

## LAND USE, *TAMBAK* OWNERSHIP, AND *TAMBAK* CULTIVATION A CASE STUDY OF “SUMBERSARI” IN NORTH CENTRAL JAVA

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### ABSTRACT

*The establishment of the plywood factory in “Sumbersari” has changed the pattern of land use. As in many other north coast villages along the Java Sea, agricultural land can be divided into two major categories, namely tambak (brackishwater ponds used for aquaculture) and sawah (irrigated land used for wet-rice cultivation). Landholders may thus own tambak and/or sawah. Tambak can be further divided into tambak bandeng (milkfish brackishwater pond) and tambak udang bago (giant-tiger shrimp brackishwater pond). Both can be farmed alone or they can be combined, which is locally called tambak campuran (mixed brackishwater pond). Tambak bandeng are sometimes further differentiated from tambak ipukan (fry pond), a smaller type of tambak designed for nursing milkfish fry to fingerlings. Still another type of tambak, which is only a portion of an irrigation stream or canal where landless peasants trap fish and shrimp with a bamboo fence, locally called tambak kali (canal pond).*

**Keywords:** Land use, plywood factory, agriculture, brackishwater pond.

### I. INTRODUCTION

As I have discussed earlier (Kistanto, June 2000), in “Sumbersari” there are three major types of productive work, namely rice farming, fish raising, and factory work. The plywood factory which has been operating since the late 1970s has altered the pattern of employment, in part because the agricultural land previously used for rice fields and brackishwater ponds has been converted to industrial use.

### II. LAND USE

The extent to which the establishment of the plywood factory has changed the pattern of land use and thus affected the occupational structure of the village is clear from the presentation of **Table 1**. Whereas in 1979, a third of the 1,000 ha of productive land were used for rice fields (*sawah*) and the remainder for brackishwater ponds (*tambak*), by 1991 more than 10% of the most productive land in the village had been taken over by the factory. The area under *sawah* had remained approximately the same, but the area of *tambak* had decreased by 60 ha, despite the highly profitable nature of this form of fishing.

Table 1. Land Use in Summersari, 1979-1991 Area: 1,435.095 ha [14 Km2 +]

	Sawah* [ha]	Tambak* [ha]	Industry** [ha]	Settlements/y ards, etc. [ha]	Canals, Streets, etc. [ha]	T o t a l [ha]
1979	330.882	651.731	n.a.	n.a.	n.a.	982.613
1981-83	330.882	631.425	31.085	n.a.	n.a.	993.392
1984-86	330.882	609.140	58.450	n.a.	n.a.	998.472
1987	328.752	598.362	60.450	n.a.	n.a.	987.564
1988	328.752	598.235	80.635	n.a.	n.a.	1007.622
1989	328.752□ [22.9%]	598.235□ [41.6%]	80.635□ [5.6%]	111.595□ [7.7%]	315.879□ [22.0%]	1435.095 [100.0%]
1990	328.752□ [22.9%]	598.235□ [41.6%]	80.635□ [5.6%]	123.684□ [8.6%]	303.789□ [21.2%]	1435.095 □ [100.0%]
1991	318.234□ [22.1%]	591.938□ [41.2%]	118.342□[8.2%] ]**	102.992□ [7.1%]	303.589 [21.2%]	1435.095 [100.0%]

Sources: *Monografi Desa* [Village Monographs], 1979-1992.

Notes:

- \*) 28.3 ha, or about 2 per cent of the total, of *sawah* is *tanah bengkok*, that is official property for the Lurah and his staff, in replacement of their wages. 18.2 ha *tambak*, 2.8 ha *sawah*, and 0.125 ha dry land [21.2 ha, or 1.5 per cent of the total] are *bondo desa*, or village property.
- \*\*\*) Originally rice fields and brackishwater ponds, purchased from the farmers, plus filled seashore and waste or unproductive coastal land.

In Summersari, as in many other north coast villages along the Java Sea, agricultural land can be divided into two major categories: *tambak* (brackishwater ponds used for aquaculture) and *sawah* (irrigated land used for wet-rice cultivation). In the *sawah* of Summersari mainly wet-rice is grown. *Palawija*, crops other than rice, such as shallots (*brambang*), cucumber (*timun*), long beans (*kacang panjang*), bittergood (*gambas*), sweet potato (*tela/ubi jalar*) and corn (*jagung*) are grown either on dry *sawah* or on semi-irrigated fields called *tegalan*.

*Tambak* can be further divided into *tambak bandeng* (milkfish *tambak*) and *tambak udang bago* (giant-tiger shrimp *tambak*). Both can be farmed alone or they can be combined, which is locally called *tambak campuran* (mixed brackishwater pond), in a polyculture

system. *Tambak bandeng* are sometimes further differentiated from *tambak ipukan* (fry pond) which is a smaller type of *tambak* designed for nursing milkfish fry to fingerlings. A still further type of *tambak* is actually not really *tambak* in a physical sense, since it is only a portion of an irrigation stream or canal where landless peasants trap fish and shrimp with a bamboo fence; this the people of Summersari call *tambak kali*, or canal pond.

Landholders in Summersari may thus own *tambak* and/or *sawah*. Both *tambak* and *sawah* can be let out to tenants or sharecropped, and both can be worked by harvesters and other categories of landless farm labourers. The products of both types of land are intended for sale, so that both activities involve traders, brokers and agents.

By the end of 1991 and early 1992, due to the extension of the factory, by building particle board industry, the industrial complex has been enlarged to 128.6 ha [or 8.9% of the total] - from the purchase of more than 10 ha of rice fields and brackishwater ponds - thus, making another decrease of the portion of agricultural land.

### III. TAMBAK OWNERSHIP

In December 1991, the Regency Level Office of the Department of Fisheries listed 260 *tambak* landholders controlling 533.6 ha of *tambak* in Summersari, of which 506.6 ha were classified productive and 27 ha less productive. On the other hand, the village statistics (*Monografi Desa*) claimed that

there were 598.2 ha of *tambak* in 1988-90 and 591.9 ha in 1991-92. About 580 ha in 1988, 1989 and 1990 (573 ha in 1991-92) as described as occupied by the people of Summersari, and 18.2 ha was held as village *tambak* property land (*banda desa*), administered by the village staff and rented out by auction.

Similar discrepancies arise with respect to land ownership. **Table 2**, which is based on the Department of Fisheries list, divides *tambak* owners into six categories. This suggests a very equal distribution of *tambak* ownership. Nearly 85% of the owners hold between one and 2.4 ha, with less than 7% owning more than 3.6 ha. Conversely, only three persons owned less than one ha. Another interesting aspect of these statistics is that nearly a third of the *tambak* are owned by women.

Table 2. *Tambak* Holders in Summersari 1990-1991

<i>Tambak</i> Size	Male	Female	T o t a l	%
6.1 to 10.3 ha	2	-	2	0.8
3.6 to 6.0 ha	13	2	15	5.8
2.5 to 3.5 ha	17	8	25	9.6
2.0 to 2.4 ha	79	37	116	44.6
1.0 to 1.9 ha	68	31	99	38.0
0.7 to 0.9 ha	2	1	3	1.2
T o t a l	181	79	260	100.0

Source: The Department of Fisheries, Regency Level Office 1990/1991

However, a more microscopic examination indicates that an analysis of land ownership which relied only on the official list presented by the Department of Fisheries and the Directorate General of Tax would be invalid. Through a close examination of the statistical data and intensive interviews with the village authorities and *petani* (farmers) in Banyubiru, the use of other names to

register agricultural land - especially by persons holding large areas - became apparent. Names used to register agricultural plots might include the real owner's relatives (most notably close relatives such as sons and daughters) as well as trusted servants/assistants or workers. This situation might indicate an awareness of the existence of the Indonesian UUPA [*Undang Undang*

*Pokok Agraria*/Basic Agrarian Law] which regulates agricultural land ownership and control and makes it illegal for one household head to hold more than five hectares of *sawah*.

Such errors operated in both directions. Even though land is highly valued in Summersari, certain landholders, especially large landholders, feel *rikuh* (uneasy) to be seen holding too much land since this might either indicate *keserakahan* (greed) or violate the law. Moreover, some peasants tended to hide the actual size of their land from a stranger, especially one who looked like a "formal" agent (*orang dinas*) - regardless of whether they had a duty to pay land tax. Such persons tended to conceal their wealth.

Conversely, I found persons, usually those with small holdings, who would like to be viewed as having more land than they actually held. For instance, one person was listed as holding 1.6 ha of *tambak*, but when interviewed claimed to occupy 2 ha or even more. It is possible that he would not realize the actual size of his land.

Nevertheless it is clear that the statistics in **Table 2** conceal a considerable degree of land concentration. My intensive interviews with one village authority in subvillage "Banyubiru" (a part of "Sumbersari"), for example, revealed that agricultural lands held under the names of 21 separate holders and comprising over 14 ha of *sawah* and 43.3 ha of *tambak* were in fact controlled by the family of the Village headman. A further 5 ha of *sawah* and 22.5 ha of *tambak* registered under 14 persons were owned by his brother-in-law's family. In addition, this brother-in-law's daughter-in-law, who was originally from the village but is now a general practitioner in the regional town, held 3 ha of *sawah* and 13 ha of *tambak*. Her elder brother has almost 5 ha of *tambak* registered in three names. These four

households alone control 83.8 ha, or 14%, of the *tambak* in Summersari.

Readers familiar with ethnographic fieldwork will appreciate that the summary paragraph above required many hours of laborious work and is possibly still incomplete. A completely accurate account of landholdings is thus not a realistic aim. But the fact that four households control 14% of the *tambak* in Summersari, leaving 86% to be distributed among 256 households, indicates both that *tambak* is not relatively equally distributed, and explains why there were few holdings of less than a hectare. As numerous studies of Javanese agriculture have demonstrated (for example Husken, 1984; Alihar, 1985; Hardjono, 1987; Hart, 1986; Naylor, 1989) the claim that landholdings are equally distributed is a misleading conclusion based on inadequate statistics.

For the people of Summersari, and more specifically of subvillage Banyubiru, *tambak* constitutes the predominant economic activity and *sawah* is a less significant source of income. But as in the rice farming villages described in many previous studies of Java, the *tambak* economy in Summersari is stratified with respect to land control, cultivation methods, occupational patterns, income, living cost and, thus, living conditions (see also Evers, 1988: xii). This situation reflects the highly stratified and persisting division of livelihood and occupation among a group, the *petani*, which is too often viewed as a distinct and homogeneous social category.

#### IV. TYPES OF *TAMBAK* CULTIVATION

Sumbersari provides good conditions for *tambak* cultivation since its soil is composed of silty loam and muddy

beach sand, situated at a height of 1 to 4 metres above sea level, with a constant water temperature of around 30C. These natural conditions enable the natural diet of milkfish such as filamentous algae, blue-green benthic algae and diatoms, to grow easily (see also Ling, 1977: 46-47).

A structural diagram of *tambak* cultivation is presented in **Figure 1**. *Tambak* cultivation in Summersari can be divided into three main types: (1) *tambak bandeng* (milkfish cultivation) and (2) *tambak udang bago* (giant-tiger shrimp cultivation), both using a monoculture system; and (3) *tambak campuran*, which cultivates both milkfish and giant-tiger shrimp in one *tambak* unit, using a polyculture system.

*Tambak ipukan* (small fry pond) can be grouped with *tambak bandeng* since its function is to raise *nener* (milkfish fry) to *glondong* (fingerling) stage. All of these *tambak* are cultivated for commercial purposes. *Tambak kali* (canal pond), which is not really *tambak*, is not discussed here.

*Tambak udang bago* which is designed for giant-tiger shrimp cultivation can be divided into four methods: traditional, traditional plus, semi-intensive, and intensive; only the intensive method is not used in Summersari. The cultivation of *bandeng* and *udang bago* in one *tambak* compartment, using a polyculture system with traditional or traditional plus method, is called *tambak campuran*.

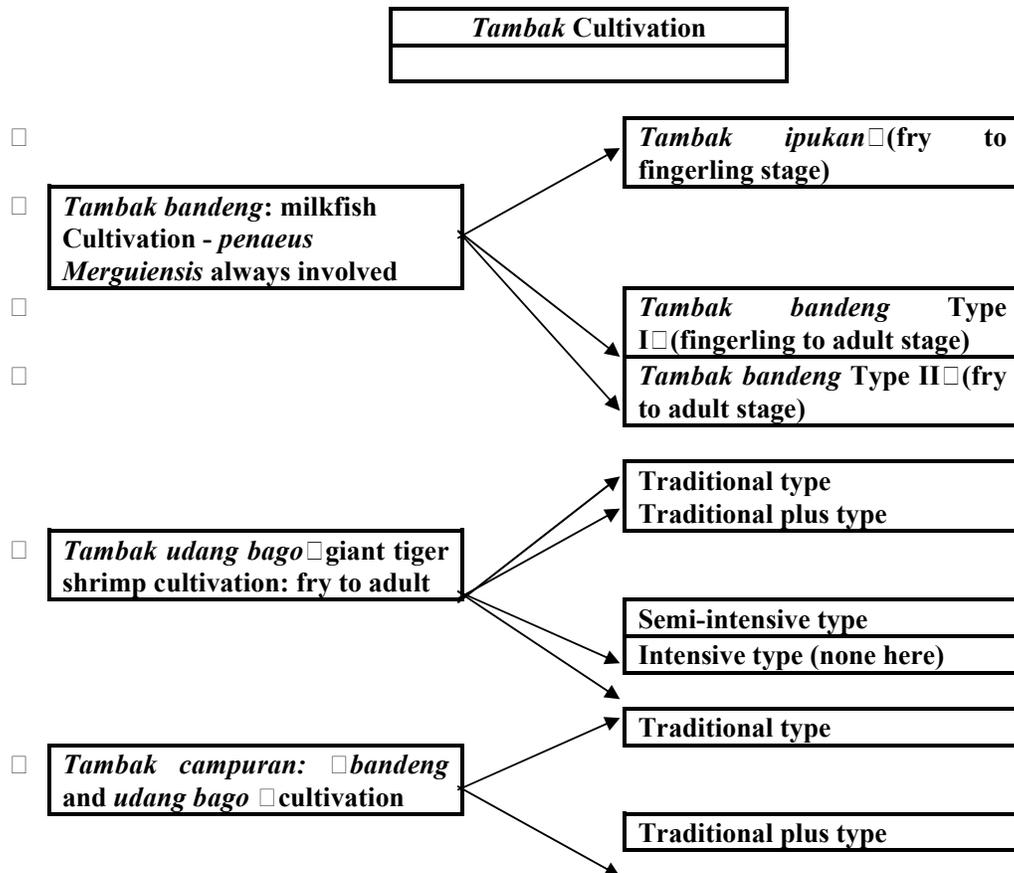


Figure 1

## V. CONCLUSION

From this study, a conclusion can be drawn as the following:

- (1). More than 10% of the most productive land in the village had been taken over by the factory; the area used for *sawah* cultivation had remained approximately the same, but the area of *tambak* had decreased substantially. Furthermore, there is a considerable degree of land concentration in a village elite family.
- (2). *Tambak* cultivation can be divided into several types as *tambak bandeng* (milkfish brackishwater pond) and *tambak udang bago* (giant-tiger shrimp brackishwater pond), as well as *tambak campuran* (mixed brackishwater pond).
- (3). For the people of "Sumbersari" *tambak* constitutes the predominant economic activity and *sawah* is a less significant source of income.

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