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for Quality Enhancement  
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Editor's Name

- **Dr. Rajendra H. Satpute,**  
Principal (I/c),  
Government college of Arts & Science,  
Aurangabad (Maharashtra)  
Phone : (0240) 2341476

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**Dr. Seema S. Bodkhe**

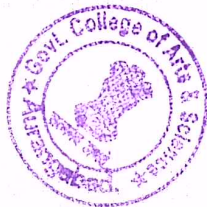
email : seemabodkhe73@gmail.com

Mobile : 9422815402

**Dr. Vikas S. Gambhire**  
&

**Dr. Sulochana R. Rathod**

Department of Botany,  
Government College  
of Arts and Science,  
Aurangabad



# Learning Botany through a Participative Teaching Approach

## Abstract :

Teaching and learning plant taxonomy, classification, species identification, and utilization of plants are mainly a part of ecological and environmental goals in the botany curriculum.

Teaching and learning about biodiversity and sustainability are important parts of the botany curriculum. The aim of this study is to analyze the participatory method to teach and learn plant species identification, plant taxonomy, utilization of plants and to find some trends about how well students' views are reflected.

In this article to examine the effect of the participative teaching approach in attitudes towards learning botany, we used a sample of 60 students of B. Sc. We also analyzed the influence of student learning styles on their academic performance. The investigation has demonstrated that the participatory teaching strategy employed increases knowledge and skills in the observation and identification of species, moderates the interest of students in learning the subject, along with academic achievement.

**Keywords :** Botany, teaching, participatory methods, outdoor education.

## Introduction :

Student engagement and understanding of substances are given greater emphasis in today's teaching over spoon-feeding the facts. Therefore, usage of blackboards or everyday lecture techniques is not enough to teach science and different associated subjects. For the implementation of the



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gardens specially run by institution or organizations. For the protection of biodiversity mainly two initiatives are involves that is the Global Taxonomy Initiative (GTI) and Global Strategy for Plant Conservation (GSPC) which have been established by the Convention on Biological Diversity for specific purposes. GTI is support for decision making in conservation of biological diversity by addressing the deficient in of taxonomic in sequence on the identity of mechanism of biological diversity in many parts of the world, and the need to build ability for taxonomic activity in all regions. Main objectives of the Convention on Biological Diversity is to conserve unique species of plants and animal. GSPC is provide a structure for policy on 16 action-oriented targets for plant conservation in the areas of understanding and documenting plant diversity, conserving plant diversity, using plant diversity sustainably, promoting education and awareness about plant diversity and building capacity for the conservation of plant diversity.

*Ex-situ* conservation has the following advantages<sup>[8]</sup>:

1. This method involves the plants and animals. In which animals are provided with a longer time and breeding activity.
2. Those species are bred in captivity can be reintroduced in the wild and protects them and help for sustainable developments.
3. Now a day many techniques were introduced in biodiversity conservation. New combinations of gene are made in organisms with the help of this techniques. Genetic techniques can be used for the preservation of endangered species and their unique characters.

#### Strategies for Biodiversity Conservation:

Following are the important strategies for biodiversity conservation:

- All the varieties of food, timber plants, livestock, microbes and agricultural animals should be conserved.
- All the economically important organisms should be identified, protect and conserved.
- Useful and unique ecosystems should be preserved first.
- Natural resources should be utilized efficiently.
- Poaching and hunting of wild animals should be prevented.
- The reserves and protected areas should be developed carefully.
- Man made pollutants level should be reduced in the environment and to maintain healthy environment for organisms.



REKHA  
Head Dept. of Zoology  
Government College of Arts & Science  
Aurangabad

  
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Govt. College of Arts & Science  
Aurangabad

- Tree plantation should be compulsory and deforestation should be strict prohibited.
- Add new strategies in environmental laws and law should be followed strictly.
- Endangered species of plants and animals should be protect and conserved in their nature as well as artificial habitats.
- Public awareness play an important role in conservation so awareness should be created regarding biodiversity conservation and its importance.


It is understood that an area with higher species large quantity has a more stable environment compared to an area with lower species abundance<sup>[9]</sup>. We can further maintain the necessity of biodiversity by taking into consideration our degree of dependency on the environment. We depend directly on various species of plant for our various needs. Similarly, we depend on various species of animals and microbes for food and medicines<sup>[10]</sup>.

Biodiversity is being lost due to the loss of habitat, over- use of resources, climatic changes, pollution, invasive exotic species, diseases, hunting, etc. Since it provides us with several economic, social and ethical benefits and adds visual value, it is very important to conserve biodiversity<sup>[11]</sup>.

Biodiversity provides a number of natural services for sustainable development<sup>[12]</sup>:

- Ecosystem services, such as
  - Protection of water resources
  - Soils formation and protection
  - Nutrient storage and recycling
  - Pollution breakdown and absorption
  - Contribution to climate stability
  - Maintenance of ecosystems
  - Recovery from changeable events
- Biological resources, such as
  - Food and shelter
  - Medicinal resources and pharmaceutical drugs
  - Wood products
  - Ornamental plants
  - Breeding stocks, population reservoirs
  - Future resources
  - Diversity in genes, species and ecosystems
- Social benefits, such as



  
REKHA ANIL  
Head Dept. of Zoology  
Government College of Arts  
Aurangabad

  
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Govt. College of Arts & Science  
Aurangabad

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- Research, education and monitoring
- Recreation and tourism

**Conclusion:**

These are some important services we get for free from healthy biodiversity. The cost of replacing these services would be extremely expensive. It therefore makes economic and development sense to move towards sustainability. All these diversities help in maintaining the proper balance of nature. But from few years, there has been a major loss in the biodiversity across the globe. The loss of biodiversity could harmfully affect our environment as the balance is lost and the natural food web is disturbed. Due to its major role in our survival, conservation of biodiversity has now become a matter of high priority. Everybody is paying high attention to it. There are number of species we still have not identified all the species living on the earth but of all the ones identified till now, many have already been marked as extinct .Recently, the rate of extinction has gone high and this is causing direct impact on our earth like over use of resources in some parts, the over population of some species, etc. This has created a great imbalance in nature. Now its time to understand the importance of biodiversity. We must take essential actions to maintain biodiversity for sustainable development. The long term point of view for sustainable development requires the transmit participation of various stakeholders in policy formulation, management and implementation at all levels in particular of issues of biological diversity and this must be encouraged. The Botanic Gardens Conservation International, and other similar institutions, are considered as having major roles to play including to inform and educate their constituents on the belief of biological diversity to sustainable development.

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REKHA ANIL  
Head Dept. of Zoology  
Government College of Arts & Science  
Aurangabad

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Govt. College of Arts & Science  
Aurangabad

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REKHA R. CHITAMBAR  
Head Dept. of Zoology  
Government College of Arts & Science  
Aurangabad





PRINCIPAL  
Govt. College of Arts & Science  
Aurangabad