UNIT: 2

SUSTAINABLE AGRICULTURE: CONCEPT AND CONSTRAINTS

Concept/ Meaning:

“Sustainable agriculture is **one that produces abundant food without depleting the earth's resources or polluting its environment”**. It is agriculture that follows the principles of nature to form systems for raising crops and livestock that are, like nature, self-sustaining. The approach advocates switching to renewable energy sources, sparing land use, and eliminating nature pollution.

The concept fosters stable and continuous production, with enough resources in the future. Its practices accord with the five **principles of sustainable agriculture** outlined by Food and Agriculture Organization (FAO):

* Boost food chain productivity.
* Protect and spare the environmental resources.
* Improve people’s wellbeing and economic growth.
* Foster ecosystems and communities’ resilience.
* Support with governmental initiatives and regulations.

What Is The Goal Of Sustainable Agriculture?

The primary sustainable agriculture objectives are food and fiber security both these days and in the future. Other goals include:

* ensuring [soil fertility](https://eos.com/blog/soil-fertility-as-the-decisive-factor-for-high-yields/) and encouraging biodiversity;
* improving the ecological conditions and preventing pollution;
* consuming less non-renewable resources (e.g., fossil fuels);
* supporting rural economic development;
* enhancing the quality of farmers’ health, rights, and life in general;
* raising people’s environmental awareness and responsibility.

Measurement of Sustainability in Agriculture:

The concept rests on **3 pillars of sustainable agriculture** covering the economic, social, and environmental spheres.

* The **environmental (agri-ecological) scale** fosters a nature-friendly approach in farming, with the least pollution and consumption of non-renewable resources.
* The **social (social-territorial) scale** cares about people providing enough food for our planet’s population and [fair employment and development](https://sarep.ucdavis.edu/sustainable-ag/employment) for local communities.
* The **economic scale** ensures the farming business’s viability, efficiency, and profitability.

Constraints/ Problems/ Challenges/ Threats:

Sustainable agriculture is a kind of agriculture that concentrates on the production of long-term crops and livestock while having minimal impact on the environment. It involves farming systems that are able to maintain their productivity and usefulness to society indefinitely. Such systems are required to be resource-conserving, socially supportive, commercially competitive, and environmentally safe.

1. **Limited use of land**: The main disadvantage is the limited use of land, which makes it difficult to produce large quantities of food. Therefore mass production is not possible.
2. **It takes more work**: Since the use of machines is minimal or eliminated, it takes more time and people to successfully produce plants, which slows down the production.
3. **Shorter shelf life**: Decomposing occurs faster in food that is produced sustainably, causing it to have a shorter shelf life. If a shipment gets delayed, there is a big chance that it will never get to the supermarket because it will already be spoiled.
4. **Less fertile lands**: It is quite hard to increase the fertility of land just by rotating crops and without the use of fertilizers and other chemicals.
5. **Lower-income**: Because the land is used sparingly, the income that is generated from farming is very limited.

**ANC**