PREAMBLE

The farm animal genetic resources have remained the back-bone of Indian agrarian economy through contributing milk, meat, egg, fibre, draught power and manure. As per FAO, Animal Genetic Resources (AnGR) refer to those animal species and the populations within each species that are used, or may be used, for production of food and agriculture. The populations within each species can be classified as wild and feral populations, landraces and primary populations, standardized breeds, selected lines, varieties, strains and any conserved genetic material - all of which are currently categorized as breeds. India is one of the main centres of animal biodiversity, particularly for domesticated animals, such as buffalo, goat, sheep, cow, horse, camel etc. A large number of local breeds of these animals have evolved over times with desired features. More recently the breeders have applied the science of genetics and breeding to produce more efficient high producing farm animals through cross breeding between indigenous and exotic germplasms. In the process several valuable strains of animals have been developed. The present Global Scenario of World Trade Organisation (WTO) and Intellectual Property Rights needs protecting the local animal genetic diversity as per the requirement of Convention on Biological Diversity (CBD) and to provide recognition to the developers of new improved animal breeds as per the requirement of Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Further, recognising the need for an authentic national documentation system of valuable sovereign genetic resource with known characteristics, a mechanism for "Registration of Animal Germplasm" has been initiated at National Bureau of Animal Genetic Resources (NBAGR), Karnal by the Indian Council of Agricultural Research (ICAR). This would provide protection to the valuable animal genetic diversity and facilitate its access for genetic improvement of animal breeds. This mechanism would be the sole recognised process for registration of "Animal Genetic Resources" material at national level.

The registration of Indian livestock and poultry shall revolve around the concept of a breed. It is difficult to exactly define a breed; however, FAO has defined the breed which is widely accepted. According to this definition, the breeds are either

(a) a sub-specific group of domestic livestock with definable and identifiable external characteristics that enable it to be separated by visual appraisal from other similarly-defined groups within same species; or

(b) a group for which geographical and/or cultural separation from phenotypically similar groups has led to acceptance of its separate identity.

GUIDLINES FOR BREED REGISTRATION

1. Nature of Material to be Registered

Breeds/populations/strains of domesticated animals and their wild relatives, which is unique, stable and uniform, and has potential attributes of academic, scientific or commercial value

The following categories of materials shall not qualify for registration

(I) Material without accompanying documentary evidence for the claim made in the application.

(II) Material for which any form of protection has been sought elsewhere.

2. Eligibility Criteria for Registration

Any population having at least 1000 animals will be considered for registration as a breed. These animals may be maintained by the applicant/ breed society/ NGO/ Govt. Agency/ farmers in field conditions.

All claims concerning the material submitted for registration should accompany scientific evidence for uniqueness, reproducibility and value in the form of-

(I) Publication in standard peer reviewed journal (a copy of reprint to be submitted).

AND/ OR

(II) Evaluation data for at least three years under research programmes like All India Co-ordinated Research Project (AICRP), Network Project, Adhoc Schemes, etc. supported with relevant extracts of the documents or verification by concerned Director/Project Director (PD)/Project Co-ordinator (PC)

AND/ OR

(III) Publication of information on potential value of germplasm in institute annual report or any other such reports

AND/ OR

(IV) Recommendation of the State Animal Husbandry Department/Livestock Development Board regarding the novelty and uniqueness of the breed claimed.

3. Breed Registration Committee

The breed registration committee is constituted under the chairmanship of Deputy Director General (Animal Science), ICAR. It would include Assistant Director General

(AP&B), ICAR; Assistant Director General (IPR&Policy), ICAR; Animal Husbandry Commissioner or his nominee; representative of National Biodiversity Authority; and Director, NBAGR as permanent members. A Principal Scientist from NBAGR will function as member secretary. The Other members will be co-opted as per the advice of the chairman. It will have provision (with the approval of the chairman) for adoption of need based species specialist with reference to the breed under consideration.

4. Nodal Agency

(I) National Bureau of Animal Genetic Resources (NBAGR), Karnal will be the nodal agency for registration of breeds. The application should be addressed to the Director, NBAGR, along with the required information.

(II) The Member Secretary, Breed Registration Committee will duly acknowledge with date the receipt of the application.

(III) NBAGR will maintain a permanent register and database for listing the breeds approved by Registration Committee with details on unique traits.

5. Application Form

Application shall be made on the prescribed Performa. The Breed Registration Committee shall meet at least twice a year, with the concurrence of the Chairman, for consideration of applications and related matters and decision thereupon.

6. Who can Apply

Application can be submitted by any citizen of India / breed society registered as per constitution of India / NGO / Govt. agency

7. Screening of Application(s)

(I) The proposal(s) submitted as per the prescribed Performa will be screened at NBAGR by the Member Secretary, Registration Committee, as per the guidelines of Check List.

(II) The Bureau shall examine the historical facts, founder stocks, breeding policy and the present status of the proposed population to be registered as a breed.

(III) The proposal(s) will be put up before the breed registration committee who will have the authority for acceptance or rejection.

8. Validity of Registration

The period for validity of registration shall be 25 years.

9. Notification of Registered Materials

All breeds approved for registration would be officially notified to the applicants along with Registration Number. A certificate will also be issued to this effect to the applicant. Official Notification will be published along with brief description of not less than one page in the subsequent issue of

(I) Indian Journal of Animal Sciences - Published by I.C.A.R., New Delhi – 110 012

An abstract form of the registered breed will also be published in following publication:

(II) NBAGR Newsletter, Published by the Director, NBAGR, Karnal-132 001

(III) ICAR News - Published by the Publication and Information Division, Krishi Anusandhan Bhavan, ICAR, New Delhi – 110 012

(IV) NBAGR, ICAR Website

10. Conservation, Maintenance and Sustainable Utilisation of Registered Breeds

For conservation of genetic stock a network approach will be followed with NBAGR functioning as a central/nodal agency and the State Animal Husbandry Department/ animal-based institute as co-operating centres.

(I) Registered breeds will be conserved either live or in the form of cryopreserved sperms/ embryos/oocytes at NBAGR Genebank or at designated centres.

(II) Semen/ova/embryos for supply to users would be maintained by the institution associated with the development of the breed.

11. De-notification

De-notification shall be done by the Registration Committee in case of false claim(s) or disputed IPR claim. Appeal for counter claim, if any, should reach the Registration Committee within a period of three months of the publication of Notification in Indian Journal of Animal Sciences - Published by the I.C.A.R.

PROCEDURE FOR SUBMISSION OF PROPOSAL FOR BREED REGISTRATION

1. Submission of Application and Material

All applications for registration of proposed breeds should be submitted to the following address:

The Director
National Bureau of Animal Genetic Resources
P.O.Box. 129, Karnal – 132001, Haryana
Phone: 0184-226 7918
FAX: 0184-226 7654
Email:-director.nbagr@icar.gov.in

2. The applicant should submit 3 copies of the application along with relevant documents, literature, no matter how small (even one page), for the proper evaluation of the breed.
3. The application must be signed by the applicant and countersigned by Director, Department of Animal Husbandry of the concerned state or his representative with rubber seal.
4. The application must be accompanied by complete description of the breed using standard descriptors (as per concerned species).
5. Submit a detailed history of the breed.
6. List the difference, distinction and details that are specific for that breed in comparison to other breeds in the vicinity or elsewhere.
7. Submit representative photographs of the breed (male, female, young ones and herd / flock).
8. Submit a list of the registered animals of the breed that are conforming the breed standards laid out by the applicant or his organization.
9. The breed must have completed a minimum of 10 generations.
10. Submit letters from at least three different breeders/owners of the breed, explaining:
    - Why they believe it should become a recognized breed?
    - How long they have been breeding the breed?
    - Spell out the reasons for recognization of the breed as a separate identity.
    - What has been done to establish this breed- breeding strategies, parental stock etc?
    - What are the suggestions to further improve this breed in a long term perspective?
    - What makes this breed clearly different and distinctive from all other breeds?

Application for Registration of Livestock & Poultry Breeds

(To be submitted to the Director, NBAGR, Karnal - 132001, Haryana)

Please refer to guidelines for filling the application form appended and Codes

1. Application status (Code) | N | R |

2. Species name

3. Breed name

4. Origin | IN | EX | CR | SY | OT |

5. Criteria for registration [Unique feature(s)]

6. Documentary evidence | PR | IR | OR |

For Use of NBAGR

(i) Application number

(ii) Date of application

(iii) Whether new or revised? | N | R |

(iv) If revised, Date of 1st Application

(v) Action taken

a) Forwarded for registration

b) Sent for validation

c) Incomplete, sent for revision

(vi) Whether registered or rejected

(vii) Date of registration or rejection

(viii) Registration Number

(ix) Notified : on:

(x) Remarks

7. Particulars of the community/agency/scientist(s)/breeders/farmers who evolved and maintained the breed

8. Name and address of the corresponding person

Name (Dr./Ms/Mr.)

Designation/Occupation

Address

Tel- Fax- E-mail

9. Passport information of the breed

Place of origin (Tehsil/Distt/Province)	**Present area of distribution**	**Utility**

Approximate population	**No. of Breedable Males**	**No. of Breedable Females**

Remarks	Farmers/community contribution, if any

Parent Stock / Pedigree involved in breed development

	Breed developed by		
	SB	CB	UG

Organised Herd / Breed Society, if any

10. Salient Characteristics (attach detailed description of the breed as per Breed Descriptor performa)

11. Additional Information/Remarks (if any)

UNDERTAKING

I/We undertake to ensure long term conservation of the aforesaid breed in its natural habitat and to provide required germplasm/genetic stock to NBAGR; its sustainable use by maintaining appropriate numbers and providing access as appropriate on prior informed consent and on mutually agreed terms. I/We also agree to provide any further information or data pertaining to the description and unique characteristics to the ICAR/NBAGR in a transparent manner.

COUNTERSIGNED by Director,
Department of Animal Husbandry of the
concerned State or his representative

Signatures
Full Name
Designation & Address
Ph Fax
E-mail
SEAL

SIGNATURE OF THE APPLICANT

Name
Designation & Address
Ph Fax
E-mail

Guidelines for filling Application and description of Codes

1. Use capital letters or write legibly. All items are self-explanatory. Give explanation for a particular item in "Remarks" wherever needed.
2. Use Codes for filling in Item 1, 4, 6 and 9. In case of the code "Other" fill in specific details.
3. For filling species and breed name (Item 2 & 3) give English or Hindi name, if known. In case a local name is given then also specify in parenthesis the language or dialect in which this name is used.
4. Be to the point for Item 5, give only the most salient features, traits or products/bye-products, considered suitable for consideration of registration.
5. Give particulars of all persons/ agencies associated with development of the breed in Item 7. Attach separate sheet for additional names along with designation, address and phone/fax/email, etc.
6. Give particulars of developers in Item 7 and that of corresponding person in Item 8 as the applicant and developer may not be always the same.
7. Item 9 has passport information of the breed. Give clearly place of origin, present area of distribution (state, district, etc.), utility (milk, egg, wool, meat, draught power, etc.), Approximate population including number of breedable males and females, Parent stock/ Pedigree involved in development of the breed, Also give breeding method used.
8. Give detailed description of traits & characteristics of the material in Item 10. Follow the format of descriptor for the respective species.
9. Undertaking to the effect ensuring conservation and maintenance of the breed for facilitating access and sustainable use has been given, which may be read and implied before putting signatures.
10. Furnish the application form complete in all respects along with requisite documents to The Director, NBAGR, P O Box 129, Karnal – 132 001 (Haryana)

Codes for filling information in Col. 1, 4, 6 and 9

Item 1 : Application Status		Item 6 : Documentary evidence	
N	New	PR	Published literature
R	Revised	IR	Institute annual report
		OR	Any other report
Item 4 : Origin			
IN	Indigenous	Item 9 : Breed developed by	
EX	Exotic	SB	Selective breeding
CR	Crossbred	CB	Crossbreeding
SY	Synthetic	UG	Upgrading
OT	Others (Specify)		

CHECK-LIST FOR SCREENING OF APPLICATIONS

The Member Secretary, Registration Committee at NBAGR shall screen all applications and make recommendations to the Registration Committee for inter alia the following points:

1. Whether this is a new application? (Yes/No)
2. The application is revised one? (Yes/No)
3. Whether same or similar breed has been registered earlier? (Yes/No)
4. Whether unique or distinguishing characteristics of potential value merit consideration for registration? (Yes/No)
5. Whether documentary evidence or data is provided in support of the claim on potential value of germplasm? (Yes/No)
6. State, if possible any other economic potential value of germplasm. (Yes/No)
7. NBAGR viewpoint about the candidate breed.
8. Whether applicant, institution, university, or centre has given a commitment for maintenance and supply of animals / germplasm of the breed for use? (Yes/No)
9. Whether appropriate authority has duly endorsed the application? (Yes/No)
10. Whether complete address of the corresponding person is given? (Yes/No)

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL-132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Cattle / Buffalo

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds
   (in appearance)
7. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
8. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
9. a. Communities responsible for developing the breed
   b. Description of community (Farmers/nomads/isolated/tribals)
10. Herd Book / Register established (Yes / No)
11. Herd: Average size …

    Composition: Breeding females…. % Replacement females (1-3yrs) …. % Calves…. %
    Breeding bulls…. % Replacement males (1-3yrs) …. % Bullocks…. %
12. Utility of the breed
    (Milk/meat/draught/manure/other specify)
13. Basic temperament of the breed (docile/ moderate/ tractable/ wild)
14. Any other information

II. PHYSICAL CHARACTERS

1.	Colour	Male	Female
	a. Coat colour		
	b. Muzzle		
	c. Eyelids		
	d. Tail Switch		
	e. Hooves		
2.	Horns	Male	Female
	a. Colour		
	b. Size		
	c. Shape (Straight/curved)		
	d. Orientation		
3.	Ears		
	a. Length		
	b. Orientation (horizontal/drooping)		
4.	Head		
	Forehead (Convex/concave/straight)		
	General Description		
5.	Body	Male	Female
	a. Hump (large/medium/small)		
	b. Dewlap (large/medium/small)		
	c. Naval flap (large/medium/small)		
	d. Penis sheath flap (large/medium/small)		
6.	Udder		
	a. Shape (bowl/round/trough/pendulous)		
	b. Udder size (large/medium/small)		
	c. Teat shape (cylindrical/funnel/pear)		
	d. Teat tip (pointed/round/flap)		
	e. Milk vein (prominent/ not prominent)		
7.	Any other information		

III. PERFORMANCE

1. Body weights (Kg)

Parameter	Male			Female		
	Average	Range	N	Average	Range	N
Birth weight						
Pre-weaning weight						
12 month weight						
24 months weight						
Weight at first mating						
Weight at first calving						
Adult weight						

2. Body measurements (cm)

Parameter	Male			Female		
	Average	Range	N	Average	Range	N
Chest-girth						
Body length						
Height at withers						

3. Dairy performance

Parameter	First Lactation			Overall		
	Average	Range	N	Average	Range	N
Daily milk yield						
Peak milk yield						
Lactation length						
Lactation milk yield						
Fat %						
SNF %						

4. Reproduction Average Range N

a. Males

(i) Age at first ejaculation (months)

(ii) Age at first mating (months)

b. Females

(i) Age at first oestrus (month)

(ii) Oestrous cycle duration (days)

(iii) Oestrus duration (hrs)

(iv) Age at first mating (months)
(v) Age at first calving (months)
(vi) Service period (days)
(vii) Calving interval (days)

5. Draught performance

a. Purpose (ploughing, threshing, power etc.)

b. Physiological parameters — Before work — After work

Rectal temperature (°F)
Respiration rate /min
Pulse rate /min

c. Fatigue Score

Frothing
Leg in-coordination
Excitement
Inhibition of progressive movement
Tongue protrusion

d. Draught Power (HP)

e. Average duration of work per day (hrs)

6. Drought tolerance (Excellent/ Very Good/ Good/ Average/ Low)

7. Heat tolerance (Excellent/ Very Good/ Good/ Average/ Low)

8. Any other information specific to the breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL-132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Goat

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds
   (in appearance)
7. Classification
   a. Size (Small/ Medium / Large)
   b. Utility (Mutton / Milk / /Dual / Fibre / Hair or any other)
8. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
9. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
10. a. Communities responsible for developing the breed
    b. Description of community (Farmers/nomads/isolated/tribals)
11. Flock: Average size …
    Composition: Doe … % Bucks…. % Kids …… %
12. Any other information

II. PHYSICAL CHARACTERS

1. Colour
   Distinctive colour markings, if any:
2. Head profile (straight/convex/slightly convex)

3. Ears(erect/pendulous/horizontal)
4. Wattles (present/absent)
5. Horns
   a. Number
   b. Shape
   c. Orientation
   d. Size (small < 15/ medium 15-25/ large > 25 cm.)
6. Coat Type (hair/cashmere/pashmina/mohair)
7. Beard (present/absent)
8. Any other information

III. PERFORMANCE

1. Body weight (kg)

Weight at	Male			Female		
	Average	Range	N	Average	Range	N
Birth						
Weaning/ 3 months						
6 months						
1 year						
First kidding						
6 teeth (Adult)						

2. Body measurements (cm)

Body measurement	Male			Female		
	Average	Range	N	Average	Range	N
Chest-girth						
Body length						
Height at withers						

3. Carcass characters

	Male			Female		
	Average	Range	N	Average	Range	N
Age at slaughter(days)						
Weight at Slaughter (kg)						
Dressing % (Hot)						
Dressing %(Cold)						

4. Dairy performance

	Average	Range	N
Daily milk yield (g)			
Total lactation milk yield (kg)			
Lactation length (days)			
Fat %			
SNF %			

5. Reproduction Average Range N

a. Age at first mating in males (days)
b. Age at first mating in females (days)
c. Age at first Oestrus (days)
d. Oestrus cycle duration(days)
e. Age at first kidding (days)
f. Kidding interval (days)
g. Service period (days)
h. Litter size
i. Lifetime number of kiddings

6. Fibre characteristics

a. Age at shearing/combing/collection/clipping (months)
b. Type of fibre [Mohair (true/heterotypes/kemps)/Cashmere/Pashmina/Hair]
c. Fleece colour

Trait	Average	Range	N
Greasy fleece weight (kg)			
Clean fleece weight (kg)			
Staple length			
Fibre diameter			

7. Any other information specific to the breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL 132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Sheep

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds (in appearance)
7. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
8. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
9. a. Communities responsible for developing the breed
   b. Description of community (Farmers/nomads/isolated/tribals)
10. Flock: Average size ….
    Composition: Ewes … % Rams…. % Lambs …… %
11. Utility of the breed [Fibre (Apparel/Carpet/Coarse)/ Meat/ Milk/ Skin/ Fur (lamb skins)/ Pelt/ Transport/ Manure/Others (specify)]
12. Any other information

II. PHYSICAL CHARACTERS

1. Colour
   Distinctive colour markings, if any
2. Head profile (straight/slightly convex/convex)
3. Ears (erect/pendulous/horizontal)

4. Wattles (present/absent)
5. Horns
   a. Number
   b. Colour
   c. Shape
   d. Orientation
   e. Size (small < 15/ medium 15 25 /large > 25 cm.)
6. Coat
   a. Type (hair/wool)
   b. Length (12 month fleece) (short <5/medium 5 10/long >10 cm)
   c. Lustre (lustrous/non lustrous)
   d. Crimp / curl (straight/low crimp = < 4 / high crimp = > 4 cm.)
   e. Fineness (fibre diameter)(fine < 21 /medium 22 26 coarse >26 micrometers)
   f. Wool cover (covered/bare)
      - Head
      - Face
      - Belly
      - Legs
7. Beard (present/absent)
8. Tail
   a. Type
   b. Shape
   c. Length (short/medium/long)
9. Any other information

III. PERFORMANCE

1. Body weight (kg)

Weight at	Male			Female		
	Average	Range	N	Average	Range	N
Birth						
Weaning/ 3 months						
6 months						
1 year						
First Lambing						
Adult weight						

2. Body measurements (cm)

Body measurement	Male			Female		
	Average	Range	N	Average	Range	N
Chest-girth						
Body length						
Height at withers						

3. Carcass characters

	Male			Female		
	Average	Range	N	Average	Range	N
Age at slaughter(days)						
Weight at Slaughter (kg)						
Carcass weight (kg)						
Dressing %						

4. Dairy performance

	Average	Range	N
Daily milk yield (g)			
Total lactation milk yield (kg)			
Lactation length (days)			
Fat %			
SNF %			

5. Reproduction Average Range N

a. Age at first mating in males (days)
b. Age at first mating in females (days)
c. Age at first Oestrus (days)
d. Oestrus cycle duration(days)
e. Age at first lambing (days)
f. Lambing interval (days)
g. Service period (days)
h. Litter size
i. Lifetime lamb production

6. Wool production (true wool/heterotypes/hair/kemps)

a. Age at shearing (months)
b. Fleece colour

Trait	Average	Range	N
Greasy fleece weight (kg)			
Clean fleece weight (kg)			
Staple length			
Fibre diameter			
Medullation %			

7. Pelt production

Trait	Foetus			Lamb		
	Average	Range	N	Average	Range	N
Pelt weight (g)						
Pelt length (cm)						
Pelt width (cm)						

8. Any other information specific to the breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL 132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Camel

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds (in appearance)
7. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
8. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
9. a. Communities responsible for developing the breed
   b. Description of community (Farmers/nomads/isolated/tribals)
10. Utility of the breed (Milk/meat/draught/manure/other specify)
11. Temperament of the breed (Active/ Dull)
12. Any other information

II. PHYSICAL CHARACTERS

	Male	Female
1. Coat color		
2. Body color		
3. Hair on ears and eye lid (Jheepra) (Absent/ Prominent/ Very Prominent)		
4. Hair length (Small/ Medium/ Large)		

5. Head
   a. Size (Small/ Medium/ Large)
   b. Stop (Well marked depression above the eyes)
   (Absent/ Prominent/ Very Prominent)
   c. Fore head (Normal / Prominent)
   d. Supra-orbital fossa
   e. Muzzle
   Type
   Lips
6. Ears
   a. Length
   b. Orientation (horizontal/drooping)
7. Body size(Small/ Medium/ Large)
8. Chest pad (Developed/ Not developed)
9. Hump size (Small/ Medium/ Large)
10. Udder (Round/ Pendulous)
11. Milk vein (Small/ Medium/ Large)
12. Any other information

III. PERFORMANCE

1. Body weights (kg) and measurements (cm)

Parameter		Male			Female		
		Average	Range	N	Average	Range	N
Birth weight							
Adult weight							
Chest-girth							
Body length							
Height at withers							
Neck length							
Distance between eyes							
Length of fore leg							
Length of hind leg							
Foot pad Length	Fore						
	Hind						
Foot pad Width	Fore						
	Hind						

2. Dairy performance

Parameter	First Lactation			Overall		
	Average	Range	N	Average	Range	N
Daily milk yield (kg)						
Peak milk yield (kg)						
Lactation length (days)						
Lactation milk yield (kg)						
Fat %						
SNF %						

3. Reproduction — Average — Range — N
   a. Age at first mating in males (mo)
   b. Age at first mating in females (mo)
   c. Age at first Oestrus (mo)
   d. Oestrus cycle duration(mo)
   e. Age at first calving (mo)
   f. Calving interval (mo)
   g. Service period (mo)

4. Hair production — Average — Range — N
   a. Age at clipping
   b. Weight of clipping(kg)
   c. Hair length
   d. Hair diameter

5. Draught capacity (Hard/medium/light)

6. Any other information specific to the breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL 132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Horse

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds
   (in appearance)
7. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
8. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
9. a. Communities responsible for developing the breed
   b. Description of community (Farmers/nomads/isolated/tribals)
10. Herd Book / Register established (Yes / No)
11. Stud: Average size …

    Composition: Stallions…. % Mares …. % Foals…. %
12. Utility of the breed
    (Transportation / riding / sports/ others)
13. Any other information

II. PHYSICAL CHARACTERISTICS

1. Coat colour
2. Head Markings
3. Head

a. Forehead (Convex/Concave/Flat)
b. General description

4. Ears
5. Eyes
6. Back (Staright/Concave/Moderate)
7. Cannon
8. Fetlock, Pastern & Hoof
9. Tail Setting
10. Any other information

III. PERFORMANCE

1. Body weight (kg)

Weight at	Male			Female		
	Average	Range	N	Average	Range	N
Birth						
6 months						
1 year						
First foaling						
Adult weight (above 3 years)						

2. Body measurements (cm)

Parameter	Stallion			Mare		
	Average	Range	N	Average	Range	N
Height at withers						
Height at croup						
Body length						
Girth						
Face length						
Face width						
Ear length						
Ear width						
Space between Eyes						
Length fore arm						

Height at knee						
Height at hock						
Distance between fetlock and coronet						
Chest width						
Shank (Cir)						
Throat Latch						
Poll to withers length						
Distance between Withers and croup						
Distance between Croup and head of tail						
Tail Length						

3. Reproduction

Traits(s)	Average	Range	N
Age at puberty in Male (months)			
Age at first service in Male (months)			
Age at first oestrus (months)			
Oestrus cycle duration (days)			
Oestrus duration (hours)			
Age at first covering (months)			
Age at first conception (months)			
Age at First Foaling (months)			
Service Period (days)			
Foaling interval (months)			
Gestation Period (days)			

4. Type of work
   a. Transportation
   b. Riding
   c. Games and sports
   d. Other activities(Horse safaris)

5. Any other information specific to breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL-132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Pig

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms
3. Background for such a name / origin
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds (in appearance)
7. Classification
   a. Short-eared
   b. Snout-length long or short
   c. Belly type Pot or flat
8. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
9. Estimated population
   a. Year of estimation
   b. Population
   c. Source / Reference
10. a. Communities responsible for developing the breed
    b. Description of community (Farmers/nomads/isolated/tribals)
11. Flock: Average size …
    Composition: Sows … % Boars…. % Piglets …… %
12. Utility of the breed (Pork/Hair/Manure/Others(specify)
13. Any other information

II. PHYSICAL CHARACTERS

1. Colour Male Female
   Distinctive colour markings

2. Snout profile (straight/convex/slightly convex/concave)
3. Ears (erect/pendulous/horizontal)
4. Coat
   a. Bristle (long/medium/short)
   b. Fineness (bristle diameter)
5. Hoof placement (partial/full)
6. Top line (Straight/concave)
7. a. Number of teats
   b. Teat position
8. Any other information

III. PERFORMANCE

1. Body weight (kg)

Weight at	Male			Female		
	Average	Range	N	Average	Range	N
Birth						
Weaning						
3 months						
6 months						
1 year						
Slaughter						
First furrowing						
Adult weight						

Body measurements (cms)

Body measurement	Male			Female		
	Average	Range	N	Average	Range	N
Chest-girth						
Body length						
Height at withers						
Neck girth						

3. Carcass characters

Carcass characters		Male			Female		
Age at slaughter (days)		Average	Range	N	Average	Range	N
Carcass Weight (kg)	Hot						
	Cold						

Length (cm)							
Dressing %	Hot						
	Cold						
Meat: bone ratio							
Fat thickness							
Lean %							
Fat %							
Bone %							
Feed conversion efficiency							

4. Reproduction Average Range N

a. Males

i) Age at first mating (days)

b. Females

i) Age at first oestrus (days)

ii) Oestrous cycle duration (days)

iii) Oestrus duration (hrs)

iv) Age at first mating (days)

v) Age at first furrowing (days)

vi) Furrowing interval (days)

vi) Litter size at furrowing

vii) Litter weight (kg)

viii) Litter size at weaning

ix) Lifetime number of furrowing

x) Productive life span (months)

5. Bristle production

a. Number of cutting per year

b. Bristle colour

Trait		Age	Male			Female		
			Average	Range	N	Average	Range	N
Bristle weight (g)	1st cutting							
	later cutting							
Bristle length (cm)	1st cutting							
	later cutting							
Bristle diameter (μ)	1st cutting							
	later cutting							

6. Any other information specific to the breed

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL-132001 (HARYANA)

BREED DESCRIPTOR for REGISTRATION

Species : Chicken

I. GENERAL DESCRIPTION

1. Name of the breed
2. Synonyms / Local names, if any
3. Background for such a name
4. Since when the breed is known
5. Strains (or within breed types)
6. Most closely related breeds
   (in appearance)
7. Origin of breed (Indigenous/exotic)
8. Origin, if imported (Name of country)
9. a. Native tract of distribution in terms of longitude and latitude
   b. Approximate area of distribution (sq km)
   c. Place(s) State District
10. Estimated population
    a. Year of estimation
    b. Population
    c. Source / Reference
11. a. Communities responsible for developing the breed
    b. Description of community (Farmers/nomads/isolated/tribals)
12. Flock: Average size …
    Composition: Cocks … % Hens…. % Chicks …… %
13. Utility of the breed (Eggs/meat/game/others)
14. Any other information

II. PHYSICAL CHARACTERS

1. Colour
   a) Plumage colour
   b) Plumage Pattern

c) Skin colour
d) Shank colour
e) Earlobe colour
f) Comb colour
g) Eye colour

2. Comb
a) Type
b) Size

3. Other specific visible traits

III. PERFORMANCE

1.	Egg production characteristics	Average	Range	N
	a) Age at first egg (months)			
	b) Annual egg production			
	c) Clutch size (days)			
	d) Clutch interval (days)			
	e) Laying cycle (months)			
2.	Egg quality traits	Average	Range	N
	a) Egg weight (g)			
	b) Shell weight (g)			
	c) Albumen weight (g)			
	d) Yolk weight (g)			
	e) Shell thickness (μ)			
	f) Specific gravity			
	g) Albumen index			
	h) Yolk index			
	i) Haugh units			
	j) Shell colour (white/brown/cream or tinted/other)			
	k) Albumen quality (thick / thin)			
	l) Egg inclusion bodies (Blood spots/meat spots)			
3.	Reproduction characteristics			
	a) Broodiness (usual/sometimes/rare/other)			
	b) Fertility and hatchability (%)	Average	Range	N
	i) Fertility			
	ii) Hatchability on fertile egg basis			
	iii) Hatchability on total egg basis			

4. Growth characteristics

Body Weight at	Male			Female		
	Average	Range	N	Average	Range	N
Hatching (g)						
8 weeks (g)						
12 weeks (g)						
Adult weight (kg)						

5. Mortality(%) Average Range N

a) 0-1 weeks

b) 1-8 weeks

c) 8-20 weeks

d) n-n weeks

6. Carcass characters

Carcass characters		Male			Female		
		Average	Range	N	Average	Range	N
Age at slaughter (days)							
Weight (kg)	Hot						
	Cold						
Dressing %	Hot						
	Cold						
Meat: bone ratio							
Feed conversion efficiency							

7. Any other information specific to the breed