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Some Common Practices of Indigenous Technical Knowledge (ITK) used by Farmers in India

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A surprising amount of Indigenous Technical Knowledge (ITK) exists in our farmers. These ITK practices need to be documented, validated and popularized in such a way that maximum benefits can be derived for the farming community. Present article list outs some ITK prevailing among Indian farmers.

Introduction

The term 'indigenous' means 'naturally existing in a place or country rather than arriving from another place'. More specifically 'belonging to particular region or country' additionally, 'Indigenous knowledge' is the 'local knowledge, that is unique to a given culture or society inherited from their ancestors and not borrowed from another place'. In the emerging global knowledge economy a country's ability to build and mobilize knowledge capital, is equally essential for sustainable development as the availability of physical and financial capital. Significant contributions to global knowledge have originated from indigenous people, for instance in medicine and veterinary medicine with their intimate understanding of their environments. Indigenous knowledge is developed and adapted continuously to gradually changing environments and passed down from generation to generation and closely interwoven with people's cultural values. Indigenous knowledge is also the social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives. But, today indigenous technical knowledge (ITK) practices are becoming extinct because of drastically changing natural environment, globalization of political and cultural system.

ITK may be old, but it need not be outdated. In fact it can very well be compared with modern practices in a number of situations. ITK is farmer oriented and evolved by the farmers. Modern technologies are developed by researchers and often not suited to the local environment. ITK is passed on and modified from generation to generation and from farmer to farmer, whereas modern technologies are communicated from researchers via extension personnel and/or farmers. ITK is not well documented and there is only a start of an organised effort to promote it. On the other hand modern technologies are very well documented and there is a sustained effort mostly by the government institutions to promote them. ITK is often considered to be unscientific and

primitive, whereas modern technologies are seen as advanced. Following are some common ITKs which are being used by farmers from time to time:

S. No.	Name of ITK	Purpose
	Agriculture (Package & practices and storage)	
1.	Application of farm yard manure	To improve soil health.
2.	Mixing urea and neem powder	To increase the efficiency of urea.
3.	Opening of furrow in standing crop	To conserve the rain water.
4.	Wider row spacing in pearl millet	To conserve rainwater and weed control
5.	Summer or pre monsoon tillage	To facilitate timely seeding and weed control.
6.	Top dressing of farm yard manure in late sown wheat	Enhances the germination and later on tillering and thus the yield of the crop.
7.	Coating of pulses with thin layer of neem oil	To protect pulses against insect infestation
8.	Dried pulse grains are heated by mixing wood ash/ cow dung ash/sand and stored in new earthen pot	To suppress the pest infestation germination during storage.
9.	Pouring of pulse grains into the structure and placing a layer of dry sand or cow dung and clay mix at the top to thickness of 20 cm.	The enclosed storage structure provides complete protection to the stored grain from external pests and insect infestation.
10.	Use of Eucalyptus and walnut leaves in grain storages	These leaves give pungent smell, which do not allow the attack of store grain insect pests.
11.	Use of cattle urine for controlling disease	The scientific reason for using this practice may be suppressing the growth of fungi which is responsible for the diseases.
12.	Use of garlic in storing pulses	To avoid the attack of pulse beetle particularly gram Dhora. Generally 100 gm. Garlic is used for storing 5kg pulses
13.	Polishing of pulses with mustard oil	By doing that the pulses are stored for one year without any spoilage.
14.	Repeated tillage during monsoon season	To conserve the soil moisture for sowing of winter crops.
15.	Mixed cropping of pearl millet, cluster bean and mungbean	Better utilization of soil moisture and reducing the risk of crop failure.
16.	Use of neem leaves in storage bins	To control insects.
	Animal husbandry	
17.	Many dairy farmers in Indian villages milk the first few stripping on the floor	Even though they do not know the scientific logic that the fore milk has maximum bacterial load which can reduce the keeping quality of milk if mixed with the clean milk.
18.	The administration of syrup containing ajwain, black pepper, soanf, dried ginger, jaggery etc. to the freshly, calved animals is a tested practice	To facilitate expulsion of the placenta.
19.	Use of Haldi (turmeric) and mustard oil for curing animal wounds	Paste applied on the wounds of animals for preventing infection

20.	Urine for controlling infection	Pure urine of cow is used for curing animal wound infection. Farmers are of the opinion that this helps in the healing of wounds.
21.	Use of terpine oil and hing (Asafoetida) for controlling anorexia/ indigestion	Whenever animals in villages are suffered from anorexia/indigestion, farmers use terpine oil. Sometimes they also use hing for the same.
	Miscellaneous	
22.	Black ants carrying out their eggs from holes to a higher place	Indication of heavy rains to follow.
23.	Use of tarpin oil and campher	Treating foot and mouth disease.
24.	Rain water harvesting in kund/ tanka	The harvest water in kund/ tanka used for drinking and establishment of trees.
25.	Rain water harvesting from rooftop	To recharge the well
26.	Growing of *saccharum munja* (munj) on field boundaries	As vegetative barrier to check soil loss by wind erosion.
27.	Stabilization of gullies using sand bags	To control the gully and runoff management.
28.	The traditional practice of applying turmeric and mustard/coconut oil to wounds	To fast healing of wounds and moreover it is very easy to adopt.
29.	Sowing of Banana along with Mango	Planted bananas reduce the wilting of the newly planted mangoes in the orchard, and thus survival of the mango plantation increases.

Indigenous knowledge is part of the lives of the rural poor; their livelihood depends almost entirely on specific skills and knowledge essential for their survival. Among farmers ITK has more authenticity than modern technologies. Farmers feel more comfortable with indigenous knowledge than the high tech knowledge.

Conclusion

ITK may be alternative, a substitute or a complement to modern technology and it's often easier to secure adoption of ITK than modern technology. Traditional technologies are specific to local situation, because they are based on locally available inputs, whereas modern technologies are often incorrectly considered as having blanket application to all the situations. There are abundant of opportunities which can be explored by making the use of ITKs in agriculture.

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