

SUBSISTENCE FISHERMEN'S LIFE STRATEGIES

— Case study in several villages in Papua New Guinea —

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Introduction

In the early stages of development, fishing with simple gear was pursued by man to provide food for his own daily needs and those of his family or community. Today this would be a form of subsistence fishery. At some point in time, the bartering of fish with other commodities was initiated. In this case, it became desirable to catch more especially when it was found that fish could be preserved and stored by drying, smoking and salting. This is conjectured to be the historical replacement of subsistence fisheries with artisanal commercial fisheries (von BRANDT, 1984). Together with increasing demand and advanced technology, fishing has been expanded. Extensive trading of fish has become increasingly important and, consequently, has provoked the development of large-scale commercial fisheries characterized by bulk fishing.

In Papua New Guinea, despite of the existence of both large-scale commercial and subsistence fisheries, artisanal commercial fisheries are peripheral (MATSUOKA, 1991a). Villagers' nutrients depend on primary production, both farming in nearby gardens and fishing with a canoe in adjacent waters. The extremely traditional life style may be primarily attributed to their life strategy, that is, the execution of a long-term mode of life and options for daily activities. The objectives of this study are: to clarify the life strategy of the subsistence fishermen in Papua New Guinea, and to study their responses to newly-introduced materials and technology in rural fishing communities. From this kind of study, a comprehensive methodology for technical transfer in coastal fisheries development is obtainable.

1. Survey Method

On the basis of the geographical characteristics and fishing activities, for our surveys in the Lae and Wewak areas, five and seven villages were chosen respectively (Figs. 1 and 2). One to three sites were visited per day for interviews with subsistence fishermen and their spouses. Information of their fishing gear, fishing methods, fishing crafts, catch species, smoking method, garden crops, and markets was recorded. Reef waters adjacent to sites in the two areas were also observed by using a water glass aboard a canoe or by snorkeling.

2. General Features of Village Life

The observed fishing gear and methods are summarized in Table 1 and garden products, in Table 2. From an economic point of view, Shipfire is characterized differently from the other villages. There are employment opportunities in the nearby town in Lae and, consequently, both farming and fishing are marginal in this village. Shipfire is, therefore, assessed as a satellite of Lae city.

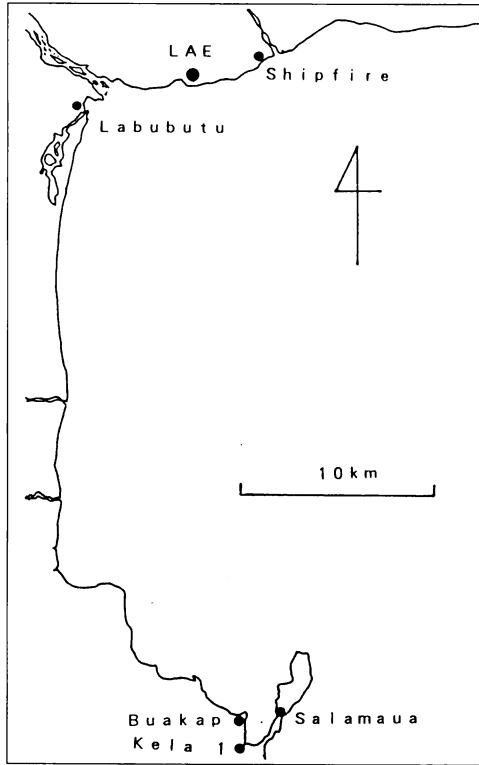


Fig 1. Map showing the survey sites in the Lae area.

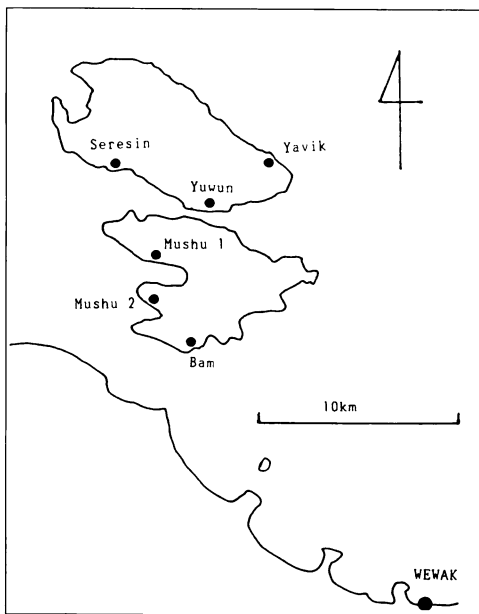


Fig 2. Map showing the survey sites in Wewak area.

Table 1. List of observed fishing gear

	line	spear	beach seine	gill net	scoop net	dynamite	bow & arrow	underwater spear-gun	poisoning	diving
LAE area										
Salamaua	+	+		+	+					
Buakap	+	+	+	+	+					
Shipfire	+			+	+					
Kele 1	+			+	+	+			+	
Labubutu	+	+		+	+					+
WEWAK area										
Mushu 1	+	+			+	+		+	+	+
Mushu 2	+	+				+		+	+	+
Bam	+	+		+	+					+
Yavik	+	+			+					+
Yuwun	+	+		+	+		+			+
Seresin	+	+		+						+

Table 2. List of observed garden products

	bean	banana	yam	taro	sweet-potato	sugar-cane	corn	sago	cassava	water-melon	cucumber	pine-apple	papaya	pump-kin
LAE area														
Salamaua		+	+	+	+	+		+	+	+			+	
WEWAK area														
Mushu 1	+	+	+	+	+	+	+		+	+	+	+	+	+
Mushu 2	+	+	+	+	+	+	+			+	+	+	+	+
Bam	+	+	+	+	+	+	+			+		+	+	+
Yavik	+	+	+	+	+	+	+	+				+	+	+
Yuwun	+	+	+	+	+	+	+	+		+		+	+	
Seresin	+	+	+	+	+	+	+	+		+	+	+	+	+

In the other villages surveyed, a traditional mode of life has been extensively maintained. Their livelihood depends primarily on farming and canoe fishing in coastal waters. A house, garden and canoe are essential assets for a young man to be recognized in his community as matured. Many of the canoes are equipped with an outboard motor and are used for fishing as well as miscellaneous transportation.

3. Process and Factor Involved in Life Strategy

Farming is the prime activity and, therefore, geographical features of gardens seem to rule a villager's mode of life. A steep and remote garden is a disadvantage which requires physically hard and time-consuming work. Villagers who have such gardens prefer fishing to farming. They are referred to as fishing-oriented, however, their gardens are maintained. On the other hand, farming-oriented people have flat and relatively large gardens in the vicinity of their villages. To them, fishing is regarded as hard work compared to farming (Fig. 3) and extremely marginal.

The options in daily activities seem more complicated. The major factors are the needs of fish for self-consumption and/or to earn cash (Fig. 4). Both in farming- and fishing-oriented villages, people go fishing when they feel like eating fish. The excess catch is shared with relatives and friends or smoked for preservation or marketing. Fish are more easily converted to cash than garden products. Intensive fishing is conducted when they need cash for specific purposes such as school fees, *singsing* (festival), shopping and bank loan payment.

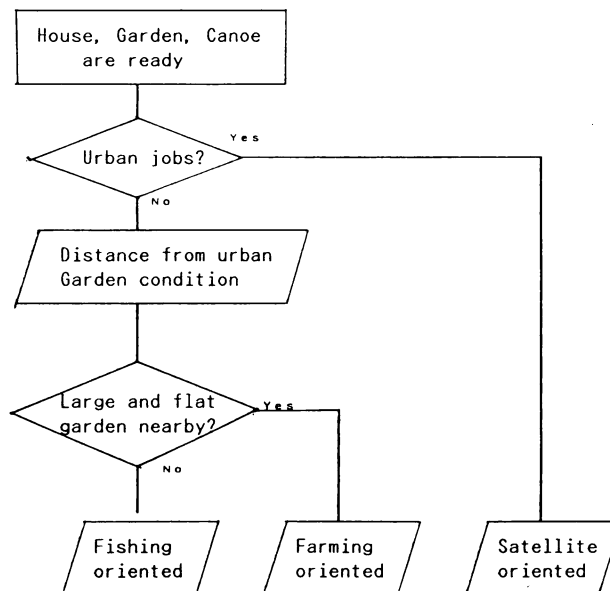


Fig 3. Flowchart showing process and drives in long term life strategy.

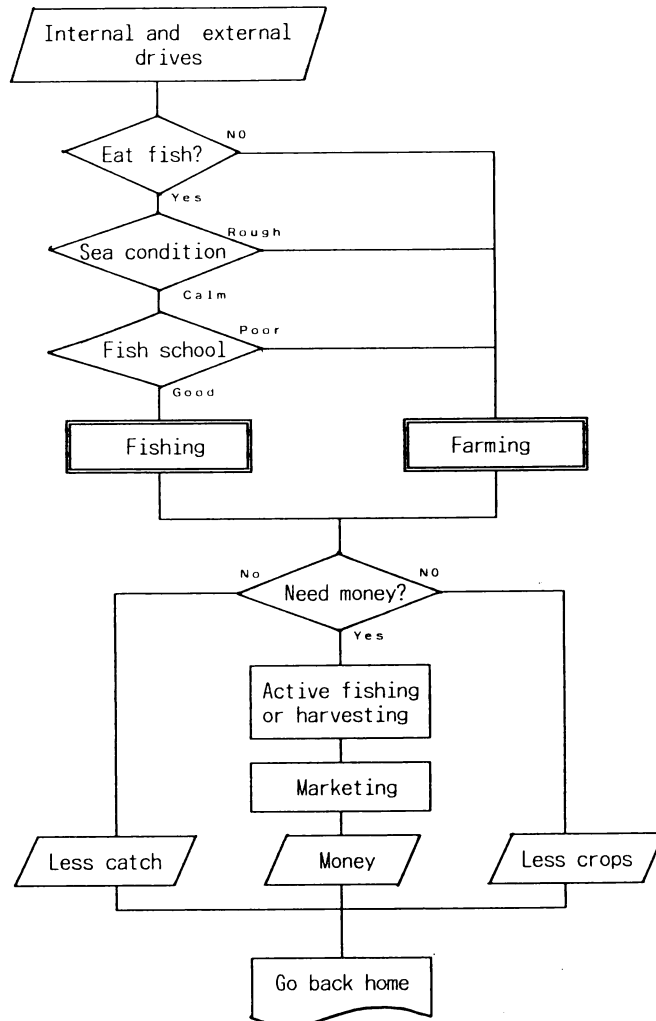


Fig 4. Flowchart showing process and drives involved in a daily action strategy.

4. Response to Newly-Introduced Technology

Traditional materials for fishing lines have been replaced with modern ones. Metal hooks and nylon monofilament lines were observed in all the surveyed villages. Poorly-maintained gillnets of nylon monofilament were frequently observed in most villages, which is probably attributable to lack of skills for repairing broken nets.

The use of ice and ice-boxes has facilitated the scheduled fishing. As the ice melts within four or five days in the ice-boxes, fishing is conducted in a 4-5 day cycle. Outboard motors have enabled them to travel faster and further, and consequently, have been favorably accepted by villagers. In order to meet the growing consumer demand on fish (MATSUOKA, 1991b), fishing grounds could have been expanded offshore and artisanal fisheries could have been developed with the aid of mechanized canoes. However, the

villagers have not adopted such a development option as far as the surveyed areas are concerned and their life and daily activities depend on farming largely or in part. The fishing activity is still confined within a short range from the villages and currently there is no trend to go offshore.

References

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