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Seminar-II

Traditional Knowledge in the Development of Scientific Knowledge

Synopsis

Traditional knowledge is the knowledge or practice that has been passed down from generation to generation and forms part of the traditions or heritage of the indigenous communities. They are the knowledge or practice for which indigenous communities act as the guardians or custodians in preserving. Indigenous cultural expression is the ways in which indigenous communities express their traditional culture. Indigenous communities regard themselves as the guardians and owners of traditional knowledge and indigenous cultural expression on behalf of their communities. The concept of traditional knowledge gained recognition by UN Conference on Environment and Education in 1992. Indigenous Technical Knowledge (ITK) can be defined as ‘an accumulated skill and technology of a locality or a community that has been passed on from one generation to another generation’. It is not confined to the rural people rather any community possessing indigenous knowledge *viz.*, rural or urban, settled or nomadic, original inhabitants and migrants. The methods of collecting traditional knowledge includes interaction with elders and leaders, rural appraisals, case study, brainstorming, group discussions, field observations, notes, photos, audio recordings, video recordings etc. Traditional knowledge plays an important role in the developmental process by integrating with scientific knowledge.

With this brief background, the current seminar has been conceptualized with the following objectives:

1. To understand the concept of traditional knowledge and its characteristics.
2. To understand the importance of blending traditional knowledge and scientific knowledge.
3. To understand the reviews related to traditional knowledge in agriculture.

Concept of traditional knowledge

It is a body of knowledge built up by a group of people through generations of living in close contact with nature. It is also known as traditional knowledge, local knowledge, people’s science, rural people’s knowledge, ethno-ecology etc. It is a dynamic knowledge that possesses endogenous creativity. It follows a holistic approach and reflects on the local values of a community.

Traditional knowledge differs from scientific knowledge in many aspects. In traditional knowledge, all parts of the natural world are regarded as animate and all life forms are considered as interdependent. Whereas in scientific knowledge, human life is generally regarded as superior, with a moral right to control other. Explanations behind phenomena in traditional knowledge are often spiritually based on subjective whereas in scientific knowledge

they are rational and objective. Decisions in traditional knowledge are holistic and intuitive while in scientific knowledge it is reductionist and analytical. It plays an important role along with scientific knowledge as it plays an integral part of development process, promotes biodiversity, improves learning attitudes of a community and helps the community move from the known to unknown and also creates a foundation for their beliefs and traditional practices.

Traditional knowledge in agriculture

In agriculture, ITKs have been classified into 'rain-water management (Rolis are used to know the time of sowing), soil and water management (traditional apple-orchard farming involves the use of contour ditches, water-control canal, soil traps, bench terraces and hedge rows of fast-growing leguminous plants, which have been adopted by the farmers of Himalayan region) , pest and disease management, horticultural crop management (ash in managing pest damage), farm implements and fishery and animal science (use of harida powder in treating foot and mouth disease of cattle).

Government and ICAR initiatives

Government and ICAR initiatives to promote integration of ITKs in the scientific management of agriculture are Paramparagath Krishi Vikas Yojana, Inventory of Indigenous Technical Knowledge, ICAR Mission Mode project on Collection, Documentation and Validation of Indigenous Technical Knowledge (ITK). Inter disciplinary and multi-disciplinary approach is essential to promote the use of ITKs in agriculture.

Research studies

Angadi *et al.*, (2021) reported that 80 per cent of the farmers opined that the traditional knowledge of earthen bunding and field bunding were the most prevalent with regards to soil conservation followed by vegetative barriers (33 per cent).

Khatri *et al.*, (2021) reported that the 'use of farmyard manure' (mean score 4.41) was the traditional knowledge that showed the highest amount of relative advantage compared to the conventional chemical fertilizers, which was followed by 'erecting scarecrow in standing crops to protect from birds' (mean score 4.15).

Conclusion

The Indigenous Technical Knowledge (ITKs) are socially desirable, economically affordable, sustainable, involves minimum risk and focuses on efficient utilization of eco-friendly resources. It is possible that through flexibility, modification and mutual respect and trust, traditional knowledge experts can work with the experts from modern scientific institutions to generate more effective solutions for contemporary problems. In today's context, there is an urgent need to evaluate and popularize indigenous innovations. Government schemes and Research and Development activities should reach indigenous innovators through appropriate intervention by the extension sector. An appropriate coalition between the traditional and modern knowledge and technology systems has immense potential to provide solutions to various global problems.

References

- ANGADI, S. C., MANSUR, C. P., AND KAMMAR, M. R., 2021, Indigenous technical knowledge on soil and water conservation, soil health management and tillage techniques in Bagalkot district. *Pharm. Innov.*, **10**(12): 1290-1292.
- KHATRI, S., KHANAL, S., AND KAFLE, S., 2021, Perceived attributes and adoption of Indigenous Technological Knowledge on agriculture - a case study from Bhirkot municipality of Syangja District, Nepal. *Cogent Food Agric.*, **7**(1):1914384.