

# Gross Environment Product (GEP) of Uttarakhand

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## In news

The government of **Uttarakhand recently declared that it will begin valuation of its natural resources in the form of “Gross Environment Product” (GEP)**, similar to the Gross Domestic Product (GDP).

## Gross Environment Product(GEP) & ecosystem services

- GEP is the **measure of ecosystem services of any area.**
- **GEP measures the total annual value of goods and services delivered by ecosystems** (forests, water bodies, oceans, and so on) to people in a certain region, such as at the district, state, and national levels.

## GEP accounting methods

| Categories          | Goods and services (examples)                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Material services   | Food: grain, vegetable, fruits, meat, milk, egg, fish,                                                                                     |
|                     | Materials: wood, fiber, water, genes,                                                                                                      |
|                     | Energy: bio-energy(fuelwood), hydro-power, wind energy,                                                                                    |
|                     | Others: tea, coffee, medicine herbs, seedling, ornament                                                                                    |
| Regulating services | Regulation services: water conservation, soil conservation, carbon sequestration, climate regulating, pollutant purification, pollination, |
|                     | Protecting services: sand storm prevention, flooding mitigation, pest control,                                                             |
| Cultural service    | Aesthetic services: recreation and ecotourism                                                                                              |
|                     | Cultural value: knowledge, education, arts, spirit                                                                                         |

- The **term “ecosystem services” was coined in 1981** to attract academics towards this aspect.
- **American ecological economist Robert Costanza** contributed several publications defining and elaborating aspects of ecosystem services.
- According to him, ecosystem services are the benefits human populations derive, directly or indirectly, from ecosystem functions. The definition is still in the process of evolution.

- In 1997, a group of economists and ecologists led by Costanza showed that at global level the value of ES is about twice as much as the global GDP.
- The concept received attention and now is part of global knowledge.
- In this direction, the Millennium Ecosystem Assessment was called for by the United Nations Secretary, General Kofi Annan, in 2000.
- Ecosystems that can be measured include natural ecosystems such as forests, grassland, wetland, desert, freshwater and ocean, and artificial systems that are based on natural processes like farmland, pastures, aquaculture farms and urban green land, etc.

### **Concerns with GEP**

- Is it a process of simple valuation of a state's ecological wealth, or to assess what part of the GDP it contributes.
- It is an attempt to claim a budget from the centre against ecosystem services the state provides to the rest of the country and / or it is a process of providing benefits to its own residents.

### **Why is Uttarakadh opting for GEP?**

- Uttarakhand's forests give services worth Rs 9,5112 crores annually.
- Forests in the state generate Rs 300 crore worth of employment.

### **IUCN-Gross Ecosystem Product (GEP)**

- It aims at specific indicators to measure the total economic value of all ecosystem products and services.
- GEP is the total value of final ecosystem goods and services supplied to human well-being in a region annually, and can be measured in terms of biophysical value and monetary value.

- As a new ecological accounting system that measures ecology status, GEP provides powerful scientific support and future indicators for ecological civilization construction.
- IUCN is currently carrying out pilot research projects on GEP with partners.

### **Its objective**

To quantify the linkages between ecosystems and human well-being so as to assist in the development of sustainable management and governance of ecosystems.