

# ***Lubuk Larangan Dan Suaka Perikanan (Fish Sanctuary): Inland Fisheries Management Practices in the Province of Jambi***

by **Reza Shah Pahlevi\***

---

## **1. Introduction**

The villagers in the Province of Jambi control fishing activity in the waters from one generation to another. It is conducted by setting up an area where fish are cultivated and also protected. These are known to the villagers as Lubuk Larangan. All the management aspects in the Lubuk Larangan, such as planning, organisation and control, are carried out fully by the villagers. To develop the Lubuk Larangan, the Provincial Government of Jambi established a similar area called Suaka Perikanan. This is an area for fish cultivation, and fisheries conservation and management is carried out more scientifically than the Lubuk Larangan.

The area of the open waters in the Province of Jambi is estimated at 115 400 ha. It consists of a river area (48 300 ha), lake area (5 300 ha) and flood area (61 900 ha) (Directorate General of Fisheries, 1994). The open waters harbour many indigenous fish species (Provincial Fisheries Service Office of Jambi, 1995).

## **2. History of the Area**

Since written information on Lubuk Larangan is limited, it is very difficult to find out when it commenced in Jambi province. But it is surmised that Lubuk Larangan has been in force since the Kingdom of Melayu Jambi. During the colonial era, the area was managed under the Inlandsche Gemeente Ordonnantie Buiten Gewesten (IGOB), Staatsblad 1938 No 490. IGOB is a general rule on self-governance under a valid customary law (Provincial Government of Jambi, 1993).

Danau teluk, located in the village of Desa Teluk Kayu Putih, is an example of the Lubuk Larangan area managed from one generation to another. It is a closed area created as a result of closing a Cucuhan sub-river located in the middle of the forest. The site can be reached by boat within an hour from the village of Teluk Kayu Putih.

A Lubuk Larangan such as Danau teluk is presumably spread out in several villages of the Province of Jambi. Even though the areas have existed for a long time, they have not expanded significantly during the last 20 years.

Considering the weaknesses in the management of Lubuk Larangan -- not only in terms of fisheries sustainability but also in terms of problems in developing the area -- the provincial Government of Jambi established several Suaka Perikanan areas. The Suaka Perikanan functions as a place for fish cultivation and fisheries resources protection. In this area, fisheries resources are utilised well. The Suaka Perikanan is divided into three zones: nucleus zone, supporting zone, and economic zone (Provincial Fisheries Service Office of Jambi, 1998).

The first Suaka Perikanan area was established in the village of Sungai Alai, District Bungo Tebo in 1980. Until 1998, seven areas were established as the Suaka Perikanan, as shown in Table 1.

*This study was conducted in September 1998. The methodology used to collect the information was in-depth interviews with officials of customary institutions, community leaders and employees of the Provincial Fisheries Service office, as well as fisheries officials from Lubuk Larangan and Suaka Perikanan. The Lubuk Larangan site visited is Danau Teluk in the village of Teluk Kayu in Putih sub-district of Pembantu Tuju Koto-District, Bungo Tebo Province. Observations were also carried out in several Suaka Perikanan such as: 1) Lubuk teluk kayu putih in the village of Teluk Kayu Putih, sub-district of Pembantu Tuju Koto, district of Bungo Tebo, 2) Danau arang-arang in the village of Arang-Arang, Kumpeh Ulu sub-district, Batang Hari District 3) Danau mahligai in the village of Desa Danau Lamo, sub-district of Maro Sebo, Batang Hari district.*

*A number of written material such as customary guides of Jambi, scientific and official reports, and a copy of local government decrees related to Lubuk Larangan and Suaka Perikanan were collected as secondary data. In addition, a number of photographs were also taken.*

---

\* Directorate General of Fisheries  
No. 3, JI. Harsono R M Ragunan, Jakarta Selatan, Indonesia

### 3. Organisation

Lubuk Larangan and Suaka Perikanan are managed by a certain type of organisation. Basically both systems have similar structures consisting of elder members, a chairman, a secretary and treasurers. The elder member of the organisation is normally the customs and cultural head. The positions of chairman and secretary are held by the village head and the head of the village social activities group (LKMD) respectively. A community leader and a youth leader usually holds the post of treasurer.

**Table 1. Names and locations of Suaka Perikanan in the Province of Jambi and their distance from the Jambi Municipality**

No.	Name of Suaka Perikanan	Location	Distance from the Jambi Municipality (km)
1	Lubuk sahab	District of Kerinci	618
2	Lubuk manik	District of Bungo Tebo	249
3	Lubuk teluk kayu putih	District of Bungo Tebo	249
4	Lubuk taman ciri	District of Sarolangun Bangkio	251
5	Danau arang-arang	District of Batang Hari	63
6	Danau mahligai	District of Batang Hari	63
7	Danau teluk kenali	Municipality of Jambi	-

Source: Provincial Fisheries Service Office of Jambi, 1998

### 4. Operations

#### 4.1 Schedule for open season

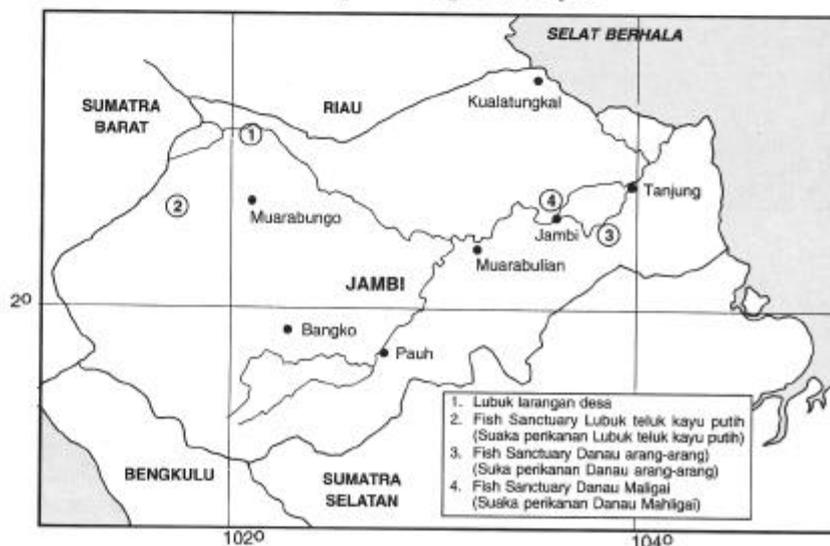
The Lubuk Larangan and Suaka Perikanan can be kept open only during a certain period of the year. Reason: to give fish resources a chance to grow and propagate. The villagers may then harvest more fish of better quality. Lubuk Larangan are also kept open during national and Moslem holidays after considering several factors such as the high river water level, the amount and size of fish, and the views of the villagers: In Danau teluk, the area is opened only once a year. Even according to the villagers, it is almost impossible to fish or harvest in the area because of the high water level after a prolonged rainy season.

Various types of fishes are caught during the opening season. In the Lubuk Larangan and Suaka Perikanan areas which are characterised by muddy substrate habitat, the types of fish usually caught are *Ophiocephalus micropeltes*, *Punitius schwanefeldi*, *Ophiocephalus striatus*, *Cryptoteterus sp.*, *Clarias batrachus*, and *Brachyobinus dorice*. Meanwhile, in an area with a rocky substrate such as the Suaka Perikanan of the Lubuk raman ciri, the fish species commonly found is *Tor douronensis*.

The studies further showed that the villagers recently became a bit lax about the capture of small-sized fish. They are not supposed to catch fish that weigh less than 2.5 kg. But sometimes they flout this rule and catch small species also. The main reason for such behaviour is perhaps the increasing population. According to Borzel and Chong (1997) there are three factors behind the decline in fisheries resources: over-population, excessive consumption, and abuse of technology.

Fishing activities called bekarang are carried out during the opening season. At first there is an announcement about the start of the opening season, made after a meeting of community leaders. This meeting is usually held on a Friday at a mosque after prayers. The decision is based on reports by the person monitoring fish stock conditions in the Lubuk Larangan or Suaka Perikanan. The decision about the opening season is announced to villagers through sub-village heads and village chieftains (datuk). The

**Map of villages surveyed**



announcement is usually made two days before the opening season. Villagers who want to fish for free usually bring their own fishing gear (pekarangan). However, in several villages people who want to fish are charged a fee based on regulations issued by each village.

Example: the fishing activity in the Lubuk Larangan of Danau Lamo, located in the village of Danau Lamo, Maro Sebo sub-district, Batang Hari district, is determined through auctions. The auction is closed – the price offer is made in writing. To be precise, villagers who want to buy some fish from the Lubuk Larangan, make an offer in writing to the village head. The highest bidder pays cash and takes the fish. However, if cash cannot be paid in full, the village head will suggest that the buyer mortgage valuables such as a car or a motorayale and pay up in full within two months. The winner of the bid will utilise the areas for nine months, usually from March 1, till December 31. Field study shows that the price paid for utilisation varies from 1.5 to 3 million rupiahs.

In the Suaka Perikanan, fishing activities can be conducted only in the supporting and economic zone. Regulations are set out in writing, and issued by the Village Consultative Institutions (LMD), Lembaga Musyawarah Desa. Fishing in the supporting zone is usually conducted collectively by the villagers only during a certain time, based on customs and village decisions. Meanwhile, fishing in the economic zone can be carried out at any time by utilising fishing gear and fishing techniques not harmful to the environment. Types of fishing gear permitted to be utilised during the opening season include: fish rod, lift net and throwing net.

#### **4.2 Schedule for closed season**

The decision concerning closed seasons is made by religious and custom leaders and then announced through village officials. A closed season means that the villagers are not permitted to fish in the zone until the following opening season. The Lubuk Larangan is closed for at least three months, from December to March. However, villagers do have opportunities to fish during the first seven days of January. The nucleus zone of the Suaka Perikanan is closed all the time. There are restraints on fishing, cultivation, pollution, and removal of vegetative resources within the zone. These curbs apply not only to persons but also to institutions. In the "supporting zone", the first closed season is declared within two years of establishment of the zone. After the first opening season, the closed season depends on agreement among village leaders.

#### **4.3 Proceeds from fishing fees**

The proceeds from fishing fees are used for community improvement projects such as incentives for elementary teachers and building the social infrastructure needed by villagers such as mosques, Islamic schools and community halls. Fish yields are distributed among the villagers for their consumption.

The system for utilisation of fishing fees differs in the Lubuk Larangan. This is fully regulated by the villagers. In the Suaka Perikanan, Regent decrees spell out regulations. For example, 95 per cent of the fee is allocated to the village government, the rest goes to the district government.

#### **4.4 Prohibitions and sanctions**

Restrictions which apply in the Lubuk Larangan and Suaka Perikanan areas are as follows:

- Restrictions on fishing beyond schedule.
- Restrictions on fishing by using prohibited fishing gear and fishing techniques such as poison, explosive materials, and electricity.

In both the Lubuk Larangan and Suaka Perikanan areas, two types of sanctions apply when villagers fish or harvest fish beyond schedule. They are material and moral sanctions. Material sanctions may be in one of the three forms: livestock for daily consumption, rice or money. Common livestock which serve as fine include goats and cows. Rice is also used for

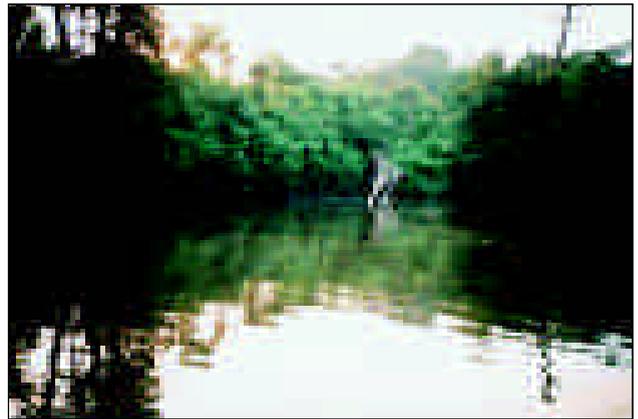
penalties. Further, villagers who catch fish beyond the schedule may be fined various sums of money. For example, external violators may be fined a maximum of Rp. 50 000 while village violators may be fined Rp. 5 000. Moral sanctions include banishment or exile from the community for three months. Moral sanctions are considered by villagers to be more severe as penalties than material sanctions.

*Interviews show that violations are rare, a fact that reflects the commitment of villagers to their religion and to village rules and regulations. There has been just one violation during the past five years.*



*A notice board of Suaka Perikanan 'Danau Mahligai' in the village of Danau Lamo*

*Lubuk Larangan – Danau Teluk in the village of Teluk Kayu Putih*



*A bench mark separates different zones of Suaka Perikanan – 'Danau Mahligai' in the village of Danau Lamo,*

*A gate to Lubuk Larangan area in the village of Teluk Kayu Putih*



*A community leader in the village of Arang-Arang*

*Interview with a head of village – Teluk Kayu Putih*



*Economic zone of Suaka Perikanan ‘Danau Mahligai’,  
in the village of Danau Lamo*



*‘Danau Teluk’, Lubuk Larangan located in the village of  
Teluk Kayu putih*

*Lift nets operated in Suaka Perikanan ‘Danau Mahligai’  
– the village of Danau Lamo*



*Water transportation – access to the site of Lubuk  
Larangan Danau Tekluk – in the village of  
Teluk Kayu Putih*

Several stages are gone through before a penalty is imposed. Any person who witnesses an infringement of the law reports the case to the village headman. The headman invites him to a hearing of the case. A first-time offender gets away with a warning. A second violation leads to a second warning. But a third-time offender is tried at the village court. Most such cases are solved at the sub-village level so that they do not go to the court. If the violation cannot be handled at the village level, the case is reported to the police for further investigation.

Regulations in the Suaka Perikanan areas differ from those at the Lubuk Larangan, especially in the nucleus and supporting zones. Infringement of regulations in the nucleus zone leads to a maximum of 10 years jail or a fine of Rp. 100 000 000 according to Article 24 of the Fisheries Law No 9, 1985. Violations in the supporting zone can be punished on the basis of customary law. In Ngaol village, for instance, a violator is fined a goat and 20 kg of rice.

#### **4.5 Control**

To facilitate control, the Lubuk Larangan and Suaka Perikanan areas are normally bordered and marked with clear signals of territorial boundaries. These boundaries are recognised by the villagers. Lubuk Larangan, for example has natural boundaries such as trees or plantations for borders. But in several villages, the border of Lubuk Larangan is painted with a certain colour.

On the other hand, a Suaka Perikanan area is usually marked with territorial boundaries such as a benchmark and an announcing board. A guardhouse is also provided near the sea. A benchmark (20 cm x 20 cm x 60 cm) is made of concrete and coloured with white paint. It is usually built at the edge of the river, so that it can be seen easily by the villagers. Similarly, an announcing board (2 m x 1.5 m) is also placed at the edge of the river. The announcing board usually describes the Suaka Perikanan and its location and outlines the regulations as well as the penalties for violating them.

One learns from the study that the Lubuk Larangan is generally located far away from the village, while a Suaka Perikanan is located near the public facilities of the village such as mosques and bridges.

### **5. Impact of the Zones on the Villagers**

The Lubuk Larangan and the Suaka Perikanan benefit villagers a great deal. Some of the benefits are as follows:

- Ensuring the sustainability of open-water-fisheries resources. This is done by protecting the resources from irresponsible fishing practices using explosive materials, poisonous chemicals and very small mesh-sized nets.
- Ensuring optimal utilisation of fisheries resources in the open waters by increasing fish production and availability of fish protein for the local population.
- Facilitating the promotion and general awareness of laws and regulations on sustainable fisheries resources management among the villagers.

### **6. A Suaka Perikanan System as Revitalisation of a Lubuk Larangan System**

- A Suaka Perikanan system can be seen as a revitalisation of the Lubuk Larangan area in the Province of Jambi. As a neo-traditional system, the area of Suaka Perikanan as a part of open waters is protected and consists of three zones—nucleus zone, supporting zone, and economic zone (Provincial Fisheries Service Office of Jambi, 1998). Table 2 defines and describes these three zones.

From the standpoint of environmental sustainability, the Suaka Perikanan can play a role in promoting sustainable fisheries resources management. This is due to better management of the area, compared to the *Lubuk Larangan*, as shown in Table 2. Considering the fact that most of the area of Suaka Perikanan is located near villages and public mosques, the area is relatively easier to develop than the *Lubuk Larangan*.

### **7. Conclusions**

Lubuk Larangan and Suaka Perikanan are fully managed by the villagers. Consequently, the sustainability of the area is determined by the villagers themselves through customary institutions and village government. The villagers support the sustainability of fisheries resources in the Lubuk Larangan and Suaka Perikanan areas because of the benefits they derive. The positive impacts on the villagers are that they 1) get opportunities for easy fishing. 2) get an economic fishing area, and 3) get more income opportunities.

Though the government has put in some effort into developing the Suaka Perikanan, there are indications that the villagers find it more difficult to fish certain types of fish. This indicates a decrease in fish population

**Table 2. Nucleus zone, supporting zone and economic zone of the Suaka Perikanan area in Jambi Province**

No	Zone	Definition	Function	Management action
1.	Nucleus zone	A part of <b>Suaka Perikanan</b> area which is permanently protected. In this zone fishing and other activities that pollute or destroy the fish habitat and its ecosystem are permanently restricted.	A place for fish propagation, nursery and growth, and also shelter and feeding.	Any kind of fishing permanently restricted. Navigation is permitted, parking is restricted. Restricted to stocking any species of fish that is not indigenous. Fish is permitted to be fed only with fresh fishmeal. The guard should stay in the guardhouse near the reservation area.
2.	Supporting	A part of <b>Suaka Perikanan</b> area which borders the nucleus zone. Limited fishing is permitted in this zone. This zone can be divided into two types: upstream supporting zone and downstream supporting zone.	Reducing the impact of fishing activity in the economic zone to the nucleus zone. Increase the income earning opportunities of villages.	Fishing with legal gears within the scheduled time. Opening season is carried out within two years following the first closing season. Every two years after the first opening, fishing is conducted interchangeably between upstream area and downstream area.
3.	Economic zone	A part of <b>Suaka Perikanan</b> which is located beyond the supporting zone.	Free fishing area limited to what is permitted by the Indonesian Fisheries Laws No. 9, 1985.	Census for fishing yield. Registering fishermen, gear, type of fish. Water quality control.

Source: Provincial Fisheries Service Office of Jambi (1995 and 1998)

perhaps because of the increase in human population and higher fish exploitation. The decrease in fish population could also be due to excessive fish consumption by the villagers. With fish stocks declining, villagers tend to catch small (prohibited) sizes of fish.

### Bibliography

**Anonymous**, 1993. Buku Pedoman Adat Jambi, Lembaga Adat Propinsi Jambi-Pemerintah Daerah Tingkat I Jambi. Jambi 107 hal. (Guidance Book of the Jambi Custom. Customary Insitution of Province of Jambi), Jambi. p. 107.

**Anonymous**, 1994. Status dan Rencana Pengembangan Budidaya Ikan di Perairan Umum di Propinsi Jambi, Paper No 10, Dalam Prosiding No 2: Pertemuan Teknis Pengendalian Budidaya Ikan, Direktorat Jenderal Perikanan (Jambi 1-2 September 1993). (Planning of Aquaculture Development in Open Waters. In Proceeding No 2: Technical Meeting on Control of Aquaculture. Directorate General of Fisheries, Jakarta p.1).

**Anonymous**, 1995. Laporan Tahunan, Dinas Perikanan, Propinsi Jambi Dinas Perikanan Propinsi Daerah Tingkat I Jambi (Yearly Book of Provincial Fisheries Service Office of Jambi..Provincial Fisheries Service Office of Jambi). Jambi. p. 5.

**Anonymous**, 1995. Pemulihan Populasi Ikan Semah di Batang Merangin, Kabupaten Kerinci, Propinsi Daerah Tingkat I Jambi Dinas Perikanan Propinsi Daerah Tingkat I Jambi (Population Restoration of the Carp *Tor douronensis* in Batang Merangin, Districts of Kerinci, the Province of Jambi. Provincial Fisheries Service Office of Jambi, Jambi.)

**Anonymous**, 1996,. Pemulihan dan pelestarian ikan semah *Tor douronensis* melalui penetapan Suaka perikanan di Kabupaten Sarolangon Bangko, Propinsi Jambi. Dinas Perikanan Propinsi Jambi (Restoration and Preservation of Carp, *Tor douronensis* in the District of Sarolangon Bangko, the Province of Jambi. Provincial Fisheries Service Office of Jambi)

**Borzel, K., Chong K C** Smart Partnerships—the Message from Penang. *Bay of Bengal News*. Vol. II No. 8. Chennai, India, p. 19.