

CHAPTER 52: PROTECTION OF ANIMAL BREEDS - NEED OF THE HOUR: A TECHNO-LEGAL APPROACHS. Venkatesh,⁸⁹¹

1. Introduction:

Protection of a State's resources, including but not limited to its biological system, is a Sovereign function, which may be undertaken through various measures. Among others, regulating patents and related matters; and enacting special statutes with object to protect resources, plays a vital role in respect of safeguarding the resources. Patentable Subject Matter is the sub-title of the Article 27 under Section 5: Patents of the Agreement on Trade-Related Aspects of Intellectual Property Rights [TRIPS] and it is the only part of the TRIPS where the words plant or animal can be found, to be exact it is mentioned four times under Article 27 3, which is reproduced below:

“Members may also exclude from patentability:

(a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;

(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof...” (emphasis supplied)

It is clear that TRIPS provided for the introduction of effects means in respect of plant and animals either through exclusion from patentability, or protection through patent right or legislative measure. It allows for plants and animals, other than micro-organisms, from being patented. However, the Article expressly provided for the protection of plant varieties and is silent for case of animals. This is, ex facie, asymmetric and a total exclusion of animal kingdom and thus a significant gap, which needed to be addressed without further ado. In

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this article issues related to this particular aspect, and its impact are discussed and couple of solutions at presented as well.

India has, in the natural biological resource space, a unique and enviable distinguishing of having four biodiversity hotspots, and National Biodiversity Index of 0.732892. In addition, as per the statistics maintained by Convention of Biodiversity UN) India is bestowed with about 8% of the recorded species on earth and is one of the 17 recognized mega-diverse countries893. Evidential India not only has high degree of inter-species diversity but also has a very high level of intra-species diversity, which is direct consequence of the great diversity and heterogeneity in the weather conditions, and natural terrain and resources throughout the length and breadth of the country.

Protection, preservation and conservation of flora and fauna is not only a Constitutional mandate but has been part and parcel of the cultural, religious and tradition ethos of India from time immortal as can be evidenced from the fact that the entire Eco-system is treated with reverence. Over the past many centuries due to the invasion, impact and influence of alien cultures and system anthropocentric views; and policies and practices got prominence and as a result the ecocentric idles took a hit. The jurisprudence and legal system were also centered on human being as the focal point and the whole ecosystem was considered to be at human's disposal and consumption. The legal position of animals is same as that of an inanimate property and this is a case in point to illustrate the aforementioned anthropocentric view adopted in the legal system. However, things have started to reverse in the past few decades and the world at large appear to move away from absolute anthropocentric principles and beginning to take cognizance of the importance of the ecocentric thought process, which a good, positive and desirable change in the right direction. The importance, significance and difference between anthropocentric and ecocentric world view and the distinction is pictorially illustrated in Figure 1. It has been established scientifically that the policies and practices without due consideration needs, requirements and impact on the ecosystem is the causative factor the environmental pollution, and degradation including but not limited to depletion of Ozone layer, climate change and global warming, species extinctions climate change and global warming, species extinctions.

892 Global Biodiversity Outlook, Available At
<https://www.cbd.int/gbo1/Annex.shtml> (Visited On February 26, 2023)

893 Country Profile: India Available At
<https://www.cbd.int/countries/profile/?Country=In> (Visited On February 27, 2023)

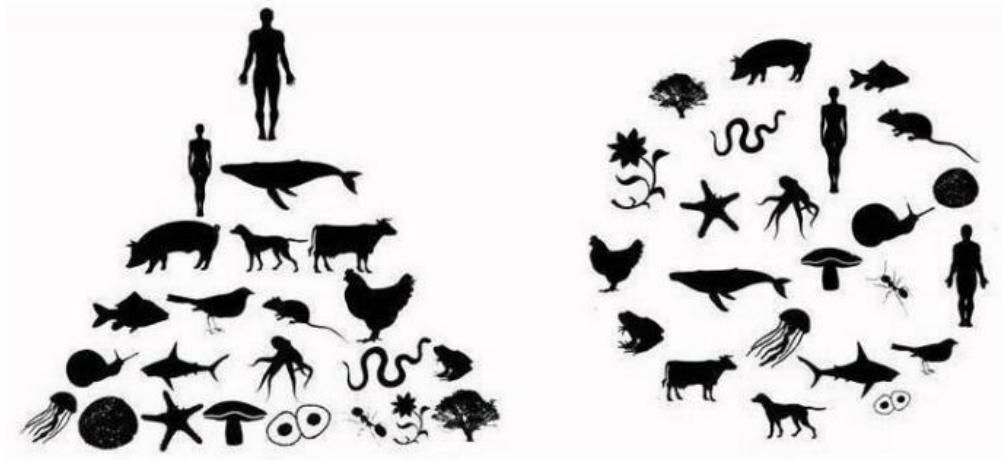


Figure 1: Illustration for Anthropocentric (L); Ecocentric (R)⁸⁹⁴

Conservation of India's cattle biodiversity is pivotal to the livelihood of millions of people, and sustainable genetic preservation of indigenous cattle breeds has become inevitable given the heavy influx of exotic breeds and emergence of the consequent hybrid population with consequent extinction of native breeds. Despite hardships, India has taken various commendable steps towards conservation of biodiversity by formulating National Policy and Macro-level Action Strategy in 1999 followed by the enactment of the Biological Diversity Act, 2002, and notification of Biodiversity Rules in 2004 in line with the UN Convention on Biodiversity. Prior to the enactment of the Biological Diversity Act, 2002, the issue of preservation, conservation and protection of environment, including but not limited to bio-life, was addressed through various enactments. A few prominent ones are listed below:

The Indian Forest Act, 1927

The Wild life (Protection) Act, 1972

The Forest (Conservation Act), 1980

⁸⁹⁴ Narmina Hajiyeva, "What Is Anthropocentrism?" Dated 16 Nov, 2021 Available At <https://Typelish.Com/B/What-Is-Anthropocentrism-100609> (Visited On February 27, 2023)

The Environmental Protection Act, 1986

Protection of Plant varieties and farmers rights Act, 2001

The Biological Diversity, 2002

In a sense, with the exception of the Protection of Plant varieties and farmers rights Act [PPVFR Act] all the other acts are generic and also deals, predominantly if not exclusively, with protection of the lie form at the rank of species or higher taxonomical rank, while PPVFR Act is about protecting plants at the level of sub-species or varieties and thus it not only unique but also targeted and precise. In the common parlance and historically, plants belonging to same species or sub-species but with distinct features or characteristics are called plant varieties, while in the similar case for animals the term used is breed. It is pertinent to note that in the contemporary scientific taxonomical classification has not mention about varieties or breeds since in the classification systems the lowest rank is subspecies, which are genetically distinct groups within a given species. Thus the varieties or breed may be understood as sub-species without any loss of generality or meaning.

In this article the issue pertaining to protection of animal breeds along the lines of PPVFR Act and other solutions are discussed. In the next section the present state of affairs in respect of animal breeds, along the challenges faced is presented, elaborately with statistical data, information and analysis, and the issues are highlighted using the example of dog and cattle. Subsequently, couple solutions from the Executive and Legislative domains are presented.

2. Issue at hand:

The importance and need to protect animal at the breed level is illustrated through the example of couple of domesticated animals with high utility value viz cow and dog. The first step to conservation and preservation of inter-species is the identification, recognition and head count (census) of animal breed. The importance of identification and classification of indigenous cattle breeds has become paramount in order to protect their genetic purity, amidst an unprecedented rate of decline in biodiversity (statistics discussed later)Frequency of Animal husbandry census is Quinquennial (once every five years), and had been done meticulous for the past 100 years. While the statistics had been collected at the level of species over the past century, breed wise data is found wanting. The historical trend of the cattle population with the share of

the indigenous or native cattle compiled from the Livestock census data⁸⁹⁵ is shown in Figure 2, which clearly demonstrate the bothersome trend of significant decline of the native cattle resource. The data for the female cattle population is much for disturbing; in the period from 1992 to 2020 (as that of the Figure 1) the share of native breed reduced from 90% to 67%, while the exotic/cross breed population increased from 10% to 33%. Thus there is very strong case for the protection of indigenous breed of cattle.

India holds about 13% of the world's cattle inventory ranking second only to Brazil (~14.4%), and China stands at a distant 3rd with less than 8%.⁸⁹⁶ There are more than a 1000 cattle breeds recognized worldwide, surprising in India, official, there are 50 registered cattle breeds only (Jan 2020) as per the National Bureau of Animal Genetic Resources (NBAGR) of Indian Council of Agricultural Research (ICAR), which is the nodal agency in respect of the Animal Resource whose mandate is " Identification, Evaluation, Characterization, Conservation and sustainable Utilization of Livestock and Poultry Genetic Resources; and Coordination and capacity building in animal genetic resources

895 Raw Data Available

At <https://Dahd.Nic.In/Documents/Statistics/Livestock-Census> (Visited On February 26, 2023)

896 Statistical Report By UN Food And Agricultural Organization Available At <https://Www.Fao.Org/Statistics/En> (Visited On February 26, 2023)

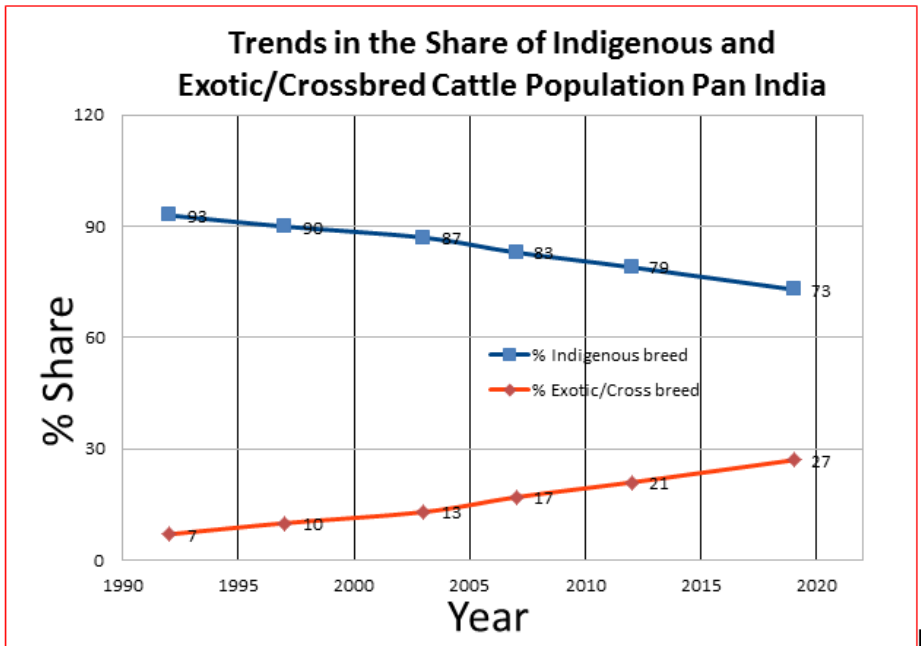


Figure2: Source Data from Department of Animal Husbandry and Dairying, Government of India.

management and policy issues."897 While the number 50 appears to be a high one it has to be understood in the appropriate context worldwide. Following statistics are presented for the comprehending the issue.

897 Website Of NBAGR Available At <https://Nbagr.Icar.Gov.In/En/Mandate-And-Objective/> (Visited On February 26, 2023)

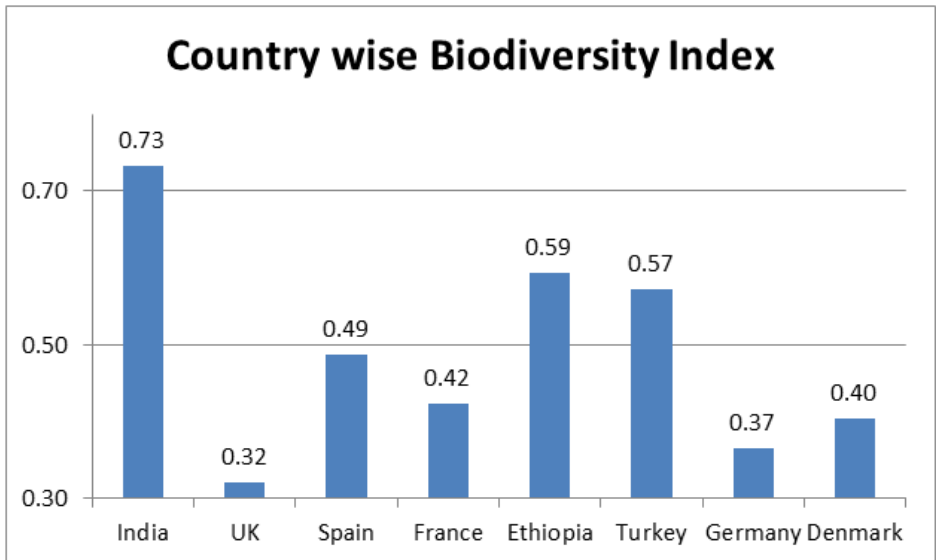


Figure3: Source Data from UN Convention on Biodiversity and UN Food and Agriculture organization

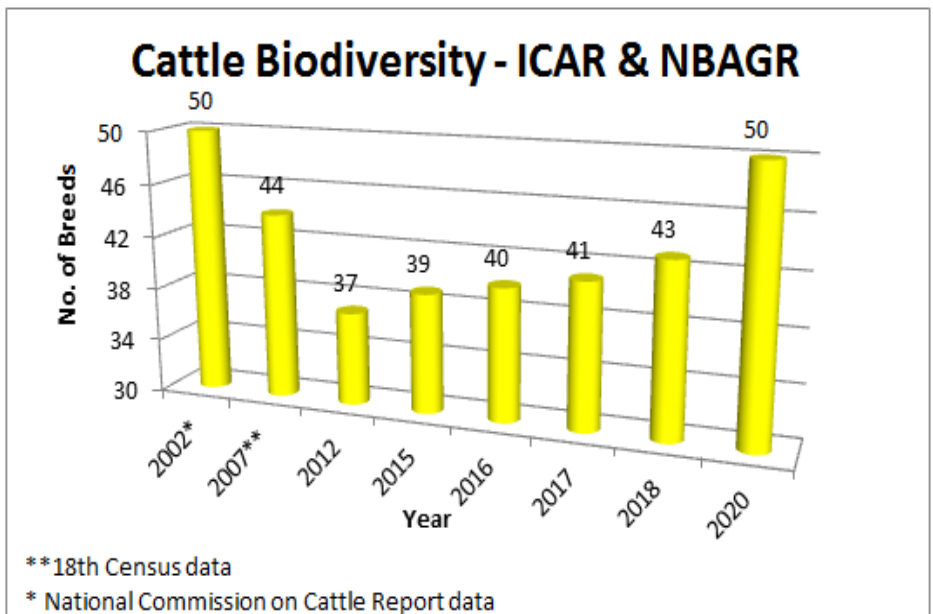


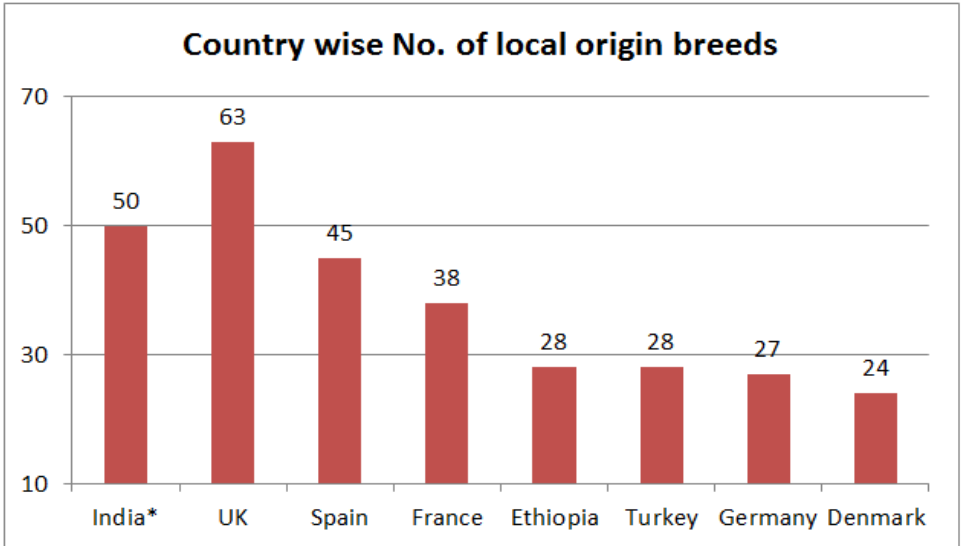
Figure4: Compiled from data from Department of Animal Husbandry,
Government of India **898**

The plot presented in Figure 3 shows that the issue is with identification and recognition of the various native breeds since the newer breeds did not evolve or formed through human intervention in the past couple of decades. Being so, the number of registered indigenous cattle breeds was 37 in 2012 and 43 in 2018. However, the National Commission on Cattle Report [2002], coincidentally, mentioned about the presence of 50 indigenous cattle breeds. Nevertheless, the 18th Livestock Census [2007] specified 44 indigenous cattle breeds only. But in fact, apart from and in addition to the aforementioned 50 registered indigenous cattle breeds there are several hundreds of more cattle breeds which form part of our traditional/indigenous ecological knowledge and system. To illustrate the aforementioned glaring discrepancy in the reported number of indigenous cattle breeds and ignorance, let us consider the following breeds – Dupad of Andhra Pradesh, Alambadi&Tiruchengode of Tamilnadu – all of which were documented in the book published by the then Government of Madras in 1936, titled “Livestock of Southern India”, the first book authored by an all-time livestock officer of long service, Captain R. W. Littlewood. Just as an example of the present scenario, the above mentioned four breeds even though they are not extinct, are not yet recognized and registered as indigenous cattle breeds. Similarly, there is an unregistered Rath breed of Rajasthan [different from the Rathi breed], which was documented in the 1953 publication titled “Zebu Cattle of India and Pakistan” authored by N. R. Joshi and R. W. Phillips and also recognized by the UN’s Food and Agriculture Organization [FAO]. In addition, a recent publication of a scientific research article in the Journal of Animal Research by A K Srivasta et. al., documented about 10 different yet unrecognized and unregistered indigenous cattle breeds – for eg. Gurezi of Jammu & Kashmir, Jhari of Maharashtra, a Hill cattle breed of Tripura, Kasaragode of Kerala.

The comparison with data from countries with significant biodiversity and native cattle breeds are shown through the Figures 5 and 6.

898 Raw Data Available At <https://Nbagr.Icar.Gov.In/En/Home/#>(Visited On February 26, 2023)

Figure5: Source Data from UN Convention on Biodiversity and UN Food and

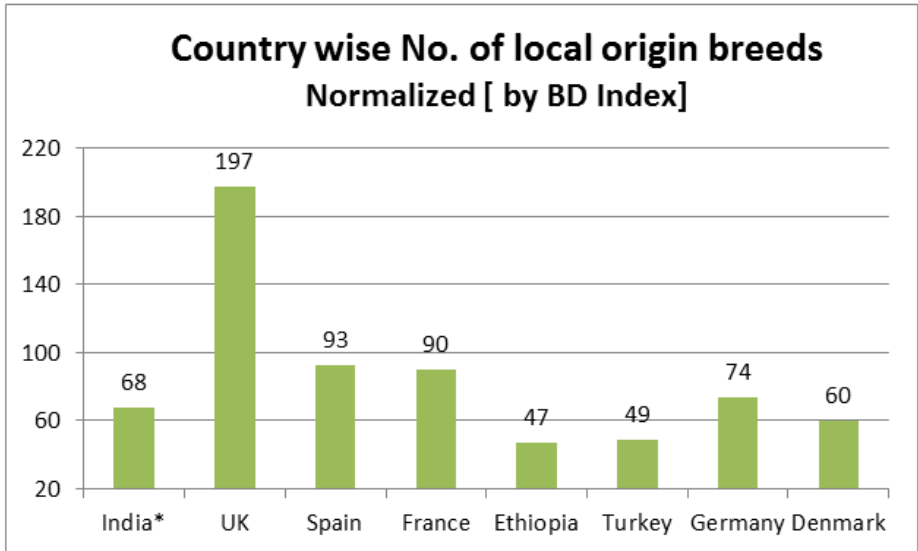


Agriculture organization and India * data from NBAGR

To put in proper perspective the Number of breed is normalized by the Biodiversity index and the same is presented in Figure 6

Figure6: Source Data from UN Convention on Biodiversity and UN Food and Agriculture organization and India * data from NBAGR

The numbers in Figure 6 patently demonstrates the issue of India having identified and registered only 50 breeds, while countries with much less biodiversity has, relatively higher number of native breeds. This apparent



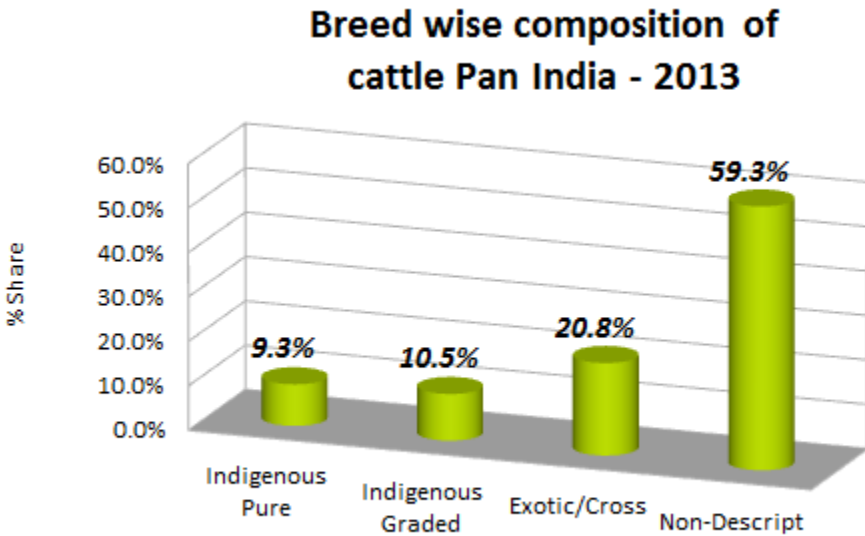
inconsistency, qualitatively, can be understood when one looks at a snapshot of breed wise cattle population data, which the livestock census did capture only on few instances and not in all census. In Figure 7 data from 2013 is shown. It is evident that a very high proportion of cattle belong to the so-called “Non Descript” breed, which is a nothing but a colonial misnomer. These so-called non-descript ones are nothing by the native breeds, which the Government has not identified or recognized.

Presently, the aforementioned unregistered indigenous cattle breeds are categorized/grouped under “Non-Descript” breeds, grossly ignoring the longstanding indigenous traditional ecological knowledge and systems. Consequently, in a native cattle population these unregistered cattle breeds make up to about 75% and the remaining 25% constitute the registered cattle breeds as recorded in the Breed Survey Book of 2013⁸⁹⁹ published by the Animal Statistics Division, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmer Welfare, Government of India.

899 Report Available

At <https://Dahd.Nic.In/Sites/Default/Files/Breeding%20Survey%20Book%20-%20Corrected.Pdf> (Visited On February 26, 2023)

Figure7: Compiled from data from Department of Animal Husbandry,



Government of India⁹⁰⁰

The aforementioned scenario and trend presented is not unique to the cattle. The same trend can be seen with respect to indigenous breeds of other animals, including but not limited to goats, pigs, camels, horses & ponies. There has been a continual and significant decline in the indigenous as well as nondescript breeds in the past three decades. For instance, as per the 1992 Livestock Census data the contribution of native breeds to the total cattle population pan-India was 92% and the same declined to 73% as per the latest

th 20 census data published in 2019. In the states of Punjab, Kerala and Tamil Naadu the contribution of native breeds to the total cattle population has declined to an alarming extent of less than 20%. This unfortunate scenario may reflect the fact that since all the unrecognized and unregistered indigenous cattle

900 Raw Data Available At <https://Nbagr.Icar.Gov.In/En/Home/#> (Visited On February 26, 2023)

breeds have been grouped as non-descript it is highly probable that many indigenous cattle breeds are endangered or on the verge of extinction.

The magnitude and widespread prevalence of the issue, ex facie, can be evidenced when one look at curious case of dogs in India. As per NBAG⁹⁰¹, only the three native breeds of dog is identified and recognized, while there are dozens of exotic dog breed are recognized. The Government of India only in 2021, for the very first time, had recognized officially, through Gazette Publication⁹⁰² for the entire country, Rajapalayam and Chippiparai from Tamil Nadu and Mudhol Hound from Karnataka. The common readers from Tamil Nadu may be familiar with other dog breeds like Kanni , Kombai , while the erudite readers may be familiar with breeds like Bully kutta, Rampur greyhound, Indian Spitz, various Himalayan hounds. However, none of these indigenous breeds are even officially recognized and are grouped under the so-called “non-descript” breeds, which is a grave injustice.

It is pertinent to note that there has been a wide spectrum of breed classification systems ranging from time tested traditional ecological knowledge and systems passed on through several generations spanning across many millennia to the present day conventional genetic marker-based systems. It is pertinent to note that Article 8 (j) of the UN’s Convention of Biological Diversity has acknowledged the contributions made by the traditional communities and their ecological knowledge and systems towards conservation and sustainable utilization of indigenous biological resources. Thus, it is crucial that the present day conventional systems ought to reinforce and expand the traditional ecological knowledge, systems and practices. It won’t be an exaggeration to advance the fact that such a synergy is mandated by CBD and the provisions of which are legally binding on the participating countries. The traditional ecological knowledge and systems have continuously evolved, perfected and been applied for the past many centuries. On the contrary, these knowledge systems inherently confined to specific niches are prone to disappearance as casualties of technological developments and shift in policies. Thus there is strong and urgent case to take immediate and proactive steps to protect, preserve and propagate the highly useful and time tested indigenous

901 Website Of NBAGR Available
At<https://Nbagr.Icar.Gov.In/En/Registered-Dog/> (Visited On February, 27 2023)

902 Gazette Publication Available At<https://Nbagr.Icar.Gov.In/Wp-Content/Uploads/2021/10/Gazette-Notification-Dated-8-10-2021.Pdf> (Visited On February, 27 2023)

methodology, knowledge and management system pertaining to animal husbandry and allied matters.

3. Resolution:

Preservation, and Protection of animal is a State subject⁹⁰³, nevertheless, given the colonial origin and history the Animal Husbandry Department Union Government has dedicated Ministry dealing with matters pertaining to Animal Husbandry. Under Article 243G of the Constitution of India the Panchayats are empowered to deal animal husbandry matters⁹⁰⁴ in respect of the implementation of schemes for economic development and social justice. In order to protect, preserve and conserve the animal resource, especially the intra-species diversity, one need to take 360 degree, multidimensional approach to address the issues, starting from education to awareness all the way up-to the legislative measures. However, given the scope of the article the solution space is restricted to the two pillars of governance system viz Executive and Legislature.

3.1 Executive Action:

Department of Animal husbandry both at the Union level and State level is an evolved, highly networked and well financed. For example in the latest 2023-24 Union Budget⁹⁰⁵ for the Department of Animal Husbandry and Dairying the allocation stood at Rs 4327.85 crores, an increase of about 40% from the revised budget for 2022-23. Since time immemorial throughout India there has been a very long and continual tradition and practice of Animal Husbandry covering various aspects including breed conservation, preservation and improvements, disease management etc, in an animal friendly and sustainable manner. It is imperative the Executive pay more attention to the indigenous knowledge and systems and undertake steps to study, document and

903 Item 15 In List II - State List Of Seventh Schedule (Under Article 246) In Constitution Of India

904 Item 4 In The Eleventh Schedule (Under Article 243G) In Constitution Of India

905 Report Available
At <https://www.indiabudget.gov.in/doc/eb/sbe44.pdf> (Visited On February, 27 2023)

implement them in integration with the contemporary practices and process with the object of protecting and preservation the native animal breeds.

Furthermore, it suggested that the Animal Husbandry department on an urgent and war footing incorporate the traditional and indigenous breed classification system and identification methodology into the exiting mainstream and official records and recognize the multitude of breeds officially. The Section 36(5) of the Biological Diversity Act, 2002 expressly mentioned “respect and protect the knowledge of local people relating to biological diversity” and duty is cast upon the Government to abide by it. The Executive are thus statutorily empowered to act to comply with the provision and the aforementioned mentioned solution could be implemented without any need for further enactments in this respect.

The following breeds from Tamil Nadu is well known among the villages folks and the author has personally observed those breeds in real time and readers may be familiar to with them, thanks to the 2017 Jallikattu uprising for the saving of Native Bovine (Nattumaadu): Manaparai, Malaimadu, Kanchipuram kuttai, Alambadi, Palanji. Kappiliyan. These and another 20 plus are mentioned in the world wide cattle breed database maintained by UN FAO⁹⁰⁶. For the start the breeds from the FAO data base should be identified, recognized and registered. The author from his field experience and visiting cattle markets, can vouch for the existence of the aforementioned breeds from Tamil Nadu , despite the humongous decline in the population of native cattle, which is, as per the Government data, is less than 19%⁹⁰⁷. Therefore this action item is not only feasible and it is easily implementable by and through Execution action.

3.2 Legislative Remedy:

Unlike the plant varieties, for the protection of animal breeds there is no special statute along the lines of the PPVFR Act and there is no specific provision for animal breeds to similar provisions available for plant varieties in TRIPS as well. Nevertheless, Countries like Republic of Bulgaria⁹⁰⁸ have

906 Database Available At [Http://Www.Fao.Org/Dad-Is/En/](http://Www.Fao.Org/Dad-Is/En/) (Visited On February, 27 2023)

907 Statistics Available At [Https://Dahd.Nic.In/Division/Statistics/Animal-Husbandry-Statistics-Division](https://Dahd.Nic.In/Division/Statistics/Animal-Husbandry-Statistics-Division) (Visited On February, 27 2023)

908 Report Available At [Https://Www.Wto.Org/English/Tratop_E/Trips_E/Ta_Docs_E/W125.Pdf](https://Www.Wto.Org/English/Tratop_E/Trips_E/Ta_Docs_E/W125.Pdf) (Visited On February, 27 2023)

enacted special Laws in respect of animal breed, includes a Patent Law and Law on the Protection of New Plant Varieties and Animal Breeds. The issue of animal breed preservation more challenging and technological involved due to the basic fact that for the case of plant lifestyle continuity is through seeds, which can be handled and preserved easily due to its apparent inert and dormancy for a longer period of time. There is no such feature available for animals and thus the risk to existence is higher and threat of extinct is more pronounced. Therefore the need to have legislative measure is imperative and need of the hour for the issues raised hereinbefore.

A good first step is to provide for patent law to ensure and secure protection of animal breeds expressively through legislative enactments and or enactment of a Protection of Animal breeds Act mirroring the corresponding statute for protection of plant varieties. It is not only desirable but imperative that the object of such legislation should not only protection of animal breeds but preservation and conservation as well. There should specific provision to safe guard the indigenous knowledge and systems in respect of animal husbandry and related matters, including but not limited to:

- Scope and extent to be generic covering the entire fauna and not restricted to a subset of species
- Constitution of appropriate authorities both at Central and State levels with mandate to protect indigenous animal breeds and connected matters, in other words for intra-species Preservation, Conservation and Protection
- Creation of special schemes to support the individuals and entities who are maintaining native animal breeds
- Inclusion Specific offences detrimental to breed diversity for example, indiscriminate and improper cross-breeding and inter-breeding , commercial exploitation, and corresponding penal provisions

4.Conclusion:

India is endowed with huge biological diversity both in plant and animal species, and have a tradition and custom of protecting and preserving the same. The wide spectrum of diversity included both inter-species and intra-species, however in the case of later the official position in respect of animals is found lacking since the majority of the animal breeds are classified as “non-descript”, a colonial misnomer. The issue in respect of animal breeds and need to protect the same is described in detail taking the example of situation of

indigenous cow and native dog, in the case of later the situation is very grime since officially only three native breeds are recognized. Furthermore, from statistical data it is evident that the official cattle breeds, there are 50 in number as of Jan 2020, contributes to only about 25 % of the total population of the th

indigenous cattle, who as per the latest 20 Livestock Census contributes to about 73% of cattle population pan India. The native cattle population has declined steady with an alarming rate from 90% in 1992 to 73% in 2019.

Unlike Protection of Plant Varieties there no such statute to offer protection to animal breeds as such and there gap can be seen in this respect in the TRIPS agreement as well, wherein there is express provision for introduction of an effective system for protection of plant varieties by the member countries. These aspects and gaps are highlighted and discussed in this article and proposals from Executive action as well and Legislative measures are presented.

The major proposal for implementation by the Executive is for immediate official recognition of the traditional system of breed identification and classification; and respect and documentation the wider indigenous knowledge system in respect of animal husbandry. A legislative measure through an enactment along the lines of PPVFR Act, 2001 is proposed that needed to take into account the specific aspects and circumstances in respect protecting the animal breeds.