



Enviroment and Climate
Regional Accession Network

ECRAN

TAIEX-ECRAN Sub-Regional Workshop on Appropriate Assessment of the Lake Tuz (Tuz Gölü) Pilot Site (Natura 2000)

Workshop II: Main Assessment

Topic: Appropriate Assessment of Tuz Cargo Airport - I

Ankara, Turkey 27 – 28 October 2015



This Project is funded by the European Union



A project implemented by Human Dynamics Consortium

1 a. What is necessary to know for AA

1a data from developer

1b data concerning the assessed area

2. Field survey

3. AA findings and results



Enviroment and Climate
Regional Accession Network

ECRAN

1 a. What is necessary to know for AA

(data from developer)

- Principles of the assessed project
- Location of the assessed project
- Landtake
- Technologies used during construction (inputs and outputs)
- Technologies used during operation (inputs and outputs)
- Infrastructure and logistics for project construction
- Infrastructure and logistics for project operation
- Duration of project construction and operation
- Technologies used for project termination

Inspiration for prefabrication of the educational „pilot project“: **Airport Ciudad Real Central in Spain**



1 a. What is necessary to know for AA

(data from developer)

Data on the assessed project

- Tuz Cargo Airport for civil (commercial) use
- Rough budget 650 mil €
- Two runways: 5 km and 4 km long
- 13,000 m² of storage capacity and a logistic center
- Road bypass to highway D715
- 200 landings and 200 take-offs per day (normal operation)
- 500 landings and 500 take-offs per day (rush operation)

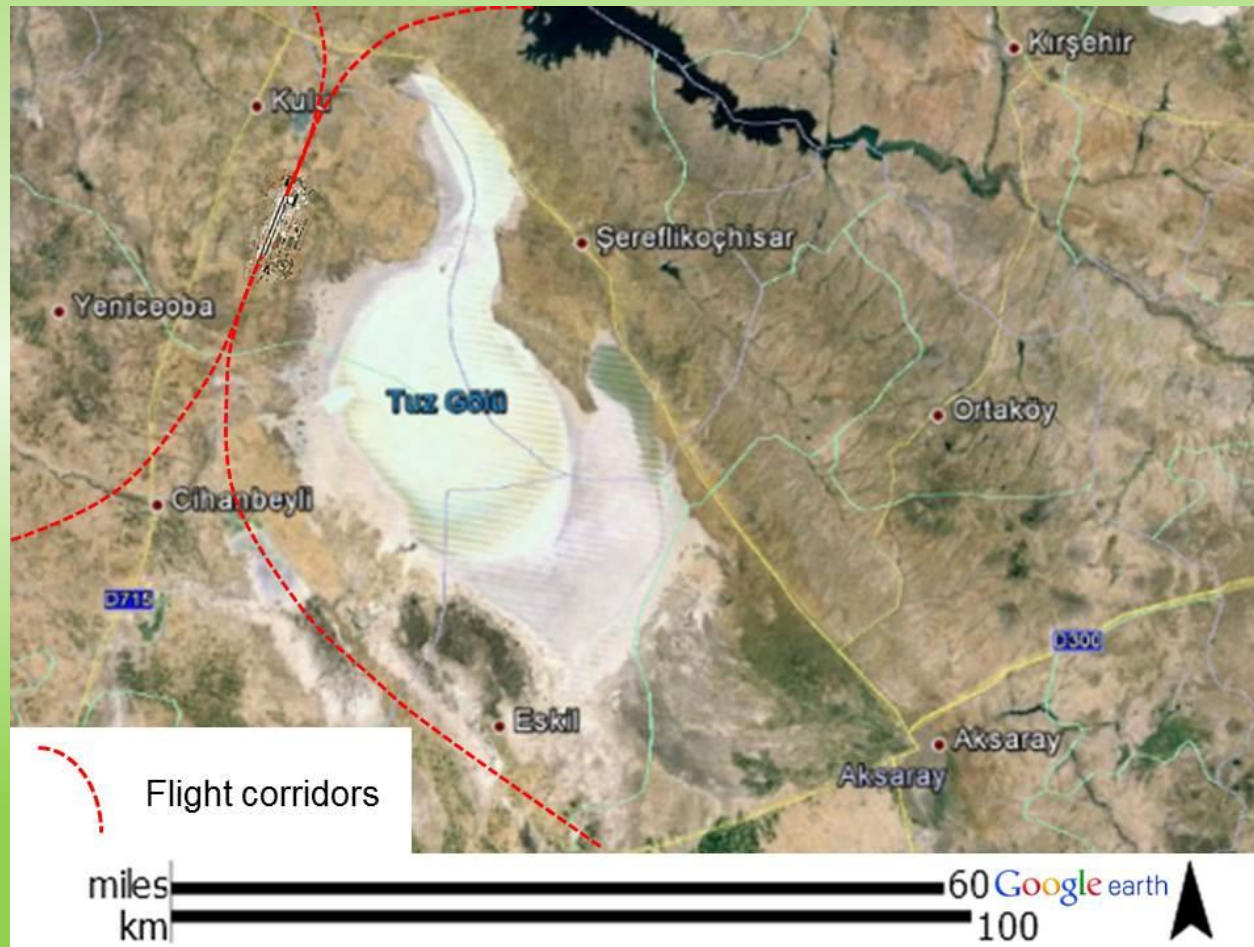
1 a. What is necessary to know for AA (data from developer)

Location of the assessed project within Turkey



1 a. What is necessary to know for AA (data from developer)

Location of the assessed project within Kulu and Cihanbeyli municipalities



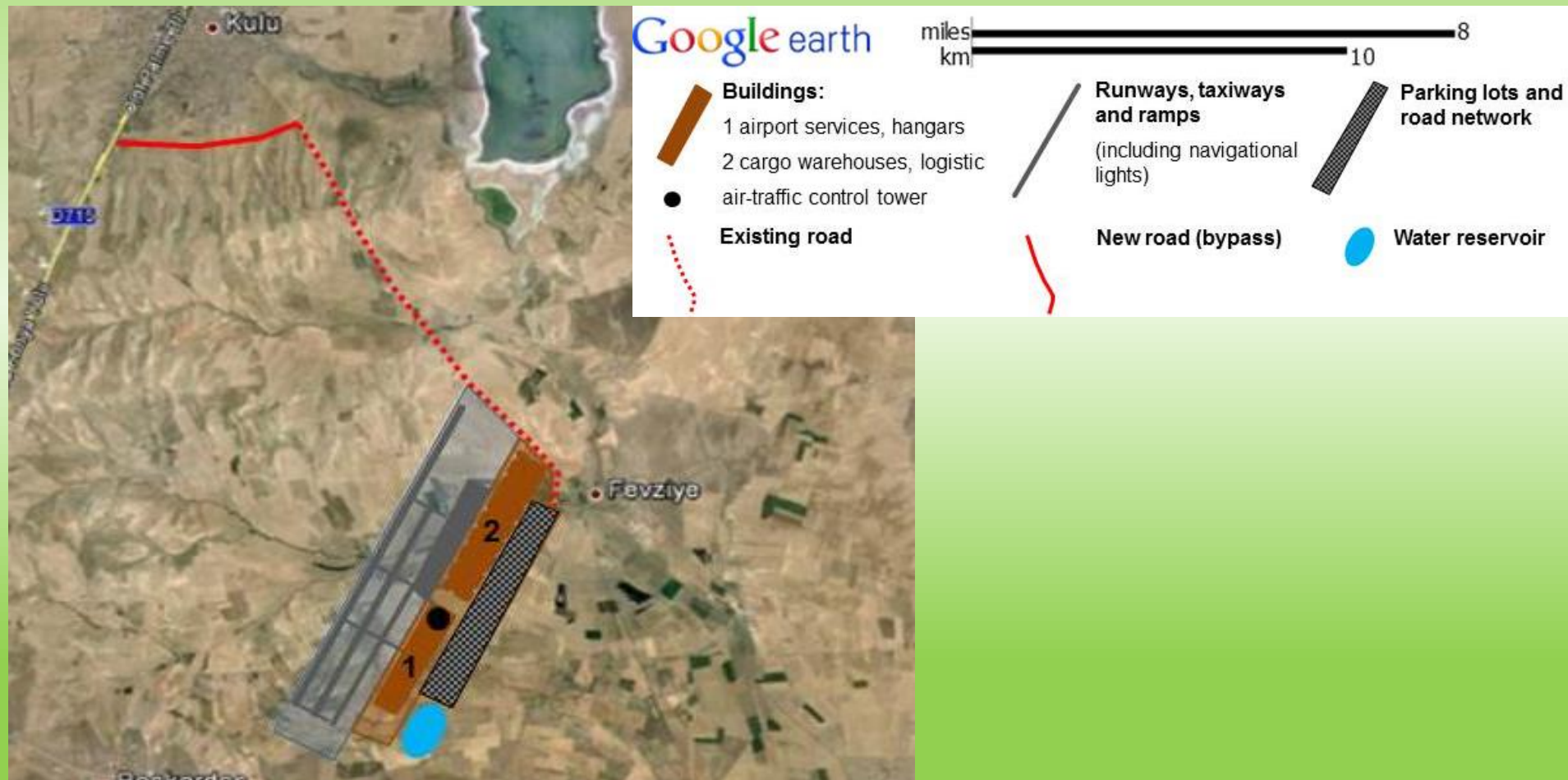
1 a. What is necessary to know for AA *(data from developer)*

Location of the assessed project within Kulu and Cihanbeyli municipalities



1 a. What is necessary to know for AA *(data from developer)*

Location of the assessed project (key project components)



1 a. What is necessary to know for AA

(data from developer)

Landtake

- Overall landtake by the project is about 9.5 km² (950 ha)
- 800 ha of the area will be covered by paved/solid surfaces (runways, taxiways, car parks, buildings)
- 150 ha inside the airport territory will be maintained as green zones

1 a. What is necessary to know for AA *(data from developer)*

Infrastructure necessary for project implementation



1 a. What is necessary to know for AA *(data from developer)*

Technologies used during project implementation

- Vehicles and other transportation machines used for building
(noise, emissions, transportation routes)
- Volume and type of materials used for building *(sources)*

1 a. What is necessary to know for AA *(data from developer)*

Inputs

- 150 thousand cubic meters of concrete



Old sandstone quarry near Bozan



Limestone quarry near Cihanbeyli

1 a. What is necessary to know for AA

(data from developer)

Technologies used during project implementation (outputs) – emissions:

- Contribution to concentration of NO₂ by machinery building the airport and its infrastructure will reach up to 1.6 µg/m³ in the air within the construction area

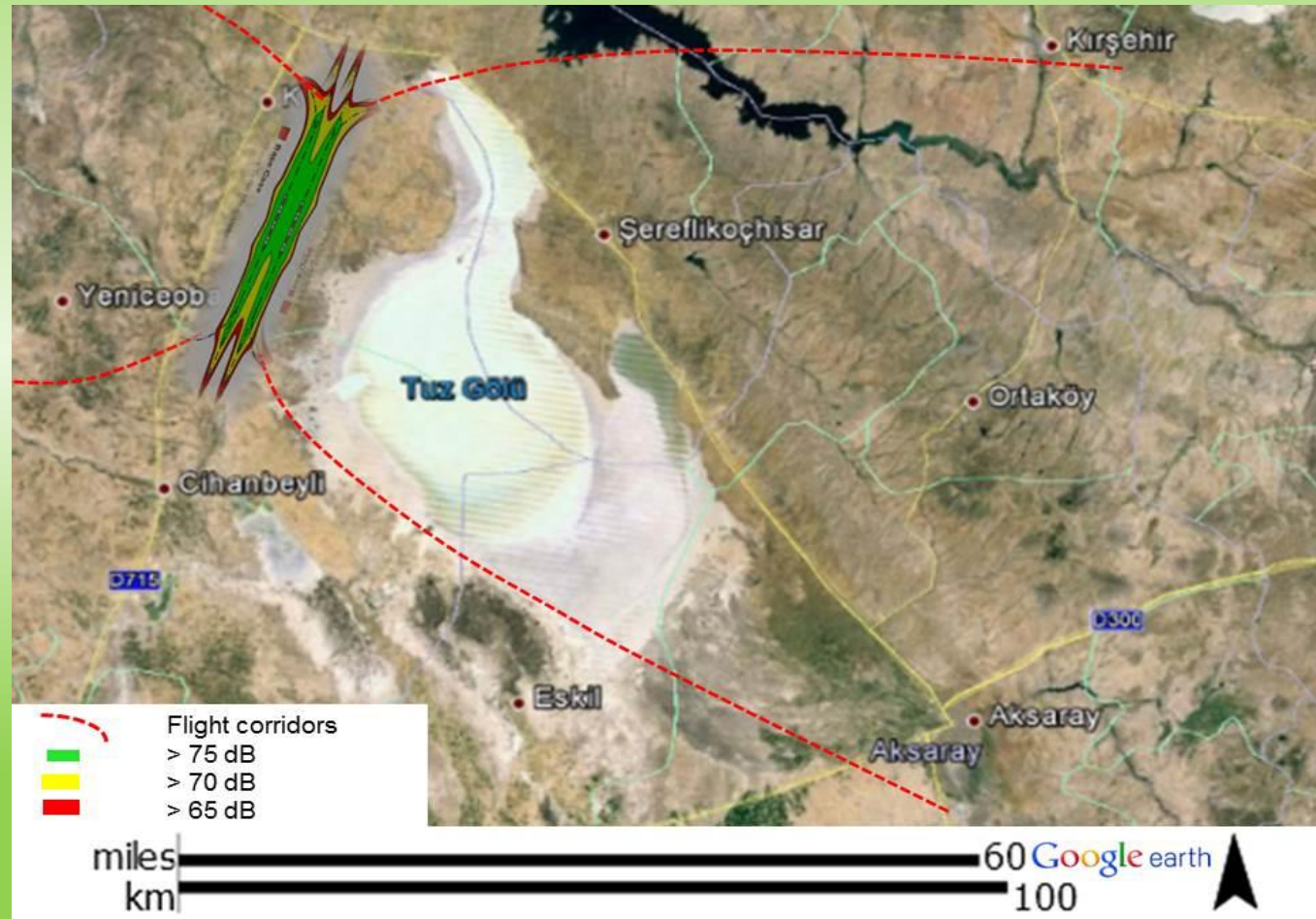
Technologies used during project implementation (outputs) – noise:

- Machinery engines with power higher than 250 kW which could be used for airport construction: up to 82 dB
- Noise reduction in open space is known to be 20 – 22 dB per every 100 m of distance from the source
- Thus, significant decrease of noise up to 200 m from the construction site can be expected

1 a. What is necessary to know for AA (data from developer)

Technologies used during project operation (outputs)

- Noise



1 a. What is necessary to know for AA

(data from developer)

Technologies used during project implementation (production of waste material)

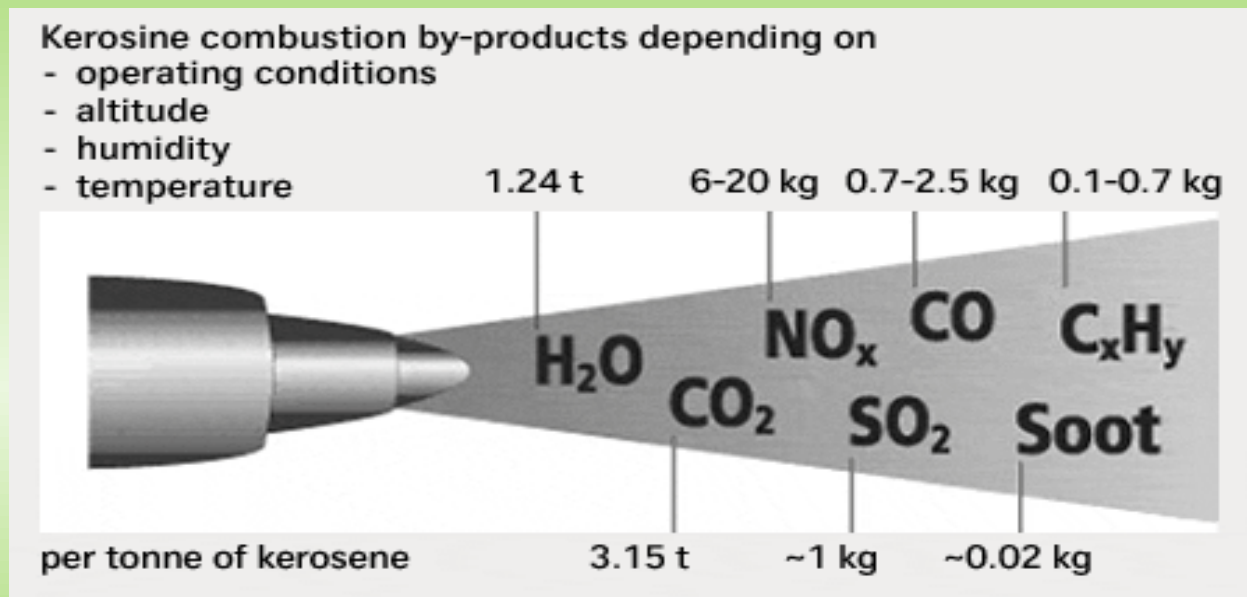
- 8 million m³ of topsoil will be removed and used for the regeneration of more than 800 ha of arable land within Kulu and Cihanbeyli municipalities
- Other relocated material from the airport construction will be used to leveling the surface

1 a. What is necessary to know for AA

Technologies used during project operation (outputs: emmissions)

- Example of emissions produced by aircraft

(**LTO** means:
*Landing and
Take
Off cycle*)



1xLTO (B737-400)

400xLTO (B737-400)

1000xLTO (B737-400)

NO _x (kg)	8.3	3,320	8,300
HC (kg)	0.6668	266.720	666.800
CO (kg)	11.8309	4,732.360	11,830.9

1 a. What is necessary to know for AA

(data from developer)

Technologies used during project operation (outputs: waste)

- Sewage water from the airport area (staff of 1,500 persons) will be purified in a sewage treatment facility. The recipient for the purified waters will be a small creek entering Lake Tuz between the hamlets of Tuzyaka and Zincirlikuyu
- Wrapping material when some good shipments will be divided into more smaller shipments (paper, plastics, wood) is to be separated and transported to already existing recycling facilities

1 a. What is necessary to know for AA *(data from developer)*

Technologies used during project operation (outputs: waste)

- Sewage water recipient



1 a. What is necessary to know for AA

(data from developer)

Technologies used for project termination

- Tuz Cargo Airport will be used for long time (tens of years)
- Termination of the airport is not expected, possible innovations will be discussed with state administration and, where necessary, assessed from the point of view of environmental impacts

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characterisation of the area
- Basic data about SPA/SCI likely to be affected by the project
- Quantitative data on target features within possibly affected SPA/SCI
- Quantitative data on target features found within possibly affected SPA/SCI in the framework of the country and biogeographical region
- Current field data concerning target features within possibly impacted SPA/SCI
 - Quantification of target features
 - Ecological relations among the target features, in relation to habitats and ecological functions including traditional landuse
-

1. b What is necessary to know for AA *(data concerning the assessed area)*

Biological characterisation of the area

- Lake Tuz area is extremely diverse area
- Species as well as habitats in Anatolia are different from European biogeographical regions, current annexes of Birds and Habitats Directive are of no use
- Turkish reference lists of habitats and species do not exist yet
- Reference lists for Anatolian region should be followed by habitat mapping and species data gathering (both quantitative and qualitative)

1. b What is necessary to know for AA

(data concerning the assessed area)

Basic data about SPA possibly affected by the project (bird species of Annex I of the Birds Directive)

Breeding Species	BD Annex	Population estimated
Caspian Tern (<i>Sterna caspia</i>)	I	3-5 pairs
Collared Pratincole (<i>Glareola pratincola</i>)	I	200 pairs
Common Crane (<i>Grus grus</i>)	I	15-20 pairs
Eastern Imperial Eagle (<i>Aquila heliaca</i>)	I	2 pairs
Great Bustard (<i>Otis tarda</i>)	I	83-110 ind.
Great White Pelican (<i>Pelecanus onocrotalus</i>)	I	2-3 pairs
Greater Flamingo (<i>Phoenicopterus roseus</i>)	I	14,000 pairs
Greater Sandplover (<i>Charadrius leschenaultii</i>)		100-120 pairs
Kentish plover (<i>Charadrius alexandrinus</i>)	I	400 pairs
Lesser Kestrel (<i>Falco naumanni</i>)	I	100 pairs
Little Bustard (<i>Tetrax tetrax</i>)	I	20 pairs
Montagu's Harrier (<i>Circus pygargus</i>)	I	40 pairs
Pallid Harrier (<i>Circus macrourus</i>)	I	1-2 pairs
Steppe Eagle (<i>Aquila nipalensis</i>)		1-2 pairs
Yellow-legged gull (<i>Larus michahellis</i>)		450-600 pairs

1. b What is necessary to know for AA (data concerning the assessed area)

Basic data about SPA possibly affected by the project (bird species of Annex I of the Birds Directive)

Wintering and passaging species	BD Annex	Population estimated
Common Crane (<i>Grus grus</i>)	I	4,000-8,000 ind.
Common Shelduck (<i>Tadorna tadorna</i>)		820-1,240 ind.
Common Teal (<i>Anas crecca</i>)		13,000-57,000 ind.
Eurasian Dotterel (<i>Eudromias morinellus</i>)	I	800-1,000 ind.
Greater White-fronted Goose (<i>Anser albifrons</i>)		6,618-57,000 ind.
Greylag Goose (<i>Anser anser</i>)		400-1,400 ind.
Gull-billed tern (<i>Sterna nilotica</i>)	I	200-300 ind.
Red-breasted Goose (<i>Branta ruficollis</i>)	I	118 ind.
Ruddy Shelduck (<i>Tadorna ferruginea</i>)	I	350-2,160 ind.

1. b What is necessary to know for AA *(data concerning the assessed area)*

Basic data about SCI possibly affected by the project

- Steppe, salt steppe and arid habitats as well as habitats of salty lakes are quite different from habitats in southern and south-eastern Europe
- Unless the habitat reference list for Turkey has been defined, it is impossible to identify target habitats within the Lake Tuz area
- Similarly, neither the target non-bird species can be defined for the area yet.

1. b What is necessary to know for AA *(data concerning the assessed area)*

Biological characteristics of the area necessary for AA

If the habitats, plants and/or animals are not listed in national reference lists as well as listed as target features of the assessed site, they cannot be subject to any assessment !!!

1. b What is necessary to know for AA *(data concerning the assessed area)*

Recent field data concerning target features within the possibly impacted SPA/SCI *

- Verification of published data in field
- Quantification of target features affected by the project
- Ecological relations among the target features and in relation to habitats and ecological functions including traditional landuse

** One of the reasons why data from SDF are insufficient*