



Genetic improvement programmes of ruminants in Andhrapradesh

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Andhra Pradesh is an Agrarian state in peninsular India with a geographical area of 27.5 million hectares. Agriculture sector contributes 25.95% to the states GDP and 68.61% of the states work force are engaged in this sector (1999). Livestock sector plays a pivotal role in rural economy of the state. Andhra Pradesh ranks 9th, 2nd, 2nd and 10th in cattle, buffalo, sheep and goat population respectively accounting for 5.39, 11.00, 15.36 and 3.76 per cent of the country's cattle, buffaloes, sheep and goat population. This state is divided into three geo-political regions viz., Coastal Andhra, Telangana and Rayalaseema. These regions also differ significantly in agro-climatic conditions and irrigation potential, which resulted in differential overall development.

Telangana region has 10 districts which accounts for 41.76 per cent of the states geographical area. The climate is mainly semi-arid tropical type. Nalgonda, Mahaboobnagar and parts of Medak and Ranga Reddy districts are drought prone. Main crops are rainfed cereals and groundnut except in command area of projects built across Godavari and

Krishna where rice and commercial crops are grown.

Rayalaseema region consists of 4 districts, accounting for 24.46 per cent of geographical area of the state. It has semi-arid tropical climate with frequent droughts. Rainfed cereals and groundnut are the principal crops grown in this area.

Livestock development and choice of livestock species differ with different agro-climatic conditions and farming systems in these areas. Therefore, an attempt is made in this paper to discuss about growth trends of various ruminants in these regions and various genetic improvement programmes in operation from time to time.

Though the state has to shoulder the responsibility of livestock development, including implementation of breeding policy, its reach and coverage of breeding population was woefully small.

The genetic improvement programmes in Andhra Pradesh were mostly centered around metamorphosis of artificial insemination programme, which started in early fifties. Most of the schemes were either sponsored or aided by the Government of India or external funding agencies. The policies lacked consistency and were mostly short sighted, often not considering the long-term implications. The long-term changes in the socio-economic situation were also not given adequate thought.

Population dynamics and genetic Improvement programmes

Andhra Pradesh with 109.47 lakh cattle accounts for 5.39 per cent of country's cattle population and ranks 9th in country.

This state is the home tract of world famous 'Ongole' cattle and dwarf breed 'Punganur'. Apart from these two breeds, Deoni cattle exists in parts of Medak district adjoining Maharashtra while Hollikar cattle are found in parts of Ananthapur and Chittoor districts adjoining Karnataka state. However, defined breed population comprises of less than one per cent of total cattle population of the state.

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The breeding policy for cattle in this state envisages (a) preservation of native breed "Ongole" in Ongole breeding tract and its surrounding areas of breed tract. Similarly AI with Deoni semen is advocated in areas where that breed exist. (b) Crossbreeding with Jersey and Holstein-Friesian is recommended for non-descript cattle and 50 per cent exotic semen to crossbred cattle so as to restrict the exotic inheritance at 50% level.

AI was popular in Rayalaseema and Coastal Andhra and least popular in Telangana. The use of exotic semen was high in Rayalaseema followed by Coastal Andhra and was lowest in Telangana. Strikingly the use of indigenous semen was very high in Telangana followed by Coastal Andhra and Rayalaseema. Though Telangana is not the breed tract of indigenous Ongole breed, this high usage of indigenous cattle semen and high growth rate of buffaloes suggests that farmers of Telangana are preferring cattle for drought purpose and shifting to buffalo for milk production, thus maintaining each species for different purposes.

The envisaged policy of crossbreeding non-descript cattle with Jersey and Holstein Friesian and maintenance of exotic blood level at 50%; conservation and genetic improvement of native breeds through selective breeding programme is in line with national breeding policy. However, production of about 8.56 lakh semen doses of cattle is not commensurate with 30.3 lakh breedable female cattle population, that too with a low AI success rate. Therefore, there is an urgent need to augment the semen production through increasing the number of breeding bulls. Further, the bulls used for semen production and distribution are neither progeny tested nor pedigree tested. Often, the bulls are not screened for cytogenetic abnormalities and even for sexually transmitted diseases. There is need to strengthen and streamline the field progeny testing through increased technical, financial support and infrastructure development to bridge the gap between demand and supply for proven bull semen of various genetic groups produced on sound scientific lines.

At present Ongole cattle germ plasm conservation and improvement is taken care by LRS, Lam, Guntur and its associate herds at four other places with the main objective of improving the Ongole cattle. Similarly, "Punganur cattle" one of the worlds shortest cattle breed which is on the verge of extinction is being conserved at LRS, Palamaner by employing both *In*

situ and *Ex situ* conservation techniques.

Buffaloes

Andhra Pradesh though do not have any specific native buffalo breed, ranks 2nd in its population (91.93 lakhs) in our country.

Buffaloes are predominant in Coastal Andhra (51.55%) followed by Telangana (35.06%). This is mainly because buffalo fits well into Coastal agro-eco system and is well integrated into rice based production system of Krishna Godavari command areas. Grading up non-descript buffaloes with Murrah has caught up well in Coastal Andhra. The population dynamics indicate a steady decline in male population while increasing trend was observed in female population (1.2 to 4.8) and young stock (1.9 to 5.8). At present Murrah grades constitute proximately 12% of the total female population. This is mainly due to the fact that buffaloes are reared for milk production, while cattle are mainly used for drought purpose in Andhra Pradesh. The increase in buffalo milk production in state is entirely market driven and can be cited as classical example as how demand can stimulate increase in production.

However, the data is not sufficient to quantify the increase in graded murrah population in the state over a period of time, which can be viewed as an indirect indication of impact of buffalo breeding policy.

A comparison between proportion of buffalo population and AI conducted in three regions indicates disparities in, level of adoption. Though Telangana contain 35.06 per cent of buffalo population in the state it accounted for only 18.44% of total AI conducted indicating lower adoption of AI, which may be due to backwardness of this area in agricultural development. This situation is reverse in Coastal Andhra.

The buffalo breeding policy of upgrading the non-descript buffaloes through use of Murrah semen is accepted national policy, which holds good in A.P. also. However, around 12 lakh semen doses produced are inadequate to cover approximately 48.0 lakh breedable she buffaloes. Hence, there is an urgent need to increase production of semen doses using progeny tested buffalo bulls.

Small ruminant production

In this state sheep and goat are raised primarily for meat production. Andhra Pradesh ranks 10th in goat production with an estimated population of 43.29 lakhs





(1999).

However, very limited efforts were made in sheep and goat breeding for productivity enhancement.

The sheep and goat in Andhra Pradesh have registered a growth rate of -1.12 and 2.3. It is important to note that goats have registered impressive growth which is locally market driven inspite of the bias shown against goats in Government policy and intervention programmes.

Though Andhra Pradesh is not the home tract of any recognized goat breed, Osmanabadi goats are seen in few numbers in parts of Medak and Nizamabad districts adjoining Maharashtra State. Similarly Ganjam or Black Bengal types of goats are seen in parts of Srikakulam, Vijayanagaram and East Godavari districts. Few number of Barbari, Jamunapari and Jhakhana type goats are seen around Hyderabad and other areas which were introduced by few progressive farmers.

However, the local non-discript goats are prolific and well adapted to local climatic conditions.

There were no organized efforts from the AHD to improve the goat production in the state. Apart from the total negligency, there was certain antagonism due to the misnomer that goats are forest destroyers. However, goats form important livelihood for the deprived section in the rural India.

In urban areas introduction of Barbari or exotic breeds viz., Sanen or Alpine is envisaged under intensive management.

Conclusion

There is an urgent need to strengthen the semen production and careful planning is necessary to conduct progeny testing of the young bulls. Steps must be taken for field progeny testing of the bulls at farmers level by roping in the farmers to participate in the entire process. Labs must be modernized for quality analysis of semen production.

The department of Animal Husbandry grossly neglected the small ruminants, which play pre-eminent role in meat production.

The negative growth (-1.12) observed in sheep production indicated need for increasing the thrust on sheep production to reverse the situation. Due weightage must be given for infrastructure development in sheep breeding. There is an urgent

need for large-scale production and supply of genetically superior rams to farmers on payment. ONBS must be employed to obtain faster genetic improvement, which is comparatively easy as growth traits are highly heritable.

The positive growth trend (2.3) in goats, inspite of antagonism shown by government needs a fresh look at this antagonism and general apathy. Goat production must be given due weightage in poverty alleviation programmes as goat production farms most important livelihood system amongst the rural poor. Sidelining goat based on misconceived idea that they are forest destroyers in reality may have negative impact in poverty alleviation programme.

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