enhanced water use efficiency, increased productivity and higher return for the farmer.

A centrally sponsored scheme on micro-irrigation was introduced in January 2006. It was upscaled to National Mission on Micro Irrigation (NMMI) during XI plan period.

Since inception of the Scheme, an area of 29.42 lakh ha. has been brought under micro irrigation by utilizing central share of ` 3774.66 crore. In the year 2011-12, against the target of 6.57 lakh ha., 3.05 lakh ha. has been covered upto December, 2011, involving Government of India assistance of ` 913.32 crore.

### **Features**

- It's a centrally sponsored scheme in which 40% of the cost of the micro irrigation system will be borne by the Central Government, 10% by the State Government and the remaining amount will be borne by the beneficiary either through his own resources or loan from financial institutions. Additional assistance of 10% of the cost of the Micro

Irrigation system will be borne by the Central Government in respect of small and marginal farmers.

- All categories of farmers are eligible to avail assistance under this scheme
- Assistance to farmers will be limited to a maximum area of 5 ha per beneficiary
- 75% of the cost of drip and sprinkler demonstration for a maximum area of 0.5 ha per demonstration will be borne by the Central Government
- Assistance will be available for both drip and sprinkler irrigation for wide-spaced as well as close-spaced crops.
- Assistance will be available for irrigation systems for protected cultivation including greenhouses, polyhouses and shadenet houses
- Assistance will be available for implementation of advanced technology
- Panchayati Raj Institutions will be involved in promoting the scheme and identification of priority areas
- At the National Level, the Executive Committee of NMMI will review the progress of NMMI and approve the Annual Action Plans of States.
- At the State Level, the State Micro Irrigation Committee (SMIC) will oversee the implementation of the Mission Programme in districts.
- The District Micro-Irrigation Committee will coordinate the implementation of NMMI programme at the district level

## **6. National Bamboo Mission (NBM)**

<http://nbm.nic.in/>

In order to harness the potential of bamboo crop in the country, a Centrally Sponsored Scheme “National Bamboo Mission” is under implementation in 27 States. The Mission envisages promoting holistic growth of bamboo sector by adopting area based regionally differentiated strategy to increase area under bamboo cultivation and to improve marketing of bamboo and its products. Under this Mission, steps have been taken to increase availability of quality planting material by supporting setting up of new nurseries / tissue culture units and strengthening the existing ones. To address forward integration, the Mission is taking steps to strengthen marketing of bamboo products, especially those of handicraft items.

### Objectives

The main objectives of the Mission are:

- To promote the growth of the bamboo sector through as an area based regionally differentiated strategy;

- To increase the coverage of area under bamboo in potential areas, with improved varieties to enhance yields;
- To promote marketing of bamboo and bamboo based handicrafts;
- To establish convergence and synergy among stake-holders 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 youths.

### Strategies

To achieve the above objectives, the Mission would adopt the following strategies:

- Adopt a coordinated approach covering production and marketing to assure appropriate returns to growers/producers.
- Promote Research and Development (R&D) of varieties and technologies for enhanced production.
- Enhance acreage (in forest and non-forest areas) and productivity of bamboo through varietal change and improved agriculture practice.
- Promote partnership, convergence and synergy among R&D and marketing agencies in public as well as private sectors, at all levels.
- Promote where appropriate, cooperatives and self-help groups to ensure support and adequate returns to farmers.
- Facilitate capacity-building and Human Resource Development.
- Set up National, State and sub-State level structures, to ensure adequate returns for the produce of the farmers and eliminate middlemen, to the extent possible.

States will be required to prepare a Bamboo Development Mission Document (BDMD) projecting a plan of action and the BDMD will form the basis for preparing Annual Action Plans (AAP). The AAP will be area based, premised on existing potential for bamboo development, available infrastructure for implementation and monitoring, available unspent balance out of previous release and capacity to absorb the funds in taking up activities. In non-forest areas, the Committees at the District level will prepare and submit the Annual Action Plan (AAP) to the Bamboo Development Agency (BDA), which in turn will submit the same to State Level Steering Committee. In forest areas, the Annual Action Plan will be prepared by Joint Forest Management Committee

(JFMC) and submitted to Forest Development Agency, which in turn, will submit it to the State Level Steering Committee for finalization. AAP approved by the SLSC will be considered by the National Steering Committee. Attempt would be made in the AAP to address all the issues relating to bamboo development covering production, post-harvest storage and treatment, handicraft and marketing.

### **7. Macro Management of Agriculture Scheme (MMA)**

<http://macrormgmt.dacnet.nic.in/>

This scheme was formulated with a view to ensure that Central Assistance is spent on focused and specific interventions for development of agriculture as per priorities identified by the States. The scheme became operational in 2000-01 in all the States and UTs. The Scheme provides sufficient flexibility to the States to develop and pursue their programmes on the basis of regional priorities mainly focused around development of rice, wheat, sugarcane and coarse cereals, through appropriate mix of measures aimed at enhancing soil health, supply of quality seeds and other inputs and promotion of agricultural mechanization. The Scheme also lays special emphasis on Natural Resource Management through watershed development and management approach.

In year 2008-09, Macro Management of Agriculture Scheme was revised. The revised MMA scheme comprises of 10 sub-schemes relating to crop production and natural resource management.

The Revised MMA Scheme attempts to:

- (i) avoid overlap with the activities under the two major initiatives launched during 2007-08, namely, the National Food Security Mission (NFSM) and the Rashtriya Krishi Vikas Yojana (RKVY).
- (ii) revise and rationalize the cost and subsidy norms vis a vis other schemes to bring about uniformity and avoid confusion at the field level.
- (iii) provide an alternative window of funding to the States till RKVY stabilizes fully.
- (iv) make it more relevant to the present agriculture scenario in the States to achieve the basic objective of food security and to improve the livelihood system for rural masses.

## **8. Integrated Scheme of Oilseeds, Pulses, Oil-palm and Maize (ISOPOM)**

In order to provide flexibility to States in implementation, based on a regionally differentiated approach in promoting crop diversification, and to provide focused approach to programmes, Centrally Sponsored Scheme of Integrated Scheme of Oilseeds, Pulses, Oil-palm and Maize (ISOPOM) is being implemented since 1.4.2004.

The scheme is being implemented in 14 major States for Oilseeds and Pulses, 15 States for Maize and 9 states for Oil Palm. ISOPOM is being implemented by State Governments through their departments of Agriculture, Indian Council of Agricultural Research (ICAR), National Seeds Corporation (NSC), State Farms Corporation of India (SFCI), Krishak Bharati Cooperative Ltd. (KRIBHCO), National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) and Indian Farmers Fertiliser Co-operative Limited (IFFCO).

Under the scheme, assistance is provided for purchase of breeder seed, production of foundation seed, production and distribution of certified seed, distribution of seed minikits, distribution of plant protection equipments, weedicides, supply of rhizobium culture/ phosphate solubilising bacteria, supply of improved farm implements, micro-nutrients, distribution of gypsum /pyrite /liming /dolomite, distribution of sprinkler sets and water carrying pipes, publicity etc. to encourage farmers to grow oilseeds, pulses and maize on a large scale. In order to disseminate information on improved production technologies among the farmers, block demonstrations and Integrated Pest Management (IPM) demonstrations are organized through State Department of Agriculture and Frontline demonstrations through ICAR.

## **9. National Project on Organic Farming**

National Project on Organic Farming is being implemented since October 2004 through a National Center of Organic Farming at Ghaziabad and six Regional Centres located at Bangalore, Bhubaneswar, Hissar, Imphal, Jabalpur, and Nagpur. The project supports organic input production infrastructure, technical capacity building of stake holders, human resource development through training, statutory quality control of organic inputs, technology development and dissemination, market development and awareness.

The revised scheme on 'National Project on Organic Farming' is effective from 2010-11, with the following revised mandates :

(a) Promotion of organic farming in the country through technical capacity building of all stake holders which include Human Resource Development,



technology development, transfer of technology, promotion and production of quality organic and biological inputs, awareness creation and publicity through print and electronic media.

(b) Statutory quality control of biofertilisers and organic fertilizers under Fertilizers Control Order (FCO), 1985, which include revision of standards and testing protocols keeping in view the advances in research and technology and bringing remaining inputs under quality control regime.

(c) Capacity building for soil health assessment, organic inputs resource management and market development

#### **10. National Agricultural Insurance Scheme (NAIS)**

A Central Sector Scheme, namely, National Agricultural Insurance Scheme (NAIS) is being implemented since Rabi 1999-2000, as part of risk management in agriculture with intention of providing financial support to farmers in the event of failure of crops due to natural calamities, pests and diseases. The scheme is optional for States/UTs at present. It is being implemented by 25 States and 2 Union Territories.

No State-wise allocation of funds is made under this scheme because it is demand driven. Funds are released to Implementing Agency, which in turn settles admissible claims of farmers as per provisions of scheme. Progress of scheme is measured in terms of farmers/area covered, sum insured, premium collected, claims paid and farmers benefited.

NAIS has been modified and approved for implementation on pilot basis in 50 districts from Rabi 2010-11 season for a period of two years.

Objectives of the modified NAIS are:

- i) To provide insurance coverage and financial support to the farmers in the event of prevented sowing & failure of any of the notified crop as a result of natural calamities, pests & diseases.
- ii) To encourage the farmers to adopt progressive farming practices, high value in-puts and better technology in Agriculture.
- iii) To help stabilize farm incomes, particularly in disaster years.

Major improvements made in the modified NAIS are -

- actuarial premium with subsidy to farmers ranging 40% to 75% depending upon the slabs,
- all claims liability would be on the insurer,
- Unit area of insurance reduced to village panchayat level for major crops,

- coverage for prevented sowing/ planting risk & post harvest losses due to cyclone,
- on account payment up to 25% of likely claims as immediate relief,
- more proficient basis for calculation of threshold yield,
- minimum indemnity level of 70% instead of 60% and
- inclusion of private insurers

### **11. Pilot Weather Based Crop Insurance Scheme (WBCIS)**

To bring more farmers under the fold of Crop Insurance a Pilot Weather Based Crop Insurance Scheme (WBCIS) as announced in the Union Budget 2007 in selected areas on pilot basis was introduced.

WBCIS is intended to provide insurance protection to farmers against adverse weather incidence, such as deficit/excess rainfall, low/high temperature, frost etc. which are deemed to impact adversely the crop production. It has the advantages of minimizing moral hazards; lowering of administrative costs; speedy settlement of claims etc. It has the advantage to settle the claims within shortest possible time.

The WBCIS is based on actuarial rates of premium but to make the scheme attractive, premium actually charged from farmers have been restricted to at par with NAIS. The difference between actuarial rates and premium actually paid by farmers are borne by the Government (both Centre and State concerned on 50:50 basis). Besides this a cap on premium payable by farmers for annual commercial /horticultural crops has been provided. Further, to provide competitive service to the farmers, private insurance companies i.e. ICICI-Lombard, IFFCO-TOKIO and M.S Cholamandalam General Insurance Companies have also been involved for implementation besides Agriculture Insurance Company of India (AIC).

Pilot WBCIS is being implemented since Kharif 2007 on pilot basis. During last nine crop seasons (i.e. from Kharif 2007 to Kharif 2011), 195.61 lakh farmers have been covered for an area of 278.67 lakh hectares insuring total sum amounting to ` 31072.25 crore. Claims of ` 972.21 crore have been paid against premium income of ` 2884 crore compensating 61.60 lakhs farmers for losses suffered as on 31.12.2011

### **12. National Mission on Agricultural Mechanization (NMAM)**

As an integral part of the strategy to promote agricultural mechanization and technology for enhancement of agricultural production and productivity, it is envisaged to have one integrated National Mission on Agricultural Mechanisation (NMAM) which would aim at catalyzing an accelerated but inclusive growth of agricultural mechanization in India. NMAM puts 'Small and Marginal Farmers' at the core of interventions with a special emphasis on 'reaching the unreached', that is, bringing farm mechanization to those villages where the technologies deployed are decades old. Besides, the Mission also proposes to cater to 'adverse economies of scale' by promoting 'custom hiring services' through 'rural entrepreneurship' model. Mission will provide a suitable platform for converging all activities related to agricultural mechanization by providing a 'single window' approach for implementation.

### **13. National e-Governance Plan in Agriculture (NeGP-A)**

The Mission Mode Project has been introduced during last phase of the 11th plan to achieve rapid development of agriculture in India through use of Information and Communication Technology (ICT) for ensuring timely access to agriculture related information for the farmers. There are a number of current Information Technology initiatives/schemes undertaken or implemented by Department of Agriculture and Co-operation which are aimed at providing information to the farmers on various activities in the agriculture value chain. Such information is intended to be provided to farmers through multiple channels including Common Service Centers, Internet Kiosks and SMSs.

12 clusters of services have been identified and the project has been sanctioned for implementation in 7 States i.e. Assam, Himachal Pradesh, Karnataka, Jharkhand, Kerala, Madhya Pradesh and Maharashtra.

The services include information on pesticides, fertilizers & seeds, soil health, Information on crops, farm machinery, training and Good Agricultural Practices (GAPs), weather advisories, information on prices, arrivals, procurement points, and providing interaction platform; electronic certification for exports & imports; information on marketing infrastructure; monitoring implementation / evaluation of schemes & programmes; information on fishery inputs; information on irrigation infrastructure; drought relief and management; livestock management.

#### **Strengthening/ Promoting Agricultural Information System:**

The scheme envisages to promote e-Governance in Agriculture at the Centre and to provide support to States/UTs. Scheme consists of following components:

- IT apparatus at DAC Headquarters, field offices and Directorates
- Development of Agricultural Informatics and Communication;

- Strengthening of IT Apparatus in Agriculture and Cooperation in the States and Union Territories (AGRISNET)
- Kisan Call Centers.

### **Foreign Direct Investment (FDI) in Agriculture**

The Government has put in place a policy framework on Foreign Direct Investment, which is transparent, predictable and easily comprehensible. This framework is embodied in the Circular on Consolidated FDI Policy, which may be updated every year, to capture and keep pace with the regulatory changes, effected in the interregnum. The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce & Industry, Government of India makes policy pronouncements on FDI through Press Notes/ Press Releases which are notified by the Reserve Bank of India as amendments to the Foreign Exchange Management (Transfer or Issue of Security by Persons Resident Outside India) Regulations, 2000 (notification No.FEMA 20/2000-RB dated May 3, 2000). These notifications take effect from the date of issue of Press Notes/ Press Releases, unless specified otherwise therein. In case of any conflict, the relevant FEMA Notification will prevail. The procedural instructions are issued by the Reserve Bank of India vide A.P. Dir. (series) Circulars. The regulatory framework, over a period of time, thus, consists of Acts, Regulations, Press Notes, Press Releases, Clarifications, etc.

The consolidated Foreign Direct Investment (FDI) Policy effective from 10<sup>th</sup> April 2012, issued by Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Government of India, subsumes and supersedes all Press Notes/Press Releases/Clarifications/ Circulars issued by DIPP, which were in force as on April 09, 2012, and reflects the FDI Policy as on April 10, 2012.

### **Permissible FDI**

100% Automatic route FDI is permitted in the following areas of Agriculture and Animal Husbandry:

- a) Floriculture, Horticulture, Apiculture and Cultivation of Vegetables & Mushrooms *under controlled conditions*;
- b) Development and production of Seeds and planting material;
- c) Animal Husbandry (including breeding of dogs), Pisciculture, Aquaculture, under controlled conditions; and
- d) services related to agro and allied sectors

Note: Besides the above, FDI is not allowed in any other agricultural sector/activity.

Conditions:

I. For companies dealing with development of transgenic seeds/vegetables, the following conditions apply:

- (i) When dealing with genetically modified seeds or planting material the company shall comply with safety requirements in accordance with laws enacted under the Environment (Protection) Act on the genetically modified organisms.
- (ii) Any import of genetically modified materials if required shall be subject to the conditions laid down vide Notifications issued under Foreign Trade (Development and Regulation) Act, 1992.
- (iii) The company shall comply with any other Law, Regulation or Policy governing genetically modified material in force from time to time.
- (iv) Undertaking of business activities involving the use of genetically engineered cells and material shall be subject to the receipt of approvals from Genetic Engineering Approval Committee (GEAC) and Review Committee on Genetic Manipulation (RCGM).
- (v) Import of materials shall be in accordance with National Seeds Policy.

II. The term “*under controlled conditions*” covers the following:

- Cultivation under controlled conditions’ for the categories of Floriculture, Horticulture, Cultivation of vegetables and Mushrooms is the practice of cultivation wherein rainfall, temperature, solar radiation, air humidity and culture medium are controlled artificially. Control in these parameters may be effected through protected cultivation under green houses, net houses, poly houses or any other improved infrastructure facilities where micro-climatic conditions are regulated anthropogenically.
- In case of Animal Husbandry, scope of the term “*under controlled conditions*” covers –
  - o Rearing of animals under intensive farming systems with stall-feeding. Intensive farming system will require climate systems (ventilation, temperature/humidity management), health care and nutrition, herd registering/pedigree recording, use of machinery, waste management systems.
  - o Poultry breeding farms and hatcheries where micro-climate is controlled through advanced technologies like incubators, ventilation systems etc.

- In the case of pisciculture and aquaculture, scope of the term “*under controlled conditions*” covers –
  - o Aquariums
  - o Hatcheries where eggs are artificially fertilized and fry are hatched and incubated in an enclosed environment with artificial climate control.
- In the case of apiculture, scope of the term “under controlled conditions” covers –
  - o Production of honey by bee-keeping, except in forest/wild, in designated spaces with control of temperatures and climatic factors like humidity and artificial feeding during lean seasons.

### **Impact of Climate Change on Indian Agriculture**

Climate change has become an important area of concern for India to ensure food and nutritional security for growing population. The impacts of climate change are global, but countries like India are more vulnerable in view of the high population depending on agriculture. Since agriculture makes up roughly 16 percent of India’s GDP, a 4.5 to 9% negative impact on production implies a cost of climate change to be roughly up to 1.5 percent of GDP per year.

The Government of India has accorded high priority on research and development to cope with climate change in agriculture sector. The Prime Minister’s National Action Plan on climate change has identified Agriculture as one of the eight national missions.

Indian agriculture, with two-third rainfed area remains vulnerable to various vagaries of monsoon, besides facing occurrence of drought and flood in many parts of the country. Natural calamities such as drought and flood occur frequently in many parts of the country. Climate change will aggravate these risks and may considerably affect food security through direct and indirect effects on crops, soils, livestock, fisheries, and pests. Building climate resilience, therefore, is critical.

Potential adaptation strategies to deal with the adverse impacts of climate change are developing cultivars tolerant to heat, moisture, and salinity stresses; modifying crop management practices; improving water management; adopting new farm practices such as resource-conserving technologies; crop diversification; improving pest management; making available timely weather-based advisories; crop insurance; and harnessing the indigenous technical knowledge of farmers.

The Indian Council of Agricultural Research has initiated a scheme on National Initiative on Climate Resilient Agriculture with an outlay of ` 350 crore for 2010-12. This initiative has been planned as a multi-disciplinary, multi-institutional effort covering crops, livestock, and fisheries and focusing mainly on adaptation and mitigation of climate change in agriculture.

It also has a component for demonstration of climate-coping technologies on farmers' fields in 100 most vulnerable districts. State-of-the-art infrastructure is being set up at key research institutes to undertake frontier research on climate change adaptation and mitigation.

#### National Initiative on Climate Resilient Agriculture (NICRA)

<http://www.nicra-icar.in/nicrarevised/>

Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate variability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants

The project was formally launched by the Hon'ble Union Minister for Agriculture & Food Processing Industries on 2nd February 2011. Most of the activities across India were initiated in full measure during 2011-12.

Objectives of NICRA are:

- To enhance the resilience of Indian agriculture covering crops, livestock and fisheries to climatic variability and climate change through development and application of improved production and risk management technologies
- To demonstrate site specific technology packages on farmers' fields for adapting to current climate risks
- To enhance the capacity building of scientists and other stakeholders in climate resilient agricultural research and its application.

Key Features of NICRA are:

- Critical assessment of different crops/zones in the country for vulnerability to climatic stresses and extreme events, in particular, intra seasonal variability of rainfall

- Installation of the state-of-the-art equipment like flux towers for measurement of green house gases in large field areas to understand the impact of management practices and contribute data on emissions as national responsibility.
- Rapid and large scale screening of crop germplasm including wild relatives for drought and heat tolerance through phenomics platforms for quick identification of promising lines and early development and release of heat/drought tolerant varieties.
- Comprehensive field evaluation of new and emerging approaches of paddy cultivation for their contribution to reduce the GHG emissions and water saving.
- Special attention to livestock and fishery sectors including aquaculture which have not received enough attention in climate change research in the past. In particular, the documentation of adaptive traits in indigenous breeds is the most useful step.
- Thorough understanding of crop-pest/pathogen relationship and emergence of new biotypes due to climate change.
- Simultaneous up-scaling of the outputs both through KVKs and the National Mission on Sustainable Agriculture for wider adoption by the farmers

NICRA Outcome:

Enhanced resilience of agricultural production in vulnerable regions of the country.

Budget (Rs in crores)

<b>Head / Component</b>	<b>2010-11</b>	<b>2011-12</b>	<b>Total</b>
<b>Strategic Research</b>	147	99	246
<b>Technology Demonstration</b>	40	30	70
<b>Capacity Building</b>	3	6	9
<b>Sponsored/Competitive Research Grant</b>	10	15	25
<b>Total</b>	<b>200</b>	<b>150</b>	<b>350</b>



## **Accounting and Auditing in the Agricultural Sector - Role of a Chartered Accountant.**

A chartered accountant can play a vital role in the agricultural and rural development of our country. A chartered accountant is bestowed with highly appreciated qualities of integrity, technical excellence, knowledge, analytical skills and leadership with consistency of purpose.

This professional initiative requires the help of Government by conducting awareness programmes on accounts, audit and taxation matters in rural areas with assistance from ICAI. The Government also has to ensure it does take up necessary measures to encourage the agriculturist for maintenance of accounts and frame the rules in various statutes in this direction.

His Excellency, the then President of India, Dr A.P.J Abdul Kalam in the International Conference held in 2005 under the topic "Chartered Accountants are partners in National Development had rightly pointed out the following key areas where Chartered Accountants can make a difference as partners in nation building. While he did applaud the contribution of ICAI in the manufacturing and services sector, the following areas in the agriculture and rural sector were identified where Chartered Accountants can make a difference.

- "Creation of a productive linkage between the National Rural Employment Guarantee Bill 2005 and the Rural Development Programme.
- Preparation of business plan for the PURA complexes spread in different parts of the country in consultation with the district authorities for execution by local entrepreneurs.
- Training the local talent in basic accountancy practices through village knowledge centres being established in village Panchayats and provide consultancy to the village enterprises.
- Take up the mission of upgrading few SSI units and bring them back to normalcy through a revival package using local entrepreneurs.
- Also, development and implementation of IT based simplified accounting systems for the small entrepreneurs in the rural sectors."

It is time we seriously look back on our contribution to the agricultural sector as a profession.

Listed below are some of the services Chartered Accountants can perform as their contribution towards agricultural accounting and rural development

- Establishing the double entry accounting system in local bodies
- Training local talent on maintenance of proper accounting records
- Assisting in the reparation of financial statements Profit and Loss Account and Balance Sheet
- Examining the accounts, records and documents of village local bodies
- Auditing of Cooperative Credit Societies
- Preparing and Certifying the true and fair view of the financial statements prepared from accounting records prepared according to rules of accountancy and detect frauds and errors
- Auditing of funds spent through various Government Schemes for development of rural in particular agricultural sector keeping the welfare of agriculturist in mind
- Conducting physical verification of various assets created out of Budget allocations by the Government for development of rural sector
- Auditing accounting transactions, records and documents through internal checks and internal controls
- Offering strict checks against collusion and fraud.
- Revision of systems, procedures and methods for internal controls and checks.
- Provide assistance in the set up of computer systems for accounting
- Offering support and assistance in computerising areas such as collection of taxes, disbursement of pensions, maintenance of records of development works/welfare schemes, etc. in the village administration offices and ensuring their internal control checks are in place
- ICAI can conduct training programmes for youth in rural areas offering them introduction to the system of accounting, project preparation, working capital management and also educating them on export opportunities.

It is very clear that ICAI has already envisioned the role Chartered Accountants can play in the agriculture sector in particular and rural development in general. It all depends how we will take it forward and be equipped in offering the requisite services in the rural areas and what model can we as professionals generate that will enable value addition in the business of agriculture and rural development.

## Important Organizations and Websites

### National Bank for Agriculture and Rural Development (NABARD)

[www.nabard.org/](http://www.nabard.org/)

NABARD was established on 12 July 1982 by a special act by the parliament and its main focus was to uplift rural India by increasing the credit flow for elevation of agriculture & rural non farm sector. It has been accredited with "matters concerning policy, planning and operations in the field of credit for agriculture and other economic activities in rural areas in India".

NABARD is set up as an apex Development Bank with a mandate for facilitating credit flow for promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts. It also has the mandate to support all other allied economic activities in rural areas, promote integrated and sustainable rural development and secure prosperity of rural areas.

In discharging its role as a facilitator for rural prosperity NABARD is entrusted with

1. Providing refinance to lending institutions in rural areas
2. Bringing about or promoting institutional development and
3. Evaluating, monitoring and inspecting the client banks

Besides this pivotal role, NABARD also:

- Acts as a coordinator in the operations of rural credit institutions
- Extends assistance to the government, the Reserve Bank of India and other organizations in matters relating to rural development
- Offers training and research facilities for banks, cooperatives and organizations working in the field of rural development
- Helps the state governments in reaching their targets of providing assistance to eligible institutions in agriculture and rural development
- Acts as regulator for cooperative banks and RRBs

**Agricultural and Processed Food Products Export Development Authority (APEDA)**

[www.apeda.gov.in/](http://www.apeda.gov.in/)

The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985. The Act (2 of 1986) came into effect from 13th February, 1986 by a notification issued in the Gazette of India: Extraordinary: Part-II [Sec. 3(ii): 13.2.1986]. The Authority replaced the Processed Food Export Promotion Council (PFEPCC).

In accordance with the Agricultural and Processed Food Products Export Development Authority Act, 1985, (2 of 1986) the following functions have been assigned to the Authority.

- Development of industries relating to the scheduled products for export by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies, participation in enquiry capital through joint ventures and other reliefs and subsidy schemes;
- Registration of persons as exporters of the scheduled products on payment of such fees as may be prescribed;
- Fixing of standards and specifications for the scheduled products for the purpose of exports;
- Carrying out inspection of meat and meat products in slaughter houses, processing plants, storage premises, conveyances or other places where such products are kept or handled for the purpose of ensuring the quality of such products;
- Improving of packaging of the Scheduled products;
- Improving of marketing of the Scheduled products outside India;
- Promotion of export oriented production and development of the Scheduled products;
- Collection of statistics from the owners of factories or establishments engaged in the production, processing, packaging, marketing or export of the scheduled products or from such other persons as may be prescribed on any matter relating to the scheduled products and publication of the statistics so collected or of any portions thereof or extracts therefrom;
- Training in various aspects of the industries connected with the scheduled products;
- Such other matters as may be prescribed.

APEDA is mandated with the responsibility of export promotion and development of the following scheduled products:

- Fruits, Vegetables and their Products.
- Meat and Meat Products.
- Poultry and Poultry Products.
- Dairy Products.
- Confectionery, Biscuits and Bakery Products.
- Honey, Jaggery and Sugar Products.
- Cocoa and its products, chocolates of all kinds.
- Alcoholic and Non-Alcoholic Beverages.
- Cereal and Cereal Products.
- Groundnuts, Peanuts and Walnuts.
- Pickles, Papads and Chutneys.
- Guar Gum.
- Floriculture and Floriculture Products
- Herbal and Medicinal Plants

In addition to this, APEDA has been entrusted with the responsibility to monitor import of sugar.

**National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED)**

<http://www.nafed-india.com/home.asp>

National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) is an apex organization of marketing cooperatives for agricultural produce in India, under Ministry of Agriculture, Government of India. It was founded on 2nd October 1958 to promote the trade of agricultural produce and forest resources across the nation. NAFED is now one of the largest procurement as well as marketing agencies for agricultural products in India. With its headquarters in New Delhi, NAFED has four regional offices at Delhi, Mumbai, Chennai and Kolkata, apart from 28 zonal offices in state capitals and important cities.

In 2008, it established, National Spot Exchange, a Commodities exchange as a joint venture of Financial Technologies (India) Ltd. (FTIL).

Nafed is registered under the Multi State Co-operative Societies Act, 2002. It was setup with the object to promote Co-operative marketing of Agricultural Produce to benefit the farmers. Agricultural farmers are the main members of Nafed, who have the authority to say in the form of members of the General Body in the working of Nafed.

The management of NAFED vests in the Board of Directors, which includes Chairman and Managing Director. The Board is supported by 2 standing committees - Executive Committee and Business Committee. In addition, the Board can also constitute two more committees/sub-committees as per the provision of the MSCS Act/Rules and Bye-laws of NAFED.

The objects of the NAFED shall be to organise, promote and develop marketing, processing and storage of agricultural, horticultural and forest produce, distribution of agricultural machinery, implements and other inputs, undertake inter-State, import and export trade, wholesale or retail as the case may be and to act and assist for technical advice in agricultural production for the promotion and the working of its members and cooperative marketing, processing and supply societies in India.

**Indian Farmers Fertiliser Co-operative Limited (IFFCO)**

<http://www.iffco.coop/>

Indian Farmers Fertiliser Cooperative Limited (IFFCO), is the world's largest fertiliser cooperative federation based in India which is registered as a Multistate Cooperative Society. IFFCO has 40,000 member cooperatives. IFFCO has been ranked#37 in top companies in India in 2011 by Fortune India 500.

IFFCO was registered on November 3, 1967 as a Multi-unit Co-operative Society. On the enactment of the Multistate Co-operative Societies act 1984 & 2002, the Society is deemed to be registered as a Multistate Co-operative Society. The Society is primarily engaged in production and distribution of fertilisers. The byelaws of the Society provide a broad frame work for the activities of IFFCO as a Co-operative Society.

IFFCO's mission is "to enable Indian farmers to prosper through timely supply of reliable, high quality agricultural inputs and services in an environmentally sustainable manner and to undertake other activities to improve their welfare"

IFFCO's objectives can be listed as follows:

- To provide to farmers high quality fertilizers in right time and in adequate quantities with an objective to increase crop productivity.
- To make plants energy efficient and continually review various schemes to conserve energy.
- Commitment to health, safety, environment and forestry development to enrich the quality of community life.
- Commitment to social responsibilities for a strong social fabric.

- To institutionalise core values and create a culture of team building, empowerment and innovation which would help in incremental growth of employees and enable achievement of strategic objectives.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for stake holders.
- Building a value driven organisation with an improved and responsive customer focus. A true commitment to transparency, accountability and integrity in principle and practice.
- To acquire, assimilate and adopt reliable, efficient and cost effective technologies.
- Sourcing raw materials for production of phosphatic fertilisers at economical cost by entering into Joint Ventures outside India.
- To ensure growth in core and non-core sectors.

To achieve its objectives, IFFCO as a cooperative society, undertakes several activities covering a broad spectrum of areas to promote welfare of member cooperatives and farmers. The activities envisaged to be covered are exhaustively defined in IFFCO's Bye-laws.

### **Indian Council of Agricultural Research (ICAR)**

[www.icar.org.in/](http://www.icar.org.in/)

The Indian Council of Agricultural Research (ICAR) is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India. Formerly known as Imperial Council of Agricultural Research, it was established on 16 July 1929 as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture. The ICAR has its headquarters at New Delhi.

The Council is the apex body for co-ordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country. With 97 ICAR institutes and 47 agricultural universities spread across the country this is one of the largest national agricultural systems in the world.

The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the production of foodgrains by 4 times, horticultural crops by 6 times, fish by 9 times (marine 5 times and inland 17 times), milk 6 times and eggs 27 times since 1950-51, thus making a visible impact on the national food and nutritional security. It has

played a major role in promoting excellence in higher education in agriculture. It is engaged in cutting edge areas of science and technology development and its scientists are internationally acknowledged in their fields.

**National Centre for Agricultural Economics and Policy Research (NCAP)**

<http://www.ncap.res.in/>

The National Centre for Agricultural Economics and Policy Research (NCAP), is a premier agricultural economics research institution in India. The Indian Council of Agricultural Research (ICAR) established NCAP in 1991 with a view to strengthen agricultural economics research through integration of economics input in planning, designing, and evaluation of agricultural research programs and enhancing the competence in agricultural policy analysis within the National Agricultural Research System. NCAP undertakes and sponsors research in agricultural economics and policy analysis in technology policy, sustainable agriculture, market and trade, institutional change and growth and modeling in agriculture.

A Management Committee consisting of senior research administrators and other stakeholders representative including the farmers, advise NCAP on research administration relations to Agricultural Economics and Policy Planning in Indian Perspective. A number of other internal committees also facilitate the decentralized management of the activities of NCAP.

The Mandate of NCAP is:

1. Policy oriented research on
  - (a) technology generation, diffusion and impact,
  - (b) sustainable agricultural production systems,
  - (c) interaction between technology and other policy instruments like incentives, investments, institutions, trade, etc.
- 2 Strengthen agricultural economics and policy research and teaching capability in state agricultural universities and ICAR deemed universities
- 3 Enhance ICAR participation in agricultural policy decisions.



## **Food Safety and Standards Authority of India**

<http://www.fssai.gov.in/>

The Food Safety and Standards Authority of India (FSSAI) has been established under Food Safety and Standards Act, 2006 which consolidates various acts & orders that have hitherto handled food related issues in various Ministries and Departments. FSSAI has been created for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.

Highlights of the Food Safety and Standard Act, 2006:

1. Various central Acts like Prevention of Food Adulteration Act, 1954 , Fruit Products Order , 1955, Meat Food Products Order ,1973, Vegetable Oil Products (Control) Order, 1947,Edible Oils Packaging (Regulation)Order 1988, Solvent Extracted Oil, De- Oiled Meal and Edible Flour (Control) Order, 1967, Milk and Milk Products Order, 1992 etc will be repealed after commencement of FSS Act, 2006.
2. The Act also aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi- level, multi- departmental control to a single line of command. To this effect, the Act establishes an independent statutory Authority – the Food Safety and Standards Authority of India with head office at Delhi.
3. Food Safety and Standards Authority of India (FSSAI) and the State Food Safety Authorities shall enforce various provisions of the Act. Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSSAI. The Chairperson and Chief Executive Officer of Food Safety and Standards Authority of India (FSSAI) have already been appointed by Government of India. The Chairperson is in the rank of Secretary to Government of India.

FSSAI has been mandated by the FSS Act, 2006 for performing the following functions:

- Framing of Regulations to lay down the Standards and guidelines in relation to articles of food and specifying appropriate system of enforcing various standards thus notified.

- Laying down mechanisms and guidelines for accreditation of certification bodies engaged in certification of food safety management system for food businesses.
- Laying down procedure and guidelines for accreditation of laboratories and notification of the accredited laboratories.
- To provide scientific advice and technical support to Central Government and State Governments in the matters of framing the policy and rules in areas which have a direct or indirect bearing of food safety and nutrition .
- Collect and collate data regarding food consumption, incidence and prevalence of biological risk, contaminants in food, residues of various, contaminants in foods products, identification of emerging risks and introduction of rapid alert system.
- Creating an information network across the country so that the public, consumers, Panchayats etc receive rapid, reliable and objective information about food safety and issues of concern.
- Provide training programmes for persons who are involved or intend to get involved in food businesses.
- Contribute to the development of international technical standards for food, sanitary and phyto-sanitary standards.
- Promote general awareness about food safety and food standards.

**Agriculture Insurance Company of India Limited (AIC)**

<http://www.aicofindia.org/>

AIC is a Company set up to dispense insurance protection over agriculture and allied activities. AIC was incorporated under Indian Companies Act 1956 on 20th December, 2002 with an authorised share capital of INR 15 billion and paid up Capital of INR 2 billion. AIC commenced business from 1st April, 2003.

Agriculture Insurance Company of India Limited (AIC) has been formed by the Government of India consequent to the announcement by the Hon'ble Union Finance Minister in his General Budget Speech F.Y. 2002-03 that to subserve the needs of farmers better and to move towards a sustainable actuarial regime, it was proposed to set up a new Corporation for Agriculture Insurance

AIC has taken over the implementation of National Agricultural Insurance Scheme (NAIS) which until FY03 was implemented by General Insurance Corporation of India.

## Share Capital

Authorised Share Capital - Rs. 1500 Crores

Paid-up Share Capital - Rs. 200 Crores

## Promoters (Share Holding)

Organisation	Share Holdings (%)
General Insurance Corporation of India	35.00
National Bank for Agriculture And Rural Development (NABARD)	30.00
National Insurance Company Limited	8.75
The New India Assurance Company Limited	8.75
Oriental Insurance Company Limited	8.75
United India Insurance Company Limited	8.75

## Nature of Business

Products relating to: Agriculture, Rural and Allied Activities

Present

- National Agricultural Insurance Scheme
- WBCIS - Weather Based Crop Insurance Scheme
- MNAIS - Modified National Agricultural Insurance Scheme
- Bio - Fuel Tree / Plant Insurance
- Cardamom Plant & Yield Insurance
- Coconut Palm Insurance Scheme (CPIS)
- Potato Crop Insurance
- Pulp Wood Tree Insurance Policy
- Rain Fall Insurance Scheme For Coffee (RISC) - 2011
- Rubber Plantation Insurance
- Varsha Bima / Rain Fall Insurance
- Weather Insurance (RABI)

Future

- Sugarcane Insurance
- Tea Insurance
- Basmati Rice Insurance
- Aromatic & Medicinal plants Insurance
- Contract Farming Insurance



## **Important Websites**

- Links Under Ministry** ➤ [Department of Agriculture and Cooperation \(AGRICOOOP\)](#)  
[Department of Animal Husbandry and Dairying \(AH&D\)](#)  
[Indian Council of Agriculture Research \(ICAR\)](#)  
[Commission for Agriculture Costs and Prices](#)  
[Plant Quarantine Organisation of India](#)  
[National Seeds Corporation limited](#)  
[Agricultural & Processed Food Products Export Development Authority \(APEDA\)](#)  
[National Horticulture Board \(NHB\)](#)  
[National Cooperative Development Corporation \(NCDC\)](#)  
[National Oilseeds and Vegetable Oils Development Board](#)  
[Central Insecticides Board Registration Committee](#)  
[Coconut Development Board](#)
- Links to Other Ministries/Departments** ➤ [Department of Fertilizers](#)  
[Directory of Government of India Websites](#)  
[Department of Food processing Industries](#)  
[Ministry of Consumer Affairs & Public Distribution](#)
- Links to Directorates** ➤ [Directorate of Plant Protection, Quarantine & Storage](#)  
[Directorate of Economics & Statistics](#)
- Links to State Bodies** ➤ [State Agriculture Department/Related Websites](#)
- Links to World Bodies** ➤ [Food and Agriculture Organization of the United Nations \(FAO\)](#)  
[Consultative Group On International Agriculture Research \(CGIAR\)](#)  
[International Rice Research Institute \(IRRI\)](#)

[International Crops Research Institute for the Semi-Arid Tropics \(ICRISAT\)](#)

**Research Organizations**

➤ [Central Coffee Research Institute \(CCRI\)](#)  
[Central Institute of Medicinal and Aromatic Plants \(CIMAP\)](#)  
[Central Sericulture Research and Training Institute, Mysore \(CSRT\)](#)  
[Council for Scientific and Industrial Research \(CSIR\)](#)

- [Central Food Technology Research Institute, Mysore \(CFTR\)](#)
- [Institute of Himalayan Bioresource Technology, Palampur](#)
- [Central Institute for Medicinal and Aromatic Plants, Lucknow](#)
- [Central Institute for Medicinal and Aromatic Plants, Lucknow](#)
- [National Botanical Research Institute, Lucknow](#)
- [National Institute of Oceanography](#)
- [Regional Research Laboratory Thiruvananthapuram](#)
- [Regional Research Laboratory Bhubaneswar](#)

[Indian Agricultural Research Institute \(IARI\) \(AGROSOC\)](#)

[Indian Council of Agricultural Research \(ICAR\)](#)

- [National Institute of Animal Nutrition and Physiology, Bangalore, Karnataka](#)
- [Central Arid Zone Research Institute, Jodhpur, Rajasthan](#)
- [Indian Institute of Pulses Research, Kanpur, Uttar Pradesh](#)
- [Indian Institute of Spices Research, Calicut, Kerala](#)
- [Indian Institute of Sugarcane Research, Lucknow, Uttar Pradesh](#)
- [National Dairy Research Institute, Karnal, Haryana](#)

- [Indian Institute of Vegetable Research, Varanasi, Uttar Pradesh](#)
- [Central Inland Fisheries Research Institute, Barrackpore, West Bengal](#)
- [National Academy of Agricultural Research Management, Hyderabad, Andhra Pradesh](#)
- [Central Avian Research Institute, Izatnagar, Uttar Pradesh](#)
- [Sugarcane Breeding Institute, Coimbatore, Tamil Nadu](#)
- [Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora, Uttaranchal](#)
- [National Institute for Research on Jute & Allied Fibres Technology, West Bengal](#)
- [National Centre for Agril Economics & Policy Research, New Delhi](#)
- [National Research Centre of forestry, Jhansi, Uttar Pradesh](#)
- [Indian Lac Research Institute, Namkum, Ranchi](#)
- [Central Institute of Freshwater Aquaculture, Bhubaneswar, Orissa](#)
- [Central Institute of Fisheries Education, Mumbai, Maharashtra](#)
- [Central Institute of Pest Engineering & Technology, Ludhiana, Punjab](#)
- [Central Marine Fisheries Research Institute, Kochin, Kerala](#)
- [Central Plantation Crops Research Institute, Kasaragod, Kerala](#)
- [Central Research Institute for Dryland Agriculture, Hyderabad, Andhra Pradesh](#)
- [Central Rice Research Institute, Cuttack, Orissa](#)
- [Central Institute of Horticultural Research, Bangalore, Karnataka](#)
- [Central Institute of Fisheries Research, Thiruvananthapuram, Kerala](#)
- [Central Institute of Brackishwater Aquaculture, Chennai, Tamil Nadu](#)
- [ICAR Research Complex For Goa, Elatola, Goa](#)
- [National Research Centre for Oil Palm, Pedavegi,](#)

### Andhra Pradesh

- Central Institgricultural Engineering, Bhopal, Madhya Pradesh It
- National Research Centre on Camel, Bikaner, Rajasthan
- Central Institute for Research on Cotton Technology, Mumbai, Maharashtra
- Central Institute for Research on Goats, Farah, Uttar Pradesh
- Central Institute for Cotton Research, Nagpur, Maharashtra
- Central Sheep & Wool Research Institute, Avikanagar, Rajasthan
- National Bureau of Soil Survey & Land Use Planning, Nagpur, Maharashtra
- National Research Centre for Medicinal & Aromatic Plants, Boriavi, Gujarat
- National Research Centre for Coldwater Fisheries, Bhimtal, Uttaranchal
- National Research Centre for Integrated Pest Management, New Delhi
- National Bureau of Plant & Genetic Resource, New Delhi
- National Bureau of Fish Genetic Resources, Lucknow, Uttar Pradesh
- National Bureau of Animal Genetic Resources, Karnal, Haryana
- National Research Centre for Onion and Garlic, Rajgurunagar, Pune, Maharashtra
- Central Agricultural Research Institute, Port Blair
- Indian Agricultural Statistics Research Institute, New Delhi
- Central Research Institute for Jute and Allied Fiber, Barrackpore, West Bengal
- National Research Centre for Yak, Dirang, Arunachal Pradesh
- National Research Centre for Mushroom, Solan, Himachal Pradesh
- National Research Centre for Groundnut, Junagadh, Gujarat
- National Research Centre on Equines,

Hissar, Haryana

Indian Council of Forestry Research and Education (ICFRE)

- Centre for Social Forestry and Eco-Rehabilitation, Allahabad
- Temperate Forest Research Institute, Shimla
- Arid Forest Research Institute, Jodhpur
- opical Forest Research Institute, Jabalpur
- Institute of Wood Science and Technology, Bangalore
- Institute of Rain and Moist Deciduous Forest Research, Jorhat
- Institute of Forest Productivity, Ranchi
- Forest Research Institute, Dehradun
- Institute of Forest Genetics & Tree Breeding, Coimbatore

Indian Institute of Forest Management (IIFM)

Indian Plywood Industries Research and Training Institute (IPIRTI)

Institute of Forest Genetics and Tree Breeding

Kerala Forest Research Institute (KFRI)

Kerat Research Institute

National Botanical Research Institutcil of Scientific (NBRI)

National Centre for Agricultural Econd Policy Research (NCAP)

National Sugar Institute, Kanpur, Uttar Pradesh (NSI)

Rubber Research Institute of India (RRII)

Tea Research Association, Calcutta (TRA)

- Darjeeling Tea Research and Development



- Center
- Tocklai Tea Research Centre

Uttar Pradesh Forest Department (UPFD)

**Miscellaneous Links**

- Krishi Marata Vahini  
Export Import Bank Of India

**Other Useful Sites**

National Informatics Centre <http://www.nic.in>

Fertiliser Association of India (FAI) <http://www.faidelhi.org>

International Fertiliser Industry Association <http://www.fertilizer.org>

Food and Agricultural Organisation (UN) <http://www.fao.org>

Agri-Portals:

Krishiworld.com <http://www.krishiworld.com>

IKisan.com <http://www.ikisan.com>

Agronet <http://www.indiaagronet.com>

Mahindra Kisan <http://www.mahindrakisanmitra.com>

Agri Watch <http://www.agriwatch.com>

Agribiz India <http://www.agribizindia.com>

Uttam Krishi <http://www.uttamkrishi.com>