

**Capitalisation of
Livestock Programme
Experiences India
(CALPI)**

Focus Group Discussion on
**Indigenous
Breed Development**

*New Delhi
September 2003*

Focus group discussion on Indigenous breeds development
(Held at New Delhi on 17th September 2003)

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Focus group discussion on Indigenous breeds development

(Held at New Delhi on 17th September 2003)

Introduction

CALPI considers development of indigenous breeds as an important area that requires attention. With this reason CALPI organized a focus group discussion on indigenous breed development at New Delhi on 17th September 2003. The focus group consisted of a selected group of experts, one representative from SDC-IC, two from CALPI and CALPI back stopper from the Swiss College of Agriculture. The subject was introduced with a concept note (Annexure 1).

Objectives and Approach

The discussion aimed at achieving the following objectives:

- Ø To get conceptual clarity among participants on development and conservation of indigenous breeds in the context of smallholder production system
- Ø To understand the landscape of present breed development activities
- Ø To foster synergies of activities and approaches between various actors

Programme and Discussions

The programme started with three invited inputs from Dr M K Rao (NDRI), Prof. Fritz Schneider (Swiss College of Agriculture) and Dr M P G Kurup (Consultant), on the relevance, importance as well as on technical issues of breed development and conservation (Annexure 2, 3 and 4). Later five case studies were presented on ongoing efforts of breed development (Abstract in Annexure 5). The cases were presented by:

- Dr G K Gaur Senior Scientist, Project Directorate on Cattle, Meerut,
- Dr Kalla, Consultant of SURE project in Rajasthan
- Dr Nitya S Ghotge, Anthra, Pune
- Dr G N Rao, ANGRAU, Hyderabad
- A K Singh (PCDF, UP)

After the presentations, the members discussed the following points in two working groups:

- Identification of important issues to be addressed in relation to breed development and conservation
- Identification of potential areas between various breed development / conservation programmes
- Identification of potential roles for CALPI in the area of breed development and conservation

Output of Group Work

The output of group works on the tasks indicated earlier by Group 1 and Group 2 are shown in Table 1 and table 2 respectively:

Table 1: Output of Group 1

Issues / Criteria	Breed development	Breed conservation	Action needed (Next steps)	Action by whom?
Identification of breed/ breeds	**	**	Review of the ongoing programme Evolve common norms and process Focus on most eligible breeds	Common forum of institutions (AHD/LDB/LDA, NGOs, Research / University, Farmer associations Federations, CALPI)
Current status	**	**	Information flow Clarity of the programme	Role of CALPI
Farmers' needs	**	**		Facilitator for common forum
Economic viability	***			Financial support
Ecological / CPR issues	***			HID support
Technology				Mobilise experience /expertise
Finances for development / conservation	**	**		
Patenting	**	**		
Field /smallholder based	**	*****		

Table 2: Output of Group 2

Issues / Criteria	Breed development	Breed conservation	Action needed (Next steps)	Action by whom?
Farmer needs, esp. poor farmers (kind of breed)	Focus	Awareness creation among animal keepers and stakeholders	Think tank	Milch animals by milk Unions, breeders associations and NGOs. Small ruminants and indigenous poultry by community bodies Coordination efforts by state agencies, NGOs & farmer organisations <hr/> Role of CALPI <hr/> Do not work with cattle and buffalo Work exclusively with small ruminants and backyard poultry Work with geographical focus (Orissa, AP, Karnataka, Rajasthan) Partner identification
Breeding policy review implementation	Need breeding infrastructure (AI/NS)	Breeds distinctly different from each other	Breeding plans Work programme and networking	
Livestock census review implementation	Associated herd testing	Breeds with unique characters	Availability of semen (having good genetic potential)	
Categorisation of breed	Generation to generation programme			
Breeding intervention control regulation	Pedigree identification of new progeny		Skill up gradation and exposure visits	
Research, field surveys for conservation /development	Finances for development/ conservation		Financial support for Survey of animals and identification of area	
Selection of breeds	Parameters for selection		Massive AI coverage AI door delivery	
Surveys and close monitoring of population structure	Seed stock development Crash programme	Seed bank Frozen semen and embryos Large no. of individuals including ND	Monitoring and evaluation	
Unorganised target group/ masses	Non functioning of village level institutions			
Farmer participation for breed				
Collaboration with FAO/iDAD				

Results

Both the groups considered 'breed conservation' as an issue which needs further discussion on the technical level as well as on the political level both on national as well as international levels.

The focus group agreed that breed development, needs to aim at additional economic benefit for the animal keepers based on higher productivity of the developed animal whereas in the case of conservation the incurred cost will have to be born by the public, thereby remunerating the additional service the animal keeper is rendering to the public. A multitude of programmes are already being implemented, especially, for cattle and buffaloes. The groups proposed that **CALPI teams up with a partner or an umbrella organisation / an existing network for breed development of small ruminants / poultry / swine / camel.** They would have the task to set standards and define procedures for breed development. The aim would be to develop a model and with the model policies for breed development could be positively influenced.

Participants

1 Dr M K Rao	Head (Agrl.), NDRI,	Bangalore
2 Dr G N Rao	Prof. & Head, Dept. of AGB, AP Agri University	Hyderabad
3 Mr A K Singh	PCDF, UP	Lucknow
4. Dr Kalla	Consultant, SURE	Barmer
5. Mr Y Sinha	Project staff, SURE	Barmer
6. Dr G K Guar	Senior Scientist, ICAR Project Directorate on cattle	Meerut
7 Dr M P G Kurup	Livestock Consultant	Anand
8. Dr C T Chacko	Livestock Consultant	Trivandrum
9. Dr Nitya S Ghotge	Anthra	Pune
10. Dr Kornel Das	ISNRMPO	BHubaneswar
11. Ms Lucy Maarse	SDC-IC	New Delhi
12. Prof. F. Schneider	SHL	Zollikofen
13. A K Joseph	CALPI	New Delhi
14. Padmakumar V.	CALPI	New Delhi

Annexure 1

Conservation / Development of Indigenous Breeds

Concept note

19/08/03

Introduction

India is endowed with a great wealth of diverse and vast genetic livestock resource base. Animal germplasm of economic utility includes numerous breeds of cattle (30), buffalo (15), goat (20), sheep (40) etc. Indigenous breeds are relatively resistant to diseases, can cope with hard climatic conditions and live and reproduce much longer. For small holders particularly in marginal areas, the importance of the breed is for its ability to survive, reproduce and perform optimally in sub-optimal management / nutrition planes rather than for high productivity.

Many indigenous breeds are on the decline. Some are 'insecure'¹, some are 'vulnerable'² and some others are 'endangered'³. Already 15% of world livestock breeds are extinct and around 35% are endangered. In India 50% of indigenous goats face the threat of extinction, and an estimated 80% of all poultry produced are now from exotic breeds (FAO, 1999⁴). Continuous preference of exotic breeds put the existence of many of the indigenous breeds at risk. This has the unfortunate consequence of completely displacing locally adapted breeds (FAO, 1999). Change in the importance and economic value of output (preference for milk, for instance), changing patterns of agricultural operations such as mechanisation, and transport etc. are some of the other reasons for the decline and disappearance of some of the indigenous breeds.

Breed 'conservation'

Conservation of farm animal genetic resources refers to all human activities including strategies, plans, policies, and actions undertaken to ensure that the diversity of farm animal genetic resources is maintained to contribute to food and agricultural production and productivity, now and in future (FAO, 1999). The indigenous breeds could provide buffer output in times of drought, floods, disease outbreaks etc. Some animals have made it possible for human communities to inhabit harsh areas where production of crops is virtually impossible. The indigenous breeds offer great genetic diversity. A treasure of genetic potential still waits to be unlocked in many of the indigenous breeds (e.g. resistance to viral diseases, salmonella, internal parasites etc.). So maintenance of animal genetic diversity is an important area to be addressed in the attempt to work on issues of livelihood security for poor rural women and men. There are two basic conservation activities such as *in situ* and *ex situ*. Conservation of domestic animal genetic resources except *in situ*, among large mammals is a very complex concept, with no living examples in recent times, in any part of the world (Kurup, 2003)⁵.

Recognising the significant contribution that the animal genetic resources make towards global food security, FAO initiated a global strategy for the management of farm animal genetic resources. It helps countries for identifying breeding objectives and supports conservation through its initiative called iDAD (Initiative for Domestic Animal Diversity). Conservation of as many of the indigenous breeds as possible is a matter of national interest.

¹ Total population 15000 to 25000

² Total population 5000 to 15000

³ Total population 2000 to 5000

⁴ FAO. 1999. The Global Strategy for the Management of Farm Animal Genetic Resources

⁵ Kurup, M.P.G. 2003. Livestock Breeds and Animal Genetic Diversity

Breed 'development'

A breed will automatically get conserved if it is economically viable for the farmers. (Ready availability of germplasm -semen or bulls- is also an important factor deciding this). Economically important breeds with large population size and wide selection differential of the desired traits could be opened up, multiplied and made economically viable through development interventions such as selective breeding and culling.

CALPI Approach and Objectives



CALPI considers development of indigenous breeds as an important area that requires generating:

- Ø To get conceptual clarity among participants on development and conservation of indigenous breeds in the context of smallholder production system
- Ø To understand the landscape of present breed development activities
- Ø To foster synergies of activities and approaches between various actors and facilitate as a functional exchange platform

Expected Output

- (1) Developed a conceptual clarity on 'conservation' and 'development' of indigenous breeds
- (2) Identified parameters for selecting breeds for development
- (3) Identified the landscape of current breed development activities and constraints in breed development

Annexure 2 Presentation by Dr M K Rao, NDRI, Bangalore

CONSERVATION OF INDIGENOUS BREEDS OF LIVESTOCK

- ◆ Intensification of agriculture and disappearance of traditional production systems necessitated conservation of native breeds
- ◆ Steps Involved in conservation
 - Status of the breed,
 - Characterization including molecular characterization
 - Evaluation of the performance potential
 - Specific characteristics of utility
- ◆ Strategies for conservation:
 - Live animals, gametes, cells, DNA etc.

Breed characterisation

Cattle: Deoni, Umblachery, Gir, Ongole, Bachaur, Dangi, Anrithmahal, Desi of Kerala, Vechur, Malvi, Nimari

Buffalo: Jaffarabadi, Nagpuri, Bhadawari, Desi of Kerala, Tarai, Pandharpuri, Marathwada

Sheep: Mecheri, Deccani, Changtang, Pugal, Bhakarwal, Garole, Malpura, Jaisalmeri, Gaddi, Karnah, Guraj

Goat: Osmanabad, Barbari, Altapaddy, Gaddi, Parbatsari, Chegu, Black Bengal, Changthang, Bidari, Zalawadi

Camel: Kutchi, Jaisalmeri

Poultry: Aseel, Ankleshwar, Miri, Kashmir favourola, Nikobari fowl, Kadaknath

Programmes of FAO

- ◆ Completion of global inventory of animal genetic resources
- ◆ Measurement of Domestic Animal Diversity - Project
- ◆ Breed preservation by *in vivo* and *in vitro* methods
- ◆ Breed development as a means of conserving threatened or endangered breeds
- ◆ Use of gene technologies to characterize and develop selected breeds
- ◆ Establishment of international legal framework for the utilization of animal genetic resources

Conservation units

Cattle : Tharparkar, Sahiwal, Desi of Kerala, Punganur

Buffalo: Toda, Nili-Ravi, Bhadawari, Tarai, Surti

Sheep : Magra, Nilgiri, Pugal, Bhakarwal

Goat : Jamunapari, Beetal, Chegu, Bidari

Horse : Spiti

Camel : Jaisalmeri

Poultry: Miri, Kashmir favourola and Nikobari Fowl

ICAR Efforts

- ◆ Characterisation and conservation of different breeds of livestock through Network approach – NBAQR and PDC
- ◆ NDRI, Karnal - Improvement of Sahiwal
- ◆ NDRI Bangalore-Improvement of Deoni and Krishnavalley
- ◆ CIRB-Murrah, Nili-Ravi
- ◆ Project support to others-BAIF, SAUs etc

Action Plan

- ◆ Evaluation of Animal genetic resources , marker studies- conservation of threatened breeds
- ◆ Central Scheme in association with others for conservation of threatened livestock breeds
- ◆ Conversion of Livestock farms into conservation units.
- ◆ Establishment of open nucleus breeding centers and field recording of performance
- ◆ Application of modern molecular genetic and reproductive technologies for conservation of breeds.

Annexure 3
Presentation by Prof. Fritz Schneider, SHL, Zollikofen

<p align="center">Breeding strategies and breeding programmes with regard to indigenous breed development</p> <p align="center"><i>F. Schneider</i> <i>C.T.Chacko</i></p>	<p align="center">Initial thoughts 3</p> <p>By the emerging polarisation</p> <ul style="list-style-type: none"> -> specialised breeding -> development of existing breeds <p>the development of new breeds may be slowed down</p> <p>Is this in the interest of the livestock keepers?</p>																																										
<p align="center">Initial thoughts 1</p> <ul style="list-style-type: none"> • Breeding technologies have been developed based on dairy development in cattle • Trend: Specialised dairy breeds (and breeding) and development of indigenous breeds -> Crossbreeding ? • Indigenous breeds, a treasure of unlocked genetic potential? -> Non descript populations? 	<p align="center">Bovine Livestock Distribution by Size of Holding in India</p> <table border="1"> <thead> <tr> <th>Category</th> <th>< 1 ha</th> <th>1-1.9 ha</th> <th>2-3.9 ha</th> <th>4-10 ha</th> <th>>10 ha</th> <th>All holdings</th> </tr> </thead> <tbody> <tr> <td>No. of An¹</td> <td>118,646</td> <td>60,706</td> <td>67,660</td> <td>54,143</td> <td>16,763</td> <td>317,938</td> </tr> <tr> <td>% of P</td> <td>37.3</td> <td>19.1</td> <td>21.3</td> <td>17.0</td> <td>5.3</td> <td>100</td> </tr> <tr> <td>Av. size</td> <td>0.4</td> <td>1.45</td> <td>2.76</td> <td>5.9</td> <td>14.3</td> <td>1.86</td> </tr> <tr> <td>An / ha</td> <td>5.8</td> <td>2.8</td> <td>1.8</td> <td>1.2</td> <td>0.8</td> <td>2.2</td> </tr> <tr> <td>An / hoi</td> <td>2.33</td> <td>3.70</td> <td>5.47</td> <td>7.29</td> <td>9.16</td> <td>3.70</td> </tr> </tbody> </table> <p><small>¹Population in millions Source: Adapted from World Bank (1996)</small></p>	Category	< 1 ha	1-1.9 ha	2-3.9 ha	4-10 ha	>10 ha	All holdings	No. of An ¹	118,646	60,706	67,660	54,143	16,763	317,938	% of P	37.3	19.1	21.3	17.0	5.3	100	Av. size	0.4	1.45	2.76	5.9	14.3	1.86	An / ha	5.8	2.8	1.8	1.2	0.8	2.2	An / hoi	2.33	3.70	5.47	7.29	9.16	3.70
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<p align="center">Initial thoughts 2</p> <ul style="list-style-type: none"> • "Conservation of as many of the indigenous breeds as possible is a matter of national interest" ? • Conservation and development have different objectives: <ul style="list-style-type: none"> -> Conservation -> biodiversity -> Development -> economic considerations 	<p align="center">FPR Programmes in India</p> <table> <tbody> <tr> <td>Kerala Livestock Development Board</td> <td>1978</td> </tr> <tr> <td>BAIF Development Research Foundation</td> <td>1988</td> </tr> <tr> <td>National Dairy Development Board</td> <td>1987</td> </tr> <tr> <td>AHD Andhra Pradesh</td> <td>1988</td> </tr> <tr> <td>Indo-Swiss Goat Development Project</td> <td>1988</td> </tr> <tr> <td>Punjab Agricultural University</td> <td>1988</td> </tr> <tr> <td>Indo-Swiss Project Sikkim</td> <td>1995</td> </tr> </tbody> </table>	Kerala Livestock Development Board	1978	BAIF Development Research Foundation	1988	National Dairy Development Board	1987	AHD Andhra Pradesh	1988	Indo-Swiss Goat Development Project	1988	Punjab Agricultural University	1988	Indo-Swiss Project Sikkim	1995																												
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Policy Level

- ♣ Breeding programme based on rational concept and client oriented
- ♣ Breeding policies in line with supported government policies
- ♣ Well defined role of FPR within breeding scheme, plans and operations
- ♣ Assured funding over a long time

Technical Level 1

- ♣ Genetic progress in dairy populations through selection of proven bulls
- ♣ Through FPR the main stakeholder in dairy production - the **smallholder** - can actively participate in the breeding programme
- ♣ A large number of daughters per bull can be tested

Institutional and Human Resource Development Level 1

- ♣ Farmer, client orientation and nurturing of farmer participation
- ♣ Transparent and regular feedback to clients
- ♣ Defined institutional structures

Technical Level 2

- ♣ For FPR based breeding systems a well functioning AI / NS system is a must
- ♣ FPR is a tool to get management information as base for correction factors
- ♣ Identification of animals, an often underestimated aspect
- ♣ Milk yield increase in recorded population

Institutional and Human Resource Development Level 2

- ♣ Institutional autonomy to run the FPR programme
- ♣ Appropriate and regular training of staff at all levels

Technical Level 3

- ♣ Data collection, quality of data is a major issue
- ♣ Correction factors need to be periodically assessed and recalculated
- ♣ Data analysis tools to be adapted to specific data sets

Relevance of FPR Today 1

Policy Level:

- ♣ FPR a **must** for all field based breeding programmes
- ♣ FPR gains importance in relation to development of indigenous breeds and conservation of biodiversity of livestock

Conclusions 1

- ♣ FPR is a powerful tool for increasing livestock production at the smallholder level
- ♣ Animal Scientists need to make efforts to further develop and adapt this tool as smallholder livestock production systems become more intensive

Relevance of FPR Today 2

Technical Level:

- ♣ Well-defined, focused and achievable objectives
- ♣ Develop simple and efficient methods to gather, record and monitor different data
- ♣ Develop adequate software
- ♣ Exchange of experience and definition of common research needs (see ICAR)

Conclusions 2

- ♣ Breed development must have a distinct economic benefit for the livestock keeper
- ♣ In case the farmers are entrusted with conservation work in the public interest, then "public" has to pay for that service.

Annexure 4
Presentation by Dr M P G Kurup, Consultant, Anand

<p align="center">ANIMAL GENETIC RESOURCES IN INDIA</p> <p align="center">Issues & Prospects</p> <p align="right">1</p>	<p align="center">Evolution of Livestock Breeds in India</p> <p>Origin : Anthropogenic in Prehistoric / Historic Times</p> <p align="center">Evolution Down through the Millennia Not by Intent or Purpose Though But through Natural Selection, Genetic / Geographical Isolation & Survival of the Fittest</p> <p align="center">This Has Endowed Them With Unique Qualities: Endurance, Stress Tolerance & Disease Resistance</p> <p align="center">Conservation for the Posterity Therefore a Matter of National Morality</p> <p align="right">4</p>																														
<p align="center">Indian Livestock Genetic Resource Base</p> <p align="center">Very Large, Diverse and Dynamic Many Species & Breeds yet to be Classified</p> <p align="center">All Breeds, Strains and Types of All Species Still Exist But in Varying Population Size Many Declining, Some on the Verge of Extinction</p> <p align="center">Centuries of Neglect, Indiscriminate Breeding, Malnutrition, Epidemics, Shrinking Habitat & Redundancy Collectively Undermined Their Existence and Relevance</p> <p align="right">2</p>	<p align="center">Conservation of Farm Livestock</p> <p align="center">Conservation <i>ex situ</i> A Very Complex Concept No Living Example in any Part of the World Except for <i>in situ</i> Conservation</p> <p align="center">Expressions used in the Context of Animal Genetic Resources: Preservation, Conservation, Development</p> <p align="center">In the Indian Context " Development " is the Key Expression But only if Selectively Used</p> <p align="center">Pre-requisites for Development Economic Relevance, Large Enough Population and Wide Selection Differential for Desired Traits</p> <p align="right">5</p>																														
<table border="1"> <thead> <tr> <th colspan="3">Livestock Breeds in India</th> </tr> <tr> <th>Sl.No.</th> <th>Species</th> <th>No.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Cattle</td> <td>30</td> </tr> <tr> <td>2</td> <td>Buffalo</td> <td>15</td> </tr> <tr> <td>3</td> <td>Goat</td> <td>20</td> </tr> <tr> <td>4</td> <td>Sheep</td> <td>40</td> </tr> <tr> <td>5</td> <td>Powl</td> <td>19</td> </tr> <tr> <td>6</td> <td>Duck</td> <td>4</td> </tr> <tr> <td>7</td> <td>Horse / Pony</td> <td>6</td> </tr> <tr> <td>8</td> <td>Camel</td> <td>11</td> </tr> </tbody> </table> <p align="right">3</p>	Livestock Breeds in India			Sl.No.	Species	No.	1	Cattle	30	2	Buffalo	15	3	Goat	20	4	Sheep	40	5	Powl	19	6	Duck	4	7	Horse / Pony	6	8	Camel	11	<p align="center">Development of Livestock Breeds</p> <p align="center">Milch Animals Prime Candidates Breeds in the Order of Practicality Cattle : Gir, Tharparkar, Kankrej, Sahiwal, Rathi Buffalo : Murrah, Nili-Ravi, Jaffarabadi, Mehsani</p> <p align="center">Technologies & Skill Pool Exist Needs Massive AI Coverage of Breeding Animals And Door Delivery of AI</p> <p align="center">Draught Animals not an Exciting Prospect for Development Because of their Declining Economic Relevance</p> <p align="right">6</p>
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<p style="text-align: center;">Development of Other Species</p> <p style="text-align: center;">Small Ruminants Not Under Any Threat / Nor Are Populations Dwindling All Breeds Robust and Thriving Major Threat : Government Development Policies Especially Crossbreeding of Sheep Breeds and Mixing of Indian Breeds of Goat</p> <p style="text-align: center;">Indigenous Poultry Back bone of the Back Yard System of Production Have Brooding & Mothering Instincts Essential for the Backyard System Government Schemes : Grading them up with Exotic Breeds A Major Threat</p> <p style="text-align: right;">7</p>	<p style="text-align: center;">What Can be Done for Breed Development</p> <p style="text-align: center;">Milch Animals : Cattle & Buffaloes</p> <p style="text-align: center;">A National Project Coordinated by An Autonomous Body ICAR / NDDH/BAIF Constitute the Think Tank / Policy Centre Funding Support : Government / Dairy Industry / External Agencies</p> <p style="text-align: center;">Bring Selected Breeds under a Planned Breeding Programme Arrange for Seed Stock Development on War Footing Cover them Under an Effective AI Programme for Breeding</p> <p style="text-align: center;">High Quality Self Generating AI Door Delivery as a Paid Input Almost All Potential Breeds are in Areas of Milk Unions Make Milk Unions the Down Stream Programme Implementers</p> <p style="text-align: right;">9</p>
<p style="text-align: center;">A Major Concern</p> <p style="text-align: center;">Murrah Buffalo Breed in Haryana : the Home Breeding Tract Under Severe Negative Selection Pressure Subject to Steady Genetic Drain for Decades</p> <p style="text-align: center;">Breeding Population : 2 mln adult Female Annually Breeding : 60 per cent : 1.20 mln Female Calves Born Annually : Less than 0.50 mln Annual Export Trade : over 200000 of the Best Genotypes</p> <p style="text-align: center;">20 per cent of Murrah Female in Haryana Bred By AI Virtually No Genetically Evaluated Bulls</p> <p style="text-align: right;">8</p>	<p style="text-align: center;">Breed Development Continued</p> <p style="text-align: center;">Small Ruminants</p> <p style="text-align: center;">A National Project Coordinated by An Autonomous Body A Think Tank of Professionals (Govt / Industry / NGOs) to Draw Up Selection Criteria & To Monitor Progress Selective Breeding to Promote All Economically Viable Breeds</p> <p style="text-align: center;">Indigenous Poultry</p> <p style="text-align: center;">A National Project Coordinated by An Autonomous Body A Think Tank of Professionals (Govt / Industry / NGOs) to Draw Up Selection Criteria & To Monitor Progress Selective Breeding to Promote All Economically Viable Breeds</p> <p style="text-align: center;">Development of SR & Poultry Possible Only on the Participatory Format Massive Campaign for Capacity Building & Skill Transfers To Selection of Seed Stock and Management of the Breeding Programme Promotion of Trading in Seed Stock through Traditional Trade Channels</p>

Annexure 5
Summary of Ongoing breed Development works

Implementing Agency	Breeds in Focus	Type of development work Progress Achieved
AHD (UP) in partnership with PCDF (under DASP project)	Sahiwal, Haryana and Ganga Teeri & Murrah and Bhadawari	<p>Stabilisation of breed population, its improvement and conservation. The programme is being implemented for the last 3 years. 18,190 animals covering three breeds of cattle and two breeds of buffaloes are registered.</p> <p>.Conducted rapid survey of the area to demarcate breed demography, detailed survey of breed and breed type with phenotypic characters, animal identification, tagging and registration .Facilitated formation of breeders' associations and their training .Promotional activities (cattle shows, puppet shows Krishak Gosthi and milk yield competition .Selection and training of milk recorders .Facilitation in breeding infrastructure .Lactation yield calculation, herd book preparation, data compilation, directory making and performance evaluation</p> <p>Problems faced: Frozen semen and true to breed bulls of Ganga Teeri and Haryana (cattle) and proven bulls of Bhadawari and Murrah (buffaloes) are not available. AI conception in buffalo is low.</p>
SURE (an NGO)	Tharparkar	<p>Up gradation of Tharparkar breed. 4799 breedable cattle and 2072 benefiting households in 13 villages are covered. Community maintains the bull..</p> <p>.Created awareness and provided knowledge to farmers on breed improvement, adopted selective breeding, strengthened village institutions, formed breeders' associations and mahila mandals, keeping record of all new progeny (510). supported Oran and Gochar rehabilitation</p> <p>Problems faced: Continuous drought, lack of pure quality breedable bulls.</p>
ICAR Project Directorate on cattle, Meerut	Ongole Haryana Gir Tharparkar	<p>PT and selection of bulls. Total 33 bulls were put to test (Avg No. of bulls per batch is 8-10) Ongole-in Lam farm in Guntur and in 6 other farms Haryana-in 4 farms Gir and Tharparkar- Started very recently</p>
ANGRAU in cooperation with DAH and ICAR	Ongole	<p>Two sets of Ongole bulls have already been progeny tested and the selected bulls are being used in planned matings with elite cows to produce young bulls to be put to test and also for improvement of the breed under progress achieved in the project.</p>

Implementing Agency	Breeds in Focus	Type of development work Progress Achieved
NDDDB through URMUL Trust with the support of Bikaner and SriGanga Nagar Milk unions	Rathi (in Bikaner and SriGanganagar districts of Gujarat)	Programme Just started
Through Banas Milk producers union & Radhanpur Panjrapole & Goushala in Patan	Kankrej (in Banaskantha and Patan districts of N. Gujarat)	Programme Just started
Through BAIF and its associate society Griserv	Gir and Jaffarbadi (in 4 districts of Sourashtra region of Gujarat)	Programme Just started
NDDDB	Pandharpuri Buffaloes	Proposal under process