Proceedings of
IX Annual Convention of Society for Conservation
of Domestic Animal Biodiversity
and National Symposium
on
Role of Indigenous Animal Genetic Resources
in Rural Food Security vis-a-vis Climate Change

On February 24-25, 2012
BAIF Pune Campus
Bangalore-Mumbai National Highway, Warje in Pune City, India

Organised by:

BAIF Development Research Foundation
Pune, Maharashtra

and
Society for Conservation of
Domestic Animal Biodiversity (SOCDAB)
Kamal, Haryana
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O-2.10. Strategies for conservation and improvement of Mecheri breed of sheep by J. Muralidharan, C. Bandeswaran, P. Ravi and K. Chinnamani Mecheri Sheep Research Station, Pottaneri, Salem Tamil Nadu, India.


O-2.13. Characterisation of bovine lymphocyte antigen BoLA-DRB3.2 alleles in Indian Ongole (Bos indicus) breeds of cattle by PCR-RFLP and PCR-SBT by R. Saravanan¹, D. N. Das², Sri Hari² and S. De³ 1Department of Animal Genetics and Breeding, Veterinary College and Research Institute, Namakkal, Tamil Nadu, India. 2Genetics Lab, National Dairy Research Institute, Southern Campus, Adugodi, Bangalore, India. 3Animal Biotechnology Centre, National Dairy Research Institute, Karnal, Haryana.


O-2.15. An overview of buffalo breeding research and improvement strategies in India by C.V. Singh and R.S. Barwal Department of Animal Genetics and Breeding College of Veterinary and Animal Science G.B. Pant Univ. of Agriculture and Technology, Pantnagar, District Udham Singh Nagar (Uttarakhand)

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Technical Session - III

Theme: Animal Genetic Resources: National and Global Issues
Date: February 25, 2012
Venue: CRS, Urulikanche, Pune
Time: 9:30 am - 1.00 pm
Chairman: Dr. B. R. Ulmek, Associate Dean, College of Agriculture, Pune
Co-Chairmen: Dr. Subeer S. Majumdar NII, Delhi & Dr. J. R. Rao Prof. Emeritus, NAARM, Hyderabad.
Rapporteur: Dr. K. P. Ramesha, PS, SRS, NDRI, Bangalore

Lead Papers:

L-3.1. Potential of livestock as an alternate source of farm energy by Dr. B. R. Ulmek
Associate Dean, College of Agriculture, Pune
L-3.2. Future scope of transgenic animals for food security by Dr. Subeer S. Majumdar, Nirmalya Ganguli, Suresh B. Gokhale, Nitin Jondhale and Abul Usmani National Institute of Immunology, New Delhi, 1BIAF Development Research Foundation, Urulekhanjan, Pune


L-3.4. Fish as a source of quality food: status, issues and challenges by Dr. Karan Veer Singh and Dr. L K Tyagi 1Scientist S.S, NBAGR, Karnal, 2Scientist S.S, NBFRG, Lucknow


L-3.6. Impact of modern IPR regime and climate change on the role of indigenous animal genetic resources for food security - Indian perspective by K.P. Ramesha, Principal Scientist (AGB), SRS NDRI, Bangalore

Tea Break and Poster Technical Session III: 11:15 - 11:45 am

Oral Papers:

O-3.1. Livelihood strategies dependent upon livestock in Indo-Gangatic plains by Neeru Bhooshan and S.C. Sharma ZTM & BPD Unit, Indian Agricultural Research Institute, Pusa, New Delhi, India.


O-3.3. Shank feathered local hill fowl (Uttara fowl): rural development and food security under backyat system in Uttarakhand state by Navneet Kaur, Shiv Kumar and Balvir Singh Department of Livestock Production & Management, College of Veterinary and Animal Sciences G.B. Pant University of Agriculture and Technology, Pantnagar, (Uttarakhand).


O-3.5. Conservation and crossbreeding, can the twin coexist: a case of Kalahandi buffalo in Odisha. By Sanat Mishra, D. K. Sadana, V. Vohra and C. R. Mallik 1OLRDS, Odisha 2NBAGR, Karnal
SOVEREIGNTY ISSUES OF INDIGENOUS DOMESTIC FARM ANIMAL GERMPLASM FROM AN INTELLECTUAL PROPERTY PERSPECTIVE: A CASE STUDY

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The term "sovereignty" used here is its altruistic legalistic sense which means exclusivity of "rights" with regard to indigenous native germplasm of the country. In the global context of intellectual property (IP) rights today, this has an added significance in unauthorized movement or free-flow of indigenous farm animals and/or their genetic resources across nations and its legal infringement on exclusivity of territorial rights by other parties/nations.

The advent of modern biotechnology and the ever increasing attention to the germplasm upgradation and improvement for desirable traits and the new avenues for global marketing has in fact increased the vulnerability of infringement of germplasm sovereignty across countries, importantly from an IP perspective.

This lead paper raises some issues of sovereignty based on selected case studies of native indigenous domestic animal germplasm which merits attention at national level. The first case cites the example of what seems to be a blatant encroachment by way of widest claim in aggressive patent filing by other countries. This is evident in several patents filed from outside India claiming Bos indicus (of Indian origin) or all bovids for the inventions on Bos taurus blocking other species on which no experiments have been carried out.

Contrary to the one cited above, the second case describes an Indian inventor’s patent with a narrow claim thereby creating an elbow room for others for encroachments in AnGR sovereignty of India. Here, we are referring to the case of CSIR/ Lucknow- Sahilwal milk patent case claiming antibacterial property.

The third case describes the vehement subtle non-disclosure of origin of germplasm in foreign patent now contravening present CBD provisions. Here, the case of Indian Garole micro sheep breed of Sundarban region of West Bengal endowed with a well known fecundity gene responsible for multiple births (twinning) patented as "Boooroola" gene by a foreign country is discussed. There are published evidences by a third party (neutral party) that Garole sheep was in fact transported from India to Australia/New Zealand. Even the patentee under reference here has written in their published paper that Boroolo gene has originated from Bengal sheep (Garole). We have two interesting evidences revealing direct link of Garole/Boooroola gene encroaching the sovereignty of our germplasm. Surprisingly, in the patent document of Boooroola gene the origin of germplasm is not disclosed by foreign inventors but in the related research paper, it has been adequately disclosed (understandably in paper published after filing of the patent, in a questionable manner) by the same inventor i.e. an author clearly stating that the gene has originated from Bengal sheep. Recently, the West Bengal Government Biodiversity Board & NGO have raised this issue and matter in an official forum.
The fourth case describes Geographical Indications (GI) claims by other nations on registered GI of Indian domestic/farm animal products. Here, we implicitly refer to the product of Indian goat breeds yielding Pashmina (goat breed Changthangi & Chegu) claimed by other neighbouring countries. There is good evidence on record that both these nations have claimed GI on Pashmina challenging sovereignty of GI of a product derived from an alien indigenous germplasm. The major concern here is when French Champagne has special protection of GI for its name, why the same is not possible for Cashmere Pashmina. Is it possible to have GI right on a product of a genetic resource by a country other than the bonafide GI right owner? How other countries can have claim on GI with name Pashmina when India has already registered a GI. Can a pashmina raw material importing country claim GI on/of their handicraft work disguisedly encroaching on GI’s sovereignty of other countries?

The fifth case deals with the case of Sheep SNP chip available in global market which is now available in Indian market also. The chip is based on pooled SNP data of 3004 domestic sheep DNA samples from 71 breeds. Breeds were collected from Africa, Asia, South America, Europe, the Middle East, Australasia, the USA and the Caribbean. Out of these 71 breeds, three Indian sheep breeds viz Garole, Deccani and Changthangi were covered in SNP discovery and sheep haplotype panel. These three sheep breeds represent three divergent agroclimatic/ecological zones possessing unique genotypes related to divergent adaptations and disease resistance. Against this backdrop, the intriguing question that comes to our mind is whether we are entitled to any IP sharing benefit based on Nagoya Protocol of ABS? To extend this enquiry further, is it unreasonable to expect some kind of a preferential treatment in the form of some discount in the price in buying the chip, in question, by a country that has significantly contributed to the chip discovery process in comparison to other countries who have had little or no contribution to the R&D process.

The sixth case pertains to a recent report of 2011 on cattle germplasm and its illegal movement across the border which is under investigation by National Biodiversity Board (NBD). The Ongole breed of bull owes its origin to the state of Andhra Pradesh in India and is a highly valued native germplasm, known for its alleged resistance to mad cow disease. There is a growing concern among world nations about the threat of illegal acquisition of genetic material by some nations for commercial exploitation. There is a report that a middleman paid Rs 35 lakhs for an Ongole breed of bull. Healthy bulls fetch a whopping price in Brazil and there is a great demand also for Gir and Kankrej species of cattle from Gujarat widely known for their high milk yield potential. It is reported that a good Gir bull in Brazil can command an attractive price of more than a million USD (approximately over Rs 4.5 crores).

In the year 2011, Gujarat Biodiversity Board initiated an inquiry into the incident where embryos of the Gir cows were exported to Brazil without the requisite permission from NBD. In the year 2010, a report came to light that a Bhavnagar based public charitable trust had exported embryos of 569 cows of Gir breed to Brazil. It is alarming to learn from a related report that two containers with embryos of this valuable breed were flown to Brazil purportedly to improve the stock of cows there. The embryos were developed in a laboratory in Bhavnagar which was slated to have been funded at a cost of Rs 2 crores by cattle breeders from Brazil. These are some of the oft cited violations that are in public view especially for the people in the state of the art and are an adequate premonition given the seriousness of these
impending anomalies.

Based on these case studies, the following action points are suggested.

1. Biodiversity of India is unique and precious due to diverse climate and lack of much selection. Therefore, genotype diversity is a gold mine from our long-term interests with a commercial angle. The utilization of SNP data generated needs much more skillful deals and strategic planning in dealing with international consortia. Consortia approach is always beneficial to each party in principle but the critical issue of benefit sharing cannot be compromised.

2. While patent filing on indigenous germplasm related inventions, the strategic angle of the possible widest coverage of claims must be borne in mind to block the potential areas of future infringements by third parties.

3. Greater IP surveillance especially in the area of animal science is needed to raise the issues without delay and compromising the sovereignty of our domestic farm animal germplasm.

4. Bureau’s role in keeping and investigating such cases in the form of information and its flow to concerned authorities is of paramount importance thus all Bureau linked with germplasm must be strengthened in terms of statutory powers and their functioning in this context as needed to report such cases.

5. The need of germplasm sovereignty sensitisation in IP perspective is needed for common public in general but more importantly, its need for researchers of both public and private sectors as well.

6. Germplasm information flow data by organisations must be kept in public domain using information technology to have a public awareness/check. This would also facilitate avoiding controversies and rumours of the sort.

7. All research/business consortia partners from India must make a statement/disclosure for cases especially where ABS (Access Benefit Sharing) issues are involved.

This paper might be a curtain raiser for researchers, policy makers and germplasm managers in light of WTO regime to transform/rationalise the current documentation endeavour of AnGR as well as research/patent filing system, etc. Possibly and arguably, the absence of such a well documented system may have led/paved the way for encroachment on the sovereignty AnGR of India and is open for discussion.

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