Ad hoc Action:
Socio-economic and environmental parameters and their applicability into a tool to evaluate risks and trends

Report

ERFP Annual Assembly, 27.08.2016

Members of the ad hoc group

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Objective

- Elucidate the additional factors that shape the general environment (physical and socio-economic environment), where a breed is raised and may affect the dynamics of the breed

Background:

- *ERFP funded actions (ERFP project / TF indicators)*
- *Thresholds to assign breeds to risk categories* (FAO, 2013)
- *Multi-criteria approach (Verrier et al., 2015, Animal Genetic Resources, 57, 105–118)*

Steps completed

- Review available methodologies and approaches used in Europe (survey within WG Docu Info)
- Discussion and finalization of the criteria
- Collection of data on specific breed case studies
- Presenting the results and discussion in Bled, WG Docu Info meeting
  - Indicators used, data collection and monitoring
- Revise the form according to the feedback received

Meetings

- First meeting: Thessaloniki, 25 February
  - Decision the criteria, breed examples, questionnaire
- WG Docu & Info: Bled, 21 June
  - Presenting results, discussion
- Skype meeting: 30 June
  - Sharing the feedback with all ad hoc members, revision of the form
- Short meeting: Rome, 6 July
  - Finalization of the form, next steps

- Foreseen Workshop (not specified exact date / location)

Finances

Foreseen Budget:	7700 euros
First meeting, Thessaloniki:	1914 euros
Remaining amount:	5786 euros

Results

- Review existing methodologies in Europe
  - Few responses received : France, Spain , Portugal , Slovenia, Netherlands, Latvia, Hungary, Germany

- Example from Netherlands (on additional information)
  - % pure breeding/crossbreeding or % breeding females
  - Geographic concentration
  - Socio –economic context
    - Number of breeders, age of breeders
    - Functioning of breed organization
    - Breeders with enthusiasm

OTHER PARAMETERS OR FACTORS OF MODULATION

Easily mesurable variables → 3 levels → Score

- 0 = Favorable
- 1= Neutral
- 2= Unfavorable (more risk)

Nº of farms	>50	**0**
	10-50	**1**
	<10	**2**
Gene banking* **	Complete	**0**
	Medium	**1**
	None	**2**

*** According to criteria established by the FAO in "Guidelines for the Cryoconservation of Animal Genetics Resources":

	SEMEN	SEMEN and OOCITES	EMBRYOS
Complete	≥10.000 samples from 25 different donors	≥100 samples from 25 different male donors and 100 oocytes from 25 different female donors	**≥200 embryos from 25 different donors**
medium	<10.000 samples from 25 different donors	<100 samples from 25 different male donors and 100 oocytes from 25 different female donors	**<200 embryos from 25 different donors**
None	**Gene banking nonexistent**		

A method based on six indicators

- Actual number of breeding females (*Nf*)
- Demographic trend over the last 5 years or generations (T_5)
- Proportion of crossbreeding (*C*)
- Effective population size (*Ne*)
- Breeders organization and technical support (*OTS*)
- Social and economic context (*SEC*)

Currently available data on EFABIS

- Main entity – Country Population (Breed)
- General breed description
  - Location within country – *text-*
  - Environmental role – *text-*
  - *Special Adaptability - text*
  - *Cultural role – text-*
  - *Typical products – text-*
- Population annual statistics
- Amount of cryo-conserved material per breed and year

Current results

- Agreement on criteria
- Development of the questionnaire to be used for breed cases
- 12 breeds from 5 countries were surveyed:

Greek buffalo	Greece
Avileña Negra-Ibérica (cattle)	Spain
Abondance (cattle)	France
Blanc de l'Ouest (pig)	France
Brachykeratiki (cattle)	Greece
Comtois (horse)	France
Ane Grand Noir du Berry (ass)	France
Houdan (chicken)	France
Italian Heavy Draught Horse (horse)	Italy
Maronesa (cattle)	Portugal
Rendena (cattle)	Italy
Solognote (sheep)	France

Ad Hoc Action: **Socio-economic and environmental parameters and their applicability into a to to evaluate risks and trends**

Questionnaire to collect socio-economic parameters for the evaluation of breed risk status

This questionnaire has been developed in the frame of the ad hoc action: *Socio-economic a environmental parameters and their applicability into a tool to evaluate risks and trends.* The aim is collect additional factors that shape the general environment (physical and socio-economic environmen where a breed is raised and may affect the dynamics of the breed.

Please, return the filled form to enrico.sturaro@unipd.it

Contact: Christina Ligda (Project coordinator) chligda@otenet.gr

i) Breed description

Country	
Specie	
Breed	
Location within country	
Use (meat, milk, wool)*	
Number of breeding females*	
Number of breeding males*	
Risk status according FAO 2012*	

(* These data will be obtained from EFABIS)

ii) Interviewed

Name, surname and affiliation:

Role: national coordinator □; breed expert □ ; responsible of breeder association □; other _____

Source of data: subjective evaluation □; breeder association □; specific project □ ; other _____

iii) Questionnaire: please answer to each question by using one of the score. Specify if data are not available.

1) Market recognition of the breed, expressed as percentage of farms commercializing its products und the breed label

absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □

2) Economic viability of breed exploitation, expressed as percentage of farms which main/only income the breed exploitation

absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □

3) Breed subsidies dependency, expressed as incidence of the subsidies for breed conservation on farm net economic income

absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □

4) Existence and level of organization of breeder and farmers, 0-absence of breeders organization
1-Existence of organization

When a breeders' organization exists:

4a) Breeding programme or conservation programme: please, assign a score from 0 (poor or absent) to 4 (excellent) on the base of the following:

- collective station, mating plan, use of Artificial Insemination
- % pure bred (low, intermediate, high), percentage of animals of the breed identified, percentage of farms under the performance recording scheme
- breeding index clearly defined, successful of breeding program (Does the breeding programme is achieving genetic gain in the breed population?, Genetic variability maintenance)

0: poor or absent 1: low 2: intermediate 3: good 4: excellent

5) Cooperation level: assign a score from 0 (poor or absent) to 4 (excellent) on the base of the following:

- Implementation of research activities on the breed in collaboration with research bodies
- Cooperation with other breed Associations
- Farmers cooperation in buying farm inputs
- Organization of visits to other farms of the breed
- Collaboration of breed markets
- Organization of workshops for breed farmers

0: poor or absent 1: low 2: intermediate 3: good 4: excellent

6) Existence of Genebank:

0: none 1: partially completed 2: complete

7) Continuity of activity, expressed as percentage of young farmers (<40years old) and/or existence of successor (for farmers >55 years old)

0: poor or absent 1: low 2: intermediate 3: high 4: very high

8) Cultural value of the breed - please, assign a score from 0 (poor or absent) to 4 (excellent) on the base of the following :

The breed:

- has a role in maintaining handicrafts (taking into account local handicrafts that are directly or indirectly linked to the breed) (e.g.: tools for cheese making, collars, etc.);
- has a role in maintaining folklore (taking into account folklore and religious traditions that are directly or indirectly linked to the breed)
- has a role in maintaining gastronomy (taking into account linkages between the breed and typical local products or recipes)
- has a role in maintaining a specific landscape (taking into account the percentage of farms contributing to maintenance of a traditional landscape, and specific features of the breed; such as stable, paddocks, milking parlors, hay conservation, etc.)
- is represented in forms of higher artistic expression, such as figurative arts, poetry and prose
- has a role as custodian of traditional farming practices, management of the animals

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- has a role in maintaining a specific landscape (taking into account the percentage of farms contributing to maintenance of a traditional landscape, and specific features of the breed; such as stable, paddocks, milking parlors, hay conservation, etc.)
- is represented in forms of higher artistic expression, such as figurative arts, poetry and prose
- has a role as custodian of traditional farming practices, management of the animals
- cultural attachment to the breed

0: poor or absent 1: low 2: intermediate 3: high 4: very high

Please, specify the kind of cultural value offered by the breed.

Breed data collection (revised)-1

Criteria	Values
Market recognition of the breed, expressed as percentage of farms commercializing its products under the breed label	absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □
Economic viability of breed exploitation, expressed as percentage of farms which main/only income is the breed exploitation	absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □
Breed subsidies dependency, expressed as incidence of the subsidies for breed conservation on farm net economic income	absent or sporadic (<10%) □ ; low (10-30%); intermediate (30-50%)□; high (50-70%) □; very high (> 70%) □
Existence and level of organization of breeders and farmers -- Breeding programme or conservation programme	0 /1 0: poor or absent 1: low 2: intermediate 3: good 4: excellent

Breed data collection (revised) -2

Criteria	Values
Cooperation level of farmers	0: poor or absent 1: low 2: intermediate 3: good 4: excellent
Existence of Genebank	0: none 1: partially completed 2: complete
Continuity of activity, expressed as percentage of young farmers (<40years old) and/or existence of successor (for farmers >55 years old)	0: poor or absent 1: low 2: intermediate 3: high 4: very high
Cultural value of the breed	0: poor or absent 1: low 2: intermediate 3: high 4: very high

Breed cases (first version of questionnaire)

Breed (species)	Status	Market recognition	Economic viability	Subsidies dependency	Level of breeder organization	Breeding program	Cooperation level	Genebank	Continuity	Cultural value
Greek buffalo	Not at risk	High	High	Low	Dependent	Poor or absent	Good	None	Intermediate	High
Avileña Negra-Ibérica (cattle)	Not at risk	High	Low	High	Independent	Good	Excellent	Partially completed	High	High
Abondance (cattle)	Not at risk	High	High	Low	Independent	Excellent	Excellent	Complete	Intermediate	High
Blanc de l'Ouest (pig)	Critical maintained	Absent /sporadic	Low	High	Dependent	Good	Good	Partially completed	Intermediate	Low
Brachykeratiki (cattle)	Not at risk	Absent /sporadic	low	High	Absent	Poor or absent	Poor or absent	None	Intermediate	Intermediate
Comtois (Horse)	Not at risk	Absent /sporadic	Not relevant	Low	Dependent	Good	Good	None	Intermediate	Intermediate
Ane Grand Noir du Berry (Ass)	Endangered maintained	Absent /sporadic	Not relevant	Low	Dependent	Poor or absent	Good	None	Low	Intermediate
Houdan (Chicken)	Not at risk	Absent /sporadic	Not relevant	Not relevant	Dependent	Poor or absent	Poor or absent	Partially completed	Low	Low
Italian Heavy Draught Horse (horse)	Not at risk	Low	Low	High	Dependent	Excellent	Good	None	Intermediate	High
Maronesa (Cattle)	Endangered	Low	Low	High	Dependent	Good	Good	Complete	Low	High
Rendena (Cattle)	Not at risk	low	low	high	Dependent	Excellent	Good/excellent	None	Intermediate	High
Solognote (sheep)	Not at risk	low	high	high	independent	Excellent	Good	Partially completed	Intermediate	Intermediate

Discussion

- The questionnaire is clear and easy to fill in
- Variability in the answers (all levels were used in each question)

- How to overcome problems of subjective evaluation?
- How to weight the different criteria?
- How to interpret? How these parameters influence the trends?

- At what extend such information are available?
- How often the information can be updated?
- Usefulness of a European tool , how to treat regional data?
- What are the implications to EFABIS fields and outputs?

Next steps

- Update the data on the breeds using the revised form
- Develop recommendations for the utilization of the additional criteria
  - Possible implementation at European level
  - Suggestions for EFABIS fields and outputs
- Propose framework for the assessment of cultural value
- Final Workshop – Report
- Presentation in October, in Agroecology Conference, Athens
- Prepare the article for publication

Content of the Report

- Introduction
  - *ERFP objectives and previous actions*
  - *Aims and objectives of the ad hoc action*
  - *Background (defining risk categories)*
- Methodology
  - *Criteria used and assessment of values*
  - *Breed cases and data collection*
- Results and Discussion
  - *Review of existing methodologies and approaches in Europe*
  - *Presentation of the results on breed cases*
- Recommendations
  - *Framework to assess the cultural value*
  - *Possible implementation at European level*