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Khanar Bachan: Bengali Folklore as a Storehouse of Sustainable Agricultural Wisdom

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Abstract:

Maxims of Khana, popularly known as Khanar Bachan (Khan's sayings) is an indispensable part of folk literature not only in Bengali speaking areas of the West Bengal and Bangladesh but also other parts of South Asia including Nepal, Bhutan and Sri Lanka. Traditionally, the bachan has been orally handed down from one generation to another generation and has become a significant part of the folk literature of South Asia. Apart from the literary values, the bachan has always played a key role in the life of the rural farmers. Even in this age of agricultural industrialization, the significance of the bachan has not decreased. Instead, the importance of the bachan has become the most significant and relevant ever. With the rise of rapid industrialization in farming, the world has realized that there is no alternative to sustainable agriculture. In order to ensure the sustainable agricultural values, the agricultural scientists and policymakers are studying the indigenous literatures with a renewed interest in search of the agrarian wisdom stored in those literatures. To this end, Khanar Bachan plays a vital role. Here in this paper, I am going to analyze some verses from Khanar Bachan and show how these simple folk poems can contribute to the sustainable agricultural model. The research will be a highly interdisciplinary approach that combines literature, social science, environment and agriculture. I will discuss the bachan from the book Kingbodonti Khana O Khanar Bochhan by Purabi Basu.

Keywords: Folk literature, Khanar Bachan, folk literature, sustainable agriculture, environment

1. Introduction

Increase of agricultural production without any damage to the natural environment is a vital challenge confronted by humanity today. One of the most effective ways of ensuring this kind of production is to promote the local knowledge, more specifically local eco-indigenous knowledge from around the world that can help design development model for agriculture, food preparation, health care, environmental education, and conservation in many parts of the world. The role of indigenous knowledge for sustainability and research is increasingly given importance in sustainability science (Mistry and Berardi 1274, Tengö et al. 580). Berkes defines indigenous and local knowledge as a 'cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment' (18). It is now acknowledged now that indigenous peoples and local communities have an essential role in developing and implementing more effective environmental ecosystems and biodiversity in agriculture.

Khanar Bachan, a significant part of oral literature of Indian sub-continent, especially present Bangladesh, is extremely practical and useful agricultural guidelines in simple language and vocabulary composed probably more than a thousand years ago. *Khanar Bachan*, which has been transmitted orally from generation to generation, has contributed to the local, traditional agriculture of the rural farmers of this region. Very little information is found about the historical age and place of Khana and her sayings. According to Abhishekha and Amrita Khana, a woman seer and a composer of nature news, lived in the 6th century in the West Bengal, India and compiled these sayings, which deal with agricultural knowledge in the sector of agro climate, soil, land preparation, sowing and planting, manuring, irrigation, intercultural operation, intercropping and harvesting etc. (530-31). Developed over time through accumulation of experiences and intimate understanding of the sub-continental climate and context, the *Khanar Bachan* gives a local brand of sustainable design. The *bachan* which was used by Khana in that ancient time has the same literary, historic and agricultural importance in sustainable, eco-friendly agrarian practices in modern time. Though *Khanar Bachan* is an essential part of folk literature, there has been little research regarding its potential contribution to sustainable agriculture. The research intends to show, on the analysis of the selected *Khanar Bachan* (Khana's Sayings), how the indigenous knowledge of this oral literature helps build a model of ecological agrarianism for managing soil fertility, controlling pests and diseases, controlling weeds, soil preparation, planting materials, harvesting and storage of indigenous root crops and animals. From the study, we shall see that the indigenous knowledge recorded in *Khanar Bachan* can be used to devise innovative model for sustainable agriculture development, management of natural resources and eco-friendly architecture.

2. Who is Khana?

Khana is a woman of extraordinary powers of prediction on nature and general way of living, who lived in the medieval India in the 6th century. Not much is known clearly about her origin and the timeline of her existence. However, we do know that she was the daughter-in-law of the legendary Indian astronomer and astrologer Varāhamihira who wrote the seminal book on astronomy entitled *Pañcasiddhāntikā*. We also know that Varāhamihira lived from 505 AD to 587 AD. Historically speaking, it is believed that Khanā died before Varāhamihira. If that is so, we may safely assume that Khanā lived in the 6th century AD (Bandyopadhyay et al. (145-48, Abhishekha and Amrita 530-542).

3. What is Khana's Saying or *Bachan*?

Khana is the compiler of the assertions, popularly known as *Khanār Bachan* continues to act as guidelines for the rural folk even today. Since she lived at a time when agriculture was the chief occupation of people, her assertions are primarily related to agricultural practices. However, her assertions were not solely limited to the direct agricultural practices. Many of her assertions acted as comments on a general way of better living. Khana's verses are in local and Bengali languages in poetry form along with rhymes and they exist as oral form only. Khanā was a great communicator. She knew exactly how to successfully convey the necessary messages to the people. She knew very well the language that the rural folk would understand and more importantly listen to in rapt attention and retain in their minds. Therefore, she took the unconventional path of propagating the messages in rhymes instead of the conventional approach of prosaic discourse. The relationship between woman and nature/natural cycle can once again be noticed here, but Khana's wisdom was not simply limited to an essentialized female intuitive knowledge of the natural world, but was the outcome of analytical study of climate patterns through the lenses of mathematics and astronomy.

4. Why Are They So Important?

For centuries, indigenous communities in Africa and other parts of the world have gathered profound and detailed knowledge of the ecosystem and species which they are in contact with and cultural settings within their respective environments. Khanar bachan is such a storehouse of indigenous knowledge system that help us promote sustainable agriculture. According to Bandyopadhyay et al., Khana's verses were the most basic guidelines for traditional agriculture among the common people almost all over the eastern part of the Indian subcontinent –Bangladesh, Assam, Bengal, Bihar, Orissa. Some of her adages are also found in Telegu language. Khana's contribution in agriculture is unforgettable and is widely accepted by the farmers (145-48). In fact, farmers in villages are still following some of Khana's verses in modern agricultural practices. Khana's verses mostly highlight some key factors of crop management like time of sowing, harvesting, seasonal adaptation, etc. In some of her verses astronomical influences on agriculture are present too. Her assertions were purely based on minute observations of nature and living and hold validity in today's context too. Khanā is a folk scientist, who remains perhaps the only one of her kind whose ideas on nature and living found considerable appeal among the common masses. It was her unconventional yet effective mode of communication that made her one of the earliest known science communicators and perhaps the most effective of them all. *KhanarBachan* suggests not only cropping practices, but also advises what to do if, due to climate or other changes, the crop calendar needs to be revised. The *bachans* reflect a rich and deep understanding of rural ecology, soil and weather conditions, and its impact on different fruits, vegetables and crops.

5. Subjects of Khanar Bachan

As we study Khana's sayings, we find that they are based on the mutual understanding of the nature, climate and the human society. The common subjects found in Khana's sayings include flood, epidemic, rains, drought, ploughing, sale, purchase of cow, buffalo, the way of identifying good cow and buffalo, cultivation of various crops including paddy, manuring and crop protection, construction of village houses, and sericulture.

6. Khanar Bachan and the Sustainable Agriculture

Khanar Bachan is spread in the lifestyle and philosophy of common rural people, and it passes from generation to generation by simple words of mouth. In human society, there is hardly any subject that folklore has not touched. Just as crops grow in land, and a smell of the soil sticks to it; similarly, folk literatures also have a smell of the soil in them. Even today the life philosophy of rural Bengal is modeled after the propositions of 'Khana'. This knowledge stored in this folk literature can be an invaluable guide for sustainable agriculture and environmental management. To this day, her sayings and advice have not proven wrong in spite of so-called agricultural advances made. According to Bandyopadhyay et al.,

In the poetry of Khana (Khana's Sayings), descriptions are found about organic farming of agricultural crops and extensive mention is made on horticulture. There is a close-set linkage between knowledge and folklore. Folklore, in fact, is the 'language of root' and the 'song of soil'. That is created in the minds of human beings in associated with the crop fields, meadows, the trees and creepers. This unknown, unlighted and undescribed life culture and mind culture is mostly agriculture based. 'Folk' means the similar group of populaces united by ethnic, semantic, theological and artistic affairs. (145)

Thus, the *bachans* which are used by Khana in that ancient time has the same historic value and importance in sustainable agriculture and horticulture in modern time in the face of climate change, biodiversity loss, the water crisis, and food poisonings. The sayings of Khana can be used to create systems and settlements that provide food energy and water without consuming large quantities of fossil fuels and other finite resources. In this process, greenhouse gas emissions and environmental pollution are minimized whilst human wellbeing, food and livelihood security, and

democratic control are enhanced. The agricultural knowledge that we get from KhanarBachan are on agro climatic requirements of crops, soil and land preparation, time and method of sowing and planting, optimum spacing for sowing and planting, manuring, irrigation, intercultural operation, agricultural implements, intercropping, crop rotation and maturity and harvesting.

In the following section, I will discuss some maxims of khana and try to interpret their importance for sustainable agriculture.

7. Sustainable Way of Maintaining Soil Fertility

One of the challenges of the sustainable agriculture is to curb the use of chemical fertilizers. Khanar bachan teaches us to increase the fertility of the land naturally without the use of fertilizers. The following maxim is connected to making the land fertile for coconut trees so that they give a good harvest.

Nārikelgāchhe nun mātee;
Shighrashighrabāndhegutee.

- English translation: A farmer must add adequate salt to the soil where he grows coconuts. This will result in fast growth and flowering of the coconut trees.

The following maxim is also about correct land selection and natural fertilization of soils for maximum production of vegetables. It is related to planting of Taro (corms and tubers).

Nodir dhāre putley kochu;
Kochu hoy teen hātuchu.
Kochu boney chhorāle chhai;
Khanā boley tar sankhya nāi.

- English translation: If you sow Taro (corms and tubers) in a riverside, the crops would grow up to be healthy. Similarly, if a farmer sprays ash over a Taro plantation, it will result in remarkable harvest.

The following maxim is about how increase the production betel leaves naturally.

Pān putley shrāvaney;
Kheye na furāy Rāvaney.

- English translation: If betel plants are sown in the month of Shrāvana, the yield will be such that even the ten-headed Ravana won't be able to finish it.

8. Sustainable of Pest Control

A natural approach to pest control is an important move of sustainable agriculture. It discourages using harmful chemicals and suggests natural pest control methods and preventative tips to keep the insects from coming back. The following maxim of Khana teaches us about natural pest control:

Dhorley pokā dibey chhāi;
Er cheyea r upāy nāi.
Māti shukāley dhālbe jol;
Sokol māshei pābe fol.

- English translation: If the crops are affected by insects, a farmer must spray ash over them. Similarly, if the soil becomes dry, it must be watered. If these steps are followed, a farmer shall always enjoy the reward of good harvest.

9. Miscellaneous Suggestions

The following are some of the suggestions about sustainable agriculture derived from Khanar Bachan.

- It is good for sowing seeds from the start of Shravana month till the 12th day of Bhadra month.
- Radish's sowing should be sixteen days. Cotton's sowing should be eight days. Four days of sowing for rice.
- Rotten 'gobar' (excretion of the cow), rotten manure on one side causes a lot of unpleasant odor in the farmer's home and is deadly if consumed as food but on the other hand is extremely good for trees as their manure.
- Aush crop grows in three months. If the saplings are sowed with some gap in between them, they grow strong and in large quantities.
- If seeds are sown in the month of Ashad, the harvest will be less. If done in the month of Shravana, the harvest and crop growth will be very good. If sown in the month Bhadra, very little growth is seen and if sown in Ashwin, it results in useless efforts since growth and harvest is almost negligible.
- Rice grows in sunlight but Betel plant grows in shade.
- These crops should be arranged in parallel rows in the field and the crops should be tied together in small groups. If this is followed, there will be good harvest and the farmer will be happy with Khana's advice.
- The bush of the crops grows after around 30 days from sowing. The crop flower is observed twenty days after the brush appears. When the loaded flowers resemble the head of a horse, *thirteen days* after that harvest should be done.

After twenty days from seeing the head of the crops, Khana advises the farmers to reap the fields. It will take ten days to harvest, and then the crops should be loaded on carts.

If fields are reaped in the month *Margashira*, the farmer gets *full harvest*. If it is done in the month of *Poush*, the farmer gets *6/16th* of the *harvest*. If done in the month *Magha*, the farmer gets *only dried crops* and if done in the month *Phalgun*, the farmer gets *nothing*.

10. The Knowledge about the Ecological Agrarianism That We Get from Khanarbachan

Based on our analysis of Khanar Bachan, we can say that following are some key ideas about sustainable agriculture that we get from Khanar Bachan.

- It encourages the high productivity of conventional agriculture without any massive damage to the natural environment and troublesome social disruptions.
- It is an economically profitable and environmentally sound agricultural production system.
- It encourages sustainable agriculture in the sense that it is represented by farming systems in which the use of purchased chemical-based inputs such as fertilizers and insecticides is not needed. The methods suggested for controlling pests and diseases in crop production are effective and cost-effective.
- It suggests how to raise crops with minimum disturbance to the soil and lower labour inputs.
- The systems are extremely simple and have only minimal impact on the total environment.

Khana observed every detail of native trees, recommended some of them for cultivating in homestead, prohibited some as not to cultivate near of house and suggested non-profitable trees as they do not provide neither flowers nor fruits, but yet can be planted in the promenades of home to ensure healthier environment as all these trees have some sort of impact over weather. Those trees of herbal qualities, like *Neem* and *Tulsi*, should be cultivated near to the house. She also urged not to cultivate the big trees nearer to the house as they create darkness, wet and unhygienic circumstances by obstructing the ventilation thus that environment is likely to make people sick. The herbs also should not encroach to the home as it may accelerate the decay and make the surrounding clumsy. The surroundings of any home should be arranged with different trees to make the house well protected.

Khanar Bachan is the knowledge that has been developed over time in a community mainly through accumulation of experiences and intimate understanding of the environment in a given culture. It can be of good use to devise innovative research for agricultural researchers, extension workers, development practitioners, and environmentalists for sustainable agriculture development and management of natural resources. In fact, it should cater for sustainable food security and conservation of the variety and variability of animals, plants and very vital soil properties such as physical, biological and chemical properties. Conservation of natural resources depends on human beings and their interaction with the environment which is very much related to the indigenous knowledge that has been communicated and passed down from generation to generation through family members and communities.

11. Conclusion

Thus, Bengal's folk-poetry Khanar Bachan, which has been evolved in the agrarian folk societies in the form of oral literature and preserved in folk memory and perpetuated in folk practices for hundreds of years, can be an invaluable guideline for the sustainable agriculture. The aim of this study was to stimulate the debate about to what extent Khanar bachan can contribute to sustainable agriculture. The teachings of Khanar Bachan about the sustainable agriculture development and conservation of the natural resources could be even more significantly advanced if modern scientific knowledge could be incorporated with this traditional knowledge system. Government, environmental community and universities could become components of valuing, preserving and protecting Khanar Bachan. It should provide effective alternatives to western know-how. It should provide local development workers opinions when designing projects instead of searching only western technologies for feasible solutions. They can combine indigenous and western technology in the development program. To conclude, the agrarian wisdom stored in Khanar Bachan should be validated and fine-tuned so that modern agriculture can utilize for ensuring sustainable agriculture.

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