Project Coordinator's Report

अखिल भारतीय बकरी सुधार समन्वित शोध परियोजना

All India Coordinated Research Project on Goat Improvement

(2023-2024)





Goat – The future animal





भाकृअनुप
ICAR

भा.कृ.अ.प.–केन्द्रीय बकरी अनुसंधान संस्थान

मखदूम, फरह–281 122, मथुरा (उ.प्र.) भारत

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ICAR-Central Institute for Research on Goats

Indian Council of Agricultural Research, DARE, Ministry of Agriculture & Farmers' Welfare

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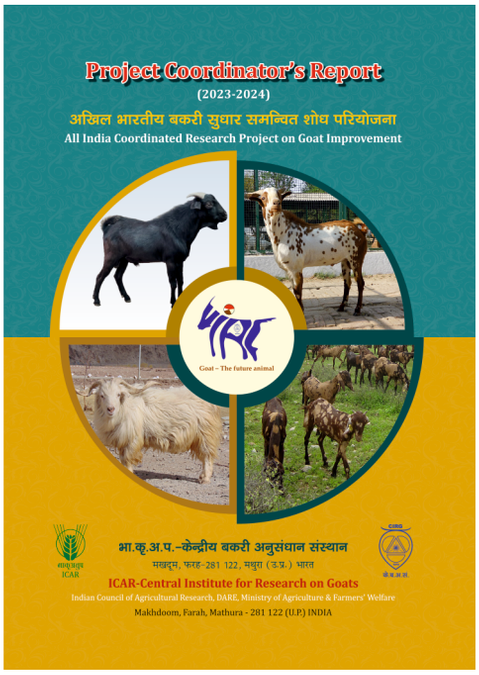
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MAKHDOOM

अखिल भारतीय बकरी सुधार समन्वित शोध परियोजना

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1. INTRODUCTION

AICRP on Goat Improvement is a unique long term, structured programme aimed to bring upon genetic improvement and conservation of goat genetic resources of the country in their respective habitat. The programme explores genetic variations in local breeds through systematic animal identification and performance recording, selecting superior goats on the basis of their performances, development of breed and region specific package of management practices technologies and its validation in farmers flock. ICAR in the year 1971's under Vth Five Year Plan started a network programme later called ***All India coordinated Research Project on Goat (***AICRP) to achieve rapid increase of genetic potential of indigenous goat for improved milk, meat and mohair yield by cross-breeding indigenous breeds with high yielding exotic breeds (milk and mohair) and other better-producing indigenous breeds for meat component. The head quarter of project was made NDRI, Karnal from 1970 to1974 thereafter, CSWRI, Avikanagar from 1974 to1976 and CIRG Makhdoom from 1977 onwards. Alpine, Saanen, Anglo-Nubian and Toggenburg were identified as exotic dairy breeds whereas; Beetal and Malabari goats as indigenous breeds. Gaddi and Sangamneri were used as native breed and Russian Angora as exotic breed of goats for mohair. Chegu in 1971 and Changthangi in 1973 goats were added to improve pashmina quality and quantity through selection. Later on in VIth plan (1976) three units namely Marwari Sirohi, Kutchi were added for improving meat potential through selective breeding and 3 more breeds namely Black Bengal in 1976 at BAU, Ranchi, Assam local goat in 1977 at AAU, Bernihat and Shingari in 1983 at Jorethang, Sikkim through crossbreeding with Beetal and Jamunapari as indigenous improver breeds. The crossbreeding with temperate found to be invariably unsuccessful and unsustainable in the long term. The crossbreeding with indigenous breeds was also terminated due to increase in age first kidding and decrease in multiple births in crossbreds and non-sustainable in the long term.

The All India Coordinated Research Project on Goat was phased out with effect from 31st March 1990 with the experience gained and information generated, it was decided to **abandon crossbreeding and follow selective breeding in the VIIth five year plan (1992–97)** and improve meat and milk production through **selective breeding** in indigenous breeds**.** The "Network project on Goat Improvement" was launched with effect from 1 April 1990 with an aim to define, characterize and improve the productivity of indigenous breeds through selective breeding in their breeding tract and natural habitat. Presently, program is covering 18 breeds and 19 centers as funding units and 6 breeds with 10 centers as non-funding units across the country. Three breeds namely Barbari, Jamunapari and Sirohi are being improved under semi-intensive farming system at institutional organized farms. Other breeds are being improved under farmer's flock in their respective home tract. The project is maintaining 500-750 goats under farm unit at Institutional nucleus flock, 100-150 goats of nucleus flock under field units and 1500-3500 goats with adopted farmer's flock. Currently project is focusing on building farmer participatory infrastructure for sustainable genetic improvement and conservation of caprine resources, action plan for breed specific research issues, development of multiplier flocks to ensure superior goat availability for improvement, entrepreneurship and skill of farmers, adoption of technologies, promoting animal welfare and women participation, enhancing employment and income of farmers and goat based livelihood activities for deprived communities and people of disadvantageous regions.

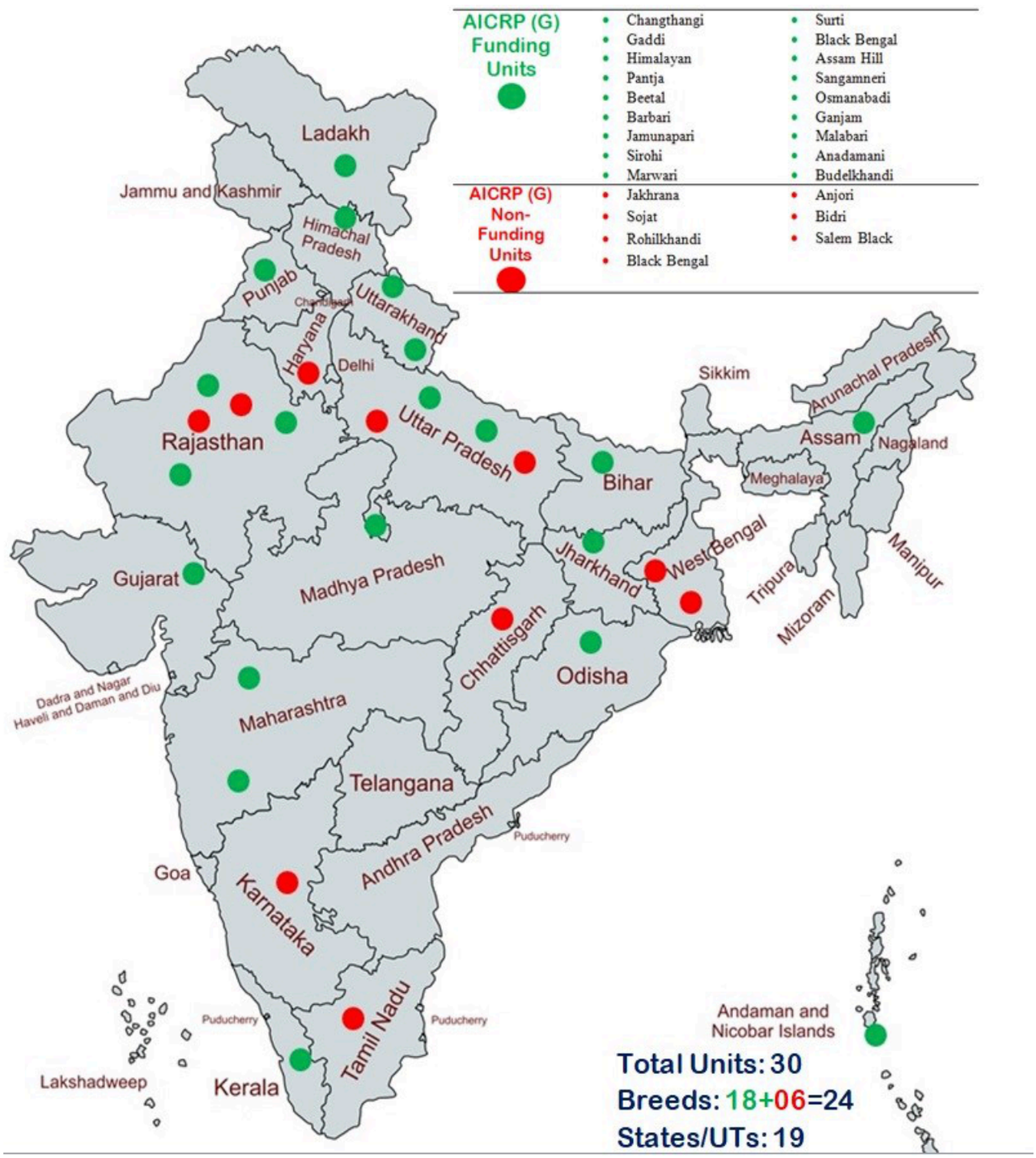
The details of funding and non-funding units of AICRP on Goat Improvement are presented below

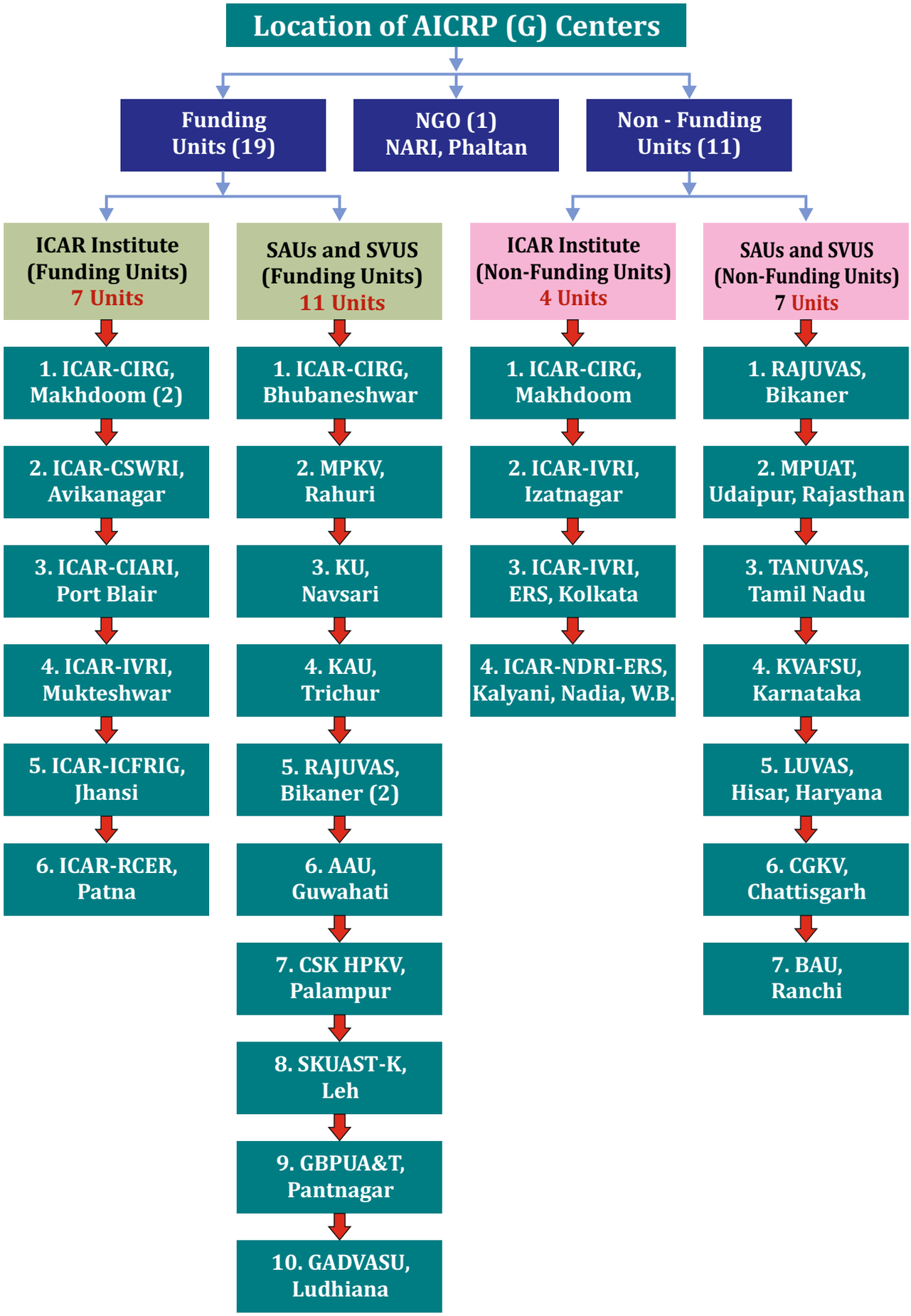
Table 1: Coordinating Centers of AICRP on Goat Improvement

S.N.	Centre	Location	Starting Year
1	**Project Coordinator Unit**	**ICAR-CIRG, Makhdoom, Uttar Pradesh**	
Funding Units			
Farm Units			
1	Barbari Goat	ICAR-CIRG, Makhdoom, Uttar Pradesh	1982-83
2	Jamunapari Goat	ICAR-CIRG, Makhdoom, Uttar Pradesh	1982-83
3	Sirohi Goat	ICAR-CSWRI, Avikanagar, Rajasthan	2023-24
Field Units			
4	Andaman Goat	ICAR-CIARI, Port Blair, A & N Island	2014-15
5	Assam Hill Goat	AAU, Khanpara, Guwahati, Assam	2009-10
6	Bengal Goat	BAU, Kanke, Ranchi, Jharkhand	2009-10
7	Changthangi Goat	SKUAST, Kashmir, Leh -Ladakh, J&K	2014-15
8	Gaddi Goat	HPKVV, Palampur, Himachal Pradesh	2009-10
9	Ganjam Goat	OUAT, Bhubaneswar, Odisha	2001-02
10	Himalayan Local Goat	ICAR-IVRI Campus, Mukteshwar, Uttarakhand	2014-15
11	Malabari Goat	KV&ASU Mannuthy, Thrissur, Kerala	2001-02
12	Marwari Goat	RAJUVAS, Bikaner, Rajasthan	1988-89
13	Osmanabadi Goat	NARI, Phaltan, Maharashtra,	2009-10
14	Sangamneri Goat	MPKV, Rahuri, Maharashtra	2002-03
15	Sirohi Goat	RAJUVAS, Vallabhnagar , Rajasthan	2001-02
16	Surti Goat	N.A.U., Navsari, Gujarat	2001-02
17	Uttrakhand Goat	GBPUA & T, Pantnagar, Uttarakhand	2014-15
18	Bengal Goat	ICAR-RCER, Patna (New Centre)	2018-19
19	Bundelkhandi Goat	IGFRI, Jhansi (New Centre)	2018-19
20	Beetal Goat	GADVASU, Ludhiana, Punjab	2022-23
Non- Funding Units			
1	Anjori Goat	DSVCKV, Durg	2023-24
2	Black Bengal Goat	ICAR-IVRI, ERS, Kolkata	2023-24
3	Black Bengal Goat	ICAR-NDRI-ERS, Kalyani, Nadia (W.B)	2023-24
4	Bidri Goat	KVAFSU, Nandinagar, Bidar, Karnataka	2023-24
5	Jakhrana Goat	ICAR-CIRG, Makhdoom, Uttar Pradesh	2023-24
6	Jakhrana Goat	LUVAS, Hisar, Haryana	2023-24
7	Rohilkhandi Goat	ICAR-IVRI, Izatnagar	2023-24
8	Sojat Goat	RAJUVAS, Vallabhnagar , Rajasthan	2023-24
9	Sojat Goat Field Unit	MPUAT, Udaipur, Rajasthan	2023-24
10	Salem Black Goat Field Unit	VCRI, Namakkal, Tamil Nadu, India	2023-24

AICRP is also working in remote region such as Gaddi breed at Palampur, Himalayan Goat (Chaugharka) at Mukestswar and Andamani Goat at Andaman & Nicobar Island.

Distribution of 30 AICRP (G) centers in different Agroclimatic Regions




Location of AICRP (G) Centers
Funding Units (19)
NGO (1) NARI, Phaltan
Non - Funding Units (11)
ICAR Institute (Funding Units) 7 Units
SAUs and SVUS (Funding Units) 11 Units
ICAR Institute (Non-Funding Units) 4 Units
SAUs and SVUS (Non-Funding Units) 7 Units
1. ICAR-CIRG, Makhdoom (2)
2. ICAR-CSWRI, Avikanagar
3. ICAR-CIARI, Port Blair
4. ICAR-IVRI, Mukteshwar
5. ICAR-ICFRIG, Jhansi
6. ICAR-RCER, Patna
1. ICAR-CIRG, Bhubaneshwar
2. MPKV, Rahuri
3. KU, Navsari
4. KAU, Trichur
5. RAJUVAS, Bikaner (2)
6. AAU, Guwahati
7. CSK HPKV, Palampur
8. SKUAST-K, Leh
9. GBPUA&T, Pantnagar
10. GADVASU, Ludhiana
1. ICAR-CIRG, Makhdoom
2. ICAR-IVRI, Izatnagar
3. ICAR-IVRI, ERS, Kolkata
4. ICAR-NDRI-ERS, Kalyani, Nadia, W.B.
1. RAJUVAS, Bikaner
2. MPUAT, Udaipur, Rajasthan
3. TANUVAS, Tamil Nadu
4. KVAFSU, Karnataka
5. LUVAS, Hisar, Haryana
6. CGKV, Chattisgarh
7. BAU, Ranchi

1.1. OBJECTIVES AND ACTIVITIES OF THE AICRP ON GOAT IMPROVEMENT

The improvement and conservation of goat genetic resources is necessary to ensure sustainable income, employment, nutrition of rural people and also for rural entrepreneurship particularly of women. The genetic improvement programme has been undertaken through structured and in systematic manner with farmers participation in the habitat of breed. The objectives are as follows:

Objectives

1. Genetic improvement of major production traits and product quality in different agroclimatic regions.
2. To increase the goat productivity in small livestock production system and to develop sustainable community breeding model at village level.
3. To develop germplasm resource centres in different agroclimatic zones and to validate the goat production technologies in different regions.
4. Capacity building of goat keepers and stakeholders for sustainable and profitable goat husbandry.

Technical Program of Field Units (2021-26)

1. The unit will maintain minimum ûve cluster/centers having at least 1000 breedable does under the coverage and the total breedable doe 500 will be covered by each unit.
2. Body weights will be recorded from birth to 12 month of age at 3 months interval. Milk yield will be recorded at 15 days interval up to 60/90/150 days and lactation length. Similarly pashmina ûber recording will be carried till 18 month of age.
3. Production system characterization will be undertaken which will include information on production and management practices, population trends, feeding system, disease pattern and socio-economic condition.
4. Each unit will survey, identify and map the breeding tract of the respective breed and collect baseline data of cluster.
5. Male kids born from genetically superior does will be identiûed at weaning (3 month of age) and initially selected twice of requirement. Each year ûfty selected kids will be purchased for future buck production and will be reared till the age of ûnal selection (9/12 month) either with the help of few progressive farmers of the adopted area on cost /beneût sharing basis or at nucleus farm of field unit. AICRP centers will have to evolve suitable mechanism to rear such kids till the age of ûnal selection and distribution to farmers.
6. For Second stage selection of males and females will be made on the basis of 6/9 month body weight and type birth (triplets and twins). For milk yield 90 days milk of the dam be considered for selection criteria.
7. The bucks required for distribution in adopted areas will be given on a book value to registered farmers while others can be sold to other agencies involved in goat improvement for breed improvement. After two to three breeding seasons, bucks will be either rotated amongst clusters to avoid inbreeding or sold outside of adopted area for breed improvement.
8. Semen of few selected bucks (elite) from each collaborating unit will be collected and preserved in semen banks. Preferably in collaboration with semen bank available at university/ NBAGR, Karnal

9. The improvement of body weight, milk yield and reproductive performances of the progeny will be estimated over the years/generation

10. Awareness programme, Gosthi meeting and training programmes will be regularly conducted.

11. The animals for performance studies would be selected from farmer's ûock under existing transhumance (migratory) system. For this, about 450 animals from three centers/ migratory routes in different areas from different ûocks would be selected and reared under existing management system in collaboration with the farmers. (Gaddi, Changthangi, Ganjam only)

12. Based on disease proûle, units will prepare annual prophylactic health calendar to prevent morbidity and mortality. Necessary vaccines/drugs will be purchased from project fund.

13. Efforts will be made to form goat breeder/cooperative societies/ self-help groups.

14. Identiûcation of animal and providing insurance cover to females above six months

15. Documentation on price trend for live goats and goat products viz. meat, milk, skin, hair and manure and preference of consumers

16. The FAMACHA method needs to be standardized, deworming should be judiciously done and dewormer should be changed every year to avoid development of anthelmintic resistance.

17. The selected breeding bucks should be provided to buck keeper with agreements that the buck keepers ensure proper care and utilization of it. Maintenance charges of bucks should be recovered by charging a fee for buck service. The bucks should be insured.

18. Exchange of breeding males across clusters and villages should be carried out in every year.

19. Organize animal competitions with wide publicity to identify pure-bred and high potential animals from a larger area.

20. Record and discuss selection criteria / practices followed by farmers/ buck owners.

21. Organization of workshop in goat production, value addition, marketing and other related activities for all stakeholders.

22. Complete feed development may be demonstrated to farmers basing on local feed fodder resources.

23. Create a data base of owners of superior animals and make it available to relevant State Govt. authorities so that they can purchase bucks from them on preference for distribution under government schemes.

24. Efforts will be made to form goat breeder's society's cooperative societies and to register the goat ûocks in the breeding tract of the respective breeds.

25. Encourage Establishment of market linkages with help of NGOs.

Activities Recommended for Promotion during 2021 and 2022

1. Goat Producer group may be identified for rearing and selection of bucks in the habitat with all inputs such as breeding bucks, nutritional supplement, vaccination and deworming, insurance and identification. The recording of performa should be carried out daily basis on production, reproduction and health aspects. Multiplier flock should be developed in these locations.

2. The producer group should meet monthly along with PI and project workers to decide

different aspects of technical programme implementation and working strategy.

3. Producer Groups may be linked with Government programme such as MGNREGA, National Livestock Mission and National Nutritional Mission. Producer group can work towards development of wasteland for fodder development.
4. The Feed Assessment Tool (FAST), ILRI may be used to select the feed intervention at community level.
5. Distribution of farmer's centric input (shoe, rain coat and mosquito repellent etc.).
6. Efforts are made to form goat breeder's society's cooperative societies.
7. Tribal village be identified and tribal farmers should be provided skill and incentive to start goat farming.

Technical Program (2021-26) for Field Units

1. All the activities implemented as per recommended technical program (1-25). Some activities however are modified and added from 2023-24 such as
2. Male for breeding purpose in dairy and dual purpose breeds will be selected on the basis of 140/150 days milk yield instead of 90 days.
3. Target will be fixed on the basis of standard deviation utilizing 5 year data.
4. Performance of reproductive traits should also be presented.
5. Progeny testing should be initiated in dairy and high milk potential dual purpose breeds.
6. Grading up of non-descript goat by supplied bucks in the home tract of respective breed.
7. Unit should identify major research issues and road map for their solution.
8. Performance of multiplier flock will be presented including sale of purebred goats.
9. Milk and Meat nutrient profiling of breed.
10. Charcaterization of Goat Production System in Field
11. Promoting SHG, Cooperative, community farmings in breed improvement and entrepreneurship development.
12. Evaluation and assessment of breed standards in reference to market demand. Breeding strategy to maintain breed standard and their integration with production and adaptability traits.

Technical Program (2021-26) for Farm Units

1. Each unit will maintain minimum of 300 breedable does and 20 bucks under semi-intensive system of management.
2. Selection of males and females will be made on the basis of 9 months body weight of the individual kid and 90 days lactation yield of their dam.
3. Second stage selection of females on the basis of it's type of kidding and first lactation milk yield. The selection criteria should be based on population mean, progeny mean, etc.
4. Important production data like body weight at different age group (birth, 3, 6, 9 and 12 months), milk yield at different ages, Weight at service and kidding, age at service and kidding, type of kidding, sex of kids, parity order, sire and dam number to be recorded.

5. Semen of bucks will be tested for quality before use for breeding
6. Five hundred semen doses of minimum 10 elite bucks will be stored in semen bank.
7. Superior goats will be provided to farmers and goat development agencies for breed improvement.
8. Establishment of Multiplier flock should be encourgaged with selected farmer's to develop germ-plasm resource centre and to encourage farmer's participation in sustainable genetic improvement.
9. Seperate male and female lines should be developed for growth and milk in dairy breeds.
10. Culling on production ground will be done on the basis of averages of performance like body weight, off colour, low milk yield, age of animal, poor libido etc.
11. Morbidity and mortality pattern will be monitored and documented.
12. Each unit should create linkage with KVKs in the home tract of the breed to strengthen community breed improvement and providing breeding services at cluster or village level. Twenty sires free of cost can be spared for improving the production performance in the farmers' flocks. Such KVK should follow AICRP Field Units Technical programme in collaboration with Concerned AICRP unit to assess genetic improvement and overall impact.
13. Feed lot experiments need to be carried out to assess FRC, carcass qualities and qauntitites, packages of management practices and technology etc.
14. Capacity building of farmers and trainers on different aspects of goat production.
15. Economics of goat rearing will be analysed.

Activities Intensified, modified and added in 2023-24

1. All the activities performed/implemented as per technical program recommended. Some activities however are modified and added from 2023-24 such as
2. Male for breeding purpose in dairy and dual purpose breeds will be selected on the basis of 140/150 days milk yield instead of 90 days.
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ACTIVITIES AND OUTCOME OF AICRP

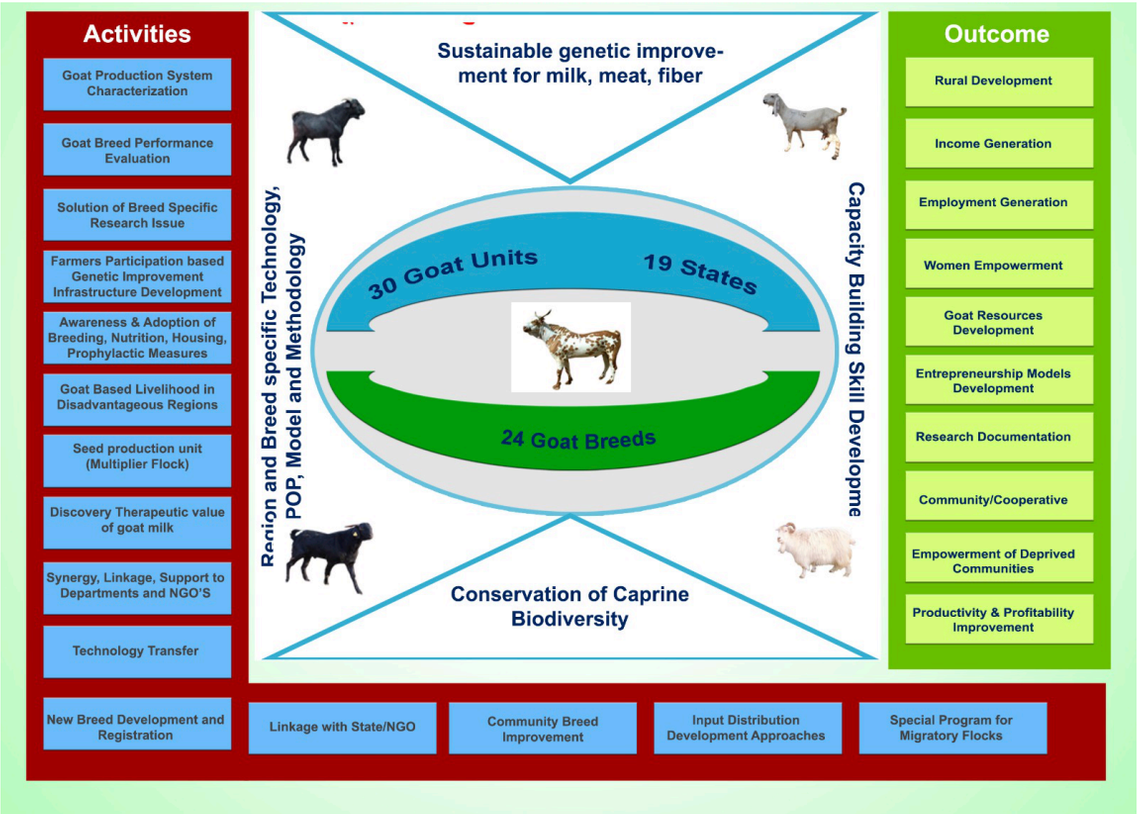


TABLE 2: DELIVERABLES OF THE PROJECT (2021-22 TO 2023-24)

Measurable Activities	2021-22	2022-23	2023-24
Selection of clusters & farmers and Registration of adult doe **(No. of animals)**	16769	14544	14091
Registration of adult doe (No. of animals)	19122	17593	22956
Animal Identification and performance recording **(No. of animals)**	38296	32899	31537
Health Coverage with vaccination and deworming etc. **(No. of animals)**	159823	136429	152447
Training programs conducted for capacity building of goat keepers and stake holders	161	90	143
Number of Farmers Benefitted	8591	6995	8365
Bucks Distributed for Improvement	353	335	330
Multiplier /Commercial Flocks Established	8	9	31
Semen doses cryo-preserved for *in situ / ex situ* conservation of important breeds (No.)	2716	6800	4271
Field demonstration/ Health Camp/ Exposure Visit/ Farmers Camp)	4283	5861	4955
Women farmer trained	2486	3900	3905
Technologies/PoP Developed	11	22	23
Publication of Research Papers	48	50	43

TABLE 3: ACHIEVEMENTS AND ACTIVITIES OF AICRP UNITS (2023-24)

Units (2023-24)	No. of Clusters & Villages		Farmers adopted		Opening Balance	Closing Balance	Buck Distributed	No. of goats upgraded	Animal Sold by Field/Farm Unit	Animal Sold through Multiplier flock/Commerical	Health Camp	Goats covered under vaccination & Deworming		Trained		House renovation/constructed	MF/CM/ Enterpr enuer	Technology devleoped	Managem ent Practices	Research Paper	SHGs
	Cluster	Villages	Male	Female								Vaccinated	Deorming	Training	Benifited						
Andamani	3	46	122	101	4632	4109	11	302	1926	11	1	2409	2107	11	340	-	6	1	1	4	-
Assam Hill	5	21	3	319	3938	2235	8	378	2205	-	38	5553	5695	12	595	2	-	4	1	-	-
Black Bengal, R	4	11	20	60	13850	15136	-	-	713	-	**1**	14323	5032	3	918	**-**	**2**	-	**1**	**-**	**-**
Changthangi	2	7	50	7	14094	15171	12	-	1808	9	**17**	1879	6924	17	233	1	**4**	2	2	-	6
Gaddi	4	16	19	-	1716	1723	9	-	527	60	5	2529	1904	**4**	**50**	-	2	-	2	1	-
Ganjam	4	27	81	8	2336	2478	36	-	556	-	3	4780	7383	7	230	-	-	1	-	2	
Malabari	6	13	69	148	2883	2838	18	80	714	33	5	1100	2010	3	80	2	2	-	2	7	1
Marwari	6	8	78	5	3873	4117	20	-	1647	-	8	11900	12148	5	146	-	1	1	-	-	-
Osmanabadi	5	10	112	9	1290	1430	21	2200	735	22	3	2398	779	43	628	-	2	6	-	1	-
Sangamneri	6	64	987	402	11865	12107	48	1726	2485	12	2	5000	3200	7	405	1	4	1	1	2	1
Sirohi Field Unit	5	17	72	9	2848	2799	49	125	1371	63	4	4007	6190	3	75	1	2	-	-	4	6
Surti	4	24	63	16	115	108	26	1271	52	-	-	108	298	5	176	-	1	-	1	8	
Panta, UK	4	11	13	46	3543	3927	14	270	1118	501	46	5885	3704	10	453	-	-	3	-	5	4
Beetal	2	11	15	-	695	1338	12	-	857	-	5	500	500	8	82	-	3	-	2	-	-
Himalayan G	3	4	311	88	422	428	20	135	95	0	5	145	338	1	30	1	1	0	1	1	0
Bundelkhandi	5	15	128	12	1666	2387	2	499	1220	-	6	2990	2970	3	606	-	-	-	-	1	-
Black Bengal, P	5	7	39	75	5732	4651	24	2161	6087	252	12	4082	2317	1	28	2	2	-	2	-	-
Sirohi Farm	1	1	10	10	550	566	5	18	152	-	-	541	541	-	-	-	-	-	-	4	-
Barbari	-	-	-	-	380	476	57	2900	100	615	-	750	750	21	1450	-	2	2	1	2	20
Jamunapari	-	-	-	-	379	389	42	3100	80	41	-	650	650	21	1450	-	2	2	1	1	-
Total	**74**	**313**	**2192**	**1315**	**76807**	**78413**	**434**	**15165**	**24448**	**1619**	**161**	**71529**	**65440**	**185**	**7975**	**10**	**36**	**23**	**18**	**43**	**38**

1.2 ACTION TAKEN REPORT

Proceeding of the 21st Annual Review Meet (ARM) of ICAR-AICRP on Goat Improvement held at *ICAR-Central Institute for Research on Goats, Makhddom, Farah, Mathura, U.P, 281122* on March 18-19, 2024.

S. No	Recommendations	Action Taken (Please quantify your Details)
1	Large genetic variation exists within large/medium/small size breeds for many traits therefore target setting should be made on the basis of inherent potential and profile of breed considering the correlation among traits, management system, agro-climate zones to emphasize sustainable genetic improvement. Target should also include breed specific challenges like breed dilution, rapid decline in population size or other threat to breed besides economic and adaptability traits. Methodology or road map should also be provided for specific targets. Targets for the growth, production and reproduction performance may be fixed on the basis of average value of the traits in elite population (best 25-30% animals) or on the basis of standard deviation.	Targer fixing for different traits in different breeds. □ 0.5 above population mean based on 5 year data on growth and lactation traits. □ Established of 3-5 model goat villages by each unit where >90% purebred goat are available, farmers encouraged to follows improved/scientific management practices such as selective breeding, strategic supplementary feeding, imprvosied housing, vaccaination, deworming, development of marketing structure for goat sale. □ All units developed 1-2 multiplier flocks which are acting as resources centre for sustainable improvement, conservation and as demonstration centre. □ Measures initiated to minimize indiscriminate breeding by castrating bucks and promoting grading up.
2	Each unit should be vigorously reviewed, physically visited for its performance and should be graded as A, B, C, D. A & B units should be continued, C should be given one year grace and D should be closed.	□ All the units have been critically reviewing and graded accordingly.
3	PI of all the AICRP Units should be from Animal Genetics Breeding Discipline preferably in the rank of Assistant and Associate Professor. Investigating team should be multi-disciplinary comprising Co-PIs from AGB, Animal Nutrition, Animal Health and APR/LPM/Extension discipline. Dean/ Director or other higher officers may be avoided to be the part of AICRP unit.	□ PI of most of units is from Animal Genetics and Breeding disciplin except Bundelkhandi, Assam hill, Beetal and Andmani. These units have kept Co-PI from AG&B. □ Unit team is multi-disciplinary at all the center comprises of AG&B, Nutrition/LPM, Animal Health, Animal Reproduction and Extension.
4	New proposed units will be non-funding for 2 year's. All proposed units will act as field units. PC Cell was advised to physically visit the new units	□ All the eleven new centers covering seven breeds are working as field unit and as non-funding units.

	to assess the availability of facilities and technical man-power before final approval. Further, the targets for the 2 years for these units should be fixed and on accomplishment of the targets, units will recommended for funding in next EFC.	□ PC cell has visited 3 centers of non-funding units. □ Target has fixed and communicated to all the NFUs.
5	Every unit should work as per technical program of AICRP and present the performance including output and outcome of the unit. Statistical analysis should follow standard procedures with due consultation of coordinating unit. Data collection should be honestly recorded and also monitored by PC unit.	□ All the units are sensitized o do work as per tehnical program. Most of units working as per technical program. □ Some units still required to do more work as per technical program.
6	Buck selection criteria should be on the basis of 140 days milk yield for large and dual- purpose breeds (milk and meat), however, it should be 60/90 days milk yield for meat and fibre breeds (Changthangi, Gaddi, Himalayan goat, Pantja, Andamani, Black Bengal, Assam Hill and Ganjam).	□ 140 days milk yield has incorporated in place of 90-d milk yield in dairy & dual purpose breeds. □ 60/90 days milk yield recording is mandatory on 20-30% population for documentation purpose in meat breeds like Andamani, Ganjam, Changthangi, Himalayan Goat, Black Bengal, Assam Hill, Pantja and Bundelkhandi.
7	Progeny testing program should be incorporated in dairy and dual purpose breeds. Semen of such males should be stored and subsequently utilized through Artificial Insemination.	□ Progeny testing has initiated in dairy breed at Institute farm (Jamunapari & Barbari). Very soon it will be starting in Beetal and Surti. □ Beetal unit has purchased kids of high milk yielding goats for rearing at nucleus flock. □ Semen of currently available progeny tested 3 buck of Barbari and 2 buck of Jamunapari has preserved. □ Semen of 20 bucks each in Barbari and Jamunapari under PT program has also preserved
8	A committee comprises of 4-6 scientists under the chairmanship of Dr. M K Singh should be constituted to revisit/redesign objectives, technical program, data collection procedure, analysis, impact assessment of AICRP and most importantly to find out research issues with each unit/breed along with road map to address the issues.	□ Two online meeting were conducted which were attended by all PI and Co-PI. □ Minor changes were suggested in existing technical program in calculation of breeding and kidding efficiency. □ Animal identification ensured for precise data recording. □ Data recording sample size size may be decreased for birth weight and farmers should be provided weighing balance for it.

		□ Farmers are trained to collect milk yild recording. □ Major research issues with different breeds were enlisted.
9	Clusters of different field units should be changed over a specific period, however, data should also be collected from previous (left) clusters over the years to assess impact of the project and adoption of technologies. The old clusters should be provided advisory or need based services.	□ All the units are gradually including new villages and cluster in program. □ Some units have already selected villages and doing baseline survey. Details of new adopted villages will be presented in 22^{d} ARM.
10	Every unit should compile information on impact analysis of the project in next 3 months (July 31st 2024) and submit to PC on priority.	□ Most of units have provided desired information. Salient points will be presented in 22 ARM. Detail completion and documentation will be taken another 6 months.
11	Feed efficiency trait should be considered at all the farm units and additional funds (infrastructure and manpower) should be provided to conduct such trials.	□ All the units, wherever, feedlot structure exists, asked to conduct experiments to assess FCR. □ Barbari and Jamunapari are doing it on limited scale. However, infrastructure capacity needs to enhance 3 times to estimate genetic parameters for feed efficiency traits.
12	Farm units should provide 300 pedigreed animals to farmers for the breed improvement and unit should also follow-up their impact on breed improvement and effective population size. Nucleus flock size should be strengthened accordingly.	□ Farm units are increasing their flock size to meetout the target □ A period of one and half year is required to increase adult female flock size which was reduced to 200 from 2020 onwards. □ However, >600 purebred goats are being sold to farmers through multiplier flocks.
13	Every unit was directed to publish quality research papers, package of practices, models, methodology and generate information on respective breed, which could be utilized for its utility, genetic improvement, conservation and holistic development of the breed.	□ All units publishing quality research papers. □ There are 43 researh papers published. □ List of research papers published during last 5 year is prepapared.
14	All Field & Farm Units were advised to keep Young Professionals and Data Enumerators (Skilled Staff) instead of RAs & SRFs. Data Enumerator can be considered under skilled category and paid as per respective state guidelines. TSP and DAPSC budget should not be merged with general budget and should be dealt separately.	□ Few units not yet dropped RA and SRF □ Most of units keeping YP and DE. □ No unit have merged DASC and TSP budget with general budget.

15	Strategies and Programs should be designed, developed and implemented based on ground realities and special efforts should be made for the breeds with receding population size viz. Jamunapari, Surti, Sangamneri, Pantja. PIs of such units are advised to work preferably in collaboration with respective state animal husbandry departments and NGO's, and involve more number of breed rearing farmers. The breed clubs/communities may be constituted with a participation of the goat farmers.	☐ Reasons were identified for decline in population size in Jamunapari, Surti, Sangamneri and Pantja bred and presented in ARM by the respective incharges. ☐ PI of such units asked to present strategy and efforts required to increase their population size such as collaborative efforts with state AH, expansion of breed area, intensifying grading-up program, encouraging multiplier flocks, awaring farmers of advatgaes selective breeding and discourging NGO and other agenices for crossbreeding. ☐ Pantja has expanded breeding tract and also population size. ☐ Jamunapari unit made viable collabrotive project with state AH department to increase productivity and population size. ☐ Sangamneri Field Unit expanding breeding tract by adding 11 villages. Initiated establishment of 3 new multiplier flocks. Collaborative with ATMA, Agriculture & AH Department to increase population size.
16	Every unit should make sincere efforts to develop more number of Multiplier Flocks with proper data recording. Multiplier flocks should be given the target of grading up of non-descript population in the home tract and promoting other farmers for the scientific goat farming and entrepreneur-ship development. Sale of animals from such farmers should also be presented in the Review Meets. Nucleus flock should be properly integrated with such commercial/ farmer's flock and their data should be utilized in genetic evaluation, and their elite animals should be utilized in sustainable genetic improvement and conservation of the breed.	☐ Every unit has started work for establishment of multiplier flocks. ☐ Performance of multiplier flock is presented in ARM by each centre including sale of animals. ☐ Data recording is in progress for upgraded goats by multiplier flock and will be presented in 23th ARM as they are in process of data collection. ☐ Potential animals of multiplier flock are being utilized at nucleus flock and field improvement.
17.	Field units which also have farm units (Nucleus Flock) should present performance/data of both units separately. Size of Nucleus flock at Field units should be kept between 50 to 100 animals and all the units may be given some fund to purchase bucks and establish nucleus flock. Buck distribution and their re-allocation from one	☐ Flock statistics of both units will be presented separately in 22nd ARM. ☐ Sale and production of animnals from multiplier flocks and nucleus flock of field unit will be presented by each unit seperately in ARM.

	cluster to other may be shown in separate categories	□ Re-allocation of bucks in different cluster will be shown separately by each field unit.
18.	Separate technical program should be developed for Changthangi, Gaddi and Ganjam goat breed considering their rearing conditions and migration. Targets should be revised for the performance parameters, management models/packages to enhance productivity, survivability and profitability. All essential information pertaining to migration of flock (selection of animals, breeding practices, feed-fodders, housing, disease prevention, sale of animals and produces, constraints faced during migration by animals and farmers, changes in production system, utilization of animals and climate over the periods, communities involved along with their life style during migration and other major challenges, issues etc.) should be collected as a separate activity/target. Establishing multiplier flocks/commercial farm units should be encouraged under migratory system.	□ Unit incharges of Changthangi, Gaddi, and Ganjam have been repeatedly sensitized to prepare data base, prioritize constraints faced by farmers and goats during migration, and developing suitable package of management practices. □ Establishment of multiplier flock and commercial farms are in progress. □ Provide Videos and photographs on different types of migration, management and marketing pratices being followed during migration has desired by PC Cell.
19.	Farmer's views for the market demand and adaptability should be recorded, evaluated and considered in deciding selection criteria and breeding practices. Breed standards (body length, body height, faces length, ear pattern and length, height of leg length etc.) are currently playing major role in deciding the animal price in many breeds such as Jamunapari, Beetal, Surti, Sangamneri etc.). Integration of breed standards with production and adaptability traits at field level should be encouraged to sustain genetic improvement, conservation and profit.	□ Data/information recording on morphological, adaptability and production attributes particularly in Beetal, Jamunapari, Surti and Sangamneri is in progress. □ Information collected with limited farmers in Beetal and Jamunapari breed which is conflicting as at present there is heavy demand on high price for morphological parameters by ignoring production attributes. □ Farmers gradually sensitizing to include both production and morphological attributes. High yielding animals may be awarded through goat fair etc. □ Performance award intiatives has started in Jamunapari, Beetal, Surti and Sangamneri breeds.
20.	Breed/Region specific package of practices/models/methodologies should be developed preferably in participatory mode to enhance goat productivity and profitability. Viable models should be shared with others units.	□ Different units have been working sincerely to develop package of practices addressingagro-climatic productivity, profitability and newer challenges.

		▯ Good model sharing and their implementation will be serious now onwards.
21.	Milk and meat nutrient profiling of all possible breeds should be carried out.	▯ Meat nutrient profiling will be initiated from 2025. Methodology, protocol and proforma developed. ▯ Milk nutrient profiling is perhasps challenging as sample reaching to CIRG is difficult and milk composition is very much affected by many non-genetic factors.
22.	A document on impact of AICRP on goat will be compiled by PC unit by the end of year 2024 depicting specific contribution of AICRP on sustainable genetic improvement, caprine resource conservation, models/methodologies/ technologies development and adoption, livelihood,entrepreneurships,value chain, goat population and farmers benefitted, contribution of project in household income, research publications, students awarded master and Ph.D. degree, national and state awards and recognition, infrastructure created for goat development and improvement and capacity building of farmers.	▯ Required information has provided by most of the units. ▯ Proper work on compilation, interpretation and documentation has initiated. ▯ May take 6 months in completion.
23.	Information should be collected and documented to characterize goat production system of different breeds in different agro-climatic regions. Format will be provided by PC unit to collect the desired information.	▯ A Proforma on goat production system has developed and distributed to all the units. ▯ Work on it has initiated and presented in 24th ARM.
24.	PI of many units is being changed frequently which severely affects the performance and output of the unit. PI should not be changed frequently and in case it is necessary it should be done in consultation with the Coordinating Unit.	▯ Only two units changed PI on compulsory ground (transfer/promotion).
25.	MVSc/PhD students from any University should be encouraged to work at CIRG or other AICRP units.	▯ Poor response from the univeristies and IVRI.
26.	Technology developed by one unit of AICRP needs to be shared and validated at other units for enhancing goat productivity and profitability.	▯ Validation aspects will be strengthened.
27.	All necessary reporting to PC Unit should be done regularly within the time frame. Soft copy of published research papers, patents and product details should be provided to PC Unit immediately	▯ Reporting to PC unit has been obtained in time. ▯ Soft copy of published research papers is regularly obtained.

28.	All the units need to publish more research papers in peer reviewed journals with high impact factor and should work towards technology development to provide solutions to farmers.	□ Progresses are in desirable direction and have been intensified by all the centers.
29.	AUC should be submitted by each unit till June 30 of every year. Over expenditure in AUC is not permissible. Unspent budget should be surrendered to PC unit by 30th April or before release of Ist installment.	□ All units submitting AUC in time

1.3. RESEARCH ISSUES OF DIFFERENT GOAT BREEDS UNDER AICRP

S.No	Name of Breed	Research Issues
1	Jamunapari	1. Decrease in milk yield & lactation length (changes in selection criteria) 2. Decline in population size 3. Lack of market and market infrastructure for milk 4. Loss of natural habitat 5. Inbreeding in home tract 6. FCR 7. Model/ strategy for intensive rearing system
2	Barbari	1. Support for catering the high demand of animals 2. FCR 3. Exploring potential for milk as dairy breed 4. Housing system for intensive management for different regions. 5. Exploring productivity and adaptability in semi-hot humid regions
3	Black Bengal	1. Establishment multiplier flock 2. Heavy uncontrolled breeding younger ages 3. Suitability for stall feeding and assessment FCR 4. Low milk yield and smaller body size 5. Kid Mortality 6. Cross breeding & uncontrolled breeding
4	Assam Hill	1. Establishment germ-plasm resources centre 2. Low milk yield and smaller body size 3. Uncontrolled breeding 4. FCR 5. Suitability for stall feeding 6. Kid mortality
5	Ganjam	1. Holistic approach to increase growth rate, milk yield and prolificacy 2. Encouragement for farmers to adopt semi-intensive or partial semi- intensive management 3. Low productivity and profitability 4. FCR

6	Sirohi (Farm/Unit)	1. FCR 2. Experiment for stall/intensive feeding and their validation in farmer flock to encourage it 3. Exploring potential for milk 4. Marketing of goat milk
7	Beetal	1. FCR 2. Low interest for milk among farmers (selection criteria) 3. Marketing of milk 4. Model for intensive system and cost effectiveness
8	Gaddi	1. Natural/organic meat and milk production 2. Package of practices during migration to enhance productivity, survivability and profitability 3. Adoption of strategy/supplementary feeding 4. FCR
9	Changthangi	1. Low prolificacy 2. Low growth rate 3. Decline in quality of pashmina 4. Poor adoption of management measures 5. FCR
10	Himalyan	1. Housing of goat 2. Low milk yield 3. Fodder conservation 4. FCR 5. Low prolificacy 6. Indiscriminate/uncontrolled breeding
11	Bundelkhandi	1. Low milk yield 2. Low prolificacy 3. Low awareness and adoption of improved management 4. FCR
12	Surti	1. Decline in population size 2. Breed dilution with Jamunapari and Sojat 3. Decline in milk yield 4. Suitability for stall feeding 5. FCR
13	Sangamneri	1. Decline in population size 2. Breed dilution by Sojat and Jamunapari 3. Decline in milk yield 4. Suitability for stall feeding
14	Osmanabadi	1. Exploring Adaptability in arid and semi hot humid region 2. FCR 3. Suitability for stall feeding 4. Exploring potential as dairy breed
15.	Malabari	1. Potential as dairy breed in coastal and hot humid region

		2. FCR 3. Suitability for stall feeding
16.	Marwari	1. Exploring potential as dairy breed 2. FCR
17.	Andamani	1. Enhancing milk yield 2. Developing Adaptation strategies toward impending climate change 3. FCR
18.	Pantja	1. Housing for predation and production 2. Low milk yield
19.	PC Cell	1. Crossbreeding with Exotic goat breeds 2. Crossbreeding among indigeneous goat breeds 3. Implementation of Breeding with Frozen Semen

1.4. SALIENT ACHIEVEMENT OF AICRP

The project is making sincere efforts for sustainable genetic improvement, conservation, development of breed and region specific technologies, addressing breed specific research issues, evaluation of genetic potential of 24 goat breeds in 19 states of different agro-climatic regions, capacity building of goat farmers with special attention for women and weaker section of societies.

1. Activities of AICRP (G) is operational in 74 clusters 521 villages covering 4555 farmers keeping 81500 goats under improvement program.
2. Goat germ-plasm Resource centers have been developing for almost all breeds under program for caterning the need of farmers of pedigreed animals. Registered farmers, multiplier flocks and nucleus farms have been selling 450000 pedigreed animals for field improvement. Moreover frozen semen of high merit animals is also made available of improver breeds for field improvement.
3. Large number of non-descript or graded goats (nearly 35000) of different breeds are also made purebred or in process of it.
4. Many breeds witnessed >50 to 100% milk yield (Barbari, Sirohi, Jamunapari, Osmanabadi, Sangamneri) and many more breeds observed to have potential as dairy goat breed of India (Barbari, Marwari, Osmanabadi, Sangamneri and Malabari).
5. Improvement in body weight (growth rate) has registered to the tune of 40-75% in many goat breeds.
6. The average pashmina yield of Changthangi goats has improved from 200 g/y to 350.
7. Many local genotypes were now registered/under process as distinct breed by the support of AICRP (Pantja, Andamani, Assam Hill, Himalyan Goat and Bundelkhandi).
8. Jamunapari, Surti, Sangamneri and Malabari might have endangered without support of AICRP and might Barbari (maximum population got diluted).
9. Several (>15) breed and region specific business/entrepreneurship models, livelihood models, goat based integrated farming models were developed besides sustianble genetic improvement and in-situ conservation models.
10. Adoption of prophylactic measures reaches to all coners of India resulted in prevention of mortality to the tune of 3 to 7% from >15 to 20%.

11. Under AICRP (G) umbrella 56600 farmers are trained and skilled for goat farming.

12. Working in more than 90 tribal villages and contributing for a better livelihood in the tribal region.

13. Source of income generation to poor people in Tribal areas and NEH region. The technical inputs have contributed in different aspect of goat production and increasing the income of goat farmers.

14. More than 500 research papers published from AICRP Units.

1.5. SALIENT ACHIEVEMENT DURING 2023-24

1. The AICRP PC conducted a Brainstorming Programme on "Redesigning Goat Breeding Strategies for Conservation and Enhanced Productivity" on 11th August 2023 at ICAR-CIRG in hybrid mode. The event featured 22 panelists and was attended online by 125 professionals, including Directors, Former Directors, Scientists, Professors, and Goat Entrepreneurs. A policy paper on goat breeding was also developed on the basis of recommendation of Brainstorming.

2. Some goat breeds recorded 8 to 22% increase in milk yield, growth rate, survival rate and prolificacy over the previous years.

3. A total of 15,165 non-descript goats were upgraded during the year.

4. 434 bucks were distributed, 24,448 animals were sold by the Field/Farm Unit, and 1,619 goats sold through the multiplier flock and commercial farms.

5. Development of different sireline for milk and meat have initiated and in progress.

6. Progeny testing in dairy goat breeds has initiated and in progress.

7. Grading-up of non-descript goats has initiated and in progress

8. A total of 185 training, 161 health camps programs organized benefitted 7,975 farmers.

9. A total of 43 research papers, 13 popular articles, 19 success stories were published, one book and 5 training manuals were published.

10. Twenty-three technologies were developed from the AICRP (G) during the year.

11. A total of 36 multiplier flocks/commercial enterprises/entrepreneurs were registered, and 38 self-help groups were developed and linked with breeding and marketing.

12. Ten goat houses were renovated or constructed by different units.

13. Registered — new clusters and —313 villages and farmers - under the program.

14. 61641 goats covered under prophylactic measures

15. Collaborations were made by State AH department for goat improvement and conservation (Jamunapari and Sangamneri)

1.6. Breed Specific Achievments during 2023-24

Farm Units

Barbari Goat Farm Unit, CIRG

- There was consistent and significant improvement in lactation performances from 2018 onwards. There were 35, 79 and 114% improvement in milk yield in 90-d, 140-d and total milk yield over the base years (1993). The lactation efficiency has improved 40 to 60% as compared to previous periods (before 2017). Nearly 20% goat yielded >150 litre milk, range up to 275 in a lactation period of 150 to 200 days.
- Development of different sire lines for milk and growth initiated in 2020-21 and moving with satisfactory progress.
- Inbreeding in flock kept very low with average inbreeding coefficient of 2.16%.
- Bucks are evaluaed for progeny testing and frozen semen is available.
- Nearly 2500 non-descript goats are in process of upgradation and annually 2500 to 3000 goats upgraded as Barbari type (75 to 90%) Barbari blood.
- Three multiplier flocks established which made total counting 53 out of which 37 are in functional state. There are 4000 pure Barbari goats available with these farms and these flocks supplying 500 to 750 pedigreed goats to other farmers annually. Cost benefit ratio at multiplier flocks with different business models were determined.
- Adaptability and productivity performances of Barbari breed evaluated in arid and semi-arid regions of Haryana, Madhya Pradesh, Rajasthan, Maharashtra, Karnataka, Uttarakhand and Telangana through these farms and recorded highly satisfactory.
- Proven and validated suitability of Barbari goats at farm and in field as one of most ideal breed for Intensive Management System.
- Linkage with State AH department made to develop FIVE BUCK MOTHER FARS in Uttar Pradesh (AICRP-Barbari Unit will act as resource person) is in progress.

Jamunapari Goat Farm Unit, CIRG

- Program with Collaboration of State AH Department (UP) has started for sustainable genetic improvement, conservation and establishment of Buck Mother Farm in Etawah district of UP worth of >30 crore.
- The averages age at first service (AFS) and age at first kidding (AFK) have decreases to the tune of 35-40% in the flock.
- Three Multiplier Flocks were established at Aligarh, Jhansi and Agra district of UP.
- Buck Station to preserve quality semen has developed at Farm Complex.
- Separate sire line development for growth and milk is in progress.
- Use of proven buck semen (progeny tested) started from 2022-23.
- Two hectare waste land was fenced, developed as agro-forestry unit with 600 plants.

Sirohi Goat Farm Unit, CIRG

- 90 days milk yield of 85 litres are maintained from last 5 years indicating potential in Sirohi as dairy breed.

- Age at first services and first kidding decreases nearly 20% without adversely affecting litter size, growth and lactation performance.
- There was >20% increase in prolificacy (1.51) over previous years
- Mortality Rate kept < 5% over the years
- Unit supported in development of 3 commercial goat farms of Sirohi breed

Field Units

Andamani Goat Field Unit

- Purebred population in adoted villages has increased from 42 to 79%, which has played important role in breed registration.
- Growth and lactation performance has increased by 15-22% in adopted villages as compared to non-adoted villages.
- A Nucleus flock with >100 goat has developed at Institute for sustainable breed improvement and conservation.
- Mortality declined from 15 to <5% during last 5 year
- Twenty commercial farms with >25 adult goats were developed, acting as germ-plasm supply centre.

Assam Hill Goat Field Unit

- Twelve training programs and 38 health camp were organized, benefitted 595 farmers.
- During the year, 378 non-descript goats were upgraded.

Black Bengal Goat Field Unit, Patna

- Body weight at birth, 3, 6, 9 and 12 month age were increased by 18.75, 13.31, 21.40, 26.18 and 34.29% compared to base year.
- Unit organized 15 awareness programme and 12 health camps for ST and SC farmers.
- Mortality Rate kept < 5% over the last 3 years.

Black Bengal Goat Field Unit, Ranchi

- Mortality rate kept < 4% over the years.
- Three training program was organized under the TSP scheme, benefited 918 farmers.

Bundelkhandi Goat Field Unit, Jhansi

- Four hundred ninety nine goats were upgraded.
- Three training program was organized under the TSP scheme, benefited 537 farmers.

Beetal Goat Field Unit, Ludhiana, Punjab

- High performing animals were identified in farmer flocks and these animals are being multiplied at nucleus flock and utilized for further improvement.
- One Brain storming (Morphology vs Productivity) organized for improvement and conservation of Beetal goat with farmer's participatory mode.

Changthangi Goat Field Unit, Leh & Ladakh

- Fibre yield/goats shown increasing trend.

Gaddi Goat Field Unit, Palampur, HP

- Five hundred pure bred goats were sold by the adopted farmers.
- Two multiplier flocks with strength of 350 animals each.
- Supplied 15 gaddi goat units (1M: 3F) (60 animals) from multiplier flocks

Ganjam Goat Field Unit

- Significant improvement recorded in kidding percentage and body weights
- RFID introduced for proper identification and precision in data recording

Himalayan Goat Field Unit

- Sustained growth, mik and reproductive performance.
- Mortality rate kept < 4% over the last 4 years.

Malabari Goat Field Unit

- Genetic trend of body weights traits were positive.
- Milk composition and carcass characterstics and physio-chemical properties were estimated in Malabari goat breed.
- Two multiplier flocks developed.
- Published seven research papers in the high impacted journal
- Mortality rate kept < 4% over the last 5 years.

Marwari Goat Field Unit

- 20 young buck of Marwari breed was disseminated to goat keepers
- The mortality rate kept <1.5 during the year.

Osmanabadi Goat Field Unit

- Eight technology were developed by units during the year.
- The litter size consistently ranged from 1.62 to 1.65 over the past five years.
- An SQL-based database developed and used for analysis
- Goat buck semen freezing laboratory with developed

Pantja Goat Field Unit

- Significant increase in goat population from 23.7% to 31% (in one decade).
- Body weiht has increased from 20.0 kg to 24.5 kg from base population in 2014-15
- Kidding rate improved from 1.49 to 1.61 from base population in 2014-15.
- The mortality rate decreased from 14.58% to 6.12% from base population in 2014-15.

- Developed 7 multiplier flock and 30 commercial goat entrepreneurs
- More than 570 male castrated to strengthened controlled and selective breed.

Sangamneri Goat Field Unit

- The body weights at 3, 6, 9 and 12 months of age were improved by 29.30, 24.90, 16.00, 27.29 %, respectively over the baseline performance.
- Set up two 1-ton capacity HDPE vermi beds for goat manure, for demonstration and receipt generation.
- Mortality rate kept < 2% over the last 5 years.
- Established new Sangamneri Goat startup center
- Supported in establishment of Savitribai Phule goat milk producing company.

Sirohi Goat Field Unit

- Forty nine breeding bucks were distributed to registered farmers
- Eighty semen doses of improve Sirohi buck were preserved.
- Mortality rate kept < 5% over the last 5 years.
- A nucleus flock is maintained under the project, with strength of 125-150 goats.
- Linkage developed with ATMA for training and supply of purebred.
- There is 15-20% improvement in goat productivity.
- Two clusters are exclusively working for livelihood improvement by women.

Surti Goat Field Unit

- Age at first services and first kidding decreases nearly 15% without adversely affecting litter size, growth and lactation performance.
- Mortality rate kept < 2% over the last 4 years.
- Six PG / PhD and departmental research works were completed
- The goat shed was extended by 10' x 50' with galvanized iron sheets for better protection from sunlight and rain.
- Eight research papers published in high impacted journals.

1.7. TSP VILLAGE ADOPTIONS AND WORK PLAN

1. Base line survey and bench mark.
2. Production system characterization.
3. Present practices and indigenous knowledge.
4. Training need and technology need.
5. Specific technology intervention required.
6. The rate of improvement due to technical intervention and impact.

TABLE 4: VILLAGES COVERED UNDER TSP PROGRAMME DURING 2023-24

S. No.	Goat breed (State)	Village (District)
1	Assam (Assam Hill)	Dighalbori (Morigaon); Tepesia, Teteliguri, Tetelia (Kamrup); Majgaon (Nagaon)
2.	Andamani (A & N Islands)	Small Lapathy, Big Lapathy, Mus (Nicobar); Herminder Bay (South Andaman)
3	Black Bengal (Bihar)	Dhobani, Bhatta, Lalmatiya, Korasi (Jamui)
4	Changthangi (UT Ladakh)	Samad, Kharnak, Gya, Chumathang, Gyaltsa Nomad (Leh)
5	Black Bengal Jharkhand	Kundala, Dungirdih, Choungagutu, Lungtu, Chichibandri & Jaranga, Gurahapa, Serenghatu, Hembrom, Marangdih (Ranchi & Khunti)
6	(Pantja) (Uttarakhand)	Bamanpuri, Chaumela, Sisona, Majhra Sisona, Matiya, Alabirdhi, Rajpur Fatehganj (U.S.Nagar)
7	(Sirohi Field Unit) Rajasthan	Karget, Khalia, Godwa, Tank, Naya Kheda, Falet (Udaipur)
8	Malabari (Kerla)	Pudur, Pattanakavala, Cheerakadavu (Palakkad); Kudiyanmala, Payyavoor (Kannur)
9	Himalayan (Uttrakhand)	Sunkhari Kalan, Jhankat (Udham Singh Nagar)
10	Budelkhandi (Madhya Pradesh)	Sakdi, Bhimbayda, Sejgaon, Thodsindhi (Alirajpur)
11	Ganjam Odisha	Sakiri, Guhariayapata, Lunigundi, Tinichakia, Burudungi, Nabagocha, Gramadebati (Ganjam)
12	Surti (Gujarat)	Vangan, Vihiramba, Tankalipada, Vaydun, Kamadyavan, Subir, Baramyavad, Pimpari, Shamgahan, Bhaykhal, Chinchinagavatha, Sakarpatal, Kosimada, Bhenskatri, (Dang); Tavdi, Kalthan (Navsari)
13	Gaddi (Himachal Pradesh)	Suggar, Bundla, Nachir, Gugga saloh, Gadiyara, Pharer, Arla, Jakhni, Gallu, Jandpur, Kharot - Balla, Darang, Dhera, Naura, Kahanphat (Kangra)

1.8 Visit and Evaluation of AICRP Units by PC and Incharge

















2. RESEARCH EXECUTIVE SUMMARY

2.1. Barbari Farm Unit, ICAR-CIRG Makhdoom, Farah, Mathura, U.P.

The opening and closing balance of flock on 01-04-23 and 31-03-2024 was 380 and 475, respectively. During the reported period 302 kids were born from 191 kidding and kids born as multiples were 64.12%. The litter size was 1.58% and 69.54% doe's delivered multiple births. Breeding and kidding efficiency (%) on the basis of doe's available were 112 and 161%, respectively and 31% goats kidded twice in the year. Least squares means for average age at first service, weight at first service, weight at first kidding, age at first kidding and first kidding interval were 422.32.4±10.91 days, 21.08±0.39 kg, 24.93±0.46 kg, 551.30±10.90 days and 299.13±11.3 days, respectively. Conception rate through natural service was 99.7% and >94% goats conceived in Ist attempt of natural service. Maximum open goats exhibited estrus in May (80%) in summer and 75-84& in September, October and November months in autumn season. The least squares means for live weights of kids born in 2023 were 1.82±0.02, 7.62±0.10, 11.58±0.16, 14.13±0.34 and 20.01±0.42 kg at birth, 3, 6, 9 and 12 months of ages, respectively. Males and single born kids were heavier than the females and twin born kids. The effects of sex, type of birth, year of birth, season of birth and parity were significant on almost all ages of growth. The average body weight of male and females under feed lot at 11 months of age (after 6 month of stall feeding) were 27.61 and 21.52 kg. Corresponding body weights of kids under semi-intensive were 20.34 and 18.19 kg. Kids under feedlot attain 35.74% and 18.30% higher body weights. The h^2 estimates were 0.425±0.07, 0.254±0.057, 0.270±0.048, 0.234±0.045 and 0.122±0.042 for birth, 3, 6, 9 and 12 month weight. The least square means for 90 and 140 days milk yield, total lactation milk yield and lactation length of goats kidded in 2023 were 75.40±1.14 litre, 115.73±1.34 litre, 117.53±2.10 litre and 165.24±1.86 days, respectively. There was 45 to 105% improvement in milk yield over the base years. The year and season of kidding and parity have significantly affected lactation performance. The selection differential for 9 months body weight was 3.08 kg and 11.85 liters for dam's 140 days milk yield. The h^2 estimates were 0.149±0.057, 0.194±0.056, 0.218±0.048 and 0.111±0.045 0.122±0.049 for 90-D, 140-D, TLMY and LL. A total of 100 goats (57 male and 47 females) were provided to farmers and other stake holders for field improvement. Whereas, 691 purebred Barbari goats were also sold to other farmers by 17 multiplier flock units established during 2015 to 2020. Total milk produced was 13163 litres from 149 goats and 191 kidding. Three multiplier flocks (MFU) were established in the year. The cost benefit ratio at multiplier flocks for breeding animals was ranged from 1:1.61 to 1: 2.18, and for stall-fed male for sacrifice was1:1.5 to 1:2.22. The annual culling and mortality rate was 5.5 and 6.0%. Two technologies developed, validated and disseminated in farmers flock. Two research papers were published. Unit involved in twenty trainings (Demonstrations and lectures) on scientific goat farming, benefitted 1155 trainees. Farms equipped with CCYV camera for better monitoring. Total revenue generated was Rs. 17.37 lakhs. Fodder trees and fodder plants are maintained in nearly 4.5 hectare land. Which are providing nearly 45 quintal lopped fodder and utilized for goat shelter.

2.2. Jamunapari Farm Unit, ICAR-CIRG Makhdoom, Farah, Mathura, U.P.

The opening and closing balance of flock on 01-04-23 and 31-03-2024 was 379 and 383 respectively. During the reported period 158 kids were born from 125 kidding and kids born as multiple births were 41%. The litter size was 1.26% and 25.4% doe's delivered multiple births. Breeding and kidding efficiency on the basis of doe's tupped were 82.4% and 95%, respectively. Least squares means for average age at first service (AFS), weight at first service (WFS), age at first kidding (AFK), weight at first kidding (WFK), and first kidding interval (FKI) were 554.38±29.10 d,

26.22±1.05 kg, 627.22±14.65 days, 30.02±0.41 kg and 429.63±21.3 days, respectively. Conception rate through natural service was 89.42%. Maximum open goats exhibited estrus in May (75%) in summer followed by September (60%), October (54%) in autumn and August (44%) in rainy season. The least squares means for body weight of kids born during 2023 were 2.73±0.06, 10.10±0.25, 13.82±0.32, 21.59±0.96 and 27.52±1.10 kg, at birth, 3, 6, 9 and 12 months of ages. Males and single born kids were heavier than the females and twin born kids at all stages of growth. The effects of sex, type of birth, year of birth, season of birth and parity were significant at all ages of growth. The average body weight of male and females under feed lot at 11 months of age (after 6 month treatment) were 32 and 24 kg. Corresponding body weights of kids under semi-intensive were 24.5 and 20.6 kg. Kids under feedlot attain 31% and 16.7% higher body weights. The h^2 estimates were 0.32±0.04, 0.35±0.04, 0.31±0.04, 0.28±0.04 and 0.32±0.04 for birth, 3, 6, 9 and 12 month weight. The least square means for 90 days, 140 days milk yield, total lactation milk yield and lactation length of goats kidded in 2023 were 76.24±4.30 litre, 115.24±6.87 litre, 117.53±8.10 litre and 161.18±5.07 days, respectively. The year and season of kidding, type of birth and parity have significantly affected lactation performance. Goat kidded in spring season significantly yielded more milk than those kidded in spring. Goat kidded twins and triplet yielded more milk. Significantly lesser milk yield was obtained from first kidders. The selection differential for 9 months body weight was 4.50 kg and 28.8 liters for dam's 140 days milk yield. A total 80 goats (42 male and 38 females) were provided to farmers and other stake holders for field improvement. Multiplier flocks Jamunapari breed also sold 67 purebred goats to other farmers for improvement in field. Overall culling and mortality in the flock was 3.72 and 6.51% in the year. Total milk produced by unit was 6686 litres from 125 kidding. Two multiplier flocks (MFU) of Jamunapari breed was established for genetic improvement, conservation, promoting scientific goat farming and development of goat based business models. Unit involved in twenty trainings (Demonstrations and lectures) on scientific goat farming, benefitted 1157 trainees. Two technologies were developed, validated and disseminated in farmers flock. One research papers was published. Growing fodder plants were maintained in 2 hectare land farm is equipped with CCTV camera for better monitoring. Work has initiated for the construction of Bhusa store. Total revenue generated was Rs. 13.75 lakhs.

2.3. Sirohi Farm Unit, ICAR-CSWRI, Avikanagar, Rajasthan

The opening balance of flock strength on 01.04.2023 was 550 and closing balance as on 31.03.2024 was 566 goats. The overall least squares means at 3, 6, 9 and 12 months of age were 3.170.01, 13.030.06, 21.560.11, 29.220.13 and 32.450.13 kg, respectively during 2022-23. The males were heavier than the females at all stages of growth. The effect of year, sex and type of birth was significant on all the traits. The least squares means of average gain per day was 109.240.65 and 71.050.40 g from 0 to 3 months (PDG 0-3) and 3 to 12 months (PDG 3-12) of age, respectively. The overall least squares means for milk yield 90 days (90DMY), 150 days (150DMY), Total lactation (TLMY) and Lactation length (LL) were 82.900.42, 117.990.59 and 125.540.97 litres, and 172.991.35 days , respectively during 2022-23. The effects of year of kidding and lactation order were significant on all the traits. The heritability estimates of live weights at birth, 3, 6, 9 and 12 months were 0.229± 0.032, 0.080± 0.023, 0.051± 0.020, 0.091± 0.027 and 0.064± 0.025, respectively. Out of 185 does available for breeding during 2023 major season, 181 were tupped and 155 kidded with 77 giving birth to twins and 1 triplets. The tupping percentage was 97.84. The breeding efficiency was 87.57 and 89.50%, on the basis of does available and does tupped, respectively. The kidding percentage was 126.49 and 129.28 on the basis of does available and does tupped, respectively. The litter size was 1.51. age at first service (AFS), weight at first service (WFS), age at first kidding (AFK), weight at first kidding (WFK) and fist gestation period (FGP) of does kidded during 2023-24 were 416.7719.68 days, 35.121.06 kg, 563.9419.71 days, 35.960.90kg and 147.180.53days, respectively. The mortality

rates in 0-3, 3-6, 6-12 month age groups and in adults were 9.69, 0.82, NIL and 2.30 percent, respectively. The overall mortality and culling rate was 3.63 and 4.42 percent. A total of 152 Sirohi goats comprising of 68 males and 84 females were sold to the farmers, Government and non-government agencies. The total revenue generated the unit was Rs. 22,25,470.00.

Note: Data on growth and lactation received for the 2022-23

2.4. Andamani Goat Field Unit, Central Island Agricultural Research Institute, Port Blair, Andaman & Nicobar Islands

Andamani goat field unit is located at ICAR-CIARI, Port Blair, A& N Islands since 2014-15. Three clusters were established at South, Middle and North Andaman districts. The opening and closing balance were 4632 and 4109. A total of 286 farmers have been registered in 40 villages. A total of 558 goats were added as new registration, 1020 were added as new birth and 205 and 1926 reductions were due to death and sell of goats. The overall least square means of body weights (kg) at birth, 3, 6, 9 and 12 months of age were 1.45± 0.17, 6.16± 0.32, 10.03± 0.12, 12.55± 0.11 and 16.37± 0.12 kg, respectively. Breeding efficiency on the basis of does tupped was 158.37 and kidding percentage on the basis of does available was 153.65 with multiple births of 46.09%. The Age at first mating, weight at first mating, age at first kidding and weight at first kidding were 240.13±11.44 days, 11.51±0.34 kg, 393.22±4.31days and 16.79±0.19kg, respectively. The lactation length and lactation yield was 93.5±1.55 days and 40.86±0.92 litre. A total of 11 bucks were distributed in the adopted clusters covering 596 does. The selection differential for body weight at 9 month and milk yield were 0.92 kg and 72.60 ml of dam for 60 days over population mean. The selection intensity for body weight was 1.45 and for milk yield was 1.32, respectively. The overall mortality rate was 4.42%. A total of 11 training/awareness programmes/field day were conducted under which 340 farmers (178 males and 162 females) were benefitted. Technology of semen collection and artificial insemination with liquid semen has been standardized. A total of 302 AI has been done in the adopted clusters with success rate of 50.66%. There were four research and one success stories were published. As major outcome of the project is that Andamani goat has been registered at ICAR-NBAGR as new goat breed from Andaman and Nicobar Islands and becoming popular in territory.

2.5. Assam Hill Goat Field unit, Assam Agricultural University, Burnihat, Assam

Assam Hill goat unit came in existence in the year 2009 at AAU Khanapara Guwahati, Assam. Currently there are five field units, viz., Batabari (District- Darrang), Tetelia (District- Kamrup (Metro), Tepesia (District- Kamrup (Metro), Digholbori (District- Morigaon) and Baruadoloni (Sonitpur) with 92, 72, 55, 65 and 38 numbers of registered beneficiaries (total 322 numbers). The average age at first service (AFS), weight at first service (WFS), age at first kidding (AFK), weight at first kidding (WFK), and first kidding interval (FKI) were 253 d, 11.86 kg, 401.15 days, 14.10kg and 224.85 days, respectively. The average body weights (kg) at birth, 3, 6, 9 and 12 months of age were 1.56± 0.03, 5.71± 0.22, 7.33± 0.30, 8.33± 0.41 and 12.91± 0.62kg, respectively. The Multiple birth was 56.91%. Kidding rate was 82.18 %. The annual mortality rate was 9.12%. Income per family/ annum is Rs. 25,825.34. A total of 8 bucks were distributed to the field units and 7 numbers of existing bucks were exchanged among the units to avoid inbreeding. Twenty two bucks for the five field units distributed under the project. Twenty-four vaccination camps to immunize 5553 animals, 15 deworming camps to deworm 5695 animals and 17 treatment camps to treat 2674 animals were organized. Twelve training programme was organized, 595 farmers benefited out of which 162 were women farmer.

2.6. Black Bengal Unit, Birsa Agricultural University, Ranchi, Jharkhand

Black Bengal Ranchi unit was operating in 4 districts namely Jamshedpur, Deoghar, Lohardaga and Ranchi districts with 15136 goats. The average age at first service (AFS), age at first kidding (AFK), weight at first service (WFS), weight at first kidding (WFK), and first kidding interval (FKI) were 259 d, 443 days, 10.85 kg, 13.88 kg and 240 days, respectively. The overall body weights at birth, 3 month, 6 month, 9 month and 12 month of age were 1.23±0.11, 5.58±0.14, 8.21±0.19, 10.88±0.21 and 13.33±0.23 kg, respectively. The mean lactation yield was 16.85 liters over a lactation length of 95 days. Vaccination, deworming, dipping, and supplementary feeding, was provided to goats of adopted farmers. The overall mortality in adopted flock was 3.03%. The litter size was 1.67. Capacities building of farmers were improved through one-day, three-day, and ten-day sessions during the year, 3 training programme was organized, attended by 918 farmers including 535 women.

2.7. Changthangi Field Unit, Sher-e-Kashmir University of Agriculture Science and Technology-Kashmir, Jammu & Kashmir

The AICRP on Changthangi goat was started on 01-04-2014 at HMAARI, SKUAST-K Leh, to improve pashmina goat for fibre and meat production. The unit operating with 6 clusters. The Closing balance on 31-03-2024 was 15171 goats. During the year 1147 male and 661 female adults were sold to fellow farmers and butchers. The kidding percentage was 83.11%. The mean pashmina yield in old three clusters was 500 grams/animal/year in Kharnak and Samad. The pashmina yield was 200-300g/animal/year in newly adopted clusters. The average body weight of kids at birth, 3, 6, 9 and 12 months were 2.36±0.13, 6.55±0.15, 9.58±0.16, 13.31±0.16 and 17.42±0.14 kg, respectively. The overall mortality rate was 11.09%. Access of prophylactic measures (vaccination, dosing and dipping) provided to >8800 goats. Six bucks were distributed to one of the newly adopted cluster. Pasture grasses from various locations were analyzed for their nutritive values. Quality analysis of 125 Pashmina fibre samples was done. Technology like pashmina shawl making, organic goat meat and cheese technology has been transferred successfully in the field area. The unit has developed silage for using locally available ingredients viz. African tall maize, alfalfa, wheat straw, dried tree leaves, molasses, etc. for feeding livestock during scarcity. The unit has established nucleus flock of Pashmina goats at HMAARI Stakna, Leh for genetic evaluation and thereafter distribution to field. During the year, 19 training programme was organized, attended by 376 farmers including 164 women.

2.8. Gaddi Goat Field Unit, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur, Himachal Pradesh

Gaddi goat unit came in existence in the year 2009 at CSK, HPKV, Palampur. The opening balance on 31.03.2023 was 1716 and the closing balance on 31.03.2024 was 1723 animals under different age groups. During the year, a total of 652 young kids were added in selected flocks by way of birth, 118 animals of different age groups died and 527 animals were sold by the owners. The least square means for body weights at birth, 3 month, 6 month, 9 month and 12 months of age were 3.12±0.03, 16.02±0.17, 21.39±0.11, 25.67±0.18 and 29.08±0.06 kg, respectively. The selection differential for bucks purchase was 2.27 kg. A total of 9 males were distributed to 9 different farmers, and 15 Gaddi goat units comprise of one male and 3 females (60 animals) were provided to farmer establishing for multiplier flocks. All the registered animals were provided health coverage under migratory field conditions viz. vaccination against PPR, (6962), de-worming against endo-parasites along with periodic health check-ups. Strategic supplementary feeding was also provided in the form of concentrate feed (22q.) and mineral mixture (2q). Two farmers flock were registered as multiplier

flock with flock strength of 350 animals each. The overall mortality rate was 6.84%. The incidence of twin birth was15.19% and litter size was 1.24. The abortion incidence in the flocks was 6.51%. The breeding efficiency or fertility percent on the basis of does available and does tupped was 80.31% and 98.92% respectively. The kidding percent on the basis of does available and does tupped was 63.17% and 78.65% respectively. The income per adult female goat per year was Rs.1830. Ten adopted farmers also attended one exposure visit at CIRG Makhdoom. One Research publication was published. Four training programme was organized, attended by 50 farmers including 5 women.

2.9. Ganjam Goat Field Unit, College of Veterinary Science & Animal Husbandry Bhubaneswar, Odisha

Ganjam goat unit become part of AICRP in 2001-02 at OUAT, Bhubaneswar. The unit is operated with four different clusters with 89 registered goat farmers at Chhatrapur, Rambha, Khallikote and Jiirabadi in Ganjam district. The total available goat populations with registered farmers were 2478 with 678 from Chhatrapur center, 745 from Rambha center, 692 from Khallikote center and 363 from Jirabadi center. The opening flock strength was 2336 and closing flock strength was 2478 for this year. The means of body weights of goats were 2.81±0.04, 6.83±0.11, 10.38±0.16, 14.69±0.12 and 18.75±0.04 kg at birth, 3, 6, 9 and 12 month of age, respectively. The average of age at first heat (day), age at first kidding (day), weight at first kidding (kg) and kidding interval were 405 days, 601 days, 21.96 kg and 222 days, respectively. Kidding percentage was 88.16%. Incidences of multiple births were 0.2%. The 60 days milk yield was 23.73 kg. The improvement for body weight at 9 and 12 month of age was 2.85 kg and 6.55 kg, to the base year of 2001-02. A total of 36 adult bucks were distributed among the SC and ST goat farmers which are covering nearly 800 goats. A total of four Gosthi and seven farmers' training programme were organized benefitted 290 farmers including 45 women. A total of 4700 dosages of vaccinations were done against PPR, Goat pox, and HS and 7383 deworming dosages were administered. A total of 2284 goats were treated. Three vaccination camps cum health camps were also organized. Kid mortality was 5.8%. The average income of goat farmers has improved by 25% (Rs 33,000/) as compared previous year (Rs 165676). Total 18 quintals of concentrate feed mixture were distributed to the SC and ST goat farmers for strategic supplementation of feed. One MVSc theis work was facilitated by the unit data to evaluate genetic merit of the Ganjam goats. Two research articles and a book on Ganjam breed of goat in Odia were published.

2.10. Himalayan Goat unit, Indian Veterinary Research Institute, Mukteswar, Nainital, Uttarakhand

Himalayan goat unit (Chaugarkha) is located at ICAR-IVRI, Mukteshwar, Nainital, Uttarakhand and enlisted under AICRP in the year 2012-13. It is medium size breed and well adapted in upper hills of Kumauo region of Uttarakhand locally called Chaugarkha. The overall mean of body weights at birth, 3, 6, 9 and 12 months were 1.88±0.19, 8.80±0.47, 12.51±0.28, 16.61±0.50 and 19.69±0.33 kg, respectively. The average 60 days milk yield was 20.40±0.23 litre. Periodic animal health camps and input distribution events were conducted. The project activities were carried out in three clusters. A total of five animal health camps organized for 416 farmers and 641 animals (418 goat and 223 other animals) benefited from these camps. The overall mortality rate was 3.27%, respectively. The anthelmintic drugs, mineral and vitamin supplements were supplied to the farmers. Cattle feed (48.5 quintals) and vegetable crates (185 no.) were distributed to 185 TSP farmers. Spades (186 no.) and vegetable seeds (methi, muli, palak and dhania seeds) were distributed to 186 SC farmers. A seven days training program on “Scientific Rearing and Management of Goats” for TSP farmers organized under 30 schedule tribe farmers participated. A sum of Rs 86500 revenue was generated by the sale of animals from the nucleus flock.

2.11. Malabari Goat Field Unit, Kerala Veterinary and Animal Sciences University, Mannuthy, Thrissur, Kerala

Malabari goat as part of AICRP came in existence from April, 2001. Six clusters are located at Taliparamba, Thalassery, Vadakara, Perambra, Kottakkal and Tanur in Kannur, Kozhikode and Malappuram districts. A nucleus flock is also maintained at Veterinary and Animal Sciences College campus, Mannuthy. Total of 217 farmers have been registered under the project including 148 women. The opening and closing balance of goats were 3328 and 3530. During 2023-24, 996 kids were born from 582 kidding. The mean body weight at birth, 3, 6, 9 and 12 months of age were 2.60±0.20, 8.95±0.30, 16.02±0.60, 23.10±0.30 and 24.90±1.30 kg, respectively. The body weight gain was highest (77.97gm/day) between birth and 3 month's age and lowest between 9 and 12-months age. The heritability for growth traits was ranged from 0.25 at 3 months age to 0.46 at 9 months age. The average daily milk yield was 0.94±0.08 litres. Total lactation yield was 84.50±5.10 liters with lactation length of 86.20±4.60 days. The h2 for 90 days milk yield was 0.24±0.15.The mean fat and SNF percentage were 4.31±0.10 and 8.64±0.08, respectively. The mean dressing percentage and crude protein were 45.150.26 and 4.31±0.10, respectively. The average age at first kidding, gestation period, kidding interval and kidding rate were 387.30±12.70, 149.50±0.20 and 268.50±28.30 days and 1.71. Incidences of multiple births were ranged from 61.40% to 72.29% at different cluster. The overall mortality rate was 2.63%, respectively. Total of 18 bucks was selected on the basis of 6/9 months body weight and distributed to farmers. Two multiplier flocks with 40 and 65 adult females were developed. Three training of one day duration was conducted. Seven research papers and two technical papers were published and one PhD, Two MSc/MVSc students completed under project. The net return per month per goat is increased from Rs. 1192 to Rs.1250 during 2023-24 as compared to 2022-23.

2.12. Marwari Goat Field Unit, RAJUVAS, Bikaner, Rajasthan

The Marwari Field unit, as a part of the AICRP goat improvement project is functioning at RAJUVAS, Bikaner from the year 1993. The unit at present has six clusters and these clusters are located at Deshnok, Daiya, Kalayansar, Raisar Kan Singh Ki Sird and Jaimalasar villages in Bikaner district. Buck Rearing Center is also maintained at Livestock Center, Kodemdesar (RAJUVAS, Bikaner). The performance recording on growth, milk yield, reproduction, health etc. were done on 1767 breedable does and followers under the coverage area. The 83 farmers were registered under the unit. The 20 new bucks were distributed to registered farmers. The average of age at first service, weight at first kidding, age at first kidding, and weight at first kidding were 378.69days, 23.86 kg, 529.63 days and 27.02kg, respectively The body weights of kids were 2.72±0.005 at birth, 8.82±0.014 at 3 month, 15.21±0.021 at 6 month and 19.42±0.030 at 9 month of age. The average milk yield in 60, 90 and total lactation yield was 63.18±0.180, 86.90±0.255 and 94.49±0.305 liters. The average lactation length was 109.07±0.160 days. The kidding percentage and kidding rate was 97.62% and 1.05, respectively. The overall mortality rate was 1.18%. The total numbers of case covered under health coverage were 33,998 which included both prophylactics (83.53 %) and curative (16.47%). There were 28398 goats covered under prophylactic measures, out of which 12148 for endo-parasite, 2115 for ecto-parasite, 2235 for mineral deficiencies, 3000 goats vaccinated for ET, FMD, Goat pox and PPR. The capacity building of the goat keepers were done with the help of trainings, Goshti and meetings. Four trainings were conducted for capacity building of farmers with total farmer strength of 146.

2.13. Osmanabadi Goat Field Unit, Nimkar Agricultural Research Institute (NARI) Phaltan, Maharashtra

Osmanabadi goat field unit was established at NARI (NGO) in April 2009. The production performance of goats in farmers' flocks was assessed in five districts of Maharashtra Viz. Ahmednagar, Beed, Pune, Satara and Solapur districts. 805 Kids were born from 488 kidding's making the average litter size of 1.65. Nine bucks were purchased for field improvement. The average of age at first kidding, weight at first service, and weight at first kidding were 403days, 18.5 kg and 22.0kg, respectively. The least squares mean at 3, 6, 9 and 12-months weights were 11.4, 16.0, 18.5 and 20.2 kg respectively. The h2 estimates were 0.20±0.03, 0.48±0.08, 0.23±0.06 and 0.35±0.05 for 3, 6, 9 and 12 month weight. The least squares mean of 90-day milk yield was 109.9 kg. The least squares mean of 90-day milk yields of does having singles, twins and triplets were 70.2, 114.4 and 133.6 kg respectively. The h2 of 90-day milk yield was 0.10±0.16. Osmanabadi buck straws of 23 bucks were frozen and supplied to A.I. technicians, farmers and entrepreneurs for breed improvement. Conception rates through AI was >50%. Overall adult mortality was 0.7% and kid mortality was 1.8%. A total of 16 booklets/leaflets on goat management practices in local language were provided to goat keepers. Two 3-day training courses on AI conducted for 35 pashu sakhees of the Mann Deshi Foundation. 23 booklets/leaflets in Marathi language pertaining to goat management practices were provided to the adopted farmers.

2.14. Sangamneri Goat Field Unit, MPKV, Rahuri, Maharashtra

The All India Co-ordinated Research Project on Sangamneri goat (field unit) is executed from 21.3.2002 with The programme was initiated by registering 500 does which were extended to 4500 breedable does. Six clusters viz; Sangamner, Shrirampur, Rahuri, Belha ,Sinnar and Sakurmandava covering three districts i.e. Ahmednagar, Nasik and Pune were adopted. During 2020-21 the Nandurbar is one of the additional cluster was also registered. The least square means for birth,3,6,9 and 12 month body weights were 2.46 ± 0.01, 11.02 ± 0.08, 15.61 ±0.01, 19.48 ± 0.24 and 24.59 ± 0.49 kg respectively during 2023-24. The village cluster sex and sire has the significance effect (P<0.01) on body weight upto 12 M age.The percent improvement in body weight at birth, 3,6,9 and 12 months over baseline data was 5.73, 29.30, 24.90, 16.00, 27.29 respectively. The numbers of kids per kidding were 1.77. The overall 90 days milk yield during 2023-2024 was 120.24 L. which was significantly affected by village cluster, year and season of kidding and kidding interval. 17 group meeting, 2 health camps, 2 SCSP training and 7 trainings were organized. Unit set up two HDPE Vermi Bed of Goat manure of Size 12X4X2 ft of each 1 Ton capacity for demonstration purpose. Unit provided 48 bucks for field improvement.

2.15. Sirohi Goat Field Unit, Livestock Research Station, Vallabhnagar, Distt. Udaipur (Rajasthan University of Veterinary & Animal Sciences, Bikaner), Rajasthan

This unit came in existence in the year 2001-02. The flock strength of registered animals under the unit was 2799 including 1718 adult females as on 31 March, 2024. During the year addition due to birth was 1466 while reduction due to death and sale of animals were 144 and 1371. The body weight at birth, 3, 6, 9 and 12 months of age was 2.52±0.02, 11.70±0.12, 15.05±0.17, 18.71±0.28 and 23.17±0.22 kg, respectively. The least squares mean for 60, 90, 150 days milk yield and total lactation yield was 42.29±1.45, 61.75±1.94, 92.23±4.84, and 92.72±4.77 lit., respectively. The overall lactation length was 150.92±0.81 days. The age at first matting, age at first kidding, weight of doe at first matting and weight of doe at first kidding was 515.73±20.38 days, 665.07±20.41 days, and 25.55±0.35 kg and 30.73±0.27 kg, respectively. The service period, gestation period and kidding

interval and was 208.51±4.35, 150.19±0.04 days and 358.70±4.36 days, respectively. This year a total of 2524, 1483 animals were vaccinated against Enterotoxaemia, PPR and 6910 and 8222 animals were covered for endo and ecto-parasitic infestation. The overall flock mortality was 3.37% and enteritis was encountered as a major disease. During the year, three training programme was organized, 75 farmers benefited.

2.16. Surti Field Unit, Livestock Research Station, Kamdhenu Agricultural University, Navsari, Gujarat

This unit came in existence in the year 2001-02. Four clusters namely Navsari, Bilimora, Vapi and Dang (Vaghai) were covering 24 villages and 79 farmers with 147 male and 657 females under the programme. A nucleus flock with 100 Surti goats is maintained at Livestock Research Station, Navsari. Overall mean for body weight at farmers' flock at birth, 3, 6, 9 and 12 months were 3.16 + 0.06, 8.75 + 0.13, 12.77 + 0.18, 15.95 + 0.24 and 20.71 + 0.37 kg, respectively. Body weights at corresponding ages at nucleus flock were 2.49±0.05, 11.76±0.36, 14.42±0.50, 20.25±0.57 and 25.42±0.72, respectively. Overall average daily milk production at farmers' flock was 0.92 ± 0.04 lt / day / doe with average lactation length of 96.0±2.79 days. Overall mortality rate at farmers' flock was 10.66 %. The least squares means of AFM, WFM, AFK, WFK, KI, Service days and Gestation period were 415.76 ± 36.55 days, 26.56 ± 1.00 kg, 561.13 ± 33.75 days, 29.59 ± 1.07 kg, 349.55 ± 47.08 days, 181.10 ± 1.64 days, and 147.58 ± 1.78 days, During the year 343 kids were added to the farers' flock with kidding rate of 1.47. Four trainings and four awareness programmes on scientific goat farming were organized. Total 26 bucks and 26 females reared from nucleus flock were sold to the farmers. Eight research articles and 2 success stories were published.

2.17. Pantja Field Unit, G B P UA&T, Pantnagar, U. S. Nagar (Uttarakhand)

The AICRP-Pantjacentre is operational at GBPUA&T, Pantnagar since Aug, 2014. A nucleus flock of Pantja goats has been established at Pantnagar, wherein 53 females and 22 males are maintained with four field clusters viz.Bhimtal, Tilpuri, Bara, and Majhera in Nanital& U S Nagar districts of Uttarakhand. Presently, the centre has adopted 297 households in 115 villages with the opening and closing balance of 3,543&3,927 goats. The survey of project area revealed that the share of Pantja goats in the project area has increased tremendously since the inception of project in 2014-15 from 23.7 to 31 %. The average body weights were recorded as 2.27±0.01, 11.23±0.04, 16.17±0.04, 20.16±0.05 and 24.51±0.07 kg at birth, 3, 6, 9 and 12 months of age, respectively. It was observed that use of elite Pantja bucks has resulted in additional gain of about 4 kg in 12-month body weight of kids as compared to local goats translating into about 6 kg additional live weight per doe fetching an additional income of Rs 2100 per doe per year which is a significant financial gain for goat keepers under the project. The average milk yield at 30, 60, 90,120 and 150 days was found as 13.01±0.04, 28.81±0.11, 49.52±0.16, 62.11±0.32and69.13±0.42ltr, respectively. There is an improvement in 90 days milk yield from 46.34 ltrin 2017-18 to 49.52ltr in 2023-24. The average lactation length and lactation yield were 122.32 ±1.93 days and 60.31±0.70ltr, respectively. The average age and weight at first mating were 270.11±1.49days and 22.32±0.07 kg, respectively. Marked reduction in age at sexual maturity from 283.9 to 270.11 days from 2015-16 to 2023-24.The selection differential for 12-month body weight and 90-day milk yield were 2.92 kg and 1.72 ltr respectively. Kid mortality between 0-3 months was 9.04 % and adult mortality rate was 3.62 % with total flock mortality as 6.10 %. A total of 1,697 kids using 81 bucks and 1,496 does have been produced during reporting period (2023-24). Pantja goats are quite prolific with multiple births of 56.42 %, breeding efficiency of 96.66 %& kidding efficiency of 145.17 %.There is a marked improvement in kidding rate (litter size) from 1.49 in 2015-16 to 1.61 kids in 2023-24.The milk of

Pantja goat was found to have 3.97 % fat and 9.13 % SNF. Dressing percentage of 62 % was recorded on these goats. Most of the goats are being sold between 6-9 months for meat and lifted by cutters from the doors of goat keepers by paying in cash. During the reporting period, 14 Pantja bucks (total 208) were distributed in the project area with 128 functional bucks covering 1496 does including 270 non-descript goats. The centre also castrated 93 scrub bucks (total 570) in the project area. Facility of natural service to the local goats was created at Pantnagar in 2015 and 132 goats (total 675) were mated with superior Pantja bucks. The center organized 10 goat awareness cum training programs (total 66) wherein 453 (total 3,097) farmers were trained. The center has collaboration with 2 N.G.Os and 4 SHGs for reaching out to stakeholders. The center has facilitated in establishment of 7 multiplier flocks with goats ranging from 51 to 200 animals for ease of availability of Pantja goats and faster multiplication of Pantja germplasm in the project area. Various inputs like medicines (antibiotics, ant-helmentics, anti-diarrhoeals, analgesics, etc.), 5,885 doses of vaccines feeding tubs (85), LED torches (70), umbrellas (50), buckets (51), mosquito nets (70), rain coats (30), water bottles (52) & gumboots (09) have been distributed in the project area. The center has developed 5 innovative and useful technologies. The centre has published 05 research papers, 01abstracts,02 thesis, 01leaflets, 01 books, 01 bookletsand01 training manual in the current year. Intervention of project has benefitted goat keepers of the area with significant reduction in morbidity (45.76 % in 2015-16to 25.05 % in 2023-24) & mortality (14.58 % in 2015-16 to 6.10 % in 2023-24).As a result of cumulative effects, the supplemental net income of goat farmers has increased from Rs 5700 per doe per year in 2018-19 to Rs 7750 in 2023-24.

2.18. Black Bengal Unit, Research Complex for Eastern Region, Patna

All India Coordinated Research Project on Goat Improvement was started at ICAR Research Complex for Eastern Region, Patna in the year 2018-19. The Centre continued its activities in the five clusters of Bihar with farmers keeping 4030 doe. The overall mortality was 3.15 %. The average body weight at 3, 6, 9 and 12 months of age was 4.11 ± 0.01 kg, 6.75 ± 0.05 kg, 8.68 ± 0.13 and 11.65 ± 0.07 Kg respectively. Body weight was increased by 2-5 % in comparison to previous year and 18-24% in base year 2018-19 in different age groups. Average lactation milk yield was recorded as 17.50 ± 0.01 kg at 60 day and 21.51 ±0.01 kg at 90 d of lactation. No. of kids/doe in one year was 3.05 in 2023-24 in comparison to 1.78 in base yr. 2018-19. Age at first mating was 276 days. Tupping percentage was 92.72 while breeding efficiency was 98.96% on the basis of does tupped. Institute has added two multiplier flock in this year. Improvement in the socio-economic conditions of goat farmers were recorded. Income per household from goat has increased to Rs. 10469 in 2023-24 comparison to Rs 9414 in 2022-23 and Rs 3203 in 2019-20.

2.19. Bundelkhandi Goat Field Unit, Indian Grassland and Fodder Research, Jhansi, Uttar Pradesh

The unit has started working from May, 2018 at ICAR-IGFRI, Jhansi and presently operative in 3 villages of Datia district in MP and 3 villages of Jhansi district (UP). A total of 140 households were registered with 2387 goats. Goats predominately kept under mixed livestock farming system. The flock-size ranged from 2 to 66 with average of 17.0 in adapted villages. Two bucks were distributed in adopted villages. The average of age at first service, age at first kidding, weight at first kidding were 578 days, 726kg and 29.32 kg, respectively. The least squares mean of body weight at 3, 6, 9 and 12-months were 11.4, 16.0, 18.5 and 20.2 kg respectively. Average daily milk yield was 0.519±0.03 kg, while milk yield of 90 days was 45.51±2.80 litres with lactation length of 87.68±5.39 days. Average kidding percentage was 85.1% on number of doe available basis. The overall mortality rate was 7.40%, respectively. One training was conducted and 537 farmers were benefited during the year.

Goats in the adopted villages were provided with health coverage by vaccination (2990) against PPR, ET, FMD and deworming against endo-parasites (2970 animals), and periodic treatment of 4179 cases. Several Kisan Gosthi cum animal health camps were organised in adapted villages.

2.20. Beetal Field Unit, GADVASU Veterinary & Animal Sciences University, Ludhiana, Punjab

Beetal Field Unit was operationalized during 2022-23. The unit has registered 1122 goats in by adopting 3 clusters. The opening and closing flock strength of nucleus flock was 168 (101F+67M) and 140(95F+45M) on 01st April 2023 and 31st March 2024. Seventy eight goats were provided to farmers for field improvement. Twelve bucks have been procured from the Directorate of Livestock Farms for upgradation and breed improvement of non-descript goats, especially in Hoshiarpur, SAS Nagar and Bathinda districts. Data was collected from 741 breeding goats out of which kidding occurred in 629 goats with average litter size of 1.81. The percentage of single, twins, triplets and quadruplets was 22%, 74%, 3% and 0.2% respectively. The body weight of kids at birth and 3 months was 3.78±1.20 and 12.710±2.01 kg. The averages of 90 days milk yield was 138.2 kg. The average peak yield of Beetal goats was 2.49 kg, though 2 goats yielded more than 5 kg milk. The average live body weight of kid at 12 month of age was 38.0 kg. A Brainstorming on "Morphological and phenotypic characterization of Beetal goats" was organized to determine the phenotypic characters of Beetal goats. One farmer-scientist interface was conducted in Bathinda district. Six training programs on breeding and management of goats along with distribution of healthcare kits were conducted for SC farmers in 5 districts benefitted 60 participants. Vaccination of adult goats and kids was organized in association with the Department of Animal Husbandry, Punjab. Vaccination cards and record books were distributed to adopted farmers for recording vaccination. Record keeping register pertaining to breeding, growth, lactation and health were provided to farmers for data recording. One information system and one mobile app were developed for promoting user-friendly digital information and broadcasting season specific recommendations over mobile phones. Vermi-bags were supplied to the farmers for preparing vermicomposting from goat droppings as a source of additional income. Construction of one goat shed with housing facilities for 100 breedable does is also under progress.

3. RESEARCH ACTIVITIES 2023-24

1. Project Coordinating Unit, ICAR-CIRG, Makhdoom

Dr. M.K. Singh, Principal Scientist (AGB) & Incharge, AICRP on Goat Improvement

Activity assigned and targets ûxed for activities during the period

- Compilation and Documentation of Project Report for 22[n] Annual Review Meet
- Evaluation of Field and Farm units of AICRP.
- Compliation of Annual Progress Report of each unit
- Organization of Annual Review Meet
- Preparation and submission of monthly, quarterly targets and achievements.
- Compilation and presentation of different format required for data collection and presentation
- Budget Estimation and Release
- PFMS Operational for all the units.
- Monitoring of Implementation of Technical programme
- Organizing online meeting
- Implementation of ATR by Different units



Visit of honorable DDG & ADG of Barbari Goat Farm



I/Cs AICRP Participate in 21st ARM at ICAR-CIRG



Release Annual Progress Report



Inauguration of Aja Sampda Sthal

2. Barbari Goat Farm Unit, ICAR-CIRG, Makhdoom

PI - Dr. M.K. Singh, Principal Scientist (AGB)

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.81	7.78	11.58	15.93	20.13
SD	0.31	1.66	2.56	3.36	3.85
Target (Mean+0.50 SD)	1.98	8.61	12.86	17.62	22.05

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	75.58	113.03	126.76	169.84
SD	14.26	18.44	26.04	22.92
Target (Mean+0.50 SD)	82.71	122.25	135.69	181.30

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Establishment of 3 multiplier flocksto develop germ-plasm resource centre and model goat farms
- Grading up of 1000 non-descript goats as Barbari type in the hometract of breed
- Coordinate sale of >1000 purebred goats for field improvement by multiplier flocks
- Organization/participation of 8-12 training program (3-5 days) for >500 farmers/year
- Development 20 SHG of Barbari goat farmers
- Separate sire line for milk and growth
- Implement progeny testing program for milk
- Assessment of FCR with different feed composition
- Nutrient profiling of milk and meat
- Testing adaptability of Barbari goats in semi-hot-humid climate through multiplier flock

Barbari Goat Farm Unit, ICAR-CIRG, Makhdoom



Barbari Doe



Barbari Buck



Visit of Foreign Delegates of Barbari Farm



Multiplier Flock at Sonbhadra, U.P.



Exposure Visit of Schedule Tribe Women



Multiplier Flock at Pratapgarh, U.P.

3. Jamunapari Goat Farm Unit, ICAR-CIRG, Makhdoom

PI - Dr. M.K. Singh, Principal Scientist (AGB)

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	3.49	10.28	14.78	19.45	24.19
SD	0.64	2.06	2.85	3.42	3.53
Target (Mean+0.50 SD)	3.81	11.31	16.20	21.16	25.95

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	81.25	120.01	113.25	156.25
SD	37.49	53.72	69.82	41.88
Target (Mean+0.50 SD)	100.0	146.87	148.16	177.19

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Support for establishment of Buck Mother Farm in Etawa district in collaboration of State AH department
- Organization 3 goat fair cum judging competition in Etawa and Orriya districts in collaboration of State AH department.
- Development of Seed Unit at Institute to supply purebred goats to State AH department for SHG
- Development 10 SHG in collaboration of State AH department
- Establishment of 3 multiplier flocksto develop germ-plasm resource centre and model goat farms
- Grading up of 500 non-descript goats as Jamunapri type
- Coordinate sale of >200 purebred goats for field improvement by multiplier flocks
- Organization/participation of 8-12 training program (3-5 days) for >500 farmers/year
- Separate sire line for milk and growth
- Implement progeny testing program for milk
- Assessment of FCR with different feed composition
- Nutrient profiling of milk and meat

Jamunapari Goat Farm Unit, ICAR-CIRG, Makhdoom



Jamunapari Buck



Jamunapari Doe



Multiplier Flock at Karuli, Rajasthan



Multiplier Flock at Etah, UP



Browsing of Kids



Drinking Water

4. Sirohi Goat Farm Unit, ICAR-CSWRI, Avikanagar, Rajasthan

PI - Dr. S.S. Misra, Principal Scientist

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	3.23	13.35	22.19	29.94	32.84
SD	0.62	3.14	4.68	5.02	4.79
Target (Mean+0.50 SD)	3.54	14.92	24.53	32.45	35.24

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	82.61	118.60	123.55	170.60
SD	13.98	17.95	39.24	53.26
Target (Mean+0.50 SD)	90.0	127.58	143.17	197.23

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Establishment of 3 multiplier flock
- Grading up of >500 non-descript goats in the hometract of breed
- Organization of minimum 5-7 training program (3-5 days) for >400 farmers/year
- Optimzation of reproductive traits to enhance overall goat productivity and profitability
- Development of 2-3 management practices and technologies for enhancing productivity and profatibility
- Implement progeny testing program for milk
- Assessment of FCR with different feed composition
- Milk and Meat profiling
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Sirohi Goat Farm Unit, ICAR-CSWRI, Avikanagar, Rajasthan



Sirohi Buck



Sirohi Doe



Milk Suckling



Browsing of Kids



Animal Distribution to Farmers by Delegates



Grazing of Hogget Flock

5. Andamani Goat Field Unit, ICAR-CIARI, Port Blair, A & N Island

PI - Dr. Jai Sunder, Principal Scientist

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.36	6.12	9.86	12.68	16.23
SD	0.18	0.76	1.09	1.21	2.12
Target (Mean+0.50 SD)	1.45	6.5	10.405	13.285	17.29

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	29.07	38.74	40.41	94.06
SD	0.23	0.64	1.21	2.63
Target (Mean+0.50 SD)	29.13	38.9	40.71	94.72

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic cover support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Management Practices for rainy season
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500 non-descript goats by sale/supplying bucks.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Andamani Goat Field Unit, ICAR-CIARI, Port Blair, A & N Island



Andamani Buck



Andamani Doe



Buck Distribution



Multiplier Flock of Bagicha Village



Awarness Programme



Andamani Goat Flock

6. Assam Hill Goat Field Unit, AAU, Khanpura, Guwahati, Assam

PI- Dr. Dipak Bhuyan

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.23	5.20	8.50	11.41	14.36
SD	0.145	0.846	0.997	1.098	1.304
Target (Mean+0.50 SD)	1.83	6.20	9.70	12.71	15.86

Targets for Milk Production

	90 dmy(L)	140 dmy(L)
Mean	8.08	13.98
SD	2.05	2.06
Target (Mean+0.50 SD)	9.09	14.98

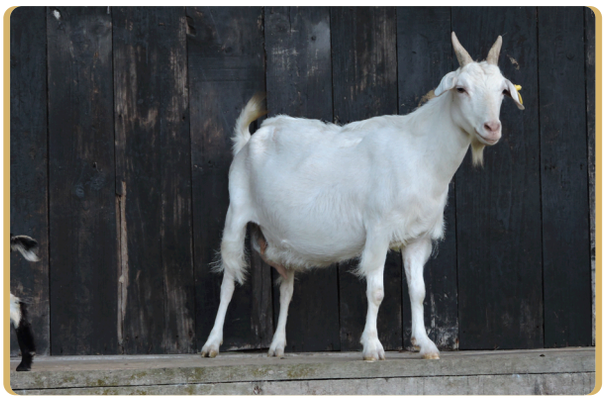
Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Management Practices for rainy season
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500 non –descript goats by sale/supplying bucks.
- Optimation of reproductive traits to enhance overall goat productivity.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ market.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Assam Hill Goat Field Unit, AAU, Khanpura, Guwahati, Assam



Assam Hill Doe



Assam Hill Buck



Input Distribution



Women Farmer Flock



Multiplier Flock



Treatment Camp

7. Black Bengal Goat Field Unit, BAU, Kanke, Ranchi, Jharkhand

PI- Dr. Sushil Prasad, Current PI: Dr. Nandini Kumari, Assistant Professor cum Junior Scientist

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.19	5.84	7.97	10.70	13.02
SD	0.18	0.42	0.52	0.58	0.48
Target (Mean+0.50 SD)	1.23	6.05	8.23	10.99	13.26

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	13.80	16.90	16.90	96
SD	0.28	0.32	0.32	1.2
Target (Mean+0.50 SD)	13.94	17.06	17.06	96.6

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Management Practices for rainy season
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 400-500 non –descript goats by sale/supplying bucks.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Black Bengal Goat Field Unit, BAU, Kanke, Ranchi, Jharkhand



Black Bengal Buck



Black Bengal Doe



Housing of Goat in Field



Training of Farmers



Dipping of Kids



Goat Distribution to Farmer

8. Changthangi Goat Field Unit, SKUAST, Leh-Ladakh

PI - Dr. Feroz Din Sheikh, Prof. and Head

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.24	6.34	9.38	13.16	16.91
SD	0.22	1.52	1.64	1.65	1.57
Target (Mean+0.50 SD)	2.35	7.1	10.2	14	17.7

Targets for Pashmina Production

	Male/Buck	Female/Doe
Mean(Last 5 Years)	312	245.5
SD	71.10	47.8
Target	347	269

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Milk yield should be recorded in 20% or 100 goats and multiplication of high milk yielding goats
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat survivability and marketing
- Collect the information on constraints faced by goat and goat keepers during migration, photos and videos
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Changthangi Goat Field Unit, SKUAST, Leh-Ladakh



Changthangi Buck



Changthangi Female Goat



Farmer Training



Input Distribution



Fecal Sample Collection



Migratory Flock

9. Gaddi Goat Field Unit, HPKVV, Palampur, Himachal Pradesh

PI- Dr. Nishant Verma, Assistant Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	3.12	16.02	21.39	25.67	29.08
SD	0.52	1.68	1.90	2.13	2.69
Target (Mean+0.50 SD)	3.38	16.86	22.34	26.73	30.42

Targets for Fiber

- A target of 0.25 standard deviations above the population mean, derived from five years of fiber, was fixed as target

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 3-5 goat houses as model in participatory mode.
- Assessment of FCR with 40% concentrate and 60% rough vage at nucleus flock
- Milk yield should be recorded in 20% or 100 goats
- Grading up of 500 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Collect the information on constraints faced by goat and goat keepers during migration
- Development of mangament practices protocol during migration.
- Functional linkage for processing of fibre and its marketing.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Gaddi Goat Field Unit, HPKVV, Palampur, Himachal Pradesh



Gaddi Buck



Gaddi Doe



Scientist Farmer Interaction



Weighing of Buck



Tagging of Kids



Migratory Flock

10. Ganjam Goat Field Unit, OUAT, Bhubaneswar, Orissa

PI - Dr. Chinmoy Mishra, Assistant Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.83	7.18	10.62	15.25	19.01
SD	0.75	1.12	1.17	1.63	3.54
Target (Mean+0.50 SD)	3.20	7.74	11.21	16.07	20.78

Targets for Milk Production

	30 dmy(L)	60 dmy(L)
Mean	8.56	15.17
SD	2.68	4.6
Target (Mean+0.50 SD)	9.9	17.47

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Potential of Ganjam goats explored for growth , milk, litter size under optimum condition
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 400-500 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Ganjam Goat Field Unit, OUAT, Bhubaneswar, Orissa



Ganjam Buck



Ganjam Doe



Grazing Flock



Concentrate Feed Distribution



Buck Distribution



Migratory Ganjam Flock

11. Himalayan Local Goat Field Unit, ICAR-IVRI Campus, Mukteshwar

PI - Dr. Indrasen chauhan, Scientist (SS)

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.86	8.43	12.28	15.70	19.76
SD	0.06	0.30	0.40	0.82	0.22
Target (Mean+0.50 SD)	1.89	8.58	12.48	16.11	19.87

Targets for Milk Production

	60 dmy(L)
Mean	21.74
SD	0.74
Target (Mean+0.50 SD)	22.11

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Expansion of field area and intensification of genetic improment activities
- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 800 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 4-6 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 1800 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 350-450 non –descript goats by sale/supplying bucks.
- Identification of more milk yielding doe with 400gm/d (>60 litre in 90 days) and their utilization in improvement program
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Himalayan Local Goat Field Unit, ICAR-IVRI Campus, Mukteshwar



Training



Exposure Visit



Grazing Flock



Weighing of Goats



Nucleus Flock



Visit of I/C PC Unit of Himalayan Field Unit

12. Malabari Goat Field Unit, KV&ASU, Mannuthy, Thrissur, Kerala

PI - Dr. Thirupathy Venkatechalapathy, Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.43	8.84	15.64	22.57	24.23
SD	0.024	0.46	0.82	1.26	1.343
Target (Mean+0.50 SD)	2.44	9.07	16.05	23.20	24.90

Targets for Milk Production

	90 dmy(L)	140 dmy(L)	TMY (L)	LL(days)
Mean	64.03	79.35	79.35	85.52
SD	2.56	3.96	3.96	5.13
Target (Mean+0.50 SD)	65.31	81.33	81.33	88.08

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Very low Standard deviation of performance traits alarming loss of genetic variability?
- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500-600 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Milk and Meat profiling
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Malabari Goat Field Unit, KV&ASU, Mannuthy, Thrissur, Kerala



Malabari Buck



Input Distribution by Director, CIRG



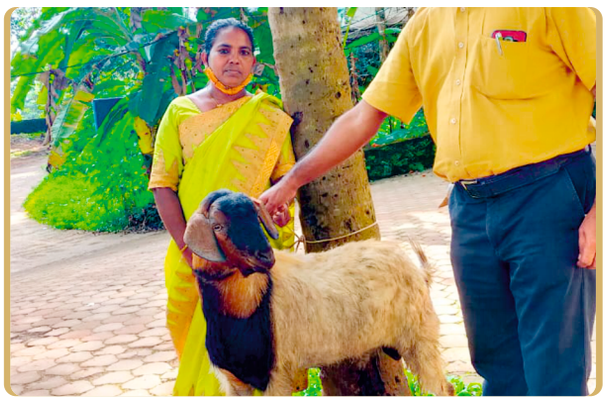
Vaccination Camp



Multiplier Flock



TSP Training



Buck Distribution

13. Marwari Goat Field Unit, RAJUVAS, Bikaner, Rajasthan

PI- Dr. Urmila Pannu, Professor, Current PI: Dr. Vishnu Kumar, Assistant Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.66	8.53	14.65	18.67	24.11
SD	0.21	0.67	0.96	0.97	1.04
Target (Mean+0.50 SD)	2.77	8.87	15.13	19.16	24.63

Targets for Milk Production

	90 dmy(L)	TMY (L)	LL(days)
Mean	86.00	92.86	108.07
SD	9.97	17.35	7.00
Target (Mean+0.50 SD)	90.98	101.54	111.57

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of -8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2500 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Animals (500) should be tagged for precise data recording.
- Impact of bucks distribution and their utilization with respect to clusters.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Identification of high milk yielding goats (>1.5 litre peak yield with > 125 litr milk in 90 days and their utilization.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Marwari Goat Field Unit, RAJUVAS, Bikaner, Rajasthan



Marwari Doe



Marwari Buck



Input Distribution to Farmers



Farmers Training



Grazing Flock



Buck Distribution

14. Osmanabadi Goat Field Unit, NARI, Phaltan, Maharashtra

PI- Dr. Chanda Nimbkar, Director

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.5	11.4	16.0	18.5	20.2
SD	0.37	2.29	2.4	3.12	3.05
Target (Mean+0.50 SD)	2.69	11.64	16.25	18.85	20.57

Targets for Milk Production

	90 dmy(L)	TMY (L)	LL(days)
Mean	104.4	119.5	143
SD	36.4	28.5	27
Target (Mean+0.50 SD)	109.4	123.5	150

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Exploring potential as dairy breed
- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Multiplier flock's establishment to be strengthened targeting sustainable genetic improvement.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 550-650 non -descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Osmanabadi Goat Field Unit, NARI, Phaltan, Maharashtra



Osmanabadi Buck



Osmanabadi Doe



Training



Tickicide Distribution to Farmers



Buck Distribution



Farmer Flock

15. Sangamneri Goat Field Unit, MPKV, Rahuri, Maharashtra

PI- Dr. Vishnu Narwade, Associate Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.47	11.05	15.69	19.64	24.74
SD	1.13	2.11	3.09	3.39	4.48
Target (Mean+0.50 SD)	2.80 *(Mean+0.30SD)	12.11	17.24	21.34	26.98

Targets for Milk Production

	90 dmy(L)
Mean	121.04
SD	24.12
Target (Mean+0.50 SD)	133.10

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Exploring potential as dairy breed
- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Nucleus farm data with field should be analysed separately
- Multiplier flock's establishment should be strengthened targeting genetic improvement and breed conservation
- Measurement minimize crossbreeding
- Field activities for improvement intensified
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500-600 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Sangamneri Goat Field Unit, MPKV, Rahuri, Maharashtra



Sangamneri Doe



Sangamneri Buck



Interventions



Shelter Construction



Vermified Construction



Multiplier Flock

16. Sirohi Field Unit, Veterinary College, Vallabhnagar

PI - Dr. R. K. Nagda, Dean and Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.52	11.70	15.05	18.71	23.17
SD	0.50	1.66	2.12	2.23	2.29

Targets for Milk Production

	60 dmy(L)	90 dmy(L)	150 dmy(L)	TMY (L)	LL(days)
Mean	42.29	61.75	92.23	92.72	152.92
SD	18.61	26.28	24.03	23.87	4.64
Target (Mean+0.50 SD)	51.60	74.89	104.25	104.66	(-) 150.06

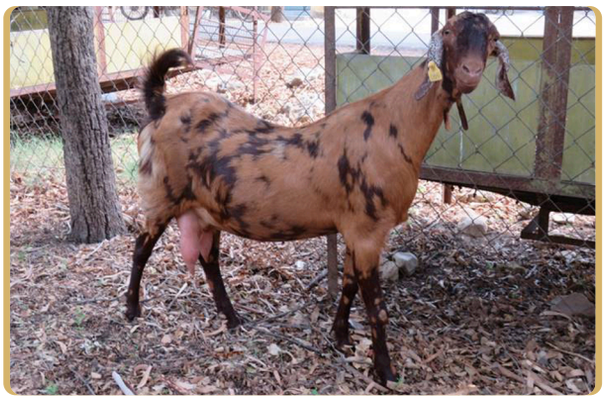
Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre and model goat farm
- Organization of minimum 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Nucleus farm data with field should be analysed separately
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 550-650 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing.
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Sirohi Field Unit, Veterinary College, Vallabhnagar



Sirohi Doe



Sirohi Buck



Field Training



Grazing Flock



Housing



Visit I/C PC of Sirohi Field Unit, Udaipur

17. Surti Field Unit, Kamdhenu, Navsari, Gujarat

PI - Dr. Gaurav Pandya, Assistant Research Scientist

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.59	8.90	13.29	15.85	19.62
SD	0.65	2.96	3.18	2.54	3.59
Target (Mean+0.50 SD)	2.91	10.38	14.88	17.12	21.41

Targets for Milk Production

	90 dmy(L)	150 dmy(L)	TMY (L)	LL(days)
Mean	96.92	164.54	151.16	165.73
SD	33.80	57.61	94.21	68.85
Target (Mean+0.50 SD)	113.82	193.35	198.26	(-) 131.3

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Exploring potential as dairy breed
- Itensifying genetic improvement activities in field by adopting appropriate villages
- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of minimum 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Nucleus farm data with field should be analysed separately
- Activities should be intensified in the field
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 400-500 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Surti Field Unit, Kamdhenu, Navsari, Gujarat



Farmers Training



Deworming



Body Measurement



Milk Recording



Milk Suckling



Input Distribution

18. Pantja Uttrakhand Goat Field Unit, GBPUA&T, Pantnagar

PI - Dr. R.K. Sharma, Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.27	11.23	16.17	20.16	24.51
SD	0.21	1.32	2.21	1.86	2.14
Target (Mean+0.50 SD)	2.37	11.89	17.27	21.09	25.58

Targets for Milk Production

	60 dmy(L)	90 dmy(L)	150 dmy(L)	TMY (L)	LL(days)
Mean	28.81	49.52	62.11	60.31	122.32
SD	3.64	7.58	6.62	5.04	6.2
Target (Mean+0.50 SD)	30.63	53.31	65.42	62.83	125.42

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 2000 to 2500 goats/year
- Identification of goats, pedigree and performance recording of 1000 goat/year
- Selection of 50-75 male kids for breeding and distribution of 25-30 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of minimum 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Grading up intensified by providing new bucks
- Housing design to minimize predation.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 500-600 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Expansion of breeding area in neighbouring districts
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Pantja Uttrakhand Goat Field Unit, GBPUA&T, Pantnagar



Visit I/C PC of Pantja Multiplier Flock



Distribution Inputs



Training of Goat Farmers



Deworming



Housing of Multiplier Flock



Buck Distribution

19. Black Bengal Field Unit, ICAR-RCER, Patna

PI - Dr. Amitav Dey, Cuurent PI- Dr. Shanker Dayal, Principal Scientist

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	1.33	4.02	6.53	8.73	11.65
SD	0.33	0.86	1.40	1.84	2.70
Target (Mean+0.50 SD)	1.49	4.46	7.23	9.65	13.00

Targets for Milk Production

	60 dmy(L)	90 dmy(L)	TMY (L)	LL(days)
Mean	17.72	21.47	22.61	110.36
SD	3.55	4.02	4.15	17.21
Target (Mean+0.50 SD)	18.61	22.48	23.65	114.66

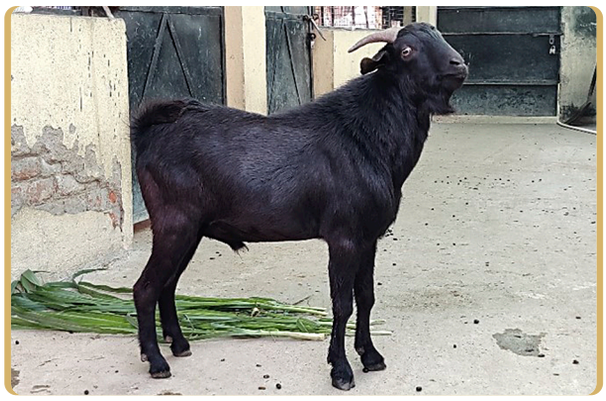
Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 1500 to 2000 goats/year
- Identification of goats, pedigree and performance recording of 500-800 goat/year
- Selection of 40-55 male kids for breeding and distribution of 20-25 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of minimum 6-8 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 400-500 non –descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Black Bengal Field Unit, ICAR-RCER, Patna



Breeding Buck



Black Bengal Doe



Training for SCSP Farmers



Grazing Flock



Animal Distribution



Housing of Farmer Flock

20. Bundelkhandi Goat Field Unit, IGFRI, Jhansi

PI - Dr. Deepak Upadhyay, Current PI- Dr. Pooja Tamboli

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	2.32	9.26	13.24	17.80	20.51
SD	0.50	3.08	4.39	4.24	3.58
Target (Mean+0.50 SD)	2.60	10.80	15.45	19.92	22.30

Targets for Milk Production

	90 dmy(L)	TMY (L)	LL(days)
Mean	45.30	54.13	100.2
SD	22.36	29.22	62.94
Target (Mean+0.50 SD)	56.48	68.74	115.93

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Selection of 200 to 250 farmers with 1500 to 2000 goats/year
- Identification of goats, pedigree and performance recording of 500-800 goat/year
- Selection of 40-50 male kids for breeding and distribution of 20-25 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 5-7 training program (3-5 days) for 300-350 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Animal identification ensured
- Milk recording in nucleus flock and 200 goats in field flocks
- Reseason of high abortion identified and action initiate to minimize them
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 400-500 non-descript goats by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Bundelkhandi Goat Field Unit, IGFRI, Jhansi



Buck Distribution



Visit I/C-PC of Bundelkhandi Goat Unit



Training



Housing in Field



Deworming



Visit Committee for Survey Bundelkhandi

21. Beetal Goat Field Unit, GADVASU, Ludhiana

PI - Dr. Arunveer Singh, Assistant Professor

Target and Future Activities

Targets for Body Weights (kg)

	Birth Wt	3M Wt	6M Wt	9M Wt	12M Wt
Mean	3.77	12.36	18.39	-	-
SD	0.89	1.73	2.60	-	-
Target (Mean+0.50 SD)	4.22	13.22	19.69	-	-

Targets for Milk Production

	90 dmy(L)	150 dmy(L)
Mean	2152.78	1629.17
SD	729.46	655.68
Target (Mean+0.50 SD)	2517.51	1957.01

Targets for Reproductive performance

- A target of 0.25 standard deviations above the population mean, derived from five years of reproductive trait (aga at first service, weight at first service, age and weight at first kidding, kidding interval) fixed as target

Future programme identifying the activities, timeline and targets for each of the activity

- Animal identification and systemic data recording of performance traits
- Selection of 150 to 200 farmers with 1500 goats/year
- Identification of goats, pedigree and performance recording of 500-800 goat/year
- Selection of 40-50 male kids for breeding and distribution of 20-25 buck out of them
- Establishment of 2-3 multiplier flock/commercial farm to develop germ-plasm resource centre
- Organization of 5 training program (3-5 days) for 150-200 farmers/year
- Prophylectic support to 2000 goat/year
- Improvization/establishment of 2-3 goat houses as model in participatory mode.
- Population of Beetal goats in its home tract may be estimated in the state
- Assessment of FCR with 40% concentrate and 60% roughvage at nucleus flock
- Grading up of 300-400 non -descript goats per year by sale/supplying bucks.
- Make viable collaboration with State/NGO for enhancing goat productivity/ survivability/ marketing
- Optimization of reproductive traits to enhance overall goat productivity, survivability and profitability.

Beetal Goat Field Unit, GADVASU, Ludhiana



Visit of Honorable Director CIRG & I/C PC of Beetal, GADVASU



Input Distribution



Body Weight Recording



Milk Recording



Model Goat Farmer



Buck Distribution to Farmers

4. Financial/Administrative performance of AICRP on Goat Improvement 2023-24

BUDGET ALLOCATION AND FUND PROVISIONS

Table 5: Comprehensive Head wise RE for the financial year 2023-24

Revised Estimates Head wise 2023-24 (Rs. 530)						
S. No.	**Head**	**Other than NEH &TSP**	**NEH**	**TSP**	**SCSP**	**Total**
A	**Grants for creation of Capital Assets (CAPITAL)**					
1	Works					
	a) Land	**00**	**00**	**00**	**00**	**00**
	b) Building	**00**	**00**	**00**	**00**	**00**
	(i) Office building	**00**	**00**	**00**	**00**	**00**
	(ii) Residential building	**00**	**00**	**00**	**00**	**00**
	(iii) Minor works	**29.50**	**00**	**00**	**00**	**33.25**
2	Equipment	**22.00**	**00**	**00**	**00**	**21.25**
3	Information Technology	**14.50**	**00**	**00**	**00**	**11.50**
4	Library books & Journals	**00**	**00**	**00**	**00**	**00**
5	Vehicle & Vessels	**00**	**00**	**00**	**00**	**00**
6	Livestock	**33.00**	**00**	**00**	**00**	**33.00**
7	Furniture & Fixtures	**1.00**	**00**	**00**	**00**	**1.00**
8	SCSP	**0.00**	**00**	**00**	**5.00**	**5.00**
	Total Capital (Grants for creation of Capital Assets)	**100.00**	**00**	**00**	**5.00**	**105.00**
B	**Grant-in-aid: General (REVENUE)**					
	Traveling allowances					
	a) Domestic TA/Transfer TA	**00**	**00**	**00**	**00**	**00**
	b) Foreign TA	**00**	**00**	**00**	**00**	**00**
	Total Traveling Allowances	**00**	**00**	**00**	**00**	**00**
	Research & Operational Expenses	**00**	**00**	**00**	**00**	**00**
	a) Research Expenses	**80.00**	**00**	**30.0**	**12.50**	**122.50**
	b) Operational Expenses	**200.00**	**00**	**65.0**	**37.50**	**302.50**
	Total Research & Operational Expenses	**280.00**	**0**	**95.00**	**50.00**	**425.00**
	Miscellaneous Expenses					
	a) HRD	0	0	0	0	0
	b) Other Items (Fellowships, Scholarships etc.)	0	0	0	0	0
	c) Publicity & Exhibitions	0	0	0	0	0
	d) Guest House –Maintenance	0	0	0	0	0
	e) Other Miscellaneous	0	0	0	0	0
	Total - Miscellaneous Expenses	**00**	**00**	**00**	**00**	**00**
	Total Grants in Aid – General	**280.00**	**00**	**95.00**	**50.00**	**425.00**
	Grand Total (Capital +Revenue)	**380.00**	**00**	**95.00**	**55.00**	**530.00**

Table 6: Head wise revised estimate for the financial year 2021-22 to 2023-24

Head	2021-22 (RE)	2022-23 (RE)	2023-24 (RE)
A. CAPITAL			
1. Works	00	00	00
A. Land	00	00	00
B. Building	00		00
(i) Office Building	00	00	00
(ii) Residential building	00	00	00
(iii) Minor works	7.80	3.50	33.25
2. Equipment	8.87	7.50	21.25
3. Information Technology	1.33	00	11.50
4. Library Books & Journals	0	00	00
5. Vehicles	0	00	00
6. Livestock	1.00	00	33.00
7. Furniture & fixtures	00	1.00	1.00
8. Others (specify)	00	00	00
9 SCSP	00	00	5.00
Total Capital (A)	19.00	12.00	105.00
1. Establish. expenses Salaries	00	00	00
i. Establish. Charges-Regular	00	00	00
ii. Establish. Charges-Arrears	00	00	00
2. Traveling Allowances	00	3.00	00
a) Domestic T.A.	00	3.00	00
b) Foreign T.A.	00	00	00
4. Research & Operational Expenses	381.00	315.00	425.00
5. Administrative Expenses	00	00	00
a) Infrastructure	00	00	00
b) Communication	00	00	00
c) Repairs & Maintenance	00	00	00
6. HRD	00	00	00
a) Within India	00	00	00
b) Abroad	00	00	00
7. Other items, if any, (specify)	00	00	00
Total Revenue (B)	**381.00**	**318.00**	**425.00**
Grand Total (A+B)	**400.00**	**330.00**	**530.00**

Table 7: Head Wise Revised Estimate for the Financial Year 2023-24

Revised RE Head wise - Unit- wise 2023-24 (530.00)												
		Capital										
SL.	AICRP on Goat Improvement	Work	SCSP	Equip-ment	Informa. Tech	Live-stock	Furniture	Contingency				BE
								General	SCSP	NEH	TSP	
1	Andaman Goat Unit, CIARI, Port Blair (TSP)	0.00	0.00	0.00	0.00	3.50	0.00	11.00	0.00	0.00	11.00	25.50
2	Assam Hill Goat Unit, AAU Khanpara, Guwahati (NEH)	1.50	0.00	1.00	0.50	1.00	0.00	15.50	2.00	0.00	8.00	29.50
3	Bengal Goat Unit, BAU, Ranchi (TSP)	1.50	0.00	1.00	1.00	0.00	0.00	9.00	0.00	0.00	6.00	18.50
4	Black Bengal Goat Unit , WBUV&FS, Kolkata (TSP)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Changthangi Goat Unit, SKUAST-K, Leh (TSP)	3.00	0.00	1.50	0.00	0.00	0.00	11.50	0.00	0.00	9.00	25.00
6	Gaddi Field Unit, HPKV, Palampur (HP) (TSP)	2.00	0.00	0.00	0.00	2.50	0.00	11.50	0.00	0.00	11.50	27.50
7	Ganjam Field Unit, OUAT, Bhubaneshwar (TSP)	0.00	0.00	3.00	1.00	0.00	0.00	11.00	3.00	0.00	3.00	21.00
8	Malabari Field Unit, KVA & S, Trissur Kerela (TSP)	0.00	0.00	1.50	1.00	2.00	0.00	11.50	2.50	0.00	6.50	25.00
9	Marwari Field Unit, RAJUV & AS, Bikaner (TSP)	1.50	0.00	1.50	1.00	1.50	0.00	12.00	5.00	0.00	0.00	22.50
10	Osmanabadi Unit, NARI, Phaltan (MH)	1.50	0.00	1.00	1.00	1.50	0.00	11.00	3.50	0.00	0.00	19.50
11	Sangamneri Field Unit, MPKV, Rahuri (TSP)	0.00	0.50	0.00	0.00	3.50	0.00	12.20	7.50	0.00	0.00	23.70
12	Sirohi Field unit, RAJUV&AS, Vallabhnagar (TSP)	4.00	0.00	0.00	0.00	0.00	0.00	11.50	0.00	0.00	13.50	29.00
13	Surti Field Unit, Kamdhenu University (Guj.) (TSP)	1.50	0.00	0.00	1.00	2.00	0.00	10.00	0.00	0.00	9.00	23.50
14	Uttrakhand Goat Unit, GBPUA&T, Pantnagar (TSP)	1.50	1.00	1.00	0.50	1.50	0.00	10.90	3.00	0.00	5.50	24.90
15	Beetal Goat Field Unit, GADVASU, Ludhiana, Punjab(New Unit)TSP	0.00	0.00	0.50	1.00	3.00	0.00	10.00	3.00	0.00	0.00	17.50
16	Himalayan Goat Unit, IVRI, Mukteshwar. (TSP)	1.50	0.00	1.50	0.00	1.50	0.00	11.00	4.00	0.00	4.00	23.50
17	Bundelkhandi Goat Unit, IGFRI, Jhansi (TSP)	0.00	0.00	1.50	1.00	2.00	0.00	11.00	3.00	0.00	4.00	22.50
18	Black Bengal Goat Unit , ICAR- RCER, Patna (TSP)	1.50	0.50	1.00	0.50	1.50	0.00	11.50	3.50	0.00	4.00	24.00
19	Sirohi Farm Unit , CSWRI, Avikanagar	1.50	0.00	2.00	1.00	0.00	0.00	16.50	3.00	0.00	0.00	24.00
20	Barbari Farm Unit, CIRG, Makhdoom	3.50	1.50	1.50	0.00	2.25	0.00	23.00	3.50	0.00	0.00	35.25
21	Jamunapari Farm Unit, CIRG, Makhdoom	3.00	1.50	1.50	0.00	3.75	0.00	22.50	3.50	0.00	0.00	35.75
22	P.C. Unit, CIRG, Makhdoom, Farah	4.25	0.00	0.25	1.00	0.00	1.00	25.90	0.00	0.00	0.00	32.40
	Total	**33.25**	**5.00**	**21.25**	**11.50**	**33.00**	**1.00**	**280.00**	**50.00**	**0.00**	**95.00**	**530.00**
	Grand Total	**105.00**						**425.00**				**530.00**

Table 8: Unit wise fund utilized during 2023-24

S. NO	AICRP on Goat Improvement	Fund Release 2023-24	Fund utilized	% Fund Utilization
1	Andaman Goat Unit, CIARI, Port Blair (TSP)	25.50	25.48	99.92
2	Assam Hill Goat Unit, AAU Khanpara, Guwahati (NEH)	29.50	29.50	100.00
3	Bengal Goat Unit, BAU, Ranchi (TSP)	18.50	8.78	47.48
4	Changthangi Goat Unit, SKUAST-K, Leh (TSP)	25.00	24.98	99.93
5	Gaddi Field Unit, HPKV, Palampur (HP) (TSP)	27.50	27.50	100.00
6	Ganjam Field Unit, OUAT, Bhubaneshwar (TSP)	21.00	19.80	94.28
7	Malabari Field Unit, KVA & S, Trissur Kerela (TSP)	25.00	25.00	100.00
8	Marwari Field Unit, RAJUV & AS, Bikaner (TSP)	22.50	22.50	100.00
9	Osmanabadi Unit, NARI, Phaltan (MH)	19.50	19.50	100.00
10	Sangamneri Field Unit, MPKV, Rahuri (TSP)	23.70	23.48	99.07
11	Sirohi Field unit, RAJUV&AS, Vallabhnagar (TSP)	29.00	28.99	99.99
12	Surti Field Unit, Kamdhenu University (Guj.) (TSP)	23.50	23.39	99.53
13	Uttrakhand Goat Unit, GBPUA&T, Pantnagar (TSP)	24.90	24.65	98.99
14	Beetal Goat Field Unit, GADVASU, Ludhiana, Punjab (New Unit) TSP	17.50	17.50	100.00
15	Himalayan Goat Unit, IVRI, Mukteshwar. (TSP)	23.50	21.92	93.28
16	Bundelkhandi Goat Unit, IGFRI, Jhansi (TSP)	22.50	22.16	98.50
17	Black Bengal Goat Unit , ICAR- RCER, Patna (TSP)	24.00	23.96	99.80
18	Sirohi Farm Unit , CSWRI, Avikanagar	24.00	23.95	99.79
19	Barbari Farm Unit, CIRG, Makhdoom	35.25	32.25	100.00
20	Jamunapari Farm Unit, CIRG, Makhdoom	35.75	35.75	100.00
21	P.C. Unit, CIRG, Makhdoom, Farah	32.40	32.40	100.00
	Total	**530.00**	**513.44**	**Av. 96.69**

Proceedings

21st Annual Review Meet (ARM) of AICRP on Goat Improvement

Annual review meet of AICRP on goat improvement was held at **ICAR-Central Institute for Research on Goats on** 18-19 March, 2024. The meeting was chaired by Dr. Raghvendra Bhatta, Deputy Director General (Animal Science), ICAR and Co-Chaired by Dr. G.K. Gaur, Assistant Director General (Animal Production and Breeding), ICAR- New Delhi and Dr. Manish K Chatli, Director, ICAR-CIRG, Makhdoom, Mathura. The meeting was attended by Dr. M. K. Singh, Head, AG&B & Associate Incharge, Dr. Gopal Dass, PS & Associate Incharge AICRP on Goat, other Head of Divisions of CIRG and all the Principal Investigators and/Co-investigators of farm (3) and field (17) units (List is enclosed in Annexure-I). Dr. Manish K Chatli, Director of Institute, extended a hearty welcome to honorable DDG (AS), ADG (AP&B) and all the delegates. Director CIRG & Project Coordinator, in his opening remarks highlighted the importance of goats in rural economy, overview of goat production in the country, and emphasized to enhance goat productivity and profitability. Dr. G.K. Gaur, ADG (AP&B), ICAR, New Delhi, in his address highlighted the history (chronological overview) of AICRP on Goat since beginning from 1971. He emphasized on enhancing goat productivity by precisely selecting superior animals and their utilization through selective breeding. He also shown his concern on endangered goat breeds and probed to prepare result oriented road map for their sustainable genetic improvement and economic sustainability. Dr. Raghvendra Bhatta, DDG (AS), ICAR, New Delhi emphasized to develop participatory and anticipatory research strategies for region specific breeds to enhance meat, milk and fibre production. He also accentuated to address issues like adaptation, climate change and green-house effect. Further, DDG Sir also stressed to carry out systematic impact analysis of AICRP programme in quantitative term taking into account the enhancement of productivity, profitability, quality publications, development of breed or region- specific SOPs/POPs and their adoption, registration of new breeds and measures taken for breed conservation, developing and popularizing adoption of management practices, technologies, methodologies and models. He also stressed on true data collection and their presentation.

Before the inauguration of 21st review meet DDG (AS), ADG (AP&B), Director-CIRG and all the delegates and goat unit In-charges visited the AICRP goat units namely Barbari and Jamunapari followed by other livestock units, research activities and also inaugurated the goat breed topographical park (***Aja-Sampada-sthal***) and new submersible pump (***Jal Shakti Grah***). The entire review meet was conducted in **three technical sessions and all the sessions were chaired by the DDG (AS),** co-chaired by the ADG (AP&B) and Director-CIRG. Dr. M K Singh, Head AG&B and Associate Incharge PC unit and Dr. Gopal Dass, PS & Associate Incharge acted as rapporteur to prepare the proceedings. The 1st technical session was started with presentation of project coordinators report by Dr. M.K. Chatli, Director & PC of AICRP on goat improvement. He presented the ATR of 20th ARM proceedings followed by progress report of all the 21 units highlighting brief introduction, objectives, technical program, significant achievements made during 2021-22 and 2022-23. The ***technical session I*** further followed by the new proposals for AICRP centers with the presentation by the units about their strength and technical programme. DDG Sir specified that these proposals will be finally considered in next EFC due from 2026 for funding. The following new proposals were presented:

1-2. Jakhrana by CIRG, Makhdoom and Lala Lajpat Rai University of Veterinary and Animal Science, Hissar

3-4. Sojat by RAJUVAS, Bikaner and MPUA&T, Udaipur

5. Anjori by Kamdhenu Viswavidlya, Durg, Chhattisgarh

6-7. Black Bengal by Eastern Regional station of NDRI and IVRI, Kolkata

8. Rohilkhandi by IVRI, Izzatnagar

9. Bidri by KVAFSU Bidar, Karnatka

10. Salem Black by Veterinary College Namakal, Tamilnadu.

The Progress reports of following farm and field units of AICRP were presented during the ***technical session I.***

(i) Barbari at ICAR-CIRG, Makhdoom

(ii) Jamunapari at ICAR-CIRG, Makhdoom

(iii) Sirohi at ICAR-CSWRI, Avikanagar

(iv) Andaman Goat Field Unit, ICAR-CARI, Port Blair

(v) Assam Hill Goat Field Unit, AAU, Khanapara, Guwahati

(vi) Black Bengal Field Unit, Ranchi

(vii) Black Bengal Field Unit, Patna

The Progress reports of following field units were presented during the ***technical session II.***

(viii) Changthangi Goat Field Unit, SKUAST-K, Leh (J&K)

(ix) Gaddi Field Unit, Palampur

(x) Ganjam Field Unit, Bhubaneswar

(xi) Himalayan Local Goats Field Unit, IVRI, Mukteswar

On ***March 19, 2024 technical session II*** was continued with the presentation of the following field units:

(xii) Malabari Goat Field Unit, Mannuthy

(xiv) Marwari Goat Field Unit, Bikaner

T*echnical session III* was continued with the presentation of following field units:

(xv) Osmanabadi Goat Field Unit, Phaltan

(xvi) Sangamneri Field unit, MPKV, Rahuri

(xvii) Sirohi Goat Field Unit, Vallabhnagar

(xviii) Surti Goat Field Unit, Navsari

(xix) Uttarakhand Local Goat Field Unit, GBPUA&T, Pantnagar

(xx) Bundelkhandi Field Unit, Jhansi and

(xxi) Beetal Field unit, GADVASU Ludhiana

Finally in the plenary session, Dr M K Singh presented the main recommendations emerged out of two days discussion and Dr G K Gaur, ADG on his closing remarks opinioned to take corrective action for the improvement of the breeding plan especially selection index for milch, meat and dual-purpose goat breeds. He also stressed on revisiting the targets for the different units. He emphasized that the targets should not be soft rather challenging. Dr Raghvendera Bhatta, DDG (AS) underlined that the centers should improve their output and outcome, underperforming centers will be dropped. He further informed that the systematic study should be conducted to carry out impact analysis of all the centers (breed-wise) before 2026 and report should be submitted before next AICRP.

The following recommendations emerged during presentations:

MAJOR RECOMMENDATIONS

1. Large genetic variation exists within large/medium/small size breeds for many traits therefore target setting should be made on the basis of inherent potential and profile of breed considering the correlation among traits, management system, agro-climate zones to emphasize sustainable genetic improvement of breed. Target should also include breed specific challenges like breed dilution, rapid decline in population size or other threat to breed besides economic and adaptability traits. Methodology or road map should also be provided for specific targets. Targets for the growth, production and reproduction performance may be fixed on the basis of average value of the traits in elite population (best 25-30% animals) initially.
2. Each unit should be vigorously reviewed, physically visited for its performance and should be graded as A, B, C, D. A & B units should be continued, C should be given one year grace and D should be closed.
3. PI of all the AICRP Units should be from Animal Genetics Breeding Discipline preferably in the rank of Assistant and Associate Professor. Investigating team should be multi-disciplinary comprising Co-PIs from Animal Genetics & Breeding, Animal Nutrition, Animal Health and APR/LPM/Extension discipline. Dean/ Director or other higher officers may be avoided to be the part of AICRP unit.
4. All the new proposed units will be Non-Funding till the next EFC. Moreover, they will be incorporated in AICRP on the basis of their 2 year's performance. All proposed units will act as field units. PC Cell was advised to physically visit the new units to assess the availability of facilities and technical man-power before final approval. Further, the targets for the two years for these units should be fixed and on accomplishment of the targets, the units should be recommended for funding in next EFC.
5. Every unit should work as per technical program of AICRP and present the performance including output and outcome of the unit. Statistical analysis should follow standard procedures with due consultation of coordinating unit. Data collection should be honestly recorded and also monitored by PC unit.
6. Buck selection criteria should be on the basis of 140 days milk yield for large and dual-purpose breeds (milk and meat), however, it should be 60/90 days milk yield for meat and fibre breeds (Changthangi, Gaddi, Himalayan goat, Pantja, Andamani, Black Bengal, Assam Hill and Ganjam).
7. Progeny testing program should be incorporated in dairy and dual purpose breeds. Semen of such males should be stored and subsequently utilized through Artificial Insemination.

8. A committee comprises of 4-6 scientists under the chairmanship of Dr. M K Singh should be constituted to revisit/redesign objectives, technical program, data collection procedure, analysis, impact assessment of AICRP and most importantly to find out research issues with each unit/breed along with road map to address the issues.

9. Clusters of different field units should be changed over a specific period, however, data should also be collected from previous (left) clusters over the years to assess impact of the project. The old clusters should be provided advisory or need based services.

10. Every unit should compile information on impact analysis of the project in next 3 months (July 31st 2024) and submit to PC on priority.

11. Feed efficiency trait should be considered at all the farm units and additional funds (infrastructure and manpower) should be provided to conduct such trials.

12. Farm units should provide 300 pedigreed animals to farmers for the breed improvement and unit should also follow-up their impact on breed improvement and effective population size. Nucleus flock size should be strengthened accordingly.

13. Every unit was directed to publish quality research papers, package of practices, models, methodology and generate information on respective breed, which could be utilized for its utility, genetic improvement, conservation and holistic development of the breed.

14. All Field & Farm Units were advised to keep Young Professionals and Data Enumerators (Skilled Staff) instead of RAs & SRFs. Data Enumerator can be considered under skilled category and paid as per respective state guidelines. TSP and DAPSC budget should not be merged with general budget and should be dealt separately.

15. Strategies and Programs should be designed, developed and implemented based on ground realities and efforts should be made for the breeds with receding population size viz. Jamunapari, Surti, Sangamneri, Pantja. PIs of such units are advised to work preferably in collaboration with respective state animal husbandry departments and NGO's, and involve more number of breed rearing farmers. The breed clubs/communities may be constituted with a participation of the goat farmers.

16. Every unit should make sincere efforts to develop more number of Multiplier Flocks with proper data recording. Multiplier flocks should be given the target of grading up of non-descript population in the home tract and promoting other farmers for the scientific goat farming and entrepreneurship development. Sale of animals from such farmers should also be presented in the Review Meets. Nucleus flock should be properly integrated with such commercial/farmer's flock and their data should be utilized in genetic evaluation, and their elite animals should be utilized in sustainable genetic improvement and conservation of the breed.

17. Field units which also have farm units (Nucleus Flock) should present performance/data of both units separately. Size of Nucleus flock at Field units should be kept between 50 to 100 animals and all the units may be given some fund to purchase bucks and establish nucleus flock. Buck distribution and their re-allocation from one cluster to other may be shown in separate categories.

18. Separate technical program should be developed for Changthangi, Gaddi and Ganjam goat breed considering their rearing conditions and migration. Targets should be revised for the performance parameters, management models/packages to enhance productivity, survivability and profitability. All essential information pertaining to migration of flock

(selection of animals, breeding practices, feed-fodders, housing, disease prevention, sale of animals and produces, constraints faced during migration by animals and farmers, changes in production system, utilization of animals and climate over the periods, communities involved along with their life style during migration and other major challenges, issues etc.) should be collected as a separate activity/target. Establishing multiplier flocks/commercial farm units should be encouraged under migratory system.

19. Farmer's views for the market demand and adaptability should be recorded, evaluated and considered in deciding selection criteria and breeding practices. Breed standards (body length, body height, face length, ear pattern and length, height of leg length etc.) are currently playing major role in deciding the animal price in many breeds such as Jamunapari, Beetal, Surti, Sangamneri etc.). Integration of breed standards with production and adaptability traits at field level should be encouraged to sustain genetic improvement, conservation and profit.

20. Breed/Region specific package of practices/models/methodologies should be developed preferably in participatory mode to enhance goat productivity and profitability. Viable models should be shared with others units.

21. Milk and meat nutrient profiling of all possible breeds should be carried out.

22. A document on impact of AICRP on goat will be compiled by PC unit by the end of year 2024 depicting specific contribution of AICRP on sustainable genetic improvement, caprine resource conservation, models/methodologies/technologies development and adoption, livelihood, entrepreneurships development, value chain, goat population and farmers benefitted, contribution of project in household income, research publications, students awarded master and Ph.D. degree, national and state awards and recognition, infrastructure created for goat development and improvement and capacity building of farmers.

23. Information should be collected and documented to characterize goat production system of different breeds in different agro-climatic regions. Format will be provided by PC unit to collect the desired information.

24. PI of many units is being changed frequently which severely affects the performance and output of the unit. PI should not be changed frequently and in case it is necessary it should be done in consultation with the Coordinating Unit.

25. MVSc/PhD students from any University should be encouraged to work at CIRG or other AICRP units.

26. Technology developed by one unit of AICRP needs to be shared and validated at other units for enhancing goat productivity and profitability.

27. All necessary reporting to PC Unit should be done regularly within the time frame. Soft copy of published research papers, patents and product details should be provided to PC Unit immediately.

28. All the units need to publish more research papers in peer reviewed journals with high impact factor and should work towards technology development to provide solutions to farmers.

29. AUC should be submitted by each unit till June 30 of every year. Over expenditure in AUC is not permissible. Unspent budget should be surrendered to PC unit by 30th April or before release of Ist installment.

UNIT-WISE RECOMMENDATIONS

1. Barbari Goat Farm Unit, ICAR-CIRG, Makhdoom

The report was presented by Dr. M K Singh, PI and following recommendations were made:

1. Encourage establishment of more number of Multiplier flocks with their role in supply of pedigreed and purebred animals to other farmers for genetic improvement, conservation and promotion of commercial farming.
2. The data related to sale/distribution of animals by the multiplier farms should also be presented in review meetings.
3. Present status of the breed with respect to performance, population dynamics and commercial value should be studied and reported.
4. Measures should be taken to minimize the mortality in breed.
5. Performance of the Unit was Graded- A.

2. Jamunapari Goat Farm Unit, ICAR-CIRG, Makhdoom

The report was presented by Dr. M K Singh, PI and following recommendations were made:

1. Roadmap should be framed to increase population of Jamunapari in the home tract in collaboration with State AH department.
2. Establishment of multiplier flocks should be promoted.
3. Action plan for the genetic improvement and conservation should be strengthened in native tract.
4. Breeding objectives, selection criteria and breed standards should be developed based on farmer's participation.
5. Measures should be taken to minimize the mortality in the nucleus flock.
6. Performance of the Unit was Graded- A.

3. Sirohi Goat (Farm Unit), ICAR-CSWRI, Avikanagar

The report was presented by Dr. S S Mishra, PI and following recommendations were made:

1. Multiplier flocks of Sirohi breed in breeding tract to be established.
2. Entrepreneur models/commercial farms to be encouraged.
3. Micro-mineral deficiency (Cu, Selenium) may be studied and accordingly mineral mixture may be provided to the animals of farm and farmers.
4. Both the farm and field units should work in coordination.
5. Performance of the Unit was Graded- A.

4. Andaman Goat Field Unit, ICAR- CIARI, Port Blair, Andaman & Nicobar Island

The report was presented by Dr. Rafeque, Co-PI and following recommendations were made:

1. PI should be changed and he/she should be from Animal Genetics & Breeding Discipline.
2. Farm and Field data should be compiled and presented separately.
3. Information on production system (mixed/diversified farming) should also be provided.

4. Impact of bucks' distribution and their utilization should also be included and presented.
5. Provide the details of management practices and technology adopted by the farmers.
6. Efforts should be made to develop specific management strategies for goats during rainy season.
7. Researchable issues should be identified and reported.
8. Performance of the Unit was Graded- A.

5. Assam Hill Goat Field Unit, AAU, Khanpara, Guwahati, Assam

The report was presented by Dr. Farzin Akhtar, PI and following recommendations were made:

1. Milk yield recording should be continued in 25% animals to assess the milk potential of the breed.
2. Region specific management practices need to be developed specifically for rainy season.
3. Impact of bucks' distribution and their utilization should also be included in the report and presented.
4. Multiplier flocks/Commercial farms should be established.
5. Researchable issues should be identified and reported.
6. Performance of the Unit was Graded- B.

6. Black Bengal Goat Field Unit, BAU, Kankey, Ranchi (Jharkhand)

The report was presented by Dr. Sushil Prasad, PI and following recommendations were made:

1. Data was not properly analyzed and presented.
2. PI should be changed and he/she should be from Animal Genetics & Breeding Discipline.
3. Performance of the unit was highly unsatisfactory.
4. Performance of the Unit was **Graded- D and the Unit was recommended for closure.**

7. Black Bengal Goat Field Unit ICAR Eastern Complex, Patna

The report was presented by Dr. Manoj Tripathi, Co-PI and following recommendations were made:

1. PI should be from AG&B discipline.
2. Data should be separately presented for both the field and nucleus flocks.
3. Impact of bucks' distribution and their utilization should also be included in the report and presented.
4. Multiplier flocks/Commercial farms should be established.
5. Performance of the unit was highly unsatisfactory.
6. Performance of the Unit was **Graded- D and the Unit was recommended for closure.**

8. Sirohi Goat Field unit, Vallabhnagar, RAJUVAS, Bikaner

The report was presented by Dr. R K Nagda, PI and following recommendations were made:

1. Sirohi field unit should act as Consortium Unit of Farm unit, however the budget allocation will be separate.

2. Entrepreneur models/commercial farms to be encouraged along with recording of performance data and their contribution in genetic improvement of Sirohi goat breed.
3. Impact of bucks distribution and their utilization with respect to clusters should be collected and presented in the next ARMs.
4. Performance of the Unit was Graded- A.

9. Changthangi Goat Field Unit, Leh, Laddakh, UT

The report was presented by Dr. Feroz Seikh, PI and following recommendations were made:

1. Buck selection criterion along with details of bucks selected should be presented.
2. Low-cost technologies and management practices need to be developed. Their adoption rate and impact analysis should be done and presented.
3. Cluster-wise bucks distribution needs to be reported.
4. Milk record data should be reported in 25% animals.
5. Factors responsible for increasing fiber diameter may be identified and reported.
6. Information should be generated and presented on migratory trends in both seasons along with other necessary details.
7. Development of linkages for the best utilization of pashmina.
8. Performance of the Unit was Graded- A.

10. Gaddi Goat Field Unit, HPKVV, Palampur, Himachal Pradesh

The report was presented by Dr. Nishant Verma, PI and following recommendations were made:

1. PI should be from AG&B discipline and Co-PIs should also be from the relevant fields.
2. Data on body weight and lactation performance were on higher side. They should be collected following standard procedures.
3. Selection differential was quite small and needs to be estimated covering more populations.
4. Data should be presented cluster wise.
5. Establishment of multiplier flocks/ commercial farms should be encouraged to create germ-plasm resource center of the breed.
6. Purchasing of males should be done after 3 months of age. They should be kept at farm up to 9 months and then selected based on an appropriate index.
7. Performance of the Unit was Graded- B.

11. Ganjam Goat Field Unit, OUA&T, Bhubaneswar, Orissa

The report was presented by Dr. Chinmoy, PI and following recommendations were made:

1. The Unit needs lots of improvement right from implementation, data recording to analysis.
2. Establishment of multiplier flocks/ commercial farms should be encouraged.
3. Low-cost technologies and management practices need to be developed. Their adoption rate and impact analysis should be done and presented.

4. Impact of bucks' distribution and their utilization with respect to clusters should be assessed and presented.
5. Coordinating unit staff should visit this unit on priority and frequently.
6. Performance of the unit was unsatisfactory.
7. Performance of the Unit was Graded- C. The Unit was suggested to take initiatives for improving its performance in a year. The Unit will be closed if the performance remains unsatisfactory during this year.

12. Himalayan local Goat Field Unit, ICAR-IVRI, Mukteswar, Uttarakhand

The report was presented by Dr. Indrasen Chauhan, PI and following recommendations were made:

1. Data for selection differential should be carefully collected and analyzed.
2. Unit should work in the original habitat i.e. upper Himalayan region.
3. Multiplier flock's establishment should be encouraged targeting sustainable genetic improvement.
8. Impact of bucks' distribution and their utilization with respect to clusters should be assessed and presented.
4. Performance of the Unit was Graded- B.

13. Malabari Goat Field Unit, KV&ASU, Mannuthy, Thrissur, Kerala

The report was presented by Dr T Venkatechalapathy, PI and following recommendations were made:

1. Genetic trend for growth traits is on higher side and almost similar for all the traits.
2. Selection differential should be estimated following standard procedures.
3. Number of observations in most data tables is missing. Proper tabulation should be done.
4. Data should be presented separately for the field and nucleus flocks.
5. Incorporate other departments to undertake PG and Ph.D. research programs on goat improvement.
6. Performance of the Unit was Graded- A.

14. Surti Goats Field Unit, NAU, Navsari, Gujarat

The report was presented by Dr. Gaurav Pandya, PI and following recommendations were made:

1. Sincere efforts need to be made to enhance population size of Surti goat in its home tract including control measures to check breed dilution and cross breeding.
2. Multiplier flock's establishment should be encouraged targeting sustainable genetic improvement and breed conservation.
3. Sample size (performance data) should be recorded as per technical program.
4. Genetic parameters need to be carefully analyzed.
5. Budget was not utilized as per the allocation head. TSP and DAPSC grants should not be merged.

6. Coordinating Cell should visit the unit on priority, especially for breed endangerment, field activities and budget utilization.

7. Performance of the unit was unsatisfactory.

8. Performance of the Unit was Graded- C. The Unit was suggested to take initiatives for improving its performance in a year. The Unit will be closed if the performance remains unsatisfactory during this year.

15. Pantja Goat Field Unit, GBPUA&T, Pantnagar, Uttarakhand

The report was presented by Dr. R K Sharma, PI and following recommendations were made:

1. Area of Pantja breed has to be increased through grading up program along with selective breeding.

2. Multiplier flock's establishment should be initiated/ strengthened targeting sustainable genetic improvement and breed conservation.

3. Impact of bucks distribution and their utilization with respect to clusters should be assessed and presented in ARMs.

4. Performance of the Unit was Graded- B.

16. Bundelkhandi Goat Field Unit, ICAR-IGFRI, Jhansi

The report was presented by Dr. Deepak Upadhya, PI and following recommendations were made:

1. PI should be from AG&B discipline.

2. Awareness campaigns regarding the best breeding practices in goats should be started in field to enhance productivity and survivability of kids, particularly during off time kidding.

3. Operational area (clusters) under the project should be extended.

4. Multiplier flocks/entrepreneurs' development/ commercial farming should be encouraged, recorded and presented in ARMs.

5. Performance of the Unit was Graded- B.

17. Beetal Field Unit, GADVASU, Ludhiana, Punjab

The report was presented by Dr. Arun Beer Singh, PI and following recommendations were made:

1. Data should be collected, analyzed and presented as per format of AICRP.

2. PI should be from Animal Genetics & Breeding.

3. Selection criteria and breeding objectives being followed by farmers should be presented in ARMs.

4. Multiplier flock's establishment should be initiated/ strengthened targeting sustainable genetic improvement and breed conservation.

5. Population of Beetal goats in its home tract may be estimated and presented in ARM.

6. Performance of the Unit was Graded- B.

18. Marwari Field Unit, RAJUVAS, Bikaner, Rajasthan

The report was presented by Dr Virendra Kumar, Co-PI and following recommendations were made:

1. Data should be recorded and analyzed precisely.
2. Animals should be tagged for accurate data recording.
3. Impact of bucks distribution and their utilization with respect to clusters should be assessed and presented in ARMs.
4. Multiplier flock's establishment should be initiated/ strengthened targeting sustainable genetic improvement and breed conservation.
5. Coordinating Cell should visit this unit on priority.
6. Performance of the Unit was Graded- C.

19. Osmanabadi Goat Field Unit, NARI, Phaltan, Maharashtra

The report was presented by Dr. Chanda Nimbkar, PI and following recommendations were made:

1. More animals should be included in different clusters.
2. Operational area should be extended by adding clusters.
3. New Clusters should be incorporated in the project in different areas.
4. Multiplier flock's establishment should be initiated/ strengthened targeting sustainable genetic improvement and breed conservation.
5. The facilities of the center should be extended to the students of various institutions for carrying out their Master's and Doctorate thesis research work.
6. Research output in terms of publications and package of practices should be improved.
7. Performance of the Unit was Graded- A.

20. Sangamneri Goat Field Unit, Ahmadnagar, Maharashtra

The report was presented by Dr. Vishnu Narwade, PI and following recommendations were made:

1. More animals need to be adopted in the program by adding clusters.
2. Operational area should be extended to cover more population.
3. Data should be collected by trained staff with precision.
4. Multiplier flock's establishment should be encouraged targeting sustainable genetic improvement and breed conservation.
5. Reasons to be identified for crossbreeding with Jamunapari, Sirohi, Beetal, despite of high productivity and profitability of Sangamneri goats.
6. Selection criteria and breeding objectives being followed by farmers should be presented in ARMs.
7. Performance of the Unit was Graded- B.

Annexure-I

LIST OF PARTICIPANTS

21ST ANNUAL REVIEW MEET OF AICRP ON GOAT IMPROVEMENT

ICAR-CIRG, MAKHDOOM, FARAH, MATHURA

SNo	Name of the unit	Name of the participant	PI/Co-PI	Presented by
1	Director & PC	Dr. Manish K. Chatli	PC & Co-PI	Presenter
2	Associate I/C PC	Dr. Gopal Dass	Associate I/C & Co-PI	
3	Andaman Field Unit	Dr. Rafequee	Co-PI	Presenter
4	Assam Hill Field	Dr. Farzin Akhatar	PI	Presenter
5	Barbari Farm Unit	Dr. M.K. Singh	Associate I/C & PI	Presenter
6	Jamunapari Farm Unit			
7	Beetal Field Unit	Dr. Arunbeer Singh	PI	Presenter
8	Beetal Field Unit	Dr. Mandeep Singhla	Co-PI	
9	Black Bengal Field Unit, Patna	Dr. P.K. Ray	Co-PI	Presenter
10	Black Bengal Field Unit, Patna	Dr Manoj Tripathy	Co-PI	
11	Black Bengal Field Unit, Ranchi	Dr. Sushil Prasad	PI	Presenter
12	Bundelkhandi Field Unit	Dr. Deepak Upadhyay	PI	Presenter
13	Bundelkhandi Field Unit	Dr. B.P.Kushwah	Co-PI	
14	Bundelkhandi Field Unit	Dr. Purushottam	Co-PI	
15	Changthangi Field Unit	Dr. Feroz Din Sheikh	PI	Presenter
16	Gaddi Field Unit	Dr. Nishant Verma	PI	Presenter
17	Gaddi Field Unit	Dr. Ankur Sharma	Co-PI	
18	Ganjam Field Unit	Dr. Chinmoy Mishara	PI	Presenter
19	Himalayan Field Unit	Dr. Indrasen Chauhan	PI	Presenter
20	Malabari Field Unit	Dr. Thirupathy	PI	Presenter
21	Marwari Field Unit	Dr. Virendra Kumar	Co-PI	Presenter
22	Osmanabadi Field Unit	Dr. Chandra Nimbkar	PI	Presenter
23	Sangamneri Field Unit	Dr. Vishnu Narwade	PI	Presenter
24	Sirohi Farm Unit, Avikanagar	Dr. S.S. Misra	PI	Presenter
25	Sirohi Field Unit	Dr. R. K. Nagda	PI	Presenter
26	Surti Field Unit	Dr. Gaurav Pandaya	PI	Presenter
27	Uttarakhand Field Unit	Dr. Rabendra Sharma	PI	Presenter
Institutional Participants				
28	Head, AH Division /PME In-charge	Dr. Ashok Kumar	Principal Scientist	
29	Head, APR	Dr. Mukesh Bhakat	Principal Scientist	
30	Head, ANM& PT Division	Dr. Ravindra Kumar	Principal Scientist	
31	Animal Health Division	Dr. K. Gururaj	Sr. Scientist	
32	PC Unit, ICAR-CIRG	Dr. Rakesh Kaushik	Research Associate	

Objective and Technical Program of Non Funding Units (NFUs)

A total of 10 proposals for new units were received from different State Agricultural Universities, Veterinary Colleges and ICAR Institutes. During 21st Annual Review Meet of AICRP, it was discussed and decided that all the 10 units will be included in the AICRP scheme as no funding till the completion of present EFC on 31.03.2026. After this period, these units will be evaluated and based on performance some units will continue in next EFC while others will be dropped. Following is the details of these units:

1. Jakhrana goat unit, ICAR-CIRG, Makhdoom.
2. Jakhrana goat unit, Lala Lajpat Rai University of Veterinary and Animal Science, Hissar.
3. Sojat goat unit, CVAS, Navania, Udaipur.
4. Sojat goat unit, MPUA&T, Udaipur.
5. Anjori goat unit, Kamdhenu Viswavidlya, Durg, Chhattisgarh.
6. Black Bengal goat unit, Eastern Regional station of NDRI, Kalyani, WB.
7. Black Bengal goat unit, Eastern Regional station of IVRI, Kolkata.
8. Rohilkhandi Goat Unit, ICAR-IVRI, Izzatnagar.
9. Bidri Goat Unit, KVAFSU Bidar, Karnatka.
10. Salem Black Goat Unit, Veterinary College Namakal, Tamilnadu.

All the units have been given the copy of 21st Proceedings of ARM of AICRP on Goat Improvement, objectives & technical programme, format for collection of baseline information of adopted farmers and format of MOU. Following are the objectives and technical programme for NFUs.

Objectives

- Genetic improvement of body weights and milk yield through selective breeding and scientific management practices
- To increase the goat productivity in farmers flocks by applying various goat production technologies.
- To establish and develop germplasm resource centres in each village/cluster.
- To organize various capacity building activities for goat keepers and stakeholders for enhanced goat productivity and profitability.

Technical Programme (2024-25 to 2025-26)

1. Each Unit will survey, identify breeding tract of the respective breed and collect baseline data of the selected clusters.
2. Each unit will select 2-3 Cluster/centers in different district/tehsil/blocks. Minimum 300 breedable does will be covered by each unit.
3. Identification of all the goats covered under the scheme will be ensured.
4. Data will be recorded on production and management practices (breeding practices, flock composition, population trends, feeding system, housing, disease incidences, major diseases, mortality pattern, goat marketing structure and socio-economic conditions).
5. Body weights will be recorded from birth to 12 month of age at 3 months interval.

6. Milk yield will be recorded at 15 days interval up to 90 days along with lactation length in meat breed whereas, total milk yield will be recorded in dual and dairy goat breeds.

7. Selection of breeding bucks will be based on 6 month body weight of kids & 60 days milk yield of their dams in first parity for small sized breed and 9 month body weight and 90 days milk yield of their dams for medium and large sized breeds. Initially unit will select male kid from their own nucleus flock. Male kids born as twins will be given preference in selection. Unit will distribute sufficient bucks to cover 300 breedable doe in field.

8. The improvement in body weight, milk yield, reproductive performances and other economic traits of the progeny will be assessed over the years.

9. Based on disease profile, units will prepare Annual Prophylactic Health Calendar to prevent morbidity and mortality and will ensure to carry out all prophylactic measures of the goats covered under the scheme.

10. Each unit should encourage establishment of multiplier flock, commercial farms, cooperative societies and self-help groups.

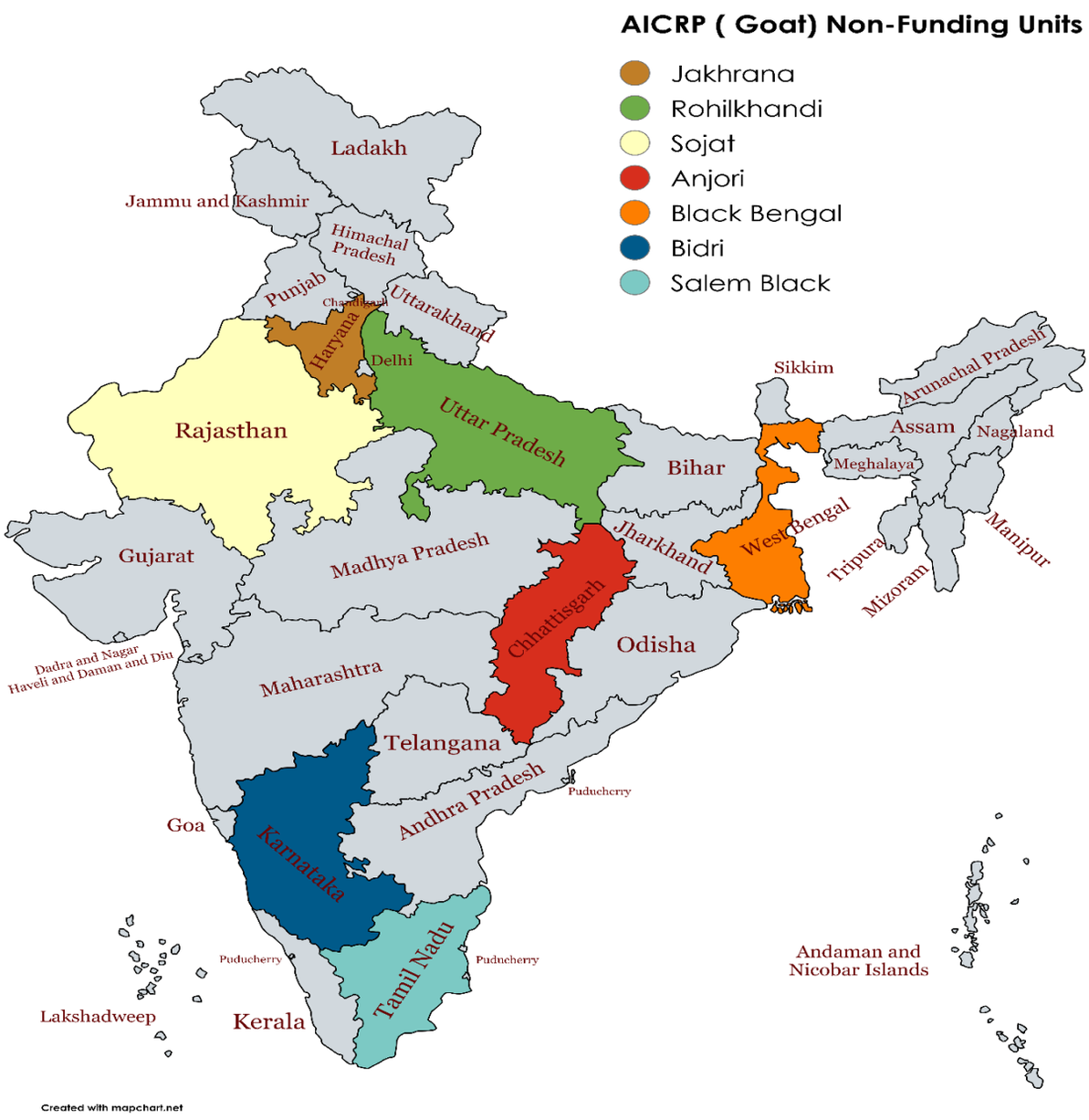
11. The interested selected farmers will be provided breeding bucks from the nucleus flock with the condition that they will maintain the bucks and for maintenance they will charge minimum amount for facilitating breeding services to the goats of other selected farmers.

12. Each unit will organize 2-3 training programme on scientific goat farming, health camp and other capacity building activities every year.

13. Research papers, success stories, models, methodology, SOP etc. will be prepared and published by each unit.

All the units have given consent for working as non funding units till 31.03.2026, formed project team keeping PI or one Co-PI from Animal Genetics & Breeding Discipline and given MOUs (applicable to units located in Universities and Veterinary Colleges). They have started work on survey of breeding tract, formation of clusters and recording of baseline data of adopted farmers.

Distribution of AICRP Non-Funding Units



Units: 11
Breeds: 07
State: 07

In-Charges/Project Investigator of AICRP (G)-2024-25

S No	Name of the unit	Name of the participant
1	Director & PC	Dr. Manish K. Chatli
2	I/C PC (Funding Units)	Dr. M.K.Singh
3	I/C PC (Non-Funding Units)	Dr. Gopal Dass
Funding Units		
1	Andaman Field Unit	Dr. Jai Sunder
2	Assam Hill Field	Dr. Deepak Bhuyan
3	Barbari Farm Unit	Dr. M.K. Singh
4	Jamunapari Farm Unit	
5	Beetal Field Unit	Dr. Arunbeer Singh
6	Black Bengal Field Unit, Patna	Dr. Shanker Dayal
7	Bundelkhandi Field Unit	Dr. Pooja Tamboli
8	Changthangi Field Unit	Dr. Feroz Din Sheikh
9	Gaddi Field Unit	Dr. Nishant Verma
10	Ganjam Field Unit	Dr. Chinmoy Mishara
11	Himalayan Field Unit	Dr. Indrasen Chauhan
12	Malabari Field Unit	Dr. Thirupathy
13	Marwari Field Unit	Dr. Vishnu Kumar
14	Osmanabadi Field Unit	Dr. Chandra Nimbkar
15	Sangamneri Field Unit	Dr. Vishnu Narwade
16	Sirohi Farm Unit, Avikanagar	Dr. S.S. Misra
17	Sirohi Field Unit	Dr. R. K. Nagda
18	Surti Field Unit	Dr. Gaurav Pandaya
19	Uttarakhand Field Unit	Dr. Rabendra Sharma
Non-Funding Units		
1	Anjori	Dr. R.C. Remteke
2	**Black Bengal, Ranchi***	Dr. Nandini Kumari
3	Black Bengal, ICAR-IVRI, ERS, Kolkata	Dr. Shyamal Naskar
4	Black Bengal, NDRI-ERS, Kalyani, Nadia	Dr. Ajoy Mandal
5	Bidri	Dr. N. Anadkumar
6	Jakhrana	Dr. Yogesh Bagar
7	Jakhrana	Dr. Gopal Dass
8	Rohilkhandi	Dr. Hari Om Pandey
9	Sojat, RAJUVAS	Dr. M.L. Gurjar
10	Sojat, MPUAT, Udaipur	Dr. Sidhhartha Mishra
11	Salem Black	Dr. A. K.Thiruvenkadan

Project Coordinator's Report