

Gaushala [Cow-Herd] for *in situ* Conservation of Indigenous Cattle Breeds

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Indigenous breeds of cattle like Gir, Tharparkar and Ongole have innate capacity to survive under harsh conditions and produce in spite of limited inputs that can be provided. Having gained the genetic capacity through selection over centuries, these breeds represent the most efficient systems in their respective breed tracts. However, population numbers of the indigenous breed animals have reduced in the recent decades due to several reasons including neglect of their genetic strengths (disease resistance, heat tolerance, work-capacity, ability to withstand natural calamities, tolerance to and conversion of low-quality forages, utilization of bio-mass, suitability and contributions to organic and natural farming, adjustment to local eco-systems) and their genetic dilution through uncontrolled crossbreeding and interbreeding.

In a recent study at NBAGR, several Gaushalas (cow-herds) have been noted as potential centres for breed conservation and improvement. It has been recorded that purebred animals of several breeds (Sahiwal, Kankrej, Tharparkar, and Hariana) are maintained in Gaushalas. Of the more than 4000 Gaushalas spread out in India, about a thousand have the capacity to conserve, or need little intervention to contribute to conservation.

Several Gaushalas in the country have followed innovative methods for raising output from cows and bulls e.g. enhanced utilization of bull power for rural activities and electricity generation (Kanpur Gaushala Society, Kanpur, UP), production of young bulls for export to other states (Shaladeri Gaushala, Haryana), production of Methane, LPG and liquid Carbon Dioxide from gobar gas (Sri Gobind Gaushala, Gorakhpur, UP), and production of panchgavya medicines, vermi-compost and bio-pesticide for use in natural and organic agriculture. Large scale practice of such value additions would also raise farmers' income from livestock as has amply been demonstrated, and would lead to conserving the dwindling indigenous breeds.

For genetic improvement of cattle a new intervention (10 P Model) has been developed and implemented in some Gaushalas. Under this simple model, best few (around 10%) cows from within the Gaushala herd are to be selected out into a separate barn; it was noted in the study that each Gaushala has around 10 to 15% cattle of local pure breed. The 10P Barn is to be kept open in a controlled manner (on the pattern of Open Nucleus) – bringing in the best few true to type cattle from the remaining Gaushala and taking the poorest few from the nucleus to the main Gaushala in a periodic manner (once in 6 months). Special provision of good quality bull needs to be made in the 10P Barn (even by purchase at a cost). This project requires very little outside support (some construction, a quality bull every two years) as the major input is that of management of the existing herd and controlled mating of the selected animals.

While enhancing the output/income of the Gaushalas through value addition of by-products, the fore-front Gaushalas, in this manner, can be transformed to play an additional but pivotal role in conservation of indigenous breeds of cattle.