



Permaculture: A revolutionary reform under soil state

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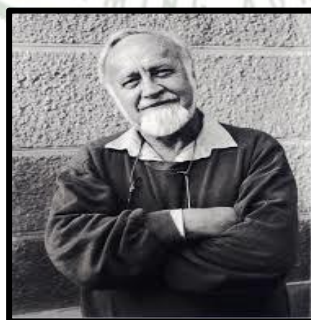
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Abstract

The art of sustaining the natural ecosystem is necessary for future development. Permaculture as a functionary and better tool to manage the present agro ecological condition and thus tackle this adverse situation like degradation of soil, change in climate and loss in biodiversity. However, scientific evidence on the effects of permaculture is still scarce and unknown. Hence it is to make further details regarding the study on permaculture system.

History

Bill Mollison, an Australian biologist, professor, and researcher, coined the term "Permaculture" in 1978. The term is a portmanteau of "permanent" and "agriculture". Mollison and David Holmgren developed the concept as an alternative to industrialized agriculture, instead using a more natural approach.



Bill Mollison – “Father of Permaculture”



SABUJEEMA AGRI NEWSLETTER

Introduction

Permaculture is a state that creates agriculturally productive functional ecosystem that will exactly mimic diversity, stability, and resilience of natural ecosystems. At present situation, there are huge changes over in adverse climate change, weather pattern modification, degradation of soil, loss in biodiversity. We knew that agriculture is the prime mover for developing and integrating Biogeo chemical cycle as well as land use changing, freshwater usage and other relevant sector are at high risk.



Fig. 1. Permaculture design

Permaculture - Principle

They are mostly based on minimal disturbance of natural resource and maximum diversity of eco system. The major 12 principles of permaculture mainly focuses on care for the earth, care for the people and for fair share.

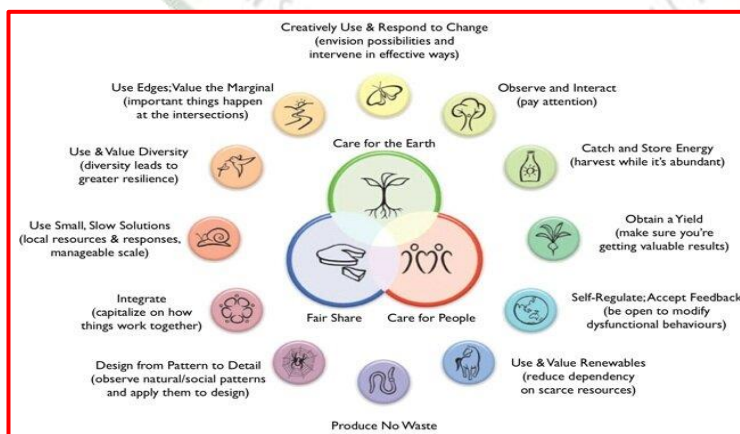


Fig. 2. Principles of Permaculture



Different ways to practice permaculture farming

Agro forestry

Agro forestry is an act of growing tree crops along with the agriculture cropping system. It improves water retention and benefitted by the farmers. This can be highly appropriate that being under grown will fetch additional advantage like global carbon capture, reduces atmospheric pollution by absorption, wind break, wind shield, climate resilient and adaptability and most important is diversity sustainability in natural ecosystem for other living beings. Poplar tree is a best agro based tree species widely grown and can be utilized under permaculture principle.

Harvest through rainwater

Rain water harvesting is an important conservatory practices in case of permaculture. Though its abundance, it is necessary for capturing water for farm use in later. In ancient practices, it was concerns about ecological balance and sustainability. Some permaculture rainwater harvesting are given as follows,

1. Roof top rainwater harvesting
2. Soil sponges
3. Imprinting
4. Roof top rain water gardening
5. Berms and swales

Cell grazing

Cell grazing is commonly adopted in places where livestock population is more. When these livestock are allowed to graze over the area, which will make faster and new crops at faster rate thus producing fertile soils.

Sheet mulching

Sheet mulching is one the method of technique which is adopted in permaculture system. Its basic function is to develop the soil developing process to produce a fertile, productive and better ecosystem services.

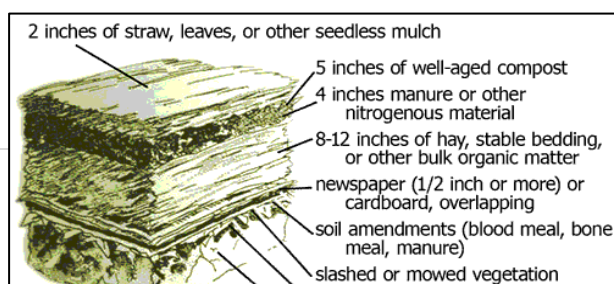




Fig. 3. Temperate climate permaculture: Sheet mulching

Conclusion

Thus, it can be strongly defend that system of permaculture increases the soil carbon stock, soil quality and conservation of biodiversity. This definitely helps us to develop from the present practice of agriculture from getting degradation to development. It is therefore to conserve the structure of permaculture system in order to restore in future.

References

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