

Third Convocation
Maharashtra Animal & Fishery Science University

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Convocation Address

Towards Vidarbha's Agricultural Renaissance

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I am very happy to be here on an occasion when this great University is providing to Maharashtra and our nation a large number of trained young professionals, well versed in the art and science of animal husbandry and fisheries. I congratulate the outgoing alumni on their outstanding academic performance. I also congratulate the parents of the students taking their degrees today, as well as the Vice-Chancellor and the dedicated and distinguished faculty for making this young University the great centre of learning that it is today. I wish you all much professional success and personal happiness.

Livestock and livelihoods are intimately linked in our country. Mixed farming involving crop-livestock and some time fish integration has been both a way of life and a means to sustainable livelihoods. Also, the ownership of the livestock is more egalitarian than that of land. That is why in our ancient culture, livestock has been given a pride of place in the area of spiritual veneration and natural resources conservation. Maharashtra is rich in its livestock resources and has also a long coast line with a wide range of living aquatic resources.

The crop-livestock integrated farming system also provides an opportunity for promoting organic farming and restoration of soil health, and thereby of an ever-green revolution leading to an enhancement of productivity in perpetuity without associated ecological harm. It also strengthens household nutrition security. The country as a whole has over 500 million farm animals. However, the grazing land has been reduced to less than 5% of the arable land area. Village common property resources, which used to provide fodder and shelter to farm animals, have been over exploited. Consequently, our farm

animal productivity is very low. It is in this context that the establishment of the Maharashtra Animal and Fishery Sciences University assumes great significance. I congratulate you on your Tech Mode programme, initiated with support from the Commonwealth of Learning, for bridging the gap between scientific know-how and field level do-how.

I wish to deal briefly with a few issues which need to be considered while developing a strategy for a prosperous animal husbandry and fisheries programme. First and foremost, we should deal with the saving of our genetic resources in farm animals and fish. Livestock husbandry is an age-old occupation in Indian agriculture, since farm animals play an important role in nutritional security and sustainable agriculture. Besides providing milk, eggs and meat, they also provide a diverse range of services in areas such as manure, irrigation, transportation, and fiber and leather goods. The value of output from the livestock sector in India at current price, without considering their indirect contributions, is of the order of Rs. 200,000 crores, which is about 30 per cent of the value of the agricultural sector output. Livestock farming is the mainstay of the economy of many of the world's harshest environments—deserts, steppes, mountains, Arctic and Antarctic regions.

The Indian domestic animal diversity is rich with more than 30 breeds of cattle, 10 breeds of buffalo, 42 breeds of sheep, 20 breeds of goat, 8 breeds of camel, 6 breeds of horse and 18 breeds of poultry. Numerous breeds of cattle were domesticated based on local needs and their adaptability under different eco-geographical and agro-climatic regions. Some are known for their draught power, some for milk and some for dual purposes. Similarly, wide genetic variability exists among sheep and goats.

India is among the very few countries having such a large number of breeds of farm animals with a wide genetic diversity. Livestock integrated agriculture is unique because of its diversity and location-specific requirements. India has contributed richly to the international livestock gene pool and improvement of animal production in the world. For example, Brahman cattle are found in 45 countries, while the Sahiwal breed is found in 29 countries. Many cattle breeds of Indian origin have made major contribution to the development of composite breeds elsewhere in the world, as for example Brazil.

Due to changing land use pattern in agriculture, many of the breeds are either showing a declining trend or are on the verge of extinction. Many are also facing genetic deterioration due to the shrinking of grazing lands, ineffective and unscientific breeding programmes, increased mechanization and less emphasis on livestock based livelihood systems. As a result, Indian livestock breeds once famous for their draught capacity, heat tolerance, disease resistance, and adaptability to harsh agro-climatic conditions are undergoing genetic erosion. This calls for urgent attention to conserving domestic animal diversity.

There is higher biodiversity in cattle, goat and sheep than in pig, fowl, quail, geese, ducks, mithun, yak and pet animals. Many of the native breeds of these livestock possess remarkable ability to resist endemic diseases and to subsist on local feed and fodder resources. Their maintenance cost is relatively less and hence they are more suitable to small farm holdings. Conservation of these traits and breeds are important for future agriculture, which may have to face new challenges arising from global warming.

Among the livestock diversity, the diversity of buffaloes in India is very unique. Buffalo breeds such as *Murrah*, *Nil Ravi*, *Surti*, *Mehsana*, and *Jaffarabadi* are notable for their economic value. The *badawari* breed of buffaloes has over 10% butter fat content in milk. Among the sheep, *Bikanery*, *Hissar Dale*, *Chokra*, *Mogra*, *Nali*, *Marwari*, *Sonadi* and *Kathiawari*, *Nellore*, *Bellary*, *Mandya*, *Sahabadi* etc. are prominent. *Angora*, *Pashmina*, *Kashmiri*, *Gaddi*, *Jamunapari*, *Barbari Beetal*, *Berari*, *Surti* etc. represent high diversity among the goats those contribute immensely to the economy of the poor in fragile environments. *Sahiwal*, *Tharparkar*, *Gir*, *Red Sindhi*, *Amrithmahal*, *Hallikar*, *Khillari*, *Kangayam*, *Ongole*, *Deoni* and *Krishanavalley*, *Punganur*, *Malnad Gidda*, *Vechur*, *Bargur*, *Umblacherry*, *Alambadi* breeds of Cattle constitute a rich diversity of livestock resources. Unfortunately for different reasons, population of these important breeds is on the decline. This therefore calls for urgent interventions to arrest the trend and promote conservation efforts at the grassroots level, with active community participation.

In an era of climate change, the conservation of these genetic resources of livestock is of paramount importance. The conservation of livestock genetic resources should not only

for preserving and maintaining the existing breeds, but also develop proper management and genetic improvement of indigenous breeds to enhance the diversity and identify economically important genes and gene clusters. As a huge part of the variability is created and conserved by livestock rearing farmers, it is relevant and appropriate that any conservation effort should start at farmer's level with an agro-ecological reach. Identification of farming communities conserving different major breeds and groups of livestock and rewarding and recognizing their contribution economically and socially would be an important initiative for promoting the conservation of livestock genetic resources.

It is therefore essential to recognize and protect the rights of the communities/ farmers with regards to their contributions to conserving, improving and utilizing livestock germplasm in the development of improved breeds. It is in this context that *the National Bioresource Development Board (NBDB) has taken the initiative in introducing a Reward and Recognition System for recognizing and rewarding the past and present contributions of the livestock breed conservers.*

I hope the establishment of a **Breed Saviour Award** will help to stimulate interest in the conservation of our rich genetic diversity in farm animals. The University should take interest in creating genetic literacy with reference to animal wealth in our villages. The Gyan Chaupal movement can be harnessed for this purpose. The collaborative rural knowledge revolution programme initiated by MAFSU and the All India Radio can play an important role in spreading a genetic literacy movement.

Another aspect which needs attention is the growing conflict between farmers and wild animals. Crop-damaging "*rohis(nilgai)*" have been giving sleepless nights to farmers in Vidarbha villages, particularly adjoining forest areas. The fields close to the forest area have become breeding grounds for *rohis* as plenty of water and food are available for these animals. There is very little compensation for the damage done by wild animals to crops. Farmers are using traditional methods like putting up scarecrows looking like a man. Some use light to prevent the wild animals coming to the fields. Some big farmers dig holes around the fields, so that the animals are unable to enter the field. What is now

important is a good scientific study of methods of promoting harmony between wild life and human beings. This will be possible only if the habitats of wild life are protected.

Another area of importance to the faculty and the students of this University is the development of management methods which can give the power and economy of scale to small scale animal husbandry enterprises. This will be possible by giving centralized services to support decentralized production. This is where the graduates of this University can help by organizing agri-clinics and agri-business centres. **We have to combine the economic advantages of mass production technologies with the ecological and social advantages of production by masses.** Gandhiji, who made Sevagram the unofficial capital of India, used to mention often that the goat is a poor man's cow. He wanted a pro-poor and pro-woman orientation to livestock enterprises. Nearly 75 million women are now involved in producing over 100 million tonnes of milk annually, thereby making India the leading milk producer of the world. In all perishable commodities, the most important need of farmers is assured and remunerative marketing through processing and value addition. This is where we are indebted to the National Dairy Development Board for its monumental contributions to promoting dairy co-operatives and to linking conservation, rearing, consumption and commerce in a mutually reinforcing manner.

Fodder and feed as well as adequate and timely healthcare are essential pre-requisites for increasing farm animal productivity. This University and the Dr Panjabrao Deshmukh Krishividyapeeth at Akola can work together in the field of animal nutrition. Vidarbha is experiencing a serious agrarian crisis as a result of both ecological and economic factors. The agricultural renaissance of Vidarbha leading to the emergence of a **New Vidarbha** will be possible if the agricultural and animal and fishery sciences Universities work together to provide integrated assistance to farm families in improving the productivity and profitability of crop-livestock production systems. I request the students and faculty of both these Universities as well as all others who are willing to contribute to form a **Vidarbha Coalition for make the era of farmers' suicides history.**

In 1981, I Chaired a Committee of the Union Planning Commission for the purpose of developing a strategy for converting Wardha district into *Gandhi Jilla*, as proposed by

Acharya Vinobha Bhave. In our report submitted in early 1982, we proposed a strategy which will enable all families then living below the poverty line in the Wardha district to earn their daily livelihood. Gandhiji wanted food with human dignity and not a nation of beggars. This is why in our report, we presented a detailed account of the various livelihood opportunities available in the district through farming systems diversification and value-addition through agro-processing and agri-business. In the Gandhi Jilla, animal husbandry will have to play an important role in strengthening both household livelihood and nutrition security.

Maharashtra has immense opportunities for both capture and culture fisheries. The Government of India has recently proposed an integrated coastal zone management procedure which takes into account both the land and the sea for conservation and sustainable use. The coastal zone has been defined in the Government notification as “the area from the territorial waters limit (12 nautical miles measured from the appropriate baseline) including its sea bed, the adjacent land area along the coast and inland water bodies influenced by tidal action including its bed, upto the landward boundary of the local self government or local authority abutting the sea coast, provided that in case of ecologically and culturally sensitive areas, the entire biological or physical boundary of the area may be included as specified under the provisions of Environment Protection Act, 1986”.

A mean Sea Level Rise (SLR) of 15 to 38 cm is projected along India’s coast by the mid 21st century and of 46 to 59 cm by 2100. An increase in the frequency and intensity of tropical cyclones is likely. Protective measures include construction of coastal protection infrastructure and cyclone shelters, as well as plantation of coastal forests and mangroves. We should develop an integrated coastal zone management plan for Maharashtra involving the development of Mangrove and Non-Mangrove Bioshields including the planting of Vetiver. There is also need to safeguard the traditional rights of fisher communities. We already have the Scheduled Tribes and other Traditional Forest Dwellers (recognition of Forest Rights) Act of 2006, to protect the interests of Tribal families depending on forest for their food, medicines and livelihood. I suggest that we should enact a **“Fisher Communities and Traditional Coastal Dwellers (Recognition of Sea Farming Rights) Act”** in order to ensure that industrialization and commercial

activities do not destroy the livelihoods of fisher families, whose sole livelihood source is the ocean.

I would also suggest that the University should promote **Aquaculture Estates** to help small scale fisher families to have access to good seed and nutritious feed as well as producer-oriented marketing opportunities. There is also need to establish a “Fish for All Training Centre” under the auspices of MAFSU which can help to train fisher women and men in all aspects of fisheries ranging from capture / culture to consumption based on the pedagogic methodology of learning by doing.

Modern science and technology have opened up great opportunities for achieving the goals of food, education, health and work for all. Rashtrasant Shri Tukdoji Maharaj has pointed out in his “Gramgeeta” that ‘India is a land of glaring and almost stupefying contradictions; yet there is unity in diversity’. The Gramgeeta provides guidelines for a happy, healthy and satisfying life. There is a whole chapter in Gramgeeta on Cattle Improvement. **According to Shri Tukdoji Maharaj, nature will surely offer health and wealth to all villagers provided we conserve our natural resources and use them in a sustainable and equitable manner.**

Let us combine the best of traditional wisdom with modern science and technology including biotechnology, space technology, information and communication technology, nuclear technology and renewable energy technology, in order to develop ecotechnologies rooted in the principles of ecology, economics, social and gender equity, energy conservation and employment generation. Only a combination of the ecological prudence of the past and modern science will help us to achieve rural prosperity and the birth of a new Vidarbha. There are number of examples such as the use of Kuroiler in West Bengal for promoting poultry based livelihoods for the rural poor. **We need a pro-poor, pro-women and pro-nature livestock policy.** This should be the contribution of the outgoing alumni, if we are to convert our rich animal and fish resources into jobs and income on an environmentally sustainable and socially equitable manner. I wish you all great success in the exciting adventure of building a New Vidarbha by making the era of farmers’ suicides history.