Outline of Agricultural Geography

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OUTLINE OF AGRICULTURAL GEOGRAPHY

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INTRODUCTION:

Human civilization began to grow with agriculture, adventure & sports, exploration and entertainment. People relied on hunting and gathering to obtain food supplies. When our nomadic ancestors began to settle and grow their own food, human society got changed forever. In the entire human history, agriculture played a very vital role in the economy of all nations. Around ten to twelve thousand years ago, human beings began to domesticate plants and animals for food. The beginnings of agriculture did not just occur in one place but appeared almost simultaneously all over the world. It happened possibly through trial and error methods with different plants and animals or by long term experimentation.
Agriculture is a major science and farming is an art. It is the production of foods and grains through farming. All of us know that farmers spend their whole day in the agricultural fields looking and nurturing the fields. Agriculture is a vital source of income for every nation that exists on this globe. About 45% of the world's population makes their living through agriculture. Agriculture in India has a long history. It dates back several centuries. Indian agriculture began by 9000 BCE as a result of early cultivation of plants, and domestication of crops and animals.

Today, India ranks second worldwide in farm output. India has made impressive strides on the agricultural front during the last six decades. Much of the credit for this success should go to the several million small farming families that form the backbone of Indian agriculture and economy. India is basically an agricultural country. About 62% of its population is engaged in agricultural activities.
On the one hand, agriculture provides food security to the people and on the other hand it provides raw materials to various agro-based industries.
India has been divided into many agro-climatic regions on the basis of geographical features and agricultural practices employed.

India has a high population pressure on land and other resources to meet its food, and raw material requirement. The natural resource base of land, water availability and bio-diversity are all under severe pressure. The massive increase in population and substantial growth in income, demand an extra foodgrains of about 2.5 mt annually. In addition, there is also a significant demand to increase the supply of livestock, fish and horticultural products. Agriculture sector is a vital sector for the food and nutritional security of any nation. Similarly, irrigation which was originally developed since the Indus Valley Civilization by around 4500 BC, has helped the Indian agriculture to be the best in the world and is fully recognized and respected.

Agriculture is a vast science and spread across different parts of the world. Agricultural production is not uniformly distributed. It depends on various factors which also vary from place to place and from one geographic zone to the other. It is under these contexts the subject of Agricultural Geography came in.
It is an inter-disciplinary branch of geography that deals with the areas of land cultivation and the effect of such cultivation on the physical landscape. Agricultural Geography is the study of spatial patterns in agricultural activity. The major themes include variations in agricultural activity within the main biomes, the delimitation of agricultural regions, the study of agriculture as a system, and the classification of agricultural systems. There are so many aspects included in agriculture as intensive/extensive; commercial/ subsistence; shifting/sedentary and pastoral/arable/mixed. Agricultural Geography is a vast subject covering a very wide range of topics. These topics are very interesting to every citizen of a

country when studied with strong desire to develop the nation. Some agricultural geographers are concerned with the way in which agricultural systems change with levels of development.

In this episode, the following aspects are highlighted:

- Origin of agriculture:
- Physical factors and agriculture
- Socio economic factors and agriculture:
- Irrigation:
- Agricultural systems of the world:
- Agricultural statistics & modeling:
- Agricultural regionalization:
- Agro climatic regions of India:

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1. Origin of agriculture:
    - Human history, hunting and gathering of food – Ancient Civilization
    - Diffusion of crops and spread of crops, gene centers
    - Spread of pastoralism
    - Dispersion of crops
    - Domestication of animals

2. Physical factors and agriculture:
    - Terrain characteristics– slope
    - Topography – from coastal zones to mountain ranges, snow fields, ice caps.
    - Altitude- Atmospheric pressure changes
    - Temperature- wind, temperature, Rain Fall, frost, moisture, water availability
    - Floods and droughts
    - Soil conditions- Fertility of the soil, soil type, soil texture, soil profile, microbiology of soil, nutrients availability in soils.
    - Surface drainage patterns, man-made drainage networks, dams and reservoirs
    - Groundwater table- shallow or deep

3. Socio economic factors and agriculture:
    - Land tenancy- duration and land tenure
    - Size of holdings and fragmentation of fields
    - Labor used for various activities of agriculture, location & availability
    - Capital- investment for Irrigation , machineries, wages for laborers, fertilizers
    - Mechanization and equipments, tools and consumables,
    - Energy requirement
    - Transportation
    - Marketing factors
    - Govt policies
    - Religion

4. Irrigation:
    - Basic requirement for agriculture
    - Very important in productivity.
    - Means of irrigations – canals, wells ,tanks

- Methods of irrigation- flood irrigation, ring & basin irrigation, ridge irrigation, furrow irrigation, drip irrigation, sprinkler irrigation

5. Agricultural systems of the world:
    - Nomadic herding
    - Livestock ranching
    - Commercial grazing
    - Shifting cultivation- cropping pattern & rotation of crops, problems and prosperity, Intensity of cropping, degree of commercialization, diversification, efficiency & productivity
    - Sedentary agriculture
    - Intensive subsistence agriculture
    - Intensive agriculture
    - Extensive agriculture
    - Plantation agriculture
    - Mixed farming
    - Commercial crops & livestock
    - Horticulture
    - Collective farms – state farms

6. Agricultural statistics & modeling:
    - Geographical statistics
    - Agricultural statistics
    - Land utilization statistics- agricultural land, area not available for cultivation, fallow land
    - Area statistics
    - Crop statistics- food crops, non food crops, area under mixed crops
    - Irrigation statistics
    - Agriculture prices

7. Agricultural regionalization:
    - Delimitation of agricultural regionalization
    - Methodology for agriculture regionalization – cropping pattern & crop concentration
    - Crop combination regions
    - First 1 crop only
    - First 2 crops
    - First 3 crops
    - Crop diversification
    - Food Crops - Rice, Wheat, Bajra, Maize, Barley, Ragi, Pulses
    - Cash Crops - Sugarcane, Cotton, Jute, Tobacco, Oil Seeds,
    - Ground nut, Rape Seed, Mustard, Lin Seed,
    - Castor Seeds
    - Plantation Crops - Tea, Coffee, Rubber, Spices, Banana, Fruits,
    - Vegetables, Potatoes, Onions
    - Animal Husbandry - Cattle, Buffaloes,
    - Dairying, Goat & Sheep rearing,
    - Poultry,
    - Sericulture, Agriculture, Pisciculture, Floriculture
    - Agricultural productivity- pattern of agricultural production

- Land suitability surveys- land capability arial

8. Agro climatic regions of India:
    - Land use & shifting cropping pattern
    - Improved Seeds
    - Crop Insurance
    - Agricultural Credits
    - Eco-farming
    - Zero farming
    - Dry Zone Agriculture
    - Medicinal Plant Cultivation
    - New Trends in Agriculture
    - Indian agriculture characteristics five years plan.
    - Green revolution in India
    - White revolution in India
    - Merits of high yielding varieties
    - Agricultural developments
    - Biotechnology, organic farming, poly house, tissue culture
    - Sustainable agriculture
    - Problems in Indian agriculture- chemical fertilizers, plant protection, regional inequalities, inter crop disparities, farm size variation, salinisation, water logging, soil erosion, pollution , lowering of ground water table, food nutrition and hunger, drought and food security,
    - food aid programmes, food and nutrition
    - employment in agricultural sector
    - insecticides and pesticides usage
    - Land reforms
    - Land use policy and planning.

Without agriculture nothing will work in the world. Studying the geography of agriculture will certainly help understanding the various factors involved in agricultural production and also the locational or regional imbalances. The study of Agricultural Geography also helps to understand the problems of agriculture in a region. It helps to overcome these problems as well. Let us see all these aspects in this series on Agricultural Geography.

Thank You.