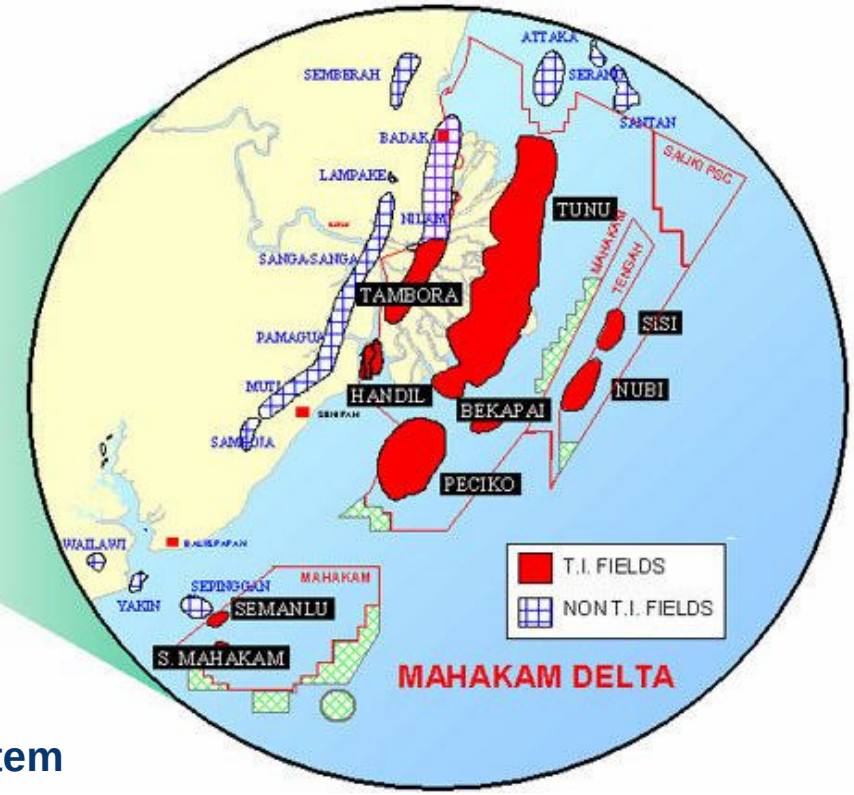
IAIA - ESIA Mahakam

- **Émetteur**

13/05/2004

MAHAKAM DELTA - INDONESIA

East Kalimantan District



1500 km2 of mangrove presenting

shallow water which provides rich ecosystem

for marine life with many valuable species of fishes (spawning and feeding grounds)

Aquaculture and fishing are the main sources of income and food for 60000 persons located in 28 villages, but also impact the delta (clearing, deforestation).

TOTAL activities in the Mahakam Delta

Oil and Gas development and production activities are under a Production Sharing Contract with the Indonesian national oil company (Pertamina).

The production has started in 1970's with the oil fields of Bekapai, Handil and Tambora. In 1990's, gas fields as Tunu and Peciko were discovered .

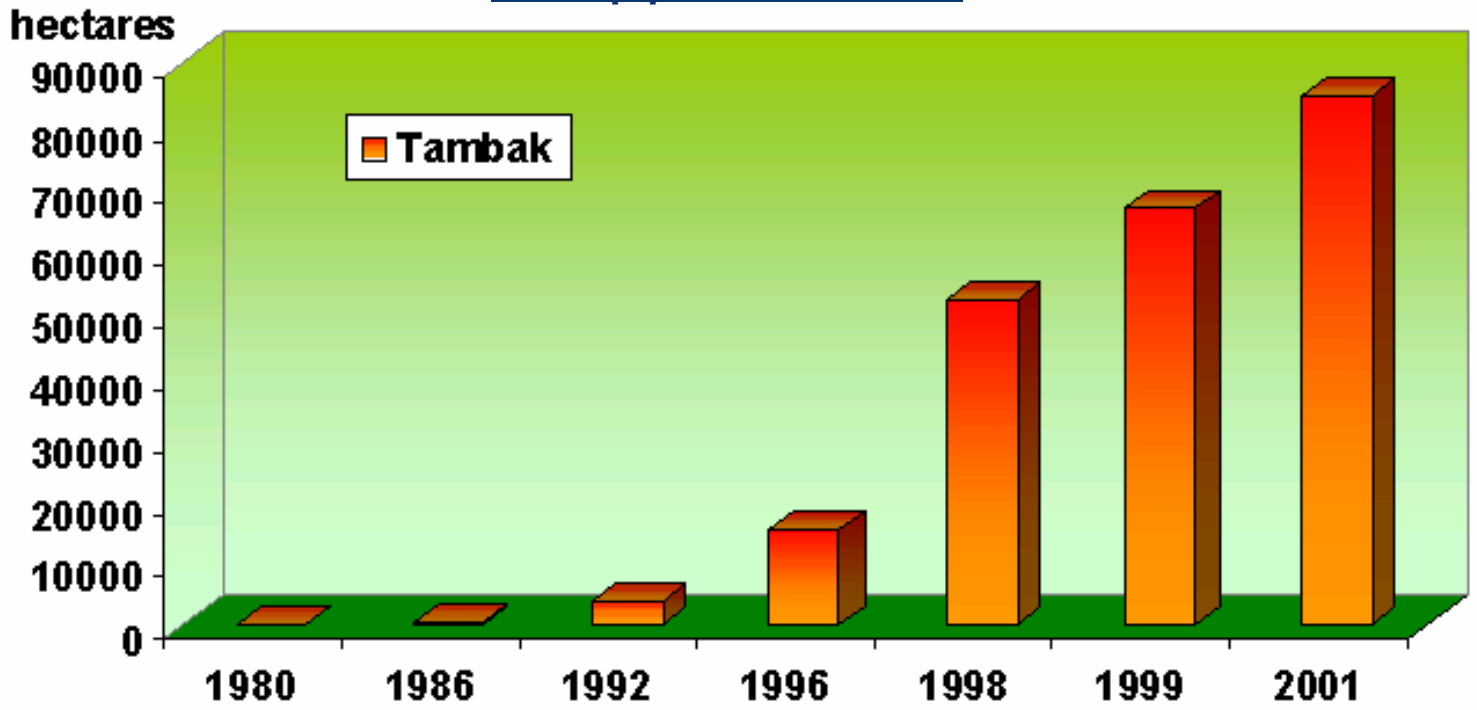
At the present time development phases are on going on existing gas fields (Tunu, Peciko), and new developments (Tambora gas, Sisi Nubi) are in project.

The objective is to meet the production requirements (gas contract)
As of today, the production is 500 000 boe/d (80% gas)

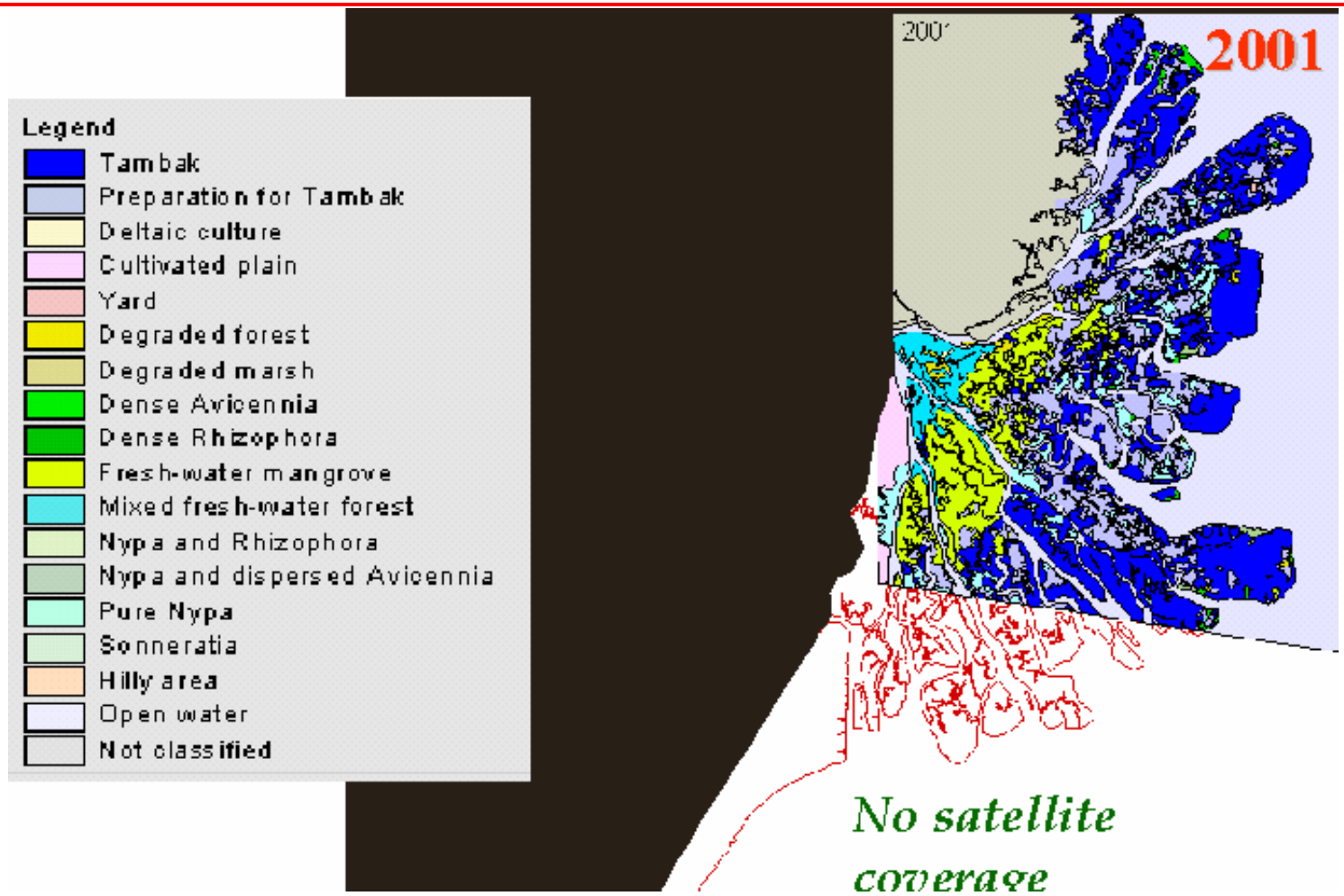
Environmental and Social issues in the delta

The main environmental and social issue is the uncontrolled development of shrimp ponds activities which leads to generate a massive destruction of the mangrove.

Shrimp pond extension



Shrimp ponds (Tambaks) in the delta



Present situation

Environmental consequences

- All mangrove about to disappear
- Disease spreads
- Water quality decreases
- Production drops
- Income drops
- Erosion develops
- Coastal abration
- Disappearance of mangrove species

--> Environmental and economic breakdown affects shrimp, oil & gas and local population

Operationnal consequences

At the present time,this extensive aquaculture is a big source of conflicts of interest between local people and Oil and Gas activities. The consequences are :

- **CLAIMS**

	2001 (140 K$)	2002 (145 K$)
Land claim →	Rp 296 032 309	Rp 188 767 646
Env claim →	Rp 887 200 204	Rp 1 031 207 661

--> it is not huge amounts but really a concern: lost of time

- **DIFFICULTIES IN LAND ACQUISITION FOR OIL AND GAS ACTIVITIES**
- **NEED TO ANTICIPATE AND TO EXPLAIN ANY POTENTIAL OPERATIONAL IMPACT IN ORDER TO AVOID CONFLICT WITH LOCAL PEOPLE**
- **ONG COULD BE FACILITATOR BETWEEN THE COMPANY AND LOCAL PEOPLE**

Major outcomes

- A better understanding of the crisis consequences,
- The necessity to set up a better analysis of the new situation from an environmental and social point of view,
- The necessity to better understand what could be the consequences for an O & G company working in such an environment,
- The evaluation of the stakeholders panel and which are the authority levels to address the situation,
- What the regulations are, are they applied, who is responsible for,
- How the local communities live and are structured, (family context, authorities in the villages…), who are the workers,

Social base-line and stakeholders

- **Government:** little control on activities, land use and property rights, people opening farms and claiming without refering to any legal ground.
- **NGO 's:** local ones, growing interest in this area due to emerging conflicts.
- **O&G companies:** eventhough having a limited impact, their presence is perceived to affect land use and aquaculture (seismic, pollutions, access to fishing grounds).
- **Local activities:**
  - fishing: of secondary importance in terms of impacts on the delta and marginal in terms of economy,
  - aquaculture: the main activity (73% of the delta surface) rather heterogeneous in terms of size of the ponds, ownership, involvment in trade, origin of capital, input use. In addition, there are people looking for young shrimps (for natural breeding) and people working in hatcheries (shrimp larvae production).
- **Population:** social structure evaluation, incomes, activity constraints, exports, yields.

- **Other stakeholders:** local institutions, cold storage industry, collectors (traders), Research institutions and Universities.

Project management issues at local level (Tunu 9)

- Land acquisition aspects, operational impacts of our activities on the environment (both inside the river and near / inside the villages) have to be anticipated and explained (socialisation work, agreements),
- Claims, compensations and land use conflicts have to be managed,
- Some mitigation measures have already been launched (GTS installation), others are in preparation (traffic river management) in order to avoid present or future conflicts.

-->Land and specific river traffic management Policies

-->Dialogue

To be implemented

Social impact assessment : e.g. Tunu 9 (1)

Activities	Implementation	Potential Impact	Evaluation	Mitigation	Residual
Construction: dredging and trenching for trunklines					
Land clearing	Cutting vegetation Resettlements, Shrimp breeding facilities	Waste in the river Conflictual land use		Store properly New settlement Halt in the activity?	
Soil moving	Soils moved and stored on hopper barges	Water quality degraded		Create protected areas in operation zones	
Stock pile	Soils are placed beside the trenching area	disparition and erosion of stock pile		Return to original bathymetric level by removing the stock pile	
River closure	Excavation may lead to the river closure.	Transport affected, Fishing grounds affected		Appropriate river transport management. Closure to be limited in time	
Impacts	severe				
	moderate				
	negligeable				

Social impact assessment : e.g. Tunu 9

Activities	Implementation	Potential Impact	Evaluation	Mitigation	Residual
Construction: GTS and trunklines installation					
GTS installation	Deck installation.	Traffic altered or stopped Turbidity in waters. Conflictual land use		Footprint reduction Compensation. Appropriate river traffic management	
Trunkline installation	Pipe laying	Trunkline crossing a village Traffic altered or stopped. Conflictual land use Distance to neighbouring ponds		Pipe route modification Appropriate river traffic management	
Drilling	Presence of barges	Traffic altered or stopped Fishing practices altered Noise		Sound dialogue with fishermen Appropriate river traffic management	
Impacts	severe				
	moderate				
	negligeable				

Social impact assessment : e.g. Tunu 9 (3)

Activities	Implementation	Potential impact	Evaluation	Mitigation	Residual
Operations					
operations	Permanent physical presence of a structure	Changes in current and river streams Reduced fishcatching River traffic altered or stopped		Help for fish trap reinstallation Location choice	
operations	Testing - barge to approach the well	River traffic altered or stopped Smokes, flares, heat radiation, noise, air pollution		Reduce flaring and recovering of hydrocarbons as much as possible Information	
operations	Supervision	Increase the boat transportation and traffic on the river, causing erosion to bundwall and river banks		Speed reduction Optimize frequency of supervision	
Impacts	severe				
	moderate				
	negligeable				

E & S issues unearthed by the ESIA

- « E »
  - Decreasing of the mangrove, rivers and beach erosions, etc,
  - An « ecological footprint » line which is a ratio « shrimp ponds / mangrove » becoming unsustainable.
- « S »
  - Competition for land (overlaps, double sells, encroaching) resulting in conflicts,
  - Opening up the neighbour ’s land and asking for compensation,
  - Uncertainty on the legal point of view: shrimp pond owners considered as squatters by the national Gvt, endorsement of the situation made by the local Gvt...

Key learning points from the impact assessment

- **For securing our activities** in integrating & sharing a common domain with the fishermen & the shrimp pond farmers :
  - **A better understanding of the local context** (activities, economy, social structures, ways of living, cross relationships with the industrial activities),
  - **A Contribution to socio-economic projects** (health, education and training, economy and employment, local culture, improvement of infrastructures, better governance) facilitates this integration,
  - **And a help to the institutions** (Kutai Kartanegara District Governement) in participating in the Mahakam Delta Sustainable Development Steering Committee - improvment of the local governance),
  - **A river traffic management Plan,**
  - **An improvement** in the stakeholders awareness and their commitments

    Were necessary .

Conclusions (1)

- **The company does not feel itself responsible** for the high degradation **level** in the delta, essentially due to the excess of ponds and lack of law enforcement of authorities resulting in local conflicts ,
- **Nevertheless, as being the main stakeholder,** and beyond our direct responsability (impacts of our projects and mitigation measures) we feel ourselves committed to helping the communities to engage their own development in a sustainable manner (indirect responsability),
- **To achieve this responsability,** a better understanding of the socio-economic context and of the impacts of our activities on the environment and the populations, was necessary and was set up. As well, our own involvment in participating along with the local Government and the other stakeholders is understood as a compulsory requirement.

Conclusions (2)

- **In other words, the Project management perspectives are summed up as follows:**

  - Joint cooperation between Total and local people in the use of river water during operations,

  - Communication with local people (fishermen and farmers) & authorities prior to operations,

  - Environmental baseline prior to operations with involvment of local people,

  - Use of local people to monitor social & environmental conditions related to operations.

Action Plan : Company level

- **The company contibutes to socio-economic projects (technical expertise, sponsoring, financial contribution, environmental and social matters, revolving funds…) as such as:**
  - **Education / Training -> 18 projects (74 K$) (2003 figures, Total share)**
  - **Health -> 17 projects (428 K$)**
  - **Employment / Economy -> 12 projects (32 K$)**
  - **Governance and services -> 8 projects (38 K$)**
  - **Infrastructures -> 4 projects (63 K$)**
  - **Preservation of local culture -> 1 project (10 K$)**
  - **Support to strategic plan -> (15 K$)**

- **The company contributes also:**
  - **to the creation of new activities (vegetable, chicken farms…),**
  - **to the training on shrimp pond pilot- silvofishery ponds (1 ton in 2.3 ha)**
  - **to the studiing of land use planning on the Mahakam delta with a local institution (LAPI ITB),**
  - **to the participation in the Mahakam Delta Sustainable Developpement Steering Committee established by the District Governement of Kutai Kartanegara**

Our contributions