

EXPENSES AND YIELDS IN MILKFISH BRACKISHWATER POND CULTIVATION A Descriptive Account of Tambak Cultivators and their Households in “Sumbersari”

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ABSTRACT

Methods of milkfish brackishwater pond cultivation consist of fry pond (for fry to fingerling rearing), milkfish brackishwater pond type 1 (designed for the cultivation of milkfish fingerlings to adult size) and milkfish brackishwater pond type 2 (for the cultivation of fry to adult or marketable size milkfish). Milkfish brackishwater pond cultivation is profitable, especially when the cultivation unit is larger. This account of milkfish brackishwater pond cultivators describes the details of expenses and yields of cultivating milkfish brackishwater pond as practiced by 4 (four) cultivators in “Sumbersari,” a coastal village in north Central Java.

Key words: milkfish brackishwater pond, tambak, pond cultivators, coastal area, north Central Java.

INTRODUCTION

As I summed up earlier (Kistanto, June 2001), milkfish brackishwater pond cultivation could be profitable, especially when the pond unit is larger. It can almost be concluded that the larger the unit, the more profitable the business. In the previous article I also emphasized that, milkfish brackishwater pond (tambak bandeng) in Sumbersari are commonly divided into milkfish brackishwater pond type 1 (for the cultivation of milkfish fingerlings to adult size) and milkfish brackishwater pond type 2 (for the cultivation of milkfish fry to adult size). A more recent phenomenon, as I observed in Sumbersari, is giant tiger shrimp brackishwater pond (tambak udang bago)

and mixed brackishwater pond (tambak campuran) – which is designed for mixed cultivation of milkfish and giant-tiger shrimp. The idea of cultivating giant-tiger shrimp in the milkfish brackishwater pond by using mix (campuran) method appears to generate considerable additional income for those who practiced it.

Whatsoever, descriptive account of milkfish brackishwater pond cultivators and their households, especially in north Central Java coastal areas, has not been worked out. This article is an attempt to describe a number of samples concerning the business of milkfish cultivation as practiced by local tambak cultivators. Four cultivators have been observed and interviewed in the field in 1992, as the following.

Supaat: 5 Ha

Supaat was thirty years old and originally from another village, but he married a local woman and they had an eight year old son. He operated his wife's tambak of five hectares inherited from her father. One early morning in the fasting (ramadhan) month, when the weather was clean and fresh, since 05.30 Supaat had been squatting near the tambak sluice waiting for shrimp to become trapped in the posong (bamboo fish trap); occasionally he lifted the posong from the sluice and poured the shrimp into a plastic container. At 07.30 Supaat walked home, weighed the shrimp and sold them to a fish agent (bakul iwak) for cash. When I asked him about the shrimp catch, Supaat said.

"Not much. It was only 4 kilograms. Yesterday I caught 4 kilograms and the day before yesterday 3.5 kilograms. I hope tomorrow I'll carry five or six kilograms of them home. These were small shrimp."

"Why small?"

"Between March and April, daily shrimps (urang harian) are small in both amount and size. Besides, I just transferred glondong (fingerling) from the nursery pond into rearing pond a week ago – so there are not many shrimps."

"How much is the price of shrimp now?"

"Rp. 2,000 per kilo at the most."

"So you earn Rp. 8,000 from urang harian each day."

"Not always. Sometimes I only catch three kilograms or two. Once in a while nothing – if so, I rest from trapping for one week or two in order to make big catch (kagetan). In addition, the price of daily shrimp fluctuates from Rp. 1,000 to Rp. 5,000 per kilo."

"Can you identify the characteristics of urang harian in relation to the seasons?"

"Roughly between December and February urang harian are small in size but

large in quantity and the price is cheap – about Rp. 1,000 to Rp. 1,500 per kilo. March to May, like now, they are small in both quantity and size, and the price is medium, and the price is somewhat higher, Rp. 2,000 to Rp. 3,000."

"But, remember," he continued, "these are only general characteristics; nothing is certain for farmers, all depends on the generosity of nature, all from Allah subhanahu wa ta'ala (praise be unto Thee the Almighty), who protects the nature."

What about the milkfish Supaat cultivated? At the end of October 1990, for instance, Supaat bought 5,000 nener (milkfish fry) at Rp. 60 each – thus Rp. 300,000 for all and put them in the nursery unit of his regular tambak. At the end of November, when these fry had become approximately 4,000 glondong (fingerlings) (80% survival), he opened the small dyke of the nursery unit to let these fingerlings spread over the larger unit. Eleven weeks later, Supaat harvested one tonne of milkfish ready for market. He sold this to a large-scale agent in the provincial city market (about 30 kilometers from the village) for Rp. 2,000,000. He calculated his expenses for cultivation as follows.

The purchase of fry for one crop,
Rp. 300,000

5 harvesters (hand-casting net men) x Rp. 6,000 = Rp. 30,000

3 tukang pikul carrying 15 pikul (baskets) of milkfish from the tambak area to the street side (15 x Rp. 2,000) = Rp. 30,000;
transport from the village to fish market, Rp. 13,000

unloading milkfish from the vehicle to the market, Rp. 3,000

3 quintals of fertilizer x Rp. 20,000 = Rp. 60,000 (for the next cultivation)

Moreover, before the tambak was stocked, he had to clear it of trash fish, pests and predators which would cost him Rp. 300,000. Once in 6 seasons he had to replace the sluice and the bamboo blinds of the water gate which might cost him Rp. 150,000, or Rp. 25,000 for each

crop/season. For eight weeks, or 40 labor days, during the operation, he had to hire workers to deepen the moat (the deeper part of the tambak along the dykes) and raise the dyke which cost him Rp. 2,500 per day or a total of Rp. 100,000: this work includes removing the mud with a scoop made of tin-plated metal sheet and placing it along the dykes. All in all the total costs for one stocking of milkfish were about Rp. 861,000.

So, without calculating the costs of his own labor and the return from trash fish, Supaat obtained a net profit of Rp. 1,139,000 from the milkfish and about Rp. 1,000,000 from the daily shrimp, or a total of Rp. 2,139,000 (more than US\$ 1,000 in 1992), in one crop of four months, but twice a year. Supaat was able to save his income from the tambak since the tambak was five hectares in extent and his household merely consisted of his wife and one eight year old son.

"I saved my money from tambak yield in the form of gold. From the last harvest I bought 60 grams of gold at the price of Rp. 22,500 per gram – so Rp. 1,350,000 in total. Now it is kept by my wife," Supaat honestly admitted.

In my eyes, Supaat was a diligent and pious peasant attempting to moderate his life as values changed in the village. Even he owned a late model of "Honda Astrea" motor cycle, he only went out when necessary, such as to buy agricultural requirements in town. A mushalla (prayer house) was built next to his wife's inherited house where he lived with the family. The house walls were made of teak wood and the floor was covered with tiles – only a portion at the rear, where he spent most of his spare time, remained dirt. He woke up about four before the adzan (call for prayer) echoed from the prayer house and immediately went out to the subuh (early morning) prayer in the prayer house – and also with the maghrib (evening) prayer. He even led prayer services in turns with two others and

several times I saw him taking active parts in the religious discussions held in the big mosque. At an evening workshop on giant-tiger shrimp cultivation, held in village hall, sponsored by a big shrimp feed company, at which several giant-tiger shrimp experts from the city gave technical speeches after the Lurah (Village head) presented expertly introductory address, Supaat participated with other curious tambak cultivators. At the moment, the Village head was the only successful giant-tiger shrimp cultivator in the village.

He repeatedly asked me whether I would still address (nyapa) him if I met him in the city, because, in his view, important men like me, and townspeople as well, very rarely liked to socialize (bergaul) with peasants and small people like him. According to him, townspeople addressed and socialized with villagers only when they were in need of something of the villagers (and I kept telling him that I was not of that kind). Once when I bought a kilogram of fresh daily shrimp caught in his tambak, he refused the payment; but he looked very happy when I invited him to my rent-house to watch a slide presentation of natural scenery from the USA.

Sutopo and His Wife: 3.5 Ha

Sutopo, 35 years old, was originally from another regency and in his teen-age years migrated to Summersari seeking casual agricultural work. He married a local woman, now 33 years old, and they produced 5 (five) children – two of whom died. He was active in cultivation, renting both 3.5 hectares of tambak (Rp. 1,500,000 per year/2 crops) and 0.8 ha of sawah (wet rice field) (Rp. 800,000 per year/2 crops), but his wife managed both household and agricultural finances. Nyonya (Mrs.) Sutopo only occasionally visited the tambak and sawah and I interviewed her several times while Sutopo was busy with his agricultural activities. Only once in a

while, when Sutopo took a break, I talked with him.

In his neighborhood, as a reward for being loyal to the village headman, Sutopo became one of the eight Rukun Tetangga/RT (Neighborhood Association) chiefs and was able to participate actively in the Lurah's giant-tiger shrimp cultivation. His other income came from his side job as a casual supplier of building materials. During my contact with the Sutopo family, their house was being renovated from one with a moderate timber wall and dirt floor, to a new house with teak framework, brick wall and tile floor. One "Honda Astrea" motor cycle, a color TV, a radio and tape-recorder, and two bicycles were available. To renovate the house Mrs. Sutopo converted her savings from three crops/seasons of milkfish in the form of gold into Rp. 6,000,000 (US\$ 2,000) cash. While the floor tiles and other materials such as nails and boards were not yet included, she had already spent Rp. 5,260,000 for 2 cubic metres of teak blocks (Rp. 1,600,000); 12,000 brick blocks (Rp. 360,000); 150 sacks of cement (Rp. 650,000); steel bars (Rp. 700,000); 3 trucks of sand (Rp. 450,000); 6 to 10 brick layers and carpenters [Rp. 4,000 + lunch + dinner per day/per person, for 4 months] to the sum of Rp. 1,500,000.

Since he had been involved in the Lurah's giant-tiger shrimp cultivation, as one of his employees, Sutopo entered the Lurah's tambak business circle. This had influenced his behavior in cultivating his tambak, despite the fact that he was a smaller scale tambak cultivator, and of the 3.5 ha of tambak which he operated, 0.5 ha was cultivated with giant-tiger shrimp. He adopted traditional methods, using no other additional feed than the one provided by the nature in the form of what was in Summersari variously termed *klekap* or *gedhoh* (blue-green algae; algal mat). Raising 20,000 giant-tiger shrimp fry – at the total price of Rp. 200,000 – in his 0.5

ha unit of tambak in early 1991, he could earn up to Rp. 600,000 for one crop in less than four months.

His 3 ha milkfish pond, besides providing daily shrimp of Rp. 3,000 to Rp. 6,000 or a total of about Rp. 600,000 in three months, yielded 9 quintals of adult milkfish worth Rp. 2,250,000. As in other traditional methods of cultivation, he did not give his milkfish additional feed. However, he had other costs such as labor for water pumping (2 persons/24 hours) Rp. 25,000; "Urea" fertilizer (3 quintals x Rp. 20,000 =) Rp. 60,000 and "TS" fertilizer (2 quintals x Rp. 25,000 =) Rp. 50,000 – both for cleaning the tambak; labor for excavating the moat and raising the dyke (Rp. 2,500 x 60 days =) Rp. 150,000; and 3,500 fingerlings x Rp. 125 = Rp. 437,500 – which totaled Rp. 722,500. So, without mentioning the return from the trash fish, he made a profit from his milkfish yield of (Rp. 2,250,000 minus Rp. 722,500 =) Rp. 1,527,500. Sutopo had already paid his tambak rent which was Rp. 1,500,000 per year, but this would further reduce his profit.

It is worth mentioning, that milkfish cultivators treated shrimp as the appropriate source of income to meet their daily needs. Thus they treated their seasonal income from milkfish sales as additional income for other purposes of life such as renovating houses, investing in other businesses, purchasing vehicles or electronic equipment, and recreation. Rarely, however, did they use it as finance to make their tambak cultivation methods more intensive. As a matter of fact, lack of proper financial management among them obviously had deleterious consequences, such as renting out their tambak at a cheap price when they were in desperate need of immediate cash, and even falling into debt. This did not happen to Sutopo who, in my eyes, was a hard, diligent worker, willing to improve his household quality and, one of the most important aspects, whose wife was a capable and foresighted manager.

Ambari: 2 Ha + 2 Ha

Ambari, 40 years old, was a native of Banyubiru, a subvillage (dukuh) in Summersari where the field work was carried out. He married a local woman, now 30 years old, of the same subvillage. He inherited 2 hectares of tambak after his father died and rented 2 hectares of tambak which was adjacent to his own so that he could connect them into one operation. His household consisted of himself and his wife, with their 3.5 years old son and a one-month-old baby daughter. His brother, 28 years old, a private university student in another region (Yogyakarta) – financed by his mother who lived in a separate house – when in Banyubiru lived with Ambari.

In his tambak, Ambari mixed the cultivation of milkfish with giant-tiger shrimp, adopting traditional method. In early December 1990 he put 4,000 fingerlings (glondong) – at a total price of Rp. 520,000 – into his tambak. On the second week of March 1991, he harvested his 10 quintals (1 tonne) of adult milkfish and sold them at the price of Rp. 2,000,000. At the same time he sold his “Honda Prima 1989” motor-cycle – which he bought a year before for Rp. 2,350,000 – for Rp. 2,250,000 and bought a new “Honda Prima 1990” for Rp. 2,600,000. Among successful tambak cultivators updating their motor vehicle or purchasing new electronic equipment such as tape-recorder or television set, has been an increasing phenomenon in the late 1980s and early 1990s. However, these cultivators, who were aware of the problems of continuing in their livelihood, also saved their money for the next operation.

On the 28th of May 1991, Ambari bought 20,000 giant-tiger shrimp fry for a total price of Rp. 200,000 – and put them into a 0.20 ha portion of his tambak. After three months, he began to catch his giant-tiger shrimp, using a hand-casting net once a week. The catch varied from 5 to 10

kilograms, with an approximate average of 7.5 kilograms per week, over three months. From this he earned Rp. 225,000 per month, or an approximate total of Rp. 765,000. Besides, he still received Rp. 2,500 to Rp. 15,000 per day from his catch of shrimp, or an approximate total of Rp. 900,000 in one crop. Concerning this he remarked,

“I go to the tambak area to fetch the trapped shrimp at 05.30 to 07.30 in the morning. Today I caught 1.5 kilogram of daily shrimp and I sold them to an itinerant shrimp trader who was in the tambak area for Rp. 3,750. A week ago, I caught three kilograms of daily shrimp and sold them for Rp. 7,500.

“The income from daily shrimp is not certain, but can be estimated at one to five kilograms per day. If you pause the catch for a number of weeks, two months at the longest, you may catch between 10 to 50 kilograms,” he continued.

“Did you visit your tambak everyday?” I started again.

“Almost every day. In the morning from 5.30 to 7.30 I catch and sell daily shrimp; at 9 to 11.30 I give instruction to tambak labor. In the afternoon, at 4 to 5, sometimes 5.30, I check the sluice and the tambak gate and then put a lantern above the trap on the sluice in order to attract the shrimp to gather in the sluice and enter the trap which I check in the following morning.”

When the tambak was cleared up, he would get further income from the remaining giant-tiger shrimp and the trash fish (ruchah), about Rp. 200,000. As he mentioned, he had already paid in advance the annual rent of Rp. 1,200,000 for the 2 ha of tambak (in 1991-92). The rent had increased by about 10% per year since he first rented it for Rp. 700,000 in 1987. Without giving details, Ambari mentioned that he spent about Rp. 700,000 for labor, maintenance, fertilizer, and other costs of his tambak, in one crop.

Imronah: 1.5 Ha

Imronah, a 31 years old widow with three school age daughters, also gained additional income by cultivating giant-tiger shrimp in her tambak using traditional method. She inherited and continued the operation of 1.5 ha of tambak after her late husband – who had another job as ojek (motor-cycle taxi) driver – died in a motor-cycle accident in October 1990.

In early January 1991, Imronah put 1,000 milkfish fingerling at a total price of Rp. 100,000 into her tambak and on the 28th of April 1991, her milkfish uncounted and still in the pond were purchased (ditebas) by a penebas (buyer) at the price of Rp. 600,000. While the milkfish were still in the tambak, she added 5,000 giant-tiger shrimp fry – at a total price of (5,000 x Rp. 11 =) Rp. 55,000 – to a portion of her tambak compartment. After four months, she hired labor to catch the giant-tiger shrimp once every two to four weeks. During the four month catching period she got three catches (13 Kg, Rp. 125,000; 5 Kg, Rp. 70,000; and 2.5 Kg, Rp. 35,000) for a total of Rp. 230,000 from an investment of only Rp. 55,000. From daily shrimp she earned Rp. 2,500 to Rp. 3,000 per day, or about Rp. 200,000 in one crop. Moreover, without making a detailed calculation of labor and other costs, she claimed to have spent as little as Rp. 55,000 in caring for her tambak in one crop. Since the yield of the milkfish was contracted (ditebaske) she did not get a return from the trash fish which went to the contractor (penebas). All in all, for one crop of her tambak, she made an appropriate profit of (Rp. 1,030,000 – Rp. 210,000 =) Rp. 820,000.

CONCLUSION

As I frequently mentioned, cultivating milkfish in brackishwater pond could be profitable, even though using traditional method, especially when the pond unit is larger. As the samples which I described show, Supaat who owned and managed 5 hectares of tambak could make a total net profit of Rp. 2,139,000 (over US\$ 1,000 in 1992) in one crop/season of four months which came from milkfish and daily shrimp; Sutopo, who rented and employed 3.5 ha of tambak could make a net profit up to Rp. 1,527,500 without mentioning additional yield from the trash fish.

At the same time, Ambari who owned 2 ha and rented another 2 ha of tambak could make a return of over Rp. 1,800,000 from milkfish, daily shrimp, tiger shrimp and trash fish; even Imronah, who inherited and operated only 1.5 ha of tambak still made a net income of about Rp. 820,000 in one crop of 3-4 months.

It is quite clear, then, that using local economic standard these cultivators may belong to a new middle class in small and middle range agricultural business in the coastal village. They seem to be better-off, especially when their tambak units are larger and the nature remains generous, since agricultural operation really depends on the generosity of nature.***

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