

Osmanabadi Goat Field Unit of the ICAR-All India Coordinated Research Project on Goat Improvement

Funding agency: Indian Council of Agricultural Research (ICAR), Government of India, New Delhi, administered by the Central Institute for Research on Goats, Makhdoom, Via Mathura, U.P.

Scientists: Dr. Chanda Nimbkar, Dr. Pradip Ghalsasi

Technical staff: Mr. Kanhaiya Chavan, Mr. Navnath Patange, Ms. Bharati Pawar, Mr. Rupsing Khanvilkar, Ms. Surekha Murumkar (in Sakat, Dist. Ahmednagar), Mr. Shivaji Varat (in Gandhanwadi, Dist. Beed), Mr. Kunal Kadam (in Gosaviwadi, Dist. Satara).

Executive Summary

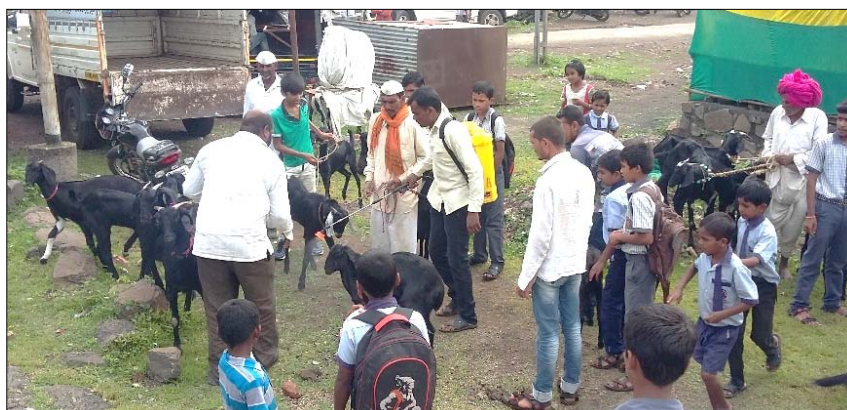
- i. An **Osmanabadi goat field unit was established at NARI in April 2009** under the AICRP on Goat Improvement. During the period 1 April 2017 to 31 March 2018, the production performance of goats in farmers' flocks was assessed in villages in four districts of Maharashtra State. viz. Ahmednagar, Beed, Pune and Satara.
- ii. **This year the Osmanabadi goat field unit adopted three new clusters** - Patoda taluka in Beed district, Mann taluka in Satara district and Baramati Taluka in Pune district. For the first time we surveyed and approached farmers in these areas we had not covered before.
- iii. **Five hundred ten adult does (199, 31, 218 and 62 adult does in Ahmednagar, Beed, Pune and Satara districts respectively) are being recorded.** These belong to 122 goat keepers, indicating that about four goats are reared per household on average. Detailed periodic recording has been done of their body weight, milk yield, reproduction, kid weights, mortality, morbidity, cost incurred for goat rearing and income earned.
- iv. 770 kids were born in 474 kiddings of 429 does during April 2017 to March 2018, making the average litter size 1.79.
- v. **Fourteen more Osmanabadi bucks were purchased** during the period April 2017 to March 2018, with six months weights of 16 to 19 kg and dam's milk yield 1 to 1.8 litres per day. **The standardized selection differential works out to 2.8 standard deviation units.** The total number of bucks purchased since 2009 is 71.
- vi. About 36,150 straws (0.25 ml French mini straws) of frozen semen of 50 Osmanabadi bucks were produced in NARI-AHD's Frozen Semen Laboratory from January 2012 to 31 March 2018. Out of this 20,482 straws were supplied to Animal Husbandry and Veterinary Services Department of Government of Karnataka; 10,336 straws were supplied to A.I. technicians and farmers for breeding Osmanabadi goats and 500 straws provided to the National Bureau of Animal Genetic Resources, Karnal, Haryana for breed conservation as per the technical programme of the AICRP-Goat Improvement. 238 straws were used for artificial insemination in local goats in Phaltan that were brought to NARI's farm for A.I.
- vii. **During 2017-18, total 3,830 Osmanabadi buck straws were supplied** to A.I. technicians, farmers and entrepreneurs for breeding Osmanabadi goats. These include 900 straws supplied to The Goat Trust, Lucknow, Uttar Pradesh and 1,375 straws supplied to three entrepreneurs from Pune, Satara and Solapur districts for further

supply to A.I. technicians. More than 70 A.I. technicians have started using Osmanabadi buck frozen semen from NARI for inseminating Osmanabadi and local does in the field. Conception rates of 50 to 55% have been reported by field technicians.

- viii. **The Goat Trust, Lucknow have carried out close to 900 A.I. among goats in Gondia, Wardha and Osmanabad districts, using Osmanabadi buck frozen semen straws produced at NARI-AHD. Thus the superior genetics developed in the Osmanabadi Field Unit is reaching far and wide.** Considering a 50% conception rate, that means 450 does have conceived from this frozen semen and produced progeny.
- ix. **The Osmanabadi Field Unit has established the least squares mean 90-day milk yield of Osmanabadi does to be 110 kg with 1398 records.** This was measured using the weigh-suckle-weigh method and is likely to be a slight overestimate. Even so, this establishes the Osmanabadi breed to be among the top five dairy goat breeds in India. The least squares mean 90-day milk yield of does having singles, twins and triplets was 62.9, 92.4 and 126.1 kg respectively, indicating that milk yield increases with the number of kids.



Milk recording
and spraying against
ecto-parasites



- x. NARI-AHD has published ten information booklets/leaflets in Marathi language to give information to goat keepers on better goat management practices. Regular preventive health care of goats was carried out in all villages including vaccinations, deworming and spraying against ecto-parasites.
- xi. Goat keepers were trained in preventive health care of goats and first-aid treatment so that they can care for their goats themselves instead of having to rely on others.

Salient Achievements

- i. **An SQL-based comprehensive data base** has been developed and established for all data of the Osmanabadi Field Unit since 2009 and these data are now available for analysis and interpretation. The data are secure in the database for future use.
- ii. Authentic data on Osmanabadi goats were collected in different regions of Western and Central Maharashtra. These data have helped to **establish the Osmanabadi as one of the prime goat breeds in the country, outstanding in its productivity potential.**
- iii. A goat competition was held in **Dhakale village in Baramati Taluka in which 41 goat keepers from within and outside the project participated with their 110 goats (92 females and 18 males).** Males and females were judged separately in total eight groups. The prizes were distributed by the **Commissioner, Animal Husbandry, Maharashtra State and the Managing Director of the Punyashlok Ahilyadevi Maharashtra Sheep and Goat Corporation.** This gave wide publicity to the AICRP-Goat Improvement and also created a linkage with the Government of Maharashtra.



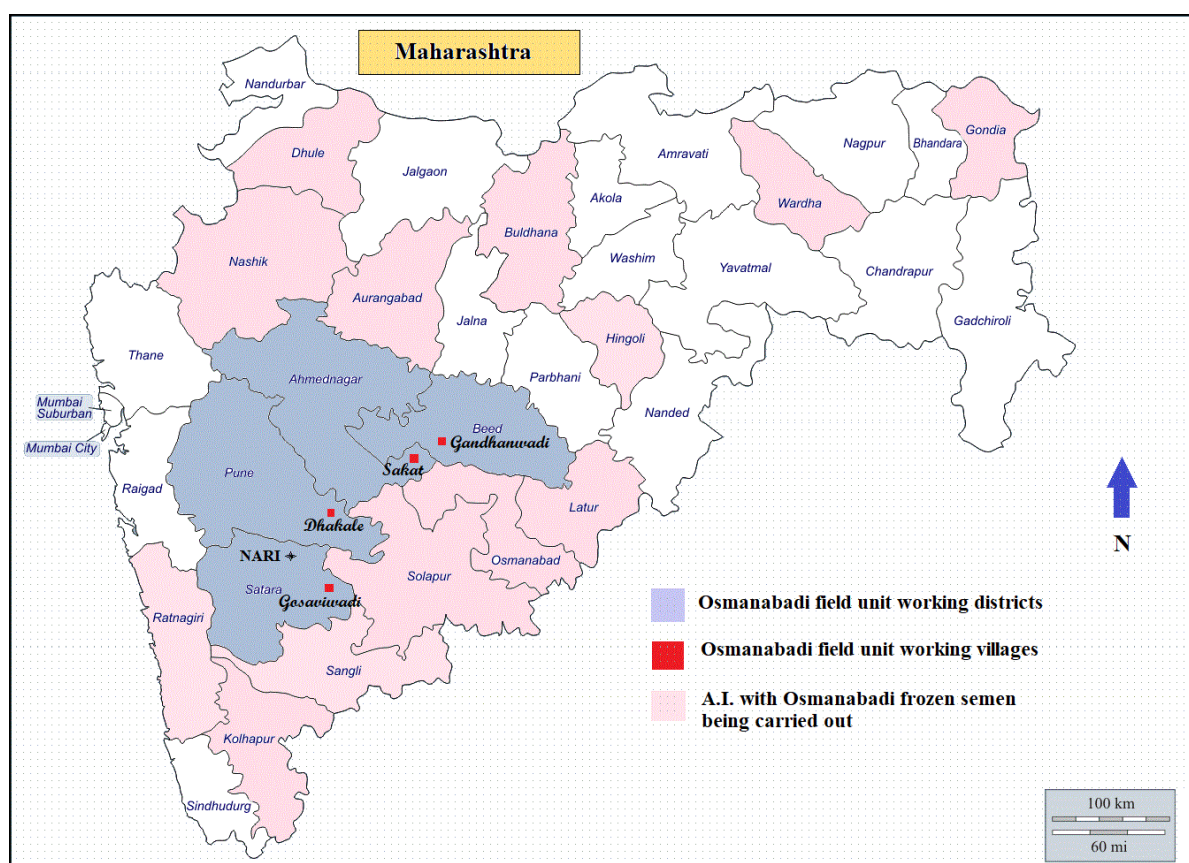
- iv. Performance recording of more than 5000 Osmanabadi goats and their progeny over the last nine years has led to selection of superior twin- or triplet-born males born to high-milk-yielding goats with high reproductive performance. A subset of these males are used for breeding in project villages and frozen semen of another subset is disseminated in areas outside the project through a network of AI technicians. **The Osmanabadi Field Unit has thus established an effective model of genetic improvement and its dissemination** which can be considered the first in the country.
- v. **In 2017-18, the Goat Trust, Lucknow have carried out close to 900 A.I. among goats in Gondia, Wardha, Tuljapur and Osmanabad districts,** using Osmanabadi buck frozen semen straws produced at NARI. Thus the **superior genetics developed in the Osmanabadi Field Unit is reaching far and wide (almost half the total 34 districts of Maharashtra).** Considering a 50% conception rate and including straws procured by other technicians, close to 2000 goats have conceived from this semen in 2017-18.

vi. **Empowerment and capacity building of smallholder goat keepers** is being carried out through continuous training workshops, awareness development programmes, exposure visits, goat contests and constant interaction and contact. This has helped to **improve the status of the goat keeping occupation.** It will empower goat rearers in project villages to adopt scientific feeding, breeding and health management with help from the government

Department of Animal Husbandry personnel at the village level.



Work areas of Osmanabadi Field Unit of NARI under AICRP Goat Improvement



- vii. In the two newly adopted villages Gosaviwadi and Dhakale under the Osmanabadi Field Unit, we have been able to convince the goat keepers to put ear tags on the kids also. **Therefore 100% tagging in the ear has been achieved.**

Technology transfer and validation in field flocks

1. Ten Sheli (goat) Sakhis (para-vets) from Mann Deshi Foundation, Mhaswad, Taluka Mann, Dist. Satara were given training in First aid and A.I. in goats in June 2017. They are lady link workers under the Maharashtra Agricultural Competitiveness Programme of the Government of Maharashtra, funded by the World Bank. They are carrying out A.I. successfully and providing first aid treatment to goat keepers in Mann taluka in Satara district.
2. NARI-AHD has given 15 excellent quality breeding bucks in adopted villages and the kids sired by them are outstanding.
3. NARI carries out spraying of acaricides regularly in the villages under the project. Spraying is carried out not only on all goats but also on all cattle and in the sheds at the same time. Goat keepers are also instructed to move their animals out of the shed, if possible, for a month to get rid of ticks by breaking the cycle and avoiding re-infestation. This has shown good results and kept the goats free of ticks.

Earlier the goat keepers used to spray acaricides when there was high infection and only on infected animals, due to which these goats would get re-infected from other goats or animals having ticks.

4. A newly established compound livestock feed production factory Kisan Agro at Phaltan has started to produce special goat feed from October 2017. The Veterinary Officer of the Osmanabadi Field Unit Dr. Pradip Ghalsasi had discussions with the executives of the factory about concentrate feed formulation for goats. They accordingly designed the formula of goat feed and named it Mukta concentrate feed for goats and sheep. The feed contains 18% protein and the price is Rs.20/- per kg. Kisan Agro now supplies 10 tons Mukta goat feed per month in Satara, Sangli, Solapur and Pune districts of Maharashtra. The feed has become popular among goat keepers. Recently, NARI gave 2 kg of this feed each to goat keepers in Dhakale village in Pune district under the project.

