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# Eroding Domestic Animal Biodiversity

**E**VERY animal, wild or domestic, has a role to play in the bio-chain. Over a period of time, livestock farmers have developed a wide range of domestic animal breeds. These breeds are adapted to the conditions of subsistence farming practiced by close to 640 million livestock keepers. Domestic animals provide milk, eggs and meat, plough the fields, and transport goods and people in rural areas, often despite the pressures of heat, drought, diseases and parasites. They not only contribute to the national GDP significantly, but also help in uplift of the socio-economic status of the rural masses.

India, owing to the geological events in the landmass and subsequent geography, provides conditions for high levels of biological diversity. In spite of occupying only 2.4% of the world, India has 7% of rich animal diversity, making her a hub for global domestic animal diversity.

The majority of global domesticated animal breeds of cattle, buffaloes, sheep and goats are native to the Indian sub-continent. Our rich natural wealth reflects through thirty breeds of cattle, ten of buffalo, forty two of sheep, twenty of goats, nine of camel, six of horse, three of pig and seventeen of poultry, in addition to *mithun*, yak, turkey, ducks and the likes. This diversity of domesticated livestock and poultry breeds is an outcome of years of evolution within a specific ecological and economical niche.

Indigenous breeds of our country are endowed with many positive traits like remarkable ability to resist endemic diseases, better tolerance to high heat and humidity, subsistence on local feed and fodder resources and other such characteristics.

Due to the vast resource of livestock and poultry, India ranks first in respect of buffalo, second in cattle and goats, third in sheep, fourth in ducks, fifth in chickens and sixth in camel population in the world. India is home to 57% of the world's buffalo population too.

Animal husbandry is next only to crop production in rural India. Some 70 million rural household own livestock of one species or the other – 60 million among them own cattle and or buffaloes. Almost two-third of these families owning livestock are the most resource poor—small and marginal farmers and landless agricultural

labourers. Income from livestock amounts for 30% to 50% of the rural household income, with wide variations between regions and households.

However, in the last few decades, the rich biological diversity in farm animals is progressively getting eroded, especially in cattle, poultry, sheep and pigs where a large percentage is either being replaced by exotic or crosses of the exotic and native breeds. The reasons are lack of awareness, declining economic benefits, 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 that were once famous for their draught capacity, heat tolerance, disease resistance, and adaptability to harsh agro climatic conditions have become less viable.

## Indigenous Breeds at Risk

<b>Cattle:</b>	<i>Red Sindhi, Sahiwal, Tharparkar, Punganur and Vechur</i>
<b>Buffaloes:</b>	<i>Nili-Ravi, Bhadawari and Toda</i>
<b>Sheep:</b>	<i>Nilgiri, Muzaffarnagri, Malpura, Chokla, Jaiselmeri, Munjal, Changthangi, Tibetan, Bonpala from Sikkim and Garrole</i>
<b>Goat:</b>	<i>Beetal, Jamunapari, Chegu, Changthangi, Surti, Jakhrana and Jamunapari</i>
<b>Camel:</b>	<i>Bactrian, Jaisalmeri and Sindhi</i>
<b>Horses:</b>	<i>Zanskar and Manipuri</i>
<b>Poultry:</b>	All the seventeen indigenous breeds of poultry are facing extinction including the three important breeds <i>Aseel, Kadaknath</i> and <i>Naked Neck</i> .

Many existing breeds are facing varying degrees of threat



Today, many existing breeds are facing varying degrees of threat and endangerment and are heading towards eventual decimation. Therefore, there is an urgent need to create awareness among masses about biological diversity in general and domestic animal diversity in particular. The participation of farmers, non-governmental organizations and research and development organizations is the only way towards better conservation of domestic animal biodiversity.

The future of domestic animal biodiversity, however, rests not only on farmers, but also on scientists, technologists and professionals, and more importantly on our generation next – the budding scientists.

As part of a campaign to create awareness and provide a helping hand in conservation of the domestic animal biodiversity, our young readers can undertake some of the following activities during their vacations:

- Collect information from your area on indigenous breeds of animals, their characteristics, uses, and value in the eyes of their owners. Compare their characteristics with those of the exotic and crossbreed animals. Suggest ways and means to save the indigenous breeds from extinction.
- Find out through a survey about the food habits of the respondents, particularly regarding animal-origin food consumption. Vegetarian and non-vegetarian

food can be preferences in a broader sense, but both the groups might be consuming animal-origin food, find out and analyze your results about proportions of plant versus animal-origin food in the respondents' diet.

- Apart from raising dairy herd, large manpower is involved in livestock related activities viz., manufacture of animal food products and beverages, manufacture of woolens, tanning and dressing of leather, animal farming, production, processing and preserving meat and meat products, manufacture of dairy products, retail and wholesale trade of livestock products, etc. Find out through survey from your area, particularly from rural or semi-

We have a rich natural wealth of domesticated animal breeds





The rich biodiversity in cattle is fast getting eroded

urban base, how many people and in what way are attached to livestock industry for their livelihood.

- Find out through survey and visits to dairy units about the quantity and quality of milk produced. Also gather information about the type of milch animals (cows or

manpower, vaccination, veterinary care, milk (from dairy farm) egg/broiler (from poultry farm) production and marketing.



- Compare the animal power with that of the machine used for the same purpose keeping in mind all the pros and cons of both these resources, in terms of inputs required, output generated and any side effects or negative impacts on the environment.
- Find out about the impact of poultry farm manure generation on the immediate environment, and best solution to tackle it.
- Gather information on socio-economic aspects of poultry industry as a whole, and on farms in particular, and the impact created by the scare of bird flu.

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- Find out the number of poultry farms in your area, breeds maintained, and information on hatcheries, raw materials used by poultry feed industry and so on.
- Find out from shepherds in your area the different breeds and purpose for which sheep is reared, their food habits and other uses.
- Shepherds from the state of Rajasthan migrate all through Madhya Pradesh, Maharashtra to Andhra Pradesh and back home, more or less around the same time every year. Trace these migratory tracts if they fall in your area and find out more about them.
- Collect relevant information on rearing of pigs and its impact on environment, particularly in light of swine flu. Find out about the different uses of pig hair, skin and other body parts.
- Gather information on the 'beast of burden' or the ass, in terms of utilities and work out an economic feasibility report if you are to start a donkey farm.
- Collect information about the 'ship of the desert' and their contribution by way of draught power, hair, milk and milk products.

These exercises would sensitize the young minds helping them become aware of what we are losing out on, and will encourage them to come up with plausible solutions to safeguard the national wealth – the domestic animal biodiversity.

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buffaloes), their breeds (indigenous, crossbreed or pure exotic breed), number in the dairy unit and its type (organized or household), and so on.

- Work out the economic feasibility of running a profitable dairy farm and/or poultry farm considering all aspects including infrastructure, housing, feed and fodder,

