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Ministry of Agriculture & Farmers' Welfare
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BREED IMPROVEMENT OF INDIGENOUS NONDESCRIPT COWS IN GREEN-AG PROJECT VILLAGES - SIMILIPAL LANDSCAPE, ODISHA

The Green-Ag project focuses on empowerment of farmers through preserving and promoting indigenous breeds and enhancing agricultural productivity while safeguarding the environment.

A practice of commercial dairy is not prevalent among the community in the Green-Ag project villages in Odisha Landscape. There is predominance of nondescript indigenous cattle in the project landscape.

The farmers mostly rely on conventional methods of natural breeding amongst the free grazing livestock for raising their livestock. Therefore, the artificial insemination program of the Veterinary and Animal Resources Department of the Government of Odisha has not been picked up. However, under the natural breeding method, stray bulls of inferior genetic material can breed with non-descript cows leading to progeny of inferior genetics. Farmers are unable to realize that this practice of natural breeding due to free grazing, over the years has narrowed their scope of earning through livestock-based livelihoods due to sustaining inferior quality of livestock.

As a possible solution to this problem, breed improvement of the nondescript indigenous cows is proposed in the Green-Ag project villages which is in line with the Government of Odisha's policy of promoting artificial insemination in cattle. During this process, the local nondescript cows will be induced with oestrus and artificial insemination will be conducted simultaneously using descriptive semen of good indigenous bull (such as Haryana, Gir and Red Sindhi) in synergy with the artificial insemination program of the Government of Odisha. The inseminated non-descript cows will produce genetically upgraded indigenous calves, which with better feed and health management practices, as envisaged in the Green-Ag Animal husbandry strategy, will definitely have higher milk production, than their mothers. This will not only help in having better nutrition for the livestock keeper family but also may enhance the livelihoods of farmers through dairy.

The importance of indigenous cows :

Indigenous breeds of cattle play a crucial role in sustainable agriculture. They are well adapted to local conditions, resistant to many diseases, and thrive on locally available feed. Additionally, indigenous cows provide nutrient-rich milk, and manure for organic farming and contribute to rural livelihoods.

Key Features of the Proposed plan :

- **Breeding Selection:** Identify young and healthy nondescript indigenous cows based on desired traits and suitability to local conditions.
- **Artificial Insemination (AI):** Introduce high-quality genetic material through AI to improve the breed's productivity. Cow Keeper has to keep its cow under watch throughout the period means from selection phase, examination, till the cow comes to Oestrus & Insemination is done.
- **Training and Awareness:** Conduct training sessions for farmers to educate them about the process and advantages of breed improvement. The livestock keeper has to be made aware of advantages of livestock of improved breed and its relevance for his livelihoods.

Desired Traits: - The heifer/cattle to have following traits:

1. Squarely placed medium elongated teats with evident milk mirror.
2. Docile yet active behaviour.
3. Not a repeat breeder.
4. Well placed limbs with no defect in gait, limbs propionate to body.

- **Healthcare:** Implement a complete package of health care for the livestock.
- **Record Keeping:** Maintain comprehensive records of the breeding, health, and feed management and its impact. An animal health card will be given to all the animals brought within the ambit of this programme.

Sign & Symptoms of Oestrus :

The cow keeper should know the signs & symptoms of Oestrus which are as follows:

The cows come to Oestrus in 18-21 days.

The signs of Oestrus are

- Bellowing.
- Frequent urination.
- If the cow is milking, then the milk yield will be suddenly less.
- The cow may try to mount on another cow.
- There is marked swelling of the vulva with transparent discharge on the mid Oestrus which is the best time (between 12 hrs to 15 hrs of oestrus) for Artificial Insemination.

The cow keeper must put the cow in confinement and follow stall feeding practice, not allowing for free grazing till the oestrus period is over & insemination is completed by the veterinarian.

Benefits to Farmers and the Environment :

- **Increased Income:** Improved cow productivity leads to higher milk yields, offering opportunities for increasing farmer's income.
- **Sustainable Farming:** The Livestock rearing and management technologies promoted through this program will augment the utilization of cow dung as organic manure and shall promote ploughing by bullocks due to improvement in the cattle.
- **Organic Manure:** By reduced free ranging, cow dung will be available which provides high-quality organic manure, reducing dependence on chemical fertilizers.
- **Positive impact on forest regeneration:** The landscape of full of forests. A free-ranging animal not only eats on the new plants in the forests but a lot of damage is also caused due to the trampling of young regeneration. Therefore, fewer free-ranging animal will have a positive impact on the forest ecosystem resulting in a better provisioning of ecological services from the forests.
- **Resilience:** Indigenous cows are better adapted to local environmental conditions, making them more resilient to climatic changes.
- **Preservation of Culture:** With improved milk production, the villagers will be able to revive their traditional food chain comprising of milk and dairy products.

Plan for Programme Implementation :

It has been proposed to implement the breed improvement of nondescript indigenous cows in 30 villages from the Similipal Landscape, where the indigenous nondescript cow population is highest, selecting 30 healthy nondescript (deshi) cows/heifers in each village and conducting artificial heat induction. The program will be carried out in three phases examination and finally, insemination so that 900 cows can be artificially inseminated from the semen of quality indigenous bull.

Conclusion :

The initiative for breed improvement of indigenous livestock is a cornerstone of the Green Ag Project, contributing to enhanced livestock-based livelihood opportunities for the farmers. This will also enhance and strengthen the practices of sustainable agriculture and environmental conservation and shall support rural development, in the project landscape in Odisha.

"Together, let's nurture and protect our indigenous cow breeds for a greener and prosperous future."

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