Agricultural Development in Orissa

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Orissa is the tenth largest state in area (15.57 mha), which accounts for 5% of the geographical area and 4% of the population (36.8 million as per 2001 census) of the country. The state has 47 agricultural districts encapsulated in 13 agricultural range under 30 revenue districts there are 34 lakh farm families distributed in 6234 gram panchayat and 51,349 villages. The rural areas are dominated with 85% population. Agriculture provides 65% of the total work force belonging to cultivators and agricultural labourers and contributes 26% of the net domestic product of the state. The average size of the holding is 1.30 hectares. Maximum number of farmers are under marginal (<1 ha) category followed by small farmers are low compared to marginal, small and semi-medium category. The percentage of poverty line in Orissa is higher compared to the country. However poverty of the state has been reduced progressively from 70.07% during 1977-78 to 47.15% in the year 1999-2000.

Land and Soil

The state has four physiographic zones i.e.

(i) Coastal plain
(ii) Central table land
(iii) Northern plateau and
(iv) Eastern ghat

Based on soil and climate, it is further divided into ten agro climatic zones namely

(i) North western plateau (ii) North central plateau (iii) North eastern coastal plain (iv) East and south eastern coastal plain (v) North eastern ghat (vi) Eastern ghat highland (vii) South eastern ghat (viii) Western undulating (ix) West central table land (x) Mid central table land

The soils of the state are broadly divided into 8 groups such as (i) Red (ii) Laterite (iii) Mixed red and black (iv) Mixed red and yellow (v) Black (vi) Coastal alluvial (vii) Brown forest and (viii) Coastal saline. Nearly 70% of the soils are acidic and have low to medium in nitrogen and phosphate and medium in potassium. Deficiencies of secondary nutrient like sulphur and of micronutrients like boron and zinc have been recorded in some parts of the state.

The state has a cultivated area of 62 lakh hectares, out of which 27 lakh ha is high land. 19 lakh ha in medium land and 16 lakh ha are lowland.

Climate

The state enjoys subtropical climate characterized by high temperature, high humidity, medium to high rainfall and short and medium winters. The normal rainfall of the state is 1451.2 mm out of which 80% is received within June to
September. Orissa is the most disaster prone state of the country. The state suffers from natural calamities like flood, drought and cyclone occur almost every year. The state experienced three bad years in succession, drought in 1988-89, super cyclone in 1999-2000 and again drought in 2000-2001 which were the main causes of upsetting agricultural economy.

**Crop coverage and crop production**

Foodgrains consist of cereals and pulses. The area under foodgrain production of Orissa over last 7 years almost remains unchanged of 67 lakh hectares. The foodgrain production of 63 lakh tonnes in state during 1999-2000 has increased to 76 lakh tonnes during the year 2004-2005 and likely to increase 82 lakh tonnes by 2005-2006. The productivity of 937 kg/ha of foodgrains has increased to the tune of 1224 kg/ha by the end of this year. Production and productivity of cereals of the state showed higher trend than pulse crops.

Among cereals rice is the principal food crop of Orissa occupying 42 lakh hectares during Kharif and 3 lakh hectares in Rabi. The Kharif paddy includes 8.5 lakh ha of highland, 18 lakh ha of medium land and 15.5 lakh ha of lowland. The entire Rabi rice is irrigated. Entire Rabi and 33.44% of Kharif rice cover the high yielding varities. The productivity of rice is 1.6 t/ha as against national average of 2.1 t/ha. There is a great fluctuation in production and productivity of rice in the state due to abnormalities in weather situation. Maximum rice production of 71.5 lakh tonnes could obtained during 2001-02 was due to favourable and normal weather condition. In other years rice production fluctuated between 32.4 to 69.4 lakh tonnes. Similar to the productivity between the years of 1999-00 to 2001-06 varied from 7.59 to 15.61 q/ha. The year 2002-03 was the most abnormal year for lowering production and productivity.

Coarse cereals like maize and ragi, small millets like bajra and jowar and little millets such as swan, kodo and kangu are grown in tribal districts. There is no appropriate yield increase of these crops because of poor adoption of improved technology. Important pulse crops grown under rice fallow with available residual soil moisture are pigeon pea, green gram, black gram and horse gram. Production and productivity of these crops are not encouraging due to aberrant weather, soil acidity, non-adoption of high yielding varieties and neglect in phosphate application. Attempts are initiated through central sponsored schemes for improving production and productivity.

Major oilseed crops grown in the state are groundnut, sesame, mustard, sunflower, niger and safflower. These crops are normally taken in uplands in Kharif and in river beds and rice fallow during rabi. Except ground nut production and productivity of other oil seeds are not encouraging. Fluctuation in area and production is due to unfavourable weather condition, inadequate use of chemical fertilizers, problem in marketing and non remunerative prices.

Efforts are being taken to increase the productivity through compact area, location specific approach by providing minikits, conducting demonstrations, supply of seed treatment chemicals, Rhizobium culture, gypsum, micronutrients, farm implements at subsidized costs.

Jute, mesta and cotton are at the three important fiber crops grown in the states. Jute is cultivated in coastal districts, mesta is taken in inland districts and cotton is grown in KBK districts. The area of jute and mesta are shrinking due to introduction of polythene and problem in marketing. Since 2001-02 attempts are for improvement of these crops through central
sponsored schemes. Area production and productivity of cotton is now stepping ahead due to provision of technical assistances and marketing facilities.

Cultivation of sugarcane in the state is gaining popularity due to establishment of seven sugar industries at various location. Area, production and productivity of sugarcane are increasing progressively due to availability of quality seeds and availability of technical skill among the farmers.

**Seed**

Use of quality seed alone will increase the productivity by 15%. Emphasis has been given on replacement of certified and high yielding seed on mass basis. Seed multiplication is organized through Orissa State Seed Corporation and registered Seed growers. The state is now self sufficient to meet the demand of certified paddy seed. Distribution of certified paddy seed and non paddy seed to the farmers has raised to the level of 1,54,873 qt and 69,483 q respectively by the current year. However the maximum amount of total seed (3.29,760 q) had been distributed during the year 2001-02.

**Irrigation**

Irrigation potentials created from all sources in the state is 39.31 lakh ha. having the gross irrigated crop area of 27 lakh ha which is 41% of cultivable area and 68% of potential created. Out of 62 lakh ha of cultivable land, the area under irrigation were 18.5 lakh ha in Kharif and 8.5 lakh ha in Rabi.

**Fertilizer**

Fertilizer, a key input liar agriculture contributes 10-15% of productivity of different crops. Nitrogen, Phosphate and potash are the three main nutrients used by the farmers. Compared to other slates consumption of fertilizer in Orissa is not encouraging. However, there is a progressive increase in fertilizer consumption over the years. Total fertilizer consumption in state during 1991-92 of 196.03 thousand tones showed an increase of 355.30 thousand tones during 2004-05. By the same time fertilizer applied 19.96 kg/ha during 1991-92 has been increased to 43.0 kg /ha during 2004-05. District wise, there is great fluctuation in fertilizer consumption. Maximum consumption 106 kg/ha was recorded in district Balasore. Whereas at the same time, minimum consumption of 3 kg/ha had been reported in district Kondhamal.

Groundnut farmers usually apply gypsum @ 2.5 q/ha which increased groundnut yield by 10-15 per cent. The use of micronutrient fertilizers like zinc sulphate and borax is increased in intensive rice and vegetable growing areas of the state.

**Plant Protection**

Adoption integrated pest management (IPM) has been given due thurst for increasing crop productivity. Seed treatment, crop sanitation, use of bio-control agent and conservation of beneficial insect and pathogens are the components of IPM. The concept of IPM emphasizes conservation and augmentation of natural enemies of pest such as parasite, predator and pathogens for control of harmful insects and diseases of crop. There are seven bio-control laboratory in the state including one from Government of India, those rear, multiply and supply adopted parasite and pathogens to the farmers.

**Farm Mechanization**

Farm mechanization pay an important role for timely operation of agricultural activities far increasing production and productivity. There is
a good trend in the use of tractor, power tiller and sprinkler by the farmers. There is an increase in sale of tractor from 143 to 900 nos and power tiller from 783 to 2100 nos. from the year 1999-2000 to 2005-06.

**Farm Credit**

Processing of inputs by the farmers is augmented through farm credit. Field staff of Director of Agriculture help the farmer in supplying forms and creating awareness for easy availability of loans from banks.

**Horticultural Programme**

National Horticultural Mission (NHM) has been initiated in Orissa science 2005-06 under the Directorate of Horticulture with the following objectives:

(i) Doubling of horticultural products to prevent their import and rather attempt to export.

(ii) Creation of market facilities for horticultural products.

(iii) Transformation of technology at the door steps of farmers.

(iv) Improvement of cashew cultivation.

(v) Encouraging private sectors to adopt horticulture as profession.

(vi) Emphasis in production of organic vegetables.

(vii) Establishment of adequate numbers of cold storages to prevent damage of horticultural Products.

As per the mandate, plantation of high yielding genotypes of mango, cashew and banana had been taken up. Cashew orchards of 130 ha have been rejuvenated. Targeted area on floriculture for rose, tuberose and gladiolas has been achieved. Training on improved horticultural technologies to the farmers, both inside and outside have been imparted as per target. District level exhibitions and shows for horticultural products have been conducted. Programme on cultivation of ginger, and turmeric for 3200ha and medicinal gardens have been initiated. Proposal for establishment of button mushroom units, cold storage biotechnology laboratories and plant health care units are under active operation. Development of rural marketing and establishment of new wholesale horticultural market at Bhubaneswar, Sambalpur and Berhampur are under consideration.

**Watershed Development**

Watershed is a geo-hydrological unit wherein the water drains into a common point. Watershed management aims at:

(i) Harmonious development and management of soil and water resources within the natural boundary of the watershed;

(ii) To develop and produce sustainable crops, vegetations, livestock etc for equitable sharing of benefits among the communities living within the watershed;

(iii) Harnessing and conserving land and water through sustainable natural resources and

(iv) Restoration of ecological balance.

Watershed development programme currently are implemented through centrally sponsored schemes such as:

(i) Drought Prone Area Programme (DPAP)

(ii) Integrated wasteland Development programme (IWDP)

(iii) National watershed Development Programme for Rainfed Area (NWDPRA)
(iv) River valley projects (RVP)

(v) Rural livelihood Tribal Area Project for KBK Districts (RLTAP for KBK, Dists) and

(vi) Western Orissa Rural Livelihood Project (WORLP)

All the above mentioned watershed projects work under the Orissa Watershed Development Mission (OWDM) in 8 KBK districts and 22 non-KBK districts.

The activities of the watershed projects are as follows:

(i) **Drought Prone Area Programme (DPAP)**

This Project is operating in 47 blocks of 8 districts such as Bolangir, Sonepur, Kalahandi, Nuapada, Baragarh, Boudha, Dhenkanal and Khandhamal. This watershed covers 1145 micro watershed projects covering 58130 ha out of which 17,426 ha have been treated during 2004-05. During 2001-06, 30,000 ha has to be treated.

(ii) **Integrated wasteland Development Programme (IWDP)**

This programme is being implemented in 23 districts except Puri, Jagaisinghpur, Bhadrak, Kendrapara, Boudha, Kandhanmal and Nuapara. There are 822 micro watershed projects covering 436130 ha. During 2004-05, 1800 ha in 500 watersheds have been treated by utilizing an amount of Rs.1,253 lakh. There is a programme for treatment of 35,000 ha during 2005-6.

(iii) **National Watershed Development Project for Rainfed Area (NWDPRA)**

This programme is implemented as a component of central sponsored project for micromanagement of agriculture. There are 212 micro watersheds of which 59 are in KBK districts with an area of 33,315 ha and 153 watershed are in non-KBK districts with an area of 104,929 ha for treatment. The broad objective of this project is for management of agricultural productivity and production of biomass on sustainable basis and restoration of ecological balances in rainfed areas through watershed approach. This project will continue during 2005-06 with treatment of 5555 ha,

(iv) **River Valley Project**

This project aims at treating degraded catchment areas of multipurpose interest at reservoirs with appropriate soil and water conservation measuring to check silt flow into reservoir and to enhance the productivity of degraded land. This project is working in four catchment of Hirakud, Rengali Nandira, Machakunda-Silem and upper Kolab. The catchment of upper Indravati is proposed to included in this project. The project is implemented in 11 micro watershed covering an area of 18571 ha.

(v) **Rural Livelihood tribal Area Projects for KBK District (RLTP for KBK Districts)**

Under this project central assistance is made available for implementation of 314 micro watersheds of a total area of 167616 ha. This project includes the districts Koraput (84), Rayagada (66), Nabarangpur (60), Malkangiri (42), Bolangir (20), Sonepur (8), Kalahandi (16) and Nuapada (10). During 2004-05 and 2005-06, areas of 12,747 ha and 32,200 ha have been taken up for the treatment in the above mentioned districts.

(vi) **Western Orissa Rural Livelihood Project (WORLP)**

This project lunched since 2000-01 will cover 4 project districts such as Bolangir.
Nuapada, Kalahandi and Bargarh for 10 years. The project includes 290 micro watersheds of 150,766 ha of land. The project aims to promote sustainable livelihood for the poorest of the project area.

All the above six number of Watershed Development Projects implemented in the state with 2795 numbers of micro watersheds with a total area of 14,92,627 ha., out of which 54,6754 ha have been treated.

Special Packages for Farmers

The Hon'ble Chief Minister, Orissa has announced the following special packages on 15th August, 2006, the 60th Independence Day of the country.

1. By 2008-2009 each Grampanchayat will have a sale's centre of seeds for purchase.
2. By the said time, under the plan of seed village, production of paddy and non-paddy seeds will increase amounting to 5 qts.
3. Seeds, fertilizers and agricultural implements will he sold through the highest committee of "Pani Panchayat"
4. Soil testing programme will be carried out in each block and soil health cards to farmers
5. Fifty percent discount will he allowed to the farmers of each block on preparation of compost as well as vermicompost
6. Farmers of each block will be deputed to the training institute of both inside and outside Orissa within four years to learn new technology
7. An advanced farmer from each GP will he awarded as "Farmer Friend" within coming three years
8. Within coming three years, saplings of mango, cashew and banana will he planted in 50,25 and 5 thousand hectares respectively availing 75% subsidy in each district
9. Provision will be created for drip and sprinkler irrigation for orchard crops at 50% subsidy in each district
10. Saplings of papaya, mango and lime will he made free distribution to the desired educational institutes alongwith 2.5 lakh farm families
11. Creation of 5000 onion preservation centers in districts of Bolangir, Kalahandi, Nuapada and Dhenkanal with 50% subsidy upto maximum of Rs.8000/-
12. Cultivation of marigold, tuberose, glabioli and rose will be encouraged with availing subsidy of 50% for small farmers and of 33% for large farmers
13. Beetlevine farmers of districts of Balesore, Bhadrak, Jagatsinghpur, Cuttack and Puri will be allowed subsidy upto Rs.10,000 for establishment of new mounts of beetlevine
14. Three large wholesale markets for marketing for horticultural products will be opened at Cuttack, Sambalpur and Berhampur village markets in 19 districts will be modernize for marketing of horticultural product
15. Contact farming facilities will he provided to the farmers at right price on crops of sugarcane, cotton and maize
16. Agricultural economic zone will he created in district Kandhamal for cultivation of ginger and turmeric
17. Discount on digging of fifty thousand new borewell and tubewell will he given to farmers by 2008-09
18. Digging of ten thousand farm ponds at 50% subsidy will be available to farmers below poverty line in districts of Bolangir, Sonepur, Boudh, Kalahandi, Nuapada Dhenkanal, Kandhamal and Bargarh. In respect of farmers belonging to scheduled caste and scheduled tribe the subsidy will be raised to 100%.

19. Irrigation facilities up to 35% of agricultural land in each block will be provided within coming 5 years.

20. "Kisan Credit Cards" will be given to all efficient farmers with coming years.

21. Agricultural loan for Pisciculture will be provided to fish farmers for intensification of fish farming.

22. Aquashops will be created in each block for supply of fingerlings and other essential fish-related materials. In this regard, eagered entrepreneurs will avail 25% subsidy.

23. Laboratories will be set up in each district for identification of animal disease and supply of preventive vaccines.

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His Excellency the Governor Shri Murlidhar Chandrakant Bhandare giving prizes at the 15th Festival of Disadvantaged and differently able Children of Sahaya at Saheed Bhavan Cuttack on 17.12.07.