



Significance and Relevance of Agricultural Heritage in Present Context

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Abstract

The agricultural heritage is study of practices, beliefs, proverbs and saying, techniques, procedure or protocols, collection of information about the practices followed in the ancient time and their relevance to the present day agriculture. This knowledge is categorized under heads such as Indigenous knowledge, Indigenous knowledge system, Indigenous technical knowledge, Community/farmers knowledge and traditional ecological knowledge and management systems based on the its source of knowledge, the generator of knowledge, relevance of knowledge, location/place of knowledge generation and purpose of generation of knowledge. The study of this knowledge is essential considering its relevance in present day due to changing climate and production systems such as organic farming and natural farming. In this article attempts has been made to highlight the relevance of incident knowledge along with their prospects.

Keywords: Agricultural Heritage; Indigenous Technical Knowledge

Inherent knowledge - A basic concept

The agricultural heritage encompasses all the inherent knowledge, values and traditional practices adopted in ancient time and having the relevance to present day agriculture. The knowledge may the practices, beliefs, proverbs and saying, techniques, procedure or protocols, collection of information about the practices followed in the ancient time, etc. This knowledge were evaluated and tested in present day to identify their impact on the economy, ecological and other aspects of the farming activities. This knowledge based on its relevance is classified as indigenous technical knowledge, community knowledge, indigenous knowledge management system, traditional knowledge management system. It has significant impact on the process of knowledge generation for present situation and hence its study is needed at learning stages for agriculture graduates or worker or staff or faculty with objectives: 1) To impart knowledge about historical milestones in development of agriculture and its significance in terms of socio-economical, cultural research and academic aspects and 2) To convey status of agriculture in respect to importance, scope, issue and concerns of present day agriculture and agricultural setup in India. As the inherited knowledge is voluminous and modified the tested over

large difersity, it need a separate set of facilities and working professional which only test them for their relevance but also promite its use in the suitable niche and conserve it for the future generation. This article aims to highlights prospects and expected outcome from learning/studying the ancient knowledge, the relevance of ancient knowledge to present day agriculture by giving examples along the basic concept inherent knowledge and its difference from the modern knowledge. The inherent knowledge is classified based on its source of knowledge, the generator of knowledge, relevance of knowledge, location/place of knowledge generation and purpose of generation of knowledge. They are classified as follows:

- **Indigenous knowledge:** It indicates the knowledge generated by indigenous people in their social and temporal space and is mainly emphasizes the place/location of knowledge generation irrespective of tis relevance and significance.
- **Indigenous knowledge system:** It indicates the intellectual organization of knowledge related with the different preparations/practices as well as written theories conceptualized about the different phenomenon occurring around.

- **Indigenous technical knowledge:** It is based on the relevance and purpose of knowledge generation. It is concerned with behaviours and people towards various operations/practices in agriculture and applied aspects of agriculture.
- **Community/farmers knowledge:** It is classification of inherent knowledge based on the generator on knowledge.
- **Traditional ecological knowledge and management systems:** The classification on knowledge based on the relevance of knowledge, methods of its documentation and inheritance to further generation has given emphasis.

Scope and prospects of inherent knowledge

The information on the agricultural knowledge base available is important to further learn about it. The studies of agricultural heritage will uprates the learner about knowledge based and its place in different dimension. The knowledge about important events in development of agriculture and allied sectors will be imparted through agricultural heritage. The information on major concerns and issues as well as significance of different aspects of agriculture

can be imparted through study of agriculture. This will act as a device to enrich the thinking and vision towards the different aspects of agriculture. The impacts of different activities happen in agriculture and allied sectors on ecology and economy will be either or both positive and negative. Hence study of the inherited knowledge and events will gives the idea about quantum of impact and its significance as well as relevance for future. The inherent knowledge in developed and tested in actual ground across the different generations, hence its will stand for different variation in agro-climatic condition. Therefore study of agricultural heritage is essential to develop new range of scientific knowledge. The information on extend of place/practices/components involved in knowledge generation process and its scale of impact can be imparted. The information on globally important agricultural heritage system and their significance can be imparted through study agricultural heritage.

Relevance of agricultural heritage to present day agriculture

The relevance will gives ideal about past agricultural practices and how they are related with our present day agriculture. In this section some of the agricultural practices followed in ancient times and their relevance to our present day knowledge is described.

Sl. No.	Agricultural heritage	Relevance to present day agriculture
1.	Old cultivars/heritage plants collected maintained since ancient time by several generation	In present day due to monotonous crop and cultivar selection, agriculture become more unstable to different biotic and abiotic stress and the genetic base of crop cultivation becoming narrow down. In such conditions, these groups of crops and varieties will serve as an important source for widening the genetic based in constructive way.
2.	System of water harvesting: Paar system, Talab/Bandhis, Saza Kuva, Johad, Pat system, Naada/Bandha, Chandela tank, Kundas/Kundis, Kuis/Beris, Bamboo drip irrigation, etc.	Ancient system of water harvesting are time tested and are still used of different parts of country. At the same time the principles in present days small, medium and major irrigation projects have similarity with ancient water harvesting system.
3.	Water lifting system and devices: Swing basket, Single Mhot, Persion wheel, Picottah, Dhone, etc. Surface methods of irrigation such as wild flooding, check basin irrigation, basin irrigation, furrow flooding and strip irrigation	Most of the present day surface methods of irrigation are developed from ancient time and few of them are still in practices. At the same time, these different irrigation systems are the precursor of new land configuration such as furrow irrigated raised bed (FIRB) system, permanent raised bed and broad bed terraces.
4.	Different types of tools invented and used by the humans in ancient times, such as Different types of hand hoes, Meesala Guntaka, Rekkala Guntaka, Melta Guntaka and Danti Grinder and winnowers, milling tools,	These tolls provide the guidance for development of modern agricultural tools and implements and they are: Still in use with little modification Precursor of present day different types of harrow and cultivators Principles in modern day harvesting and milling tolls are same as that of these ancient tools.

5.	<p>Shifting cultivation: practiced in Mizoram, Nagaland, and most of the north eastern states; It involve the cutting of trees or slash and burn the tree; vacant the field and go for the sowing of field for next 3-4 years</p>	<p>The shifting cultivation is the precursor of Taungya system (hill cultivation) developed in Burma and introduced in India in 1890 by Brandis in North Bengal.</p> <p>In this system, after cutting the trees, agricultural crops as well as trees are grown and thereby help in maintaining the forest area. Crops are grown for first 3-4 years and by that time new forest came. There are three types of Taungya system viz., Departmental, leased and village Taungya system.</p>
6.	<p>Zabu cultivation: It is practices in Nagaland and Zabu means impounding of water. The system is combination of agriculture, forestry, livestock, fishery and soil and water conservation. The system consist of protected forest at the top of hill, well planned rainwater harvesting tank at the top and indigenous nutrient management system in hill region, cattle yard and terraced rice field towards foothills.</p> <p>Animal manure is only source of crop nutrition and silt deposited in tank which is rich in nutrient also used as a source of nutrition. This practice helps in building soil fertility, maintenance of soil health and the system is overall eco-friendly and also reduces the soil erosion.</p>	<p>This system is serving a base for development of integrated farming system for hill region and also supports the present concept of sustainability.</p>
7.	<p>Just like Auyurveda an ancient medical science to cure human medical disorders and diseases; ancient India also have Vrikshayurveda which is collection of knowledge for addressing different plant diseases and pest management. It was written by Surpala and it is also evident from our ancient epics such as Rigveda and Atharvaveda.</p>	<p>The knowledge collected in Vrikshayurveda is best collection for the development of different formulations and diseases and pest management measures in newly emerging system of agriculture 'Organic Farming'.</p>
8.	<p>The ancient literatures expressed the different plant and their parts for their disease and pest curing properties</p>	<p>The different "biodynamic formulation" in order to reduce the use of agro-chemicals are originated from the ancient knowledge documented.</p>
9.	<p>Practices for disease management such as</p> <p>Shade regulation for management of coffee rust and blister blight of tea.</p> <p>Growing of windbreak such as silver Oak, Casuarina, etc.</p> <p>Burning of leaf litter and farm waste on nursery area</p> <p>Earthing up to overcome the damping off of tomato and Brinjal nursery</p> <p>Mixed cropping and crop rotation</p> <p>Manipulation of sowing time for reducing the diseases incidence</p> <p>Mulching with green manures, etc.</p>	<p>The different "cultural methods of disease and pest management" is also originated from the testing of different ancient practices for their suitability to different crops and location. (In most of cases, these practices are non-monitory in nature and hence suitable for marginal and resource poor farmers). These practices are now a day's also categorised as Indigenous technical knowledge (ITK); Also an important components of new concepts of ecological intensification as well as mimicry of natural ecosystem.</p>
10.	<p>Different plant extracts such as Aloe and vitex for army worm and hairy caterpillars, Coriander for spider mite control, marigold and chilli extract for agricultural pests, use of turmeric rhizomes and neem seed extract for different pest management</p>	<p>The separate branch of plant science which Ethnobotany which deals with the useful plants and their uses in preparation of different useful products of curing diseases of plant and some cases for human being, animals is originated from the ancient knowledge.</p>

Table 1