Agriculture of Goa

Salient Features of Indian/Goa Agriculture

1. ***Subsistence Agriculture:*** Most parts of India have subsistence agriculture. This type of agriculture has been practised in India for several hundreds of years and still prevails in a larger part of India in spite of the large scale change in agricultural practices after independence.
2. ***Pressure of population on Agriculture***: Despite increase in urbanization and industrialization, about 70% of population is still directly or indirectly dependent on agriculture.
3. ***Mechanization of farming:*** Green Revolution took place in India in the late sixties and early seventies. After more than forty years of Green Revolution and revolution in agricultural machinery and equipments, complete mechanization is still a distant dream
4. ***Dependence upon monsoon:*** Since independence, there has been a rapid expansion of irrigation infrastructure. Despite the large scale expansion, only about one third of total cropped area is irrigated today. As a consequence, two third of cropped areas is still dependent upon monsoon. Monsoon in India is uncertain and unreliable. This has become even more unreliable due to change in climate.
5. ***Variety of crops:*** India has diversity of topography, climate and soil. Since India has both tropical and temperate climate, crops of both the climate are found in India. There are very few countries in the world that have variety comparable to that of India..
6. ***Predominance of food crops:*** Since Indian agriculture has to feed a large population, production of food crops is the first priority of the farmers almost everywhere in the country. However, in recent years, there has been a decline in the share of land used for food crops due to various other commercially most advantageous uses of this land.
7. ***Seasonal patterns:*** India has three distinct agricultural/cropping seasons. You might have heard about kharif, rabi and zaid. In India there are specific crops grown in these three seasons. For example rice is a kharif crop whereas wheat is a rabi crop.

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Agriculture in Goa

Important Crop of Goa

- ***Fruits:*** Mango, Cashew, Coconut, Banana, Pineapple, Jackfruit, Arecanut etc.
- ***Field crops:*** Paddy, Ragi, Sugarcane, Groundnut, Cowpea etc.
- ***Vegetables:*** Brinjal, Bhendi , Chillies, Cucumber, Pumkin, Gourds, Musk Melons, Red amaranthus, Raddish, Knol-Khol, Cabbage, Bottle gourd, Long beans, Cluster beans etc.
- ***Flowers:*** Jasmine, Crossandra, Dahlia, Hibiscus, Marigold, Orchids, Gerbera, Anthuriums, Gladiolus, etc.
- ***Spices***: Black Pepper, Nutmeg, Kokum, Turmeric, Cinnamon, etc.
- ***Tubers:*** Colocasia, Yam, Elephant foot, Dioscorea, Sweet Potato, etc

- Goa being a small state is dependent on its neighboring states for milk, poultry and vegetables.
- Rice that is cultivated in the rains from June to September is the major crop followed by cereals like pulses and small millets.
- The areca nut, coconut, cashew are the other major plantation crops here and the garden crops include pineapple, mango, bananas and jackfruits. Also from the forest various types of barks and bamboo canes are harvested.
- However even though one fourth of the population is sustained by agriculture in Goa, it contributes to only 15 to 16 percent to the income of the state.
- Due to rapid urbanization the availability of agricultural land is reducing.
- Also as 78 percent of the agricultural area is still rain fed, irrigation is insufficient and commercial farming is ruled out as 80 percent of land holdings are below 2 hectares and the sizes of the fields are small.
- For high - quality planting material, nurseries and tissue - cultural laboratories are being promoted by the government.
- At Assonara, the Sagar Caju nursery is amongst the biggest in Asia. To recharge the groundwater table and to harvest rainwater, simple watershed techniques are being used.

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- The coastline of Goa is also rich in fishery resources where the local fishermen usually catch a variety of fish such as sharks, mackerels, sardines, seer fish, silver belly, pomfrets, butter fish, prawns, crabs and squids. Sometimes one can also see a lot of bamboo poles that jut out of the water.
- These actually have fishing nets below the water line and when the water recedes through the net during the low tide, the fish are trapped.

Major Crop of Goa

Rice Crops

- Rice is the staple food crop of the region as rice-fish curry being the main diet of the majority of the population.
- Further, rice is a part of the cultural heritage of the region by all the different religions of the society.
- Rice is being used in all the functions right from birth day parties, marriages to death ceremonies.
- The Christian community also celebrates harvest season of rice through churches.
- Rice is the most important food crop of India. It is predominantly a Kharif or summer crop.
- It covers about one third of total cultivated area of the country and provides food to more than half of the Indian population.
- Maximum population of India is of rice consumers.

1. ***Temperature:*** Rice requires hot and humid conditions. The temperature should be fairly high i.e. 24°C mean monthly temperature with average temperature of 22°C to 32°C.
2. ***Rainfall:*** Rainfall ranging between 150-300 cm is suitable for its growth in areas of Punjab, Haryana and Western Uttar Pradesh where rainfall is less than 100 cm, rice is cultivated with the help of irrigation.
3. ***Soil:*** Rice is grown in varied soil conditions but deep clayey and loamy soil provides the ideal conditions. Rice is primarily grown in plain areas. It is also grown below

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sea level at Kuttinad (Kerala), hill terraces of north eastern part of India and valleys of Kashmir.

Coconut Palm and Cashew in Goa

- The coconut palm and the cashew fruit hold a very significant place in the heart of every Goan.
- They are grown extensively as major crops especially for the sap or juice from which Goa' famous drink called Maddi or Feni is produced.
- The significance of the coconut palm is very huge, every part of the tree is used for some or the other purpose e.g husks provide coir for manufacture of various handicrafts like ropes, mats etc.
- This coir is also used in manufacture of fishing nets, which is a source of livelihood of many people in Goa.
- The kopra is important in the perspective that it is a source of cooking oil, cosmetic and industrial products.
- Its fronds are used for making baskets and thatching for roofs.
- The nut is the most important product, which serves as a cooking ingredient.
- The milk extracted from the white kernel, boiled and strained is an important ingredient in the famous Goan fish curry.
- The coconut, when tender, has refreshing water within its shell which is highly nutritive and delicious.
- The juice from the palm is fermented and serves as "Toddy" or Maddi in many tavernas in Goa & It is also exported abroad.
- Coconut production boosts the Goan economy in a large way and is grown extensively, i.e more than 100 millions.
- There is quite a lot of effort involved into growing palms as the crop requires the right amount of fertilizers and a lot of attention to prevent any spoilage.
- The demand for palm feni is quite heavy and it is for this reason, that toddy from the palm is extracted.

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- Unfermented toddy is very sweet and nourishing drink. Strained and boiled to crystallizing point, it produces palm jaggery, an important brown coarse form of sugar, used in making Goan sweet delicacies.
- The first fermentation of the toddy produces "urrak" which is quite popular in Goan tavernas while the second distillation produces the most sought after Palm Feni which is pure & quite high in alcohol content, highly ranked amongst the highest spirits.
- Both the Cashew and the Coconut are important in their own way but during the monsoon, coconut extraction from the palm comes to a still mostly due to the wind and slippery moss growing on the tree bark.
- Tapping is deemed to be beneficial in a way that it helps in refining of the palm tree.
- Overall, the coconut palm is rightly known as the Kalpavriksha or the "all giving" due to its multi benefits.
- The significance of the cashew to the Goan economy is equivalent to that of the coconut palm.
- It is the most sought after commercial crop and is widely grown especially for its nuts and juice whether natural or fermented to produce feni.

Ragi in Goa

- In Konkan and Goa ragi is very popular and satva, pole (dosa), bhakri, ambil (a sour porridge), Pappad are very common preparations. Nachani Ladus are common in some families.
- Finger millet is a short-day plant with a growing optimum twelve hours of daylight for most varieties. Its main growing area ranges from 20° N to 20° S, meaning mainly the semiarid to arid tropics.
- It is generally considered as a drought tolerant crop. But compared with other millets, such as pearl millet and sorghum it preferes moderate rainfall (≥500 mm annually).
- The majority of worldwide finger millet farmers grow it rainfed, although yields often can be significantly improved when irrigation is applied.
- In India, finger millet is a typical rabi crop.
- Heat tolerance of finger millet is high.

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