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Case Review

Importance of Indigenous Cattle as Well as Indigenous Technical Knowledge for Management of Indigenous Cattle

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Introduction

Indian arid zone, where livestock rearing is generally main occupation of rural masses, consists of 12 per cent of country's geographical area and 61 per cent of India's arid zone is Rajasthan. Out of 41 indigenous cattle breeds of India, nine important indigenous cattle breeds are located in different districts of Rajasthan state. Climate of this zone is not suitable for crop raising. Annual rainfall here is below 300 mm per year, that too irregular during monsoon season, which often leads to wide spread drought conditions. These breeds play a significant role in the livelihood security of farmers, especially in desert area of Rajasthan. The National Commission on cattle of India has also suggested that the farmers of Rajasthan, should shift from crops to animal husbandry as a primary livelihood option because due to several drought situation the chances of crop failure is much specially in western part of Rajasthan. So, in this case dairy farming provides sustainable income to farmers. Indigenous cattle support the livelihood of farmers through supply of milk/manure/draught/breeding animals etc. The Rajasthan government has started a programme known as indigenous cattle breed conservation programme, in different native track of these cattle breeds with the help of National Dairy Development Board. Under this programme, NDDB provides good quality semen of indigenous cattle breed for artificial insemination, feed and mineral mixture. Rajasthan government also plans to set up research centre to be known as "Kamdhenu Research Centre", to improve their breed and to protect and promote them. The emphasis was to conduct a research especially on Rathi, Tharparkar and Sahiwal breeds.

Importance of indigenous cattle

Indigenous cow breeds are a vital part of the Indian ecological custom. Since antique times.

Through pedigree selection methodology, different indigenous cattle breeds were developed in different parts of the country as the best animals for preferred traits such as their milking capacity, draught power, feeding requirements, capacity to adapt to local weather, immunity, etc. The uniqueness of these locally developed cattle breed was maintained by people with great discipline of indigenous technical knowledge and wisdom in each geographical location. These particular geographical location in which particular breed is located are called breeding tract of the animals. Over time, unfortunately, due to mismanagement and unselective breeding, slowly these breeds were lost their uniqueness. Today high number of indigenous cattle becomes poor genetic quality animals due to indiscriminate mating, artificial insemination between different breeds and with inferior animals or low producer animal within same breed. Cattle rearing have been a traditional practice in India and it closely linked to our religious faith as well as agricultural economy for livelihood. The cattle genetic resource of India is represented by 41 well recognised indigenous breeds. They divide indigenous cattle in three categories like: milch animal, dual purpose and drought animals. The major milch animal's breeds of indigenous cattle in India are Sahiwal, Gir, Red Sindhi, Tharparkar and Rathi. Indigenous cattle contribute 24 per cent, whereas crossbred cattle contribute only 16 per cent to the total cattle milk pool in our country. A few other indigenous cattle breeds, such as Kankrej, Ongole and Haryana, belong to other category like dual purpose breeds that they have both milch and draught qualities. Indigenous cattle, in India, are highly resilient to several diseases as well as against climate vulnerability due to their highly adaptive capacity in their local and respective breeding tracts. They are god gifted with high qualities of heat tolerance, resistance to diseases and the ability to survive under extreme climatic condition, stress and less than optimal nutrition feeding condition. In the course of their evolution through the ages, the Indian native cows have developed some special characteristics and are hence acclaimed the around the world for their unique and wonderful qualities. Indigenous cattle are well adapted to the tropical environments, mainly because of the following attributes:

- Animal has high degree of heat tolerance capacity, derived partly from low heat production and partly from a large ability to dissipate heat.
- Indigenous cattle also have some degree of resistance to ticks and thus to the many tick-borne diseases occurring in tropical countries. Zebu cattle are often claimed to poses a certain degree of resistance and also too many other tropical diseases.
- Indigenous cattle can easily survive at low nutritional condition, because of small size, low metabolic rate and possibly also more efficient digestion at low feeding levels.

Importance of ITK

(TK) or Indigenous knowledge (IK) or Local knowledge (LK), which generally refers to the matured long-standing traditions and practices of certain regional, indigenous, orlocal communities. It also encompasses the wisdom, knowledge and teachings of these communities, which were passed on from generation to generations through word of mouth. ITK as sum total knowledge and practices which are based on people's accumulative experiences in dealing with situation and problems in various aspects of life and such practices are special to a particular culture [1]. The increasing attention of indigenous knowledge by academia and the other developmental institution has not yet led to a unanimous perception of the concept of indigenous knowledge. Warren [2] and Flavier (1995) present typical definitions by suggesting; Indigenous knowledge (IK) is the local knowledge-knowledge that is unique to a given culture or society. Indigenous technical knowledge has close association with the international knowledge system generated by universities, research institutions and private firms. Indigenous technical knowledge is the basis for decision making at local-level in agriculture, health care, food preparation, education, natural-resource management as well as host of other activities in rural communities for welfare of rural people.

ITKs relevant on 3 levels for its development process

1. It is, most vital for the area people, during which the bearers of such data live and manufacture by local people.
2. Development agents (CBOs, NGOs, governments, donors, native leaders, and personal sector initiatives) got to acknowledge, worth and appreciate it in their interaction with the native communities.
3. Indigenous knowledge forms part of the global knowledge so it has a value and relevance in itself. Indigenous knowledge can be identified, documented, validated and transferred or adopted elsewhere.

The Need to Study Indigenous Technical Knowledge

- **Locally appropriate:** Indigenous knowledge represents a way of life that has developed and evolved with the local environment, so it is mitigate the requirements of local conditions.
- **Restraint in resource exploitation:** Production of ITKs for fulfil the subsistence needs only; it is only for immediate survival, which is taken from the environment.
- **Diversified production systems:** It is also avoid the over exploitation of a single resource; risk is often spread out by utilizing a number of subsistence strategies.
- Respect for nature: ITKs conserves the ethnic knowledge. The land is considered sacred resources, humans are dependent on nature for survival and all species are interconnected at earth with each other.
- Flexible: Indigenous technical knowledge is able to adapt in new conditions and it can incorporate with outside knowledge.
- Social responsibility: There are strong family and community faith and feeling of obligation and responsibility to preserve the indigenous technical knowledge for future generations.

Importance of ITK for management of indigenous cattle

Indigenous livestock are bestowed with many unique characteristics and qualities. The Indian breeds are suited tropical climatic conditions, are able to resist the heat of summers, need less water, can walk long distances, live on local grasses resist tropical diseases and requires very optimal management practices. They can be also turned into high milk producers given the right kind of feed and environment. Many cattle breeds of Indian origin have made major contribution to the development of composite breeds in different parts of the world. Hence, considering the importance of indigenous cattle in the present scenario and the management practices followed for maintaining these animals' needs to be realistically understood for further improvement of these native breeds. Further, in managing indigenous cattle, many traditional/ indigenous practices were evolved and adopted by our farmers over a period of time. In the present context, these traditional practices are more relevant to indigenous or native breeds of cattle than the cross bred cattle. Indigenous practices are not only cost effective but are socially compatible and generally comprise of easily available local flora [3]. Hence the wisdom of indigenous practices is still passed on from generation to generation and in many parts of our country large number of farmers still depends upon traditional practices for treating health related issues and other management practices involved in cattle farming. But unfortunately, these practices, which are in vogue throughout rural India, were not given adequate importance in identification, conservation, documentation and refinement of that traditional wisdom to suit to the present scenario. Thus, it has become imperative to collect and document these indigenous practices and to assess their validity so as to ascertain its suitability to the present farming situation. In this context, it was felt that there was a need for documentation and validation of Indigenous Technical Knowledge (ITK) practiced by the farmers in their indigenous breed cattle farming [4,5].

Bibliography

1. Wang G. "Indigenous communication system in research and development". *Journal of Extension System* 4 (1998): 75-86.

2. Warren DM. "Using indigenous knowledge in agricultural development". *World Bank Discussion* (1991): 127.

3. Das SK and Tripathi H. "Ethnoveterinary practices and sociocultural values associated with animal husbandry in rural Sunderbans, West Bengal". *Indian Journal of traditional Knowledge* 8.2 (2009): 201-205.

4. Tripathi H. "Approaches in documenting ethnoveterinary practices". *Indian Journal of Traditional Knowledge* 5.4 (2006).

5. NDDB. National statistics 2012-13 (2013).

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