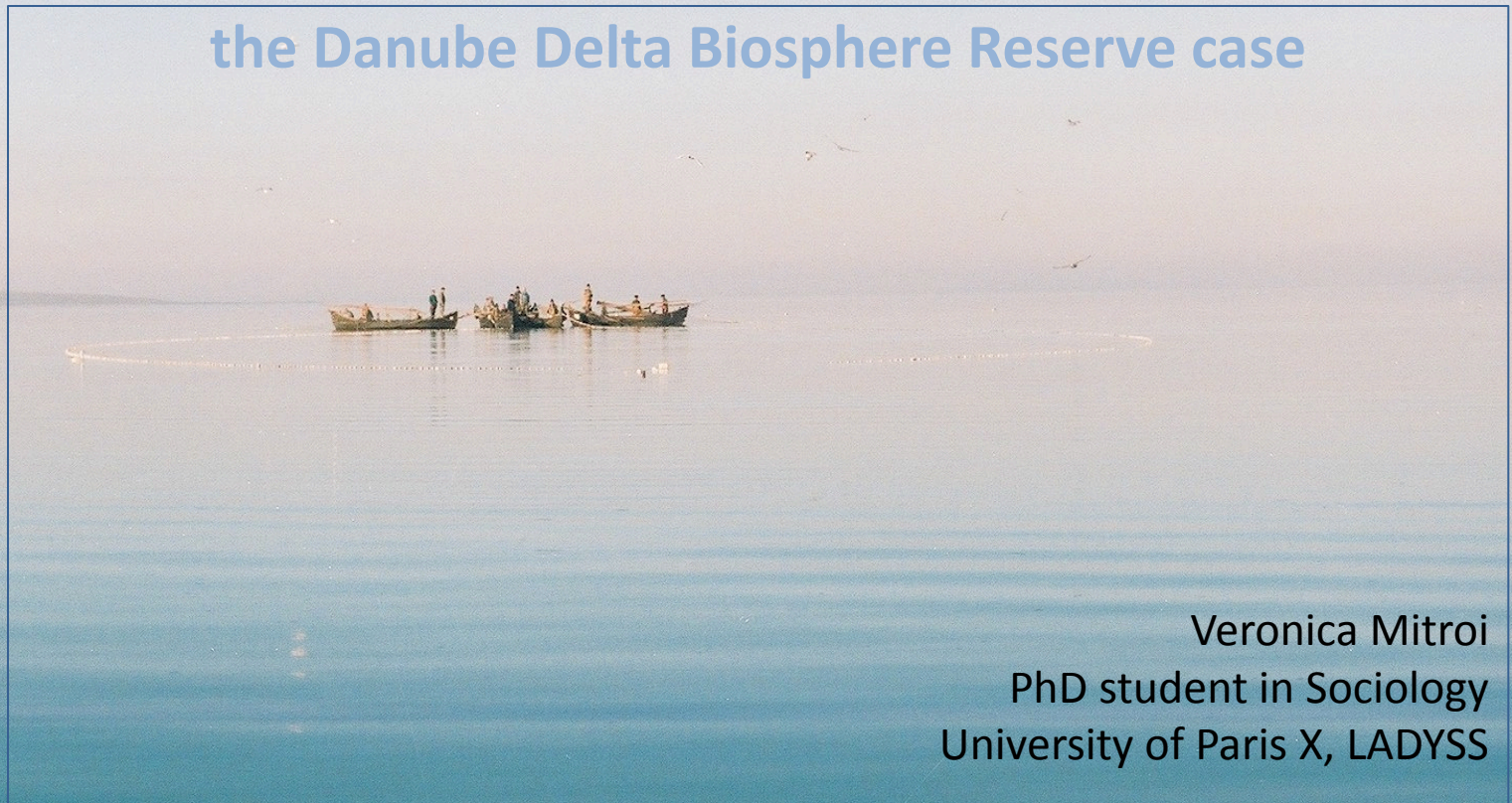# Changing through nature
- the integration of society and nature in the post-communist societies transition -

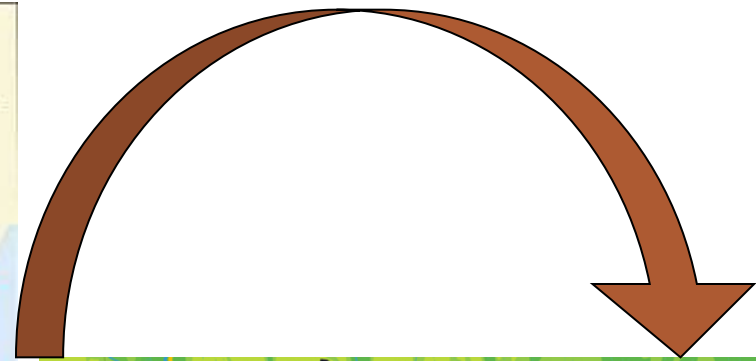## the Danube Delta Biosphere Reserve case

Veronica Mitroi
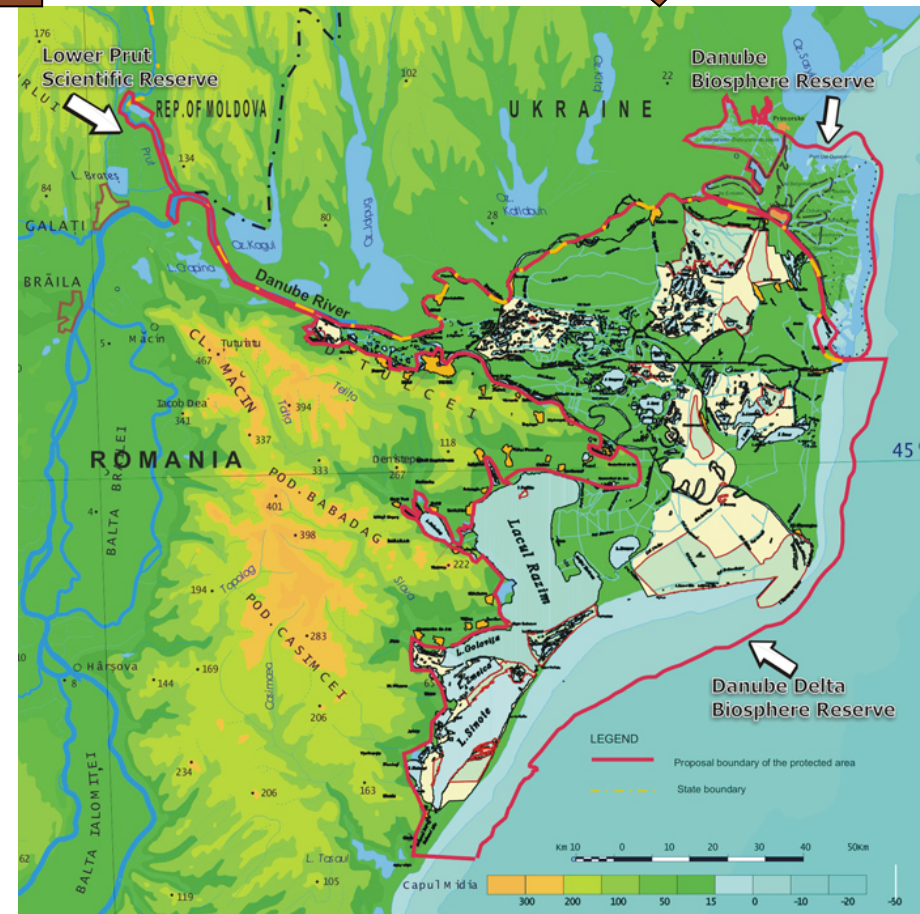PhD student in Sociology
University of Paris X, LADYSS

Structure of the presentation

- A very short environmental history of the Danube Delta area
- The Danube Delta Biosphere Reserve – the political construction of a « natural protected area »
  - The double socio-ecological transition
- What is a "symmetrical" socio-anthropological approach of natural resources protection ?
  - What the reserve change in the interaction between local population and natural environment ?
  - Somme insights from fishing activity

Danube Delta in Europe

- A buffer zone between Russian and Ottoman Empires
- Place of refuge for people of Slavonic origins (Russian Lipoveans and Ukrainian Hahols)
- **The Romanian *California - 1878***
- "Internal colonisation"

Danube Delta – The Romanian *California*

- Danube Delta was for Romanian state a huge flood plain, under-developed, under-populated and under-exploited

- Two great planning visions for delta during the XX century:
    - Transform the Delta into the "granary of Europe" – agriculture
    - Fishing as "natural activity" - Grigore Antipa (first half of XX century)
        - Fishermen were important factor in economical development without disturbing ecological balance
        - A hydrographical program for fisheries development inspired by traditional fishing conservation methods (facilitating water circulation)
        - State intervention to help fishermen to become independent and to access markets
        - An important economic development

The communist heritage (1945 – 1989)

- Economic hyper-centralized administrative system - Delta Central -functioning through "production plans" and the intensive exploitation:
  - The reed period : massive mechanic exploitation - the 60s
  - The fish period : fish farms - the 70s
  - The agricultural period : polders – the 80s

- Significant environmental damages:
  - Drained out about 100 000 ha (15% of the region) until the end of 1989, of which 42 000 ha for agriculture, 24 000 ha for fish farming, etc.
  - But economical breakdown of huge polders and production infrastructures

- Fishing and local economy :
  - Modernisation of fish infrastructure (but using still traditional tools)
  - Economy and local population highly dependent on state structures (nationalization of the land and fishing - 1954) - fishermen are employees
  - Fishing activity is just a part of a complex exploitation process of the area

Creating a natural reserve - 1990

In 1990, all the Danube Delta region (580 000 ha) is transformed in a biosphere reserve, a "substitution solution" to the ancient communist Delta Central.

The universal ecological value is recognaized by the international institutions (UNESCO, RAMSAR, etc):

- Danube Delta is the second largest delta of Europe (after Volga Delta), and is the **best preserved** on the continent

- High ecosystem biodiversity

    - 32 differents systems, 1.668 vegetal especes, 3 864 wild faune especes : 325 birds, 160 fish (70 sweet water)

- The very important migration way for birds

- It host the world largest continuous area of reed (2 400 km^2)

Questions

Questions

In this context, we are asking how occurs the transformation of an "economic unity" into a "natural reserve" ?

- Which are the ingredients, the process of this transition ?
- What are the socio-ecological consequences?

The socio-ecological transition

• Using a set of public policies to coordinate the relations between actors and between actors and environment, the socio-ecological transition consist in:

- The redefinitions of the social meaning of natural resources : where nature is ?
- The redistribution of rights and responsibilities : whom nature? who is in charged ?
- Restructuring social practices : what interactions with nature are are imagined and implemented?

A symmetrical vision of nature and society-hypothesis

- Society / Nature relationship :
  - **The social nature of natural resources**: concepts as "natural resource" or "biodiversity degradation" are socially constructed in different mindscapes and systems of knowledge
    - Nature conservation policies are the result of "power arrangements" (Verdery, 2004) between different actors – nature institutionalization

  - **A local society shaped by nature** : there is no "degradation" neither "protection" which are socially neutrals
    - The rights system meant to "protect" nature is involving a "redefinition" of different actors in their relation with nature: who is guilty, who is able and legitimated to act ?
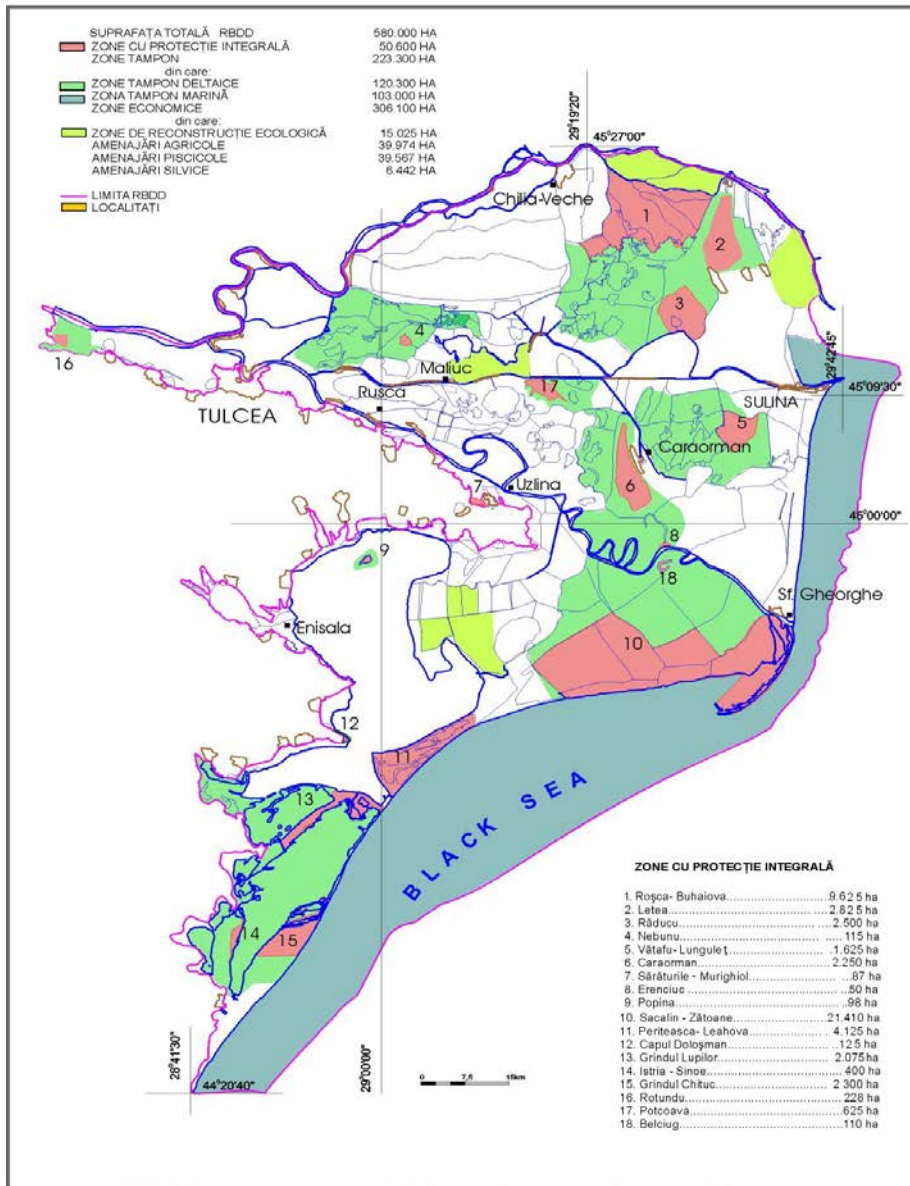
Methods -two levels of analyse :

- The institutional and policy level (creation of specific institutions for protection, new actors, and lows)
- And the territorial and social level (concrete actions and social contexts of nature appropriation).

Where nature is? - Territorialisation

- Two contradictory logics overlaps in the functioning of a natural reserve regarding the interaction between Society and Nature :
  - A logic of isolation of nature through the creation of strictly protected areas
  - A logical of integration of nature into the society and actors strategies and practices, who must assume their rights and duties related to elements of nature

- Territorialisation of the reserve includes two dimensions:
  - A "global" dimension - the organizational model of a biosphere reserve in three distinct areas
  - A "local" dimension - property regimes and institutional system.

REZERVAŢIA BIOSFEREI DELTA DUNĂRII

SUPRAFAŢA TOTALĂ RBDD	580.000 HA
ZONE CU PROTECŢIE INTEGRALĂ	50.600 HA
ZONE TAMPON	223.300 HA
din care:	
ZONE TAMPON DELTAICE	120.300 HA
ZONA TAMPON MARINĂ	103.000 HA
ZONE ECONOMICE	306.100 HA
din care:	
ZONE DE RECONSTRUCŢIE ECOLOGICĂ	15.025 HA
AMENAJĂRI AGRICOLE	39.974 HA
AMENAJĂRI PISCICOLE	39.567 HA
AMENAJĂRI SILVICE	6.442 HA

LIMITA RBDD
LOCALITĂŢI

ZONE CU PROTECŢIE INTEGRALĂ

1. Roşca- Buhaiova.................9.625 ha
2. Letea....................2.825 ha
3. Răducu..................2.500 ha
4. Nebunu..................115 ha
5. Vătafu- Lunguleţ..........1.625 ha
6. Caraorman...............2.250 ha
7. Sărăturile - Murighiol......87 ha
8. Erenciuc.................50 ha
9. Popina..................98 ha
10. Sacalin - Zătoane........21.410 ha
11. Periteasca- Leahova......4.125 ha
12. Capul Dolosman..........125 ha
13. Grindul Lupilor..........2.075 ha
14. Istria - Sinoe...........400 ha
15. Grindul Chituc...........2.300 ha
16. Rotundu................228 ha
17. Potcoava...............625 ha
18. Belciug................110 ha

Biosphere Reserve model

Functional areas
- Core areas (18) : 8,7%
- Buffer areas : 38,5%
- Economical areas: 52, 8%
  - fishing areas (58%)
  - agriculture (14,2%)
  - fishing farms (12,9%)
  - forest (2,1 %)
  - build areas (8,9%)
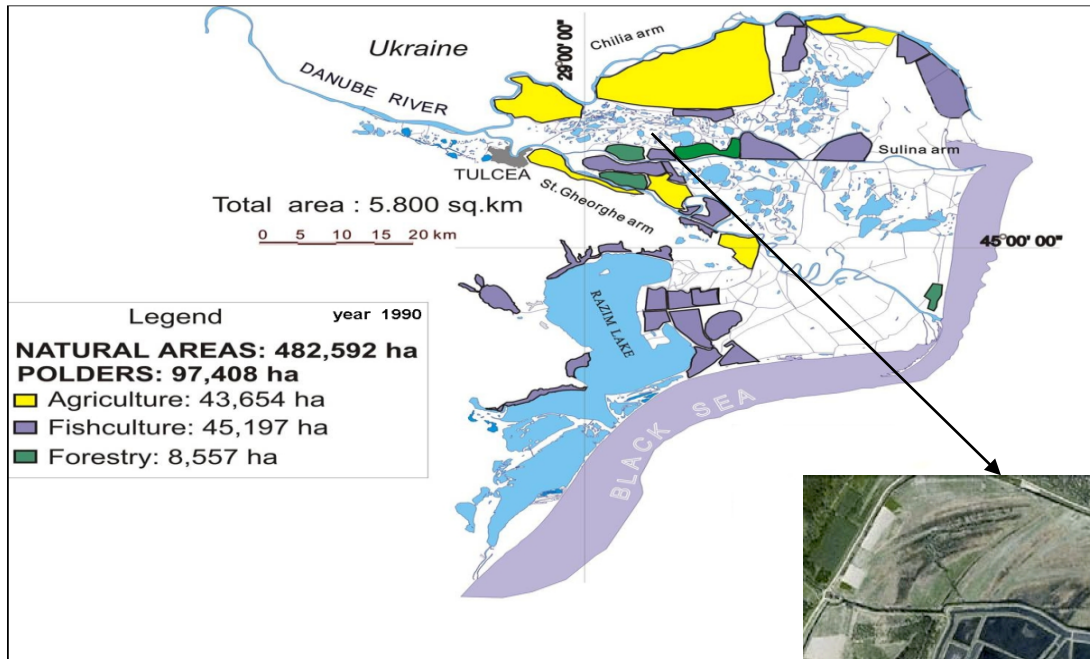 - others (3,7%

Nature territorialization

Functional areas	Core areas : 8,7%	Buffer areas : 38,5%	Economical areas: 52, 8% -fishing areas (58%) -agriculture (14,2%) -fishing farms (12,9%) -forest (2,1 %) -build areas (8,9%) -others (3,7%	
Category of land	Ecological system connected with natural water flow		Fish farms and agricultural polders	Houses, farmland in private ownership, communal pastures and lakes.
Property	Public property of national interest: 81.12 %		Public property of regional interest: 13.71 %	Property of local interest: 5.71 %.
Actors	ARBDD – Romanian Government		Regional municipality Private enterprises	Public and private local actors

The territorial boundaries have an impact on decision making, natural ressources management, and natural resources use - knowledge, powers, identities.// participation
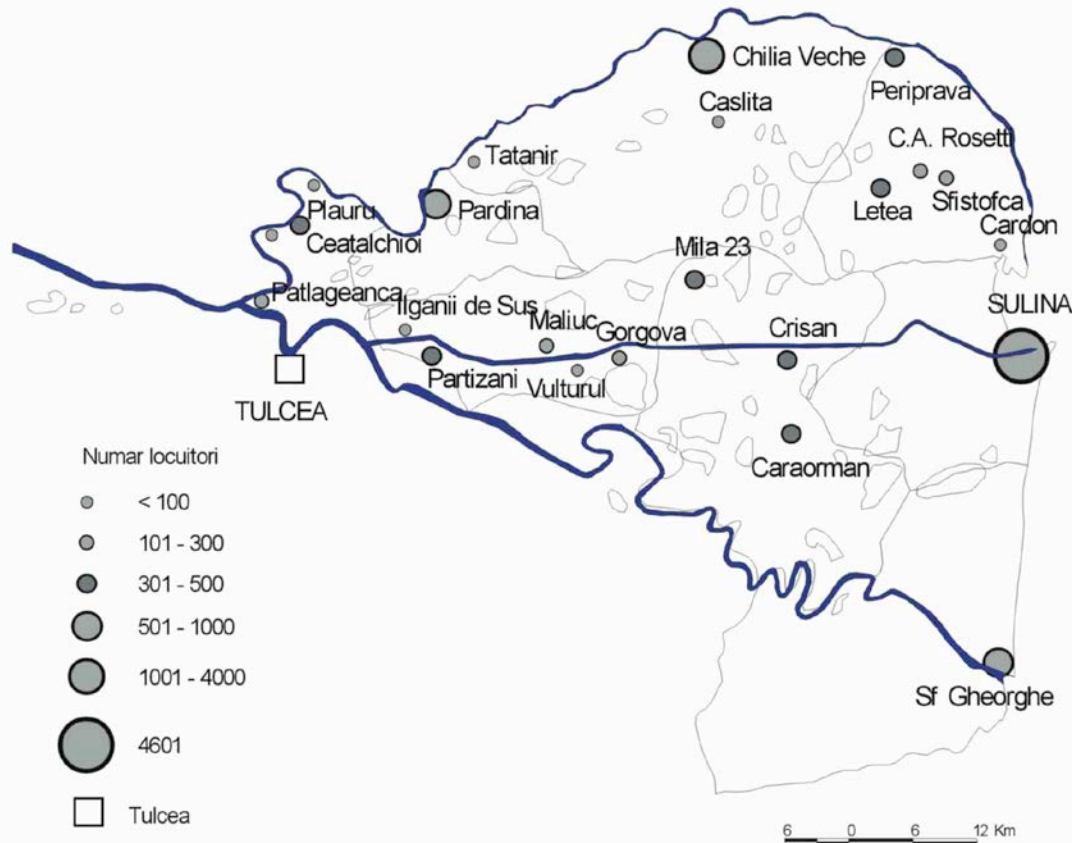
Ecosystem rehabilitation

Legend — year 1990

NATURAL AREAS: 482,592 ha
POLDERS: 97,408 ha
- Agriculture: 43,654 ha
- Fishculture: 45,197 ha
- Forestry: 8,557 ha

Total area : 5.800 sq.km

- One of the most important nature rehabilitation programme in the world (15,000 ha)

- *Conservation Merit Award du Fond Mondial, EUROSITE*

- But the problem of social integration still not solved !!!

Where society is? - rights and duties

- •15,000 inhabitants
- • 25 isolated human settlements
- • Isolation and poorly developed infrastructure – remote area

- •A « problematic » population, victim and cause in the cycle of resource degradation:
  - •Economic dependence of natural resources
    - •"Traditional" economical activities (commercial fishing, familial fishing) are guarantied by low
  - •Direct access to resources - poaching

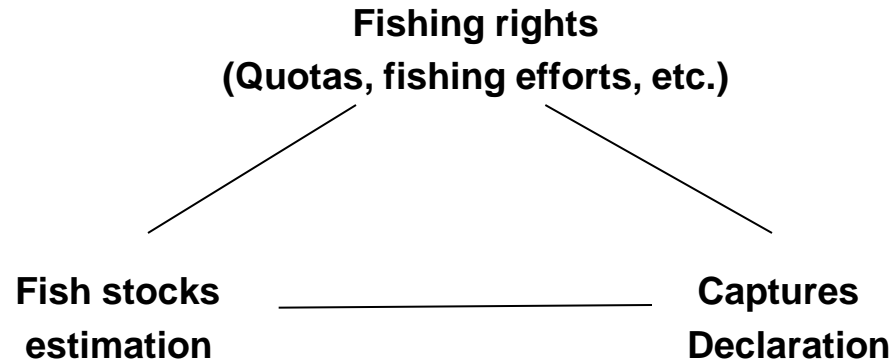- •To be tolerated fishing has stay « traditional » !!!

What is « traditional » in traditional fishing?

Fishing rights management

- Three different systems of fishing management experimented in 15 years, based on « modern regulations» and scientific measures (quotas, fish licences, stock estimation, fish effort regulation, etc.)

**Fishing rights
(Quotas, fishing efforts, etc.)**

**Fish stocks
estimation**

**Captures
Declaration**

- A management based on resource use and rights and not on "local knowledge"
  - A paradoxal situation of over-reglementation of fishing to stay traditional
  - Use conflicts and growing incertenties on fish management
    - A continuous estimated resources degradation and more strict rules
    - Culpabilization of local population, who became guilty of illegal practices, etc.
    - Untrust relationship between different management actors

Controverses beetween official knowledges and local kowledge

- In the context of economic liberalization, the Reserve and fish management is perceived by local people as a technocratic constraint from the part of the central authorities.

- Controverses and conflict in the definition of the fish resources and of the "good fish"
  - Degradation reality :
    - "*It is not true that there is no more fish, but there are no more fishermen!*"
  - Degradation factors :
    - Some traditional protection measures forbiden by the reserve : reed burning, chanel closure, etc.
    - Some ecological nature protection measures : excessive birds protection, etc.
    - Fishing tools and regulations

Representation of local landscapes linked with fishing practices
Folklorisation of fish activities in relation with massive tourisme development

Thank you!