

Entrepreneurial Strategies and Socio-Economic Success: A Case Study of Rural Inland Fishermen in the Dry Zone of Sri Lanka

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ABSTRACT. *This paper examines the entrepreneurial strategies adopted by rural inland farmer-fishermen in Sri Lanka and their relevance to socio-economic success. Many of the insights on the study context were developed during a longitudinal study undertaken as a part of an on going research program carried out within the north western province in the dry zone of Sri Lanka.*

The basic research problem of the study was as to why certain inland fishermen were socio-economically more successful than their fellow villagers within the same constrained environment. The study attempts to investigate the behavioural differences between socio-economically successful and less successful farmer-fishermen in the context of entrepreneurship theories. The study was carried out with the objective of gaining insights into the role of entrepreneurship in accumulating socio-economic wealth.

A case study approach was adopted as it enabled exploration of the entrepreneurial process through a range of data collection techniques. Findings revealed that the successful farmer-fishermen are successfully pluriactive in contrast to the majority of unsuccessful farmer-fisherman who carried out uniform routine activities. They were also more creative in obtaining scarce resources through networks and managing them. Managerial ability of the farmer-fisherman also played a vital role in extracting the maximum value perceived in each opportunity. Certain internal personality traits were also found to be associated with the success.

INTRODUCTION

The agricultural sector in Sri Lanka currently accounts for about 19.4% the country's GNP and has directly provided employment to 2.2 million people and remains as an important source of income for about 70% of the population (Central Bank of Sri Lanka, 1998). The marine and inland fisheries sectors contributed an estimated 1.6% of the country's GNP in 1997 (Central Bank of Sri Lanka, 2000). Although, Sri Lanka does not have natural lakes, it has a history of irrigation development with a hydraulic civilisation dating back over 2000 years. The dry zone of the country is endowed with fresh water resources, which contribute to aquatic production. Fresh water tank area of the country is about 201,800 ha which is the highest density of tank reservoirs in the world (Wijesooriya

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and Kamaladasa, 1997). At present fisheries sector (both marine and inland) is of vital importance to a large number of small-scale producers and market intermediaries (Murray *et al.*, 2001).

It is known that some of the rural farmer-fishermen managed to do better in their business than their fellow villagers within the given constrained environment. However, little is known on why only some farmer-fishermen have succeeded? Their socio-economic wealth and whether these successful rural farmer-fishermen are entrepreneurial? Therefore, this study aims to understand the role of entrepreneurship in accumulating socio-economic wealth by successful rural farmer-fishermen.

THEORETICAL FRAMEWORK

Entrepreneurial process

Schumpeter has described entrepreneurship as a force of 'creative destruction' whereby routines are destroyed by the combinations of innovative practices (Holt, 1998). Entrepreneurship according to Drucker (1995) is gathering and allocating resources to opportunities rather than to problems. In his view, entrepreneurship occurs when resources are redirected to progressive opportunities whereas Kodithuwakku and Rosa (2002) suggest entrepreneurship as a socio-economic change from lower value situation to high value situation.

Entrepreneurial value extraction

Entrepreneurial value extraction could be achieved through either adapting to the changing conditions of the environment or changing the conditions of the environment. This process could be occurred in the form of (a) extraction of value from the surrounding environment, (b) generation of new standards of values and/or redefine of existing ones and (c) the creation of new values. The entrepreneurial value extraction process consisting of (a) perceiving opportunities and (b) capitalising through matching with resources (Kodithuwakku, 1997).

Opportunities, resources and social networks

The entrepreneur always searches for change, respond to it, and exploit it as an opportunity (Drucker, 1995). Opportunity is a relative term determined by resource status of entrepreneur. Entrepreneurs depart beyond the resource limits which they have direct control. It is suggested that entrepreneur can overcome the constraints of limited resources, because they can beneficially co-ordinate/mobilise the misallocated resources. Therefore, entrepreneurship can be defined as a process by which individuals perceive opportunities without regard to the resources under control. In this context, entrepreneur's established social networks play a vital role (Kodithuwakku and Rosa, 2002). These networks could be with vendors, potential customers, fanciers, bankers and their competitors (Holt, 1998).

Managerial function

Kodithuwakku (1997) and Kodithuwakku and Rosa (2002) have demonstrated that both entrepreneurial and managerial strategies play interdependent and complementary roles in the total business process, where entrepreneurial function enables the entrepreneur perceiving opportunities and overcoming constraints. The role of the management in this context is to maximise the value extraction through efficient and effective allocation of resources, both owned and mobilised.

Diversification and pluriactivity

'Rural livelihood diversification is defined as the process by which rural households construct an increasingly diverse portfolio of activities and assets to survive and to improve their standard of living' (Ellis, 2000). Successful farmers develop a diversification of enterprises that lead to pluriactivity, *i.e.*, more income generating activities. According to Kodithuwakku (1997), within the Sri Lankan rural farming context, successful entrepreneurial farmers have developed a mixture of enterprises leading to pluriactivity which has enabled them to extract value from various niches in the constrained low opportunity environment. Pluriactivity also facilitates more efficient use of family labour and risk management and credit recovery strategy in the Sri Lankan rural context (Kodithuwakku and Rosa, 2002).

Research hypotheses

Based on the above reviewed literature it can be hypothesized that to achieve socio-economic success in a given resource-starved low opportunity environment; (a) entrepreneurial process plays an important role, (b) pluriactivity is an important entrepreneurial strategy and (c) entrepreneurial and managerial skills are interdependent and complimentary in the total business process.

RESEARCH METHODOLOGY

A detailed longitudinal marketing study on inland fishery sector was carried out as a part of FlrST¹ research project over a period of 18 months with actors in different levels of the marketing channel. The study was undertaken in a land settlement colony, Usgala (788 ha water spread area), situated in the north western province (NWP), where about 800 families are living. Of these, about 115 families were engaged in fisheries in addition to paddy cultivation. To achieve the basic aim of the research, it was necessary to compare a sample of successful farmer-fishermen with a less successful sample. The unit of analysis was considered as the fisherman household. Key informants and direct observations were used in differentiating successful fishermen households from unsuccessful households. The sampling frame

¹ FlrST is a collaborative research project between the Agribusiness Center of the Faculty of Agriculture, University of Peradeniya, University of Sterling, UK, University of Newcastle, UK and CARE International, Sri Lanka for integrated production of aquatic organisms in irrigation systems and to diversify the livelihoods of rural poor.

was presented before each key informant separately and they were asked to differentiate more-successful fishermen from that of less successful fishermen (Kodithuwakku, 1997). A sample of ten from each category was selected for the detailed case study.

Case study approach and its importance of studying processes

The case study approach was selected as the appropriate methodology for collection and analysis of data as it provides a wide range of information gathering techniques (Yin, 1984). This method helps to understand and explain complex phenomena and allows for the meaningful exploration of characteristics of real life events such as managerial processes (Babbie, 1995). As the research objectives necessitated the investigation as to how opportunities are perceived and constraints were overcome by farmer-fishermen, which was achieved by studying the process of activities over a period from July to September (*Yala* season) 2001.

Data collection and analysis

Primary sources of data such as in-depth interviews guided by a topic guide and direct/participant observations were used. Secondary data on production and marketing aspects were also used to establish the context. These multiple data sources helped in triangulating the findings (Yin, 1984). Finally, within and cross case analysis of data and comparison of findings with the existing theory were carried out.

RESULTS AND DISCUSSION

The study context

All the agricultural activities in the area are centred around the *Maha* (October to February) and *Yala* (April to July) cultivation seasons associated with the bimodal rainfall distribution. The farmers' livelihood calendar (Fig. 1) indicates the major climatic factors and livelihood activities. In addition to paddy, highland cultivation (home garden and dry land *chanas*) are common during *Maha* season but the extent of cultivation, range of crops and the success rate are highly dependant on the seasonal rainfall. Damages by wild animals together with pest and disease attacks have further constrained seasonal cultivation. The main dry season occurs at the end of the *Yala* season (Fig. 1-e) and most of the poor paddy farmers find it difficult to engage in any productive agricultural activity and mostly rely on off farm labour to earn their living.

Seasonal trends in inland fish production

Seasonality of production is also associated with rainfall pattern (Fig. 2-b and c) where peaks in production occur during the two dry periods (February to March and July to September). These patterns are similar to findings reported by Murray *et al.* (2000), with reference to the inland fisheries industry of the NWP of Sri Lanka. The first dry period occurs just before the south west (SW) monsoon with the low water levels in tanks, increasing the susceptibility of fish to gillnet. SW monsoon brings low

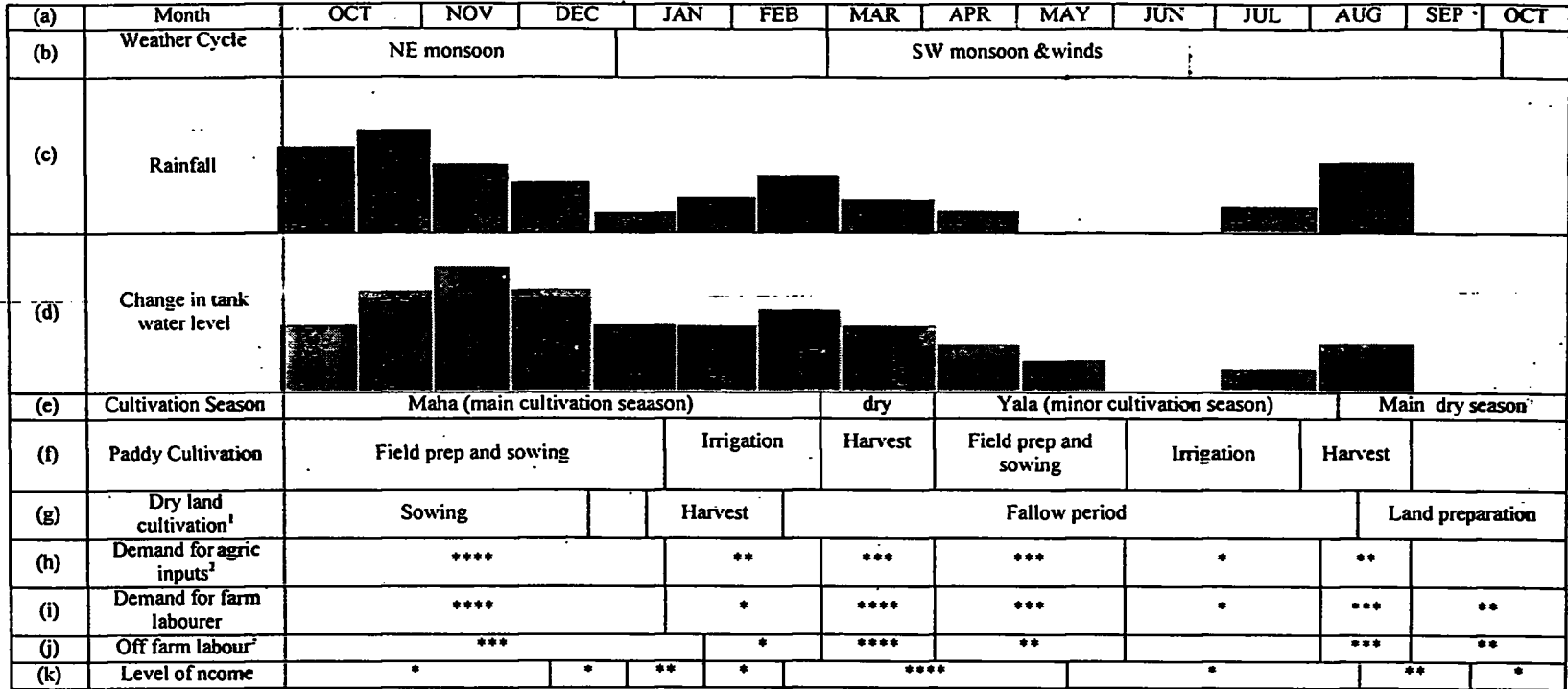


Fig. 1. Seasonal livelihood calendar of farmers at Usgala for the year 2000/2001 (after Murray *et al.*, 2000).
 [Notes: . - lowest amount; - greatest amount; 1 Dry land cultivation include home gardens and chena cultivation; 2 Agricultural inputs such as fertilizer, agro-chemicals, seed paddy, tractors and credit; 3 Off farm labour both within and outside the village].

rainfall resulting in continuous reductions in water levels due to irrigation. With the start of SW monsoon, seasonal winds impede netting, where a fluctuating average production is maintained during March to June. Lowest water levels and the greatest production occur in July to September (Fig. 2-c).

Intensive (north east) NE rains increase runoff of muddy water to reservoirs leading to erratic fish production. Tanks fill to their maximum by early January where production falls slightly. As a result of seasonal nature in the supply, prices of inland fish also tend to fluctuate seasonally. Highest demand (and price) can be observed during April (new-year season) and during the cultivation seasons (land preparation and harvesting). Lowest prices prevail during July-August, due to high supply (Fig. 2-d and e). The prices of vegetables and marine fish (the closest substitute for inland fish) remain highest during the same period (Fig. 2-g and h). During this time, casual fishermen sell fish within the village at lower prices and also numbers of casual fish vendors (like landless farmers or unemployed youth) also become high (Fig. 2-i). Most farmer-fishermen confront difficulties in marketing during these seasonal gluts. The two-wheeler fish-vendor network is the principle marketing chain for inland fish. Number of vendors, vendor type (wholesalers and retailers), volumes they purchase and the fish composition vary with the season, depending on the level of supply and demand characteristics.

In the case of marketing of other farm produce (mainly paddy and highland crops) farmers are heavily exploited by the marketing intermediaries. Most of the producers sell a part of the yield just after the harvest (at prevailing price) to settle the loans taken for inputs from the village traders. Balance is kept for subsistence requirements, seed paddy and as a liquid asset. Other than obtaining credit from farm input suppliers, the financial requirements are fulfilled through several other means.

Most farmers go for informal credit sources where the interest rates are very high. Selling of agricultural produce or household assets, or mortgage of valuables are other common methods. Only a few are benefited from institutional credit sources. Farmer-fishermen obtain credit from fish vendors in emergencies and to buy fishing gears, *etc.* (Fig. 2-j) and the amounts and repayment periods depend on the nature of the relationship among them. Normally these loans are obtained before the dry season and paid in kind in terms of fish instalments over an agreed period. Most farmers rely on village traders to buy other agricultural inputs on credit. Amongst the various inputs, labour has become an expensive resource. Labour requirement comes to a peak during harvesting and land preparation phases (Fig. 1-i) since farmers have to follow the cropping calendar and the requirement for completing their cultivation work before the on set of monsoon rains.

Planning of the cropping calendar and water management issues prior to each cultivation season are carried out by Farmer Organisations. As for fishing activities, monitoring of fishing activities, maintaining records and reinforcing various fishing rules and regulations (*e.g.*, restrictions on mesh size and timing of fishing) are carried out by Fishermen's Co-operative Societies together with National Aquaculture Development Authority (NAQDA). Disputes arise when deciding on new memberships, distributing subsidies and regulating illegal fishing and also due to political influences.

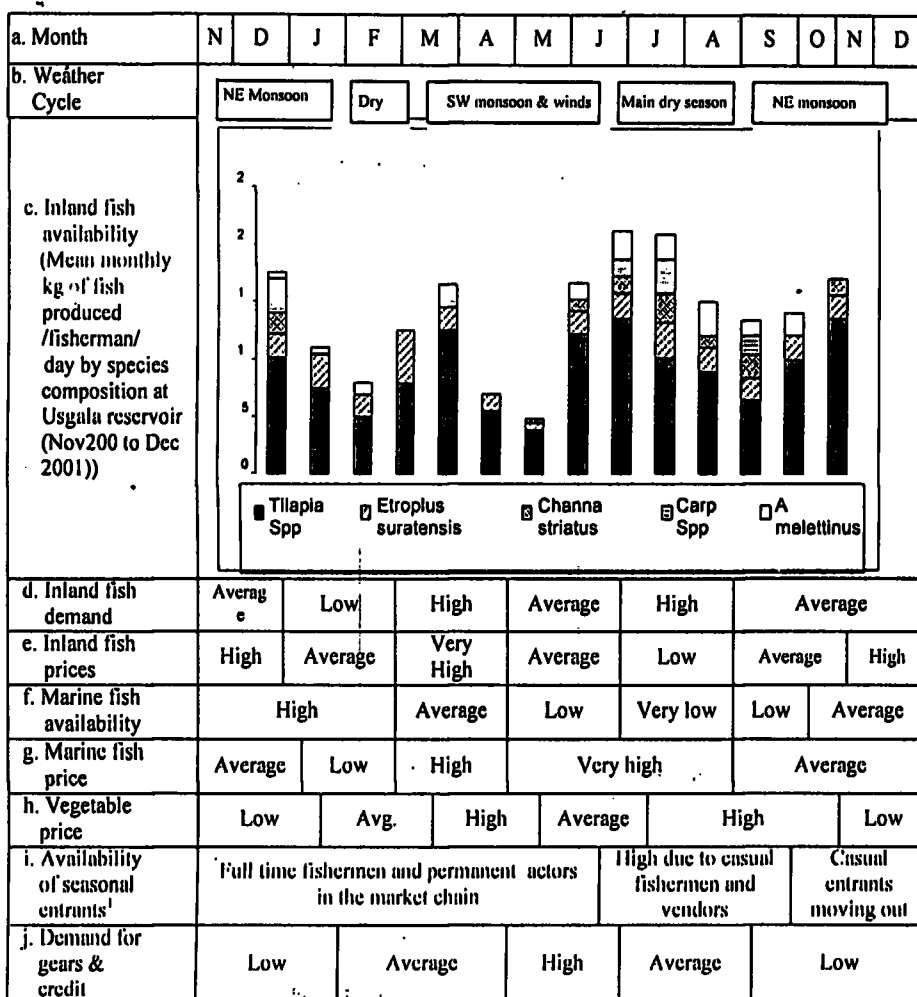


Fig. 2. Seasonal variations in inland fish industry in Usgala, 2000-2001. [Note: ¹Seasonal entrants consists of casual fishermen and two-wheeler fish vendors].

Value extraction of entrepreneurial farmer-fishermen

The value extraction process adopted by two successful farmer-fishermen household cases A and B, is discussed under the sub headings; pluriactivity, social networks, personal attributes and the managerial capability.

Pluriativity

Findings revealed that the farmer-fishermen are engaged in various commercial activities, among which paddy farming (80%) and fishing (14.5%) remain the primary income sources for most of them. Out of the successful households, 60% are engaged in

four or more enterprises in addition to primary income sources. Table 1 provides a summary of other income generating activities in which the villagers were engaged during the time of study.

Table 1. Other income generating activities found in the village other than paddy cultivation and fishing.

Type of activity	No of households Engaged in village	Cases studied
1 Brick making ^{a,b}	100	1, 2(A) ¹ , 3, 6, 9(B) ¹ , 10, 16, 20
2 Keeping village boutique ^a	11	4
3 Rice milling/paddy broking ^a	5	8
4 Keeping saloons ^a	3	10
5 Hiring tractors ^{a,b}	18	7
6 Weekly fair vendors ^b	10	2(A)
7 Mobile fish vendors ^{a,b}	5	1, 2(A)
8 Carpenters ^{a,b}	5	
9 Masons ^{a,b}	10	9(B)
10 Livestock keeping ^a	15	2(A), 6, 9(B), 12
11 Bicycle repair shops ^a	2	
12 Illicit alcohol selling ^{a,3}	5	1
13 Wooden canoe makers ^{a,b}	3	5, 9(B)
14 Fishing gear assemblers ^a	8	3, 5, 9(B)
15 Dried fish making ^a	30	2(A), 3, 4, 5, 9(B), 10, 11, 18, 20
16 Highland cultivation ^a	>100	1, 2(A), 3, 4, 5, 6, 9(B), 10, 12, 15, 17
17 Off farm labouring ^{a,b}	>400	1, 2(A), 5, 6, 9(B), 11, 12, 13, 16, 17, 18, 19, 2
18 Wild game hunting ^{a,2}	15	13
19 Timber extraction ^{a,2}	10	15
20 Remittances ^{b,3}	30	9(B)

^a depend on the village, ^b depend on out side of the village

¹ Representative cases; ² These were reported as illegal activities

³ Salaried employment (government and private sectors), pension and from overseas employment

Within the given low opportunity environment, findings reveal that carrying out a number of income generating activities help them accumulating more wealth. Cases A and B have added new ventures to their portfolio of income generating activities and, have become successfully pluriactive. Fig. 3 indicates multiple activities undertaken by these two households and their family involvement.

Case A is an example of vertical integration of activities, where husband has diversified into fish marketing. Furthermore, he sells vegetables during the fish production peaks, taking into account the demand and price of fish and vegetables in the area. (this aspect will be further elaborated under market orientation).

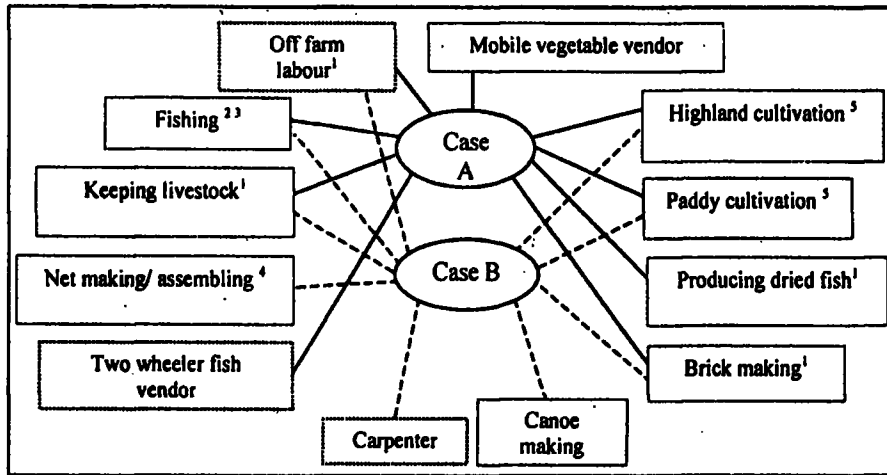


Fig. 3. Pluriactivity by cases A and B.

[Note: 1-Wife involved in cases A and B; 2-Son is involved in B; 3-Wife assists in sorting and grading fish in A and B; 4-Son and wife help in making nets in B; 5-all the family members involved].

Among the other enterprises, fish processing (dried fish making) has enabled them adding value to the surplus cheap small fish, which is a salvage strategy during the glut season. Case B specialises in processing of tank sardine during the dry season to take the advantage of high availability. Consumption of self-produced dried fish has prevented outflow of money from the household on food. In the case of surplus production, it is sold to fish vendors and village boutiques. Fish processing involves female participation, too. Poultry keeping similarly to dried fish production has enabled them to reduce the cost incurred on food (income substitution) as well as to earn an additional income by selling eggs.

Another example of vertical integration is shown by case B. In addition to fishing, the husband has diversified his activities into construction of wooden canoes and assembling new fishing gears. He also undertakes canoe-building assignments for fishermen from outside villages (e.g., Kalankuttiya, Rajangana, etc.). In both cases brick making has enabled them utilising family labour and to build up good relationships with the villagers by working together in sarvodaya¹ brick making projects. Highland cultivation (chillie) has helped them earning an additional income through capitalisation of a seasonal opportunity. In case B vegetable cultivation has enabled them cutting down expenditure on vegetables during the dry season (Fig. 2-h) in which market price of vegetable is high.

Pluriactivity has helped them increasing their level of income. Apart from that it has helped them in spotting seasonal opportunities thereby to extract value from various niches in the environment. Further, it has increased the efficiency of family labour utilisation and also has enabled indirect saving through reduced food cost. In

¹ 'Sarvodaya' is an NGO, which undertakes various community development and related activities.

contrast, about 60% of unsuccessful farmer-fishermen also found to be engaged in an average of 2 to 3 enterprises other than paddy cultivation and fishing during the time of study but lacked much needed management capabilities leading to various degrees of failure.

Personal and social networks

One of the major constraints in the given context is limited resources for farmer-fishermen. It was observed that social networks play a major role as a means of mobilising much needed resources (Kodithuwakku and Rosa, 2002). As has been indicated previously, the availability of fish and the intensity of fishing vary seasonally. To fully capitalise this seasonal availability of various varieties of fish, it is essential for fishermen to have a full range of fishing nets of different sizes and types, which may involve a high financial commitment. For example, successful farmer-fishermen have managed to access the required range of gears by way of forming social ties. For example, the farmer-fishermen in both cases, A and B, have entered into long lasting fishing partnership with family members (brother and son, respectively) and this has facilitated them to secure the appropriate combination of fishing gears. In contrast, the majority of unsuccessful farmer-fishermen (70%) maintain very short-term relationships with fellow fishermen. As is in the case of successful fishermen, the cost of fishing gears is also borne by these crew partners. However, since these relationships are not long lasting (average one season), the stock of fishing gears is to be divided among the crewmembers at the end of partnership. This necessitates them to start the process all over again which consequently threaten the sustainability of their business, mainly due to cost implications. Some of the opportunities capitalised by cases A and B through obtaining resources through network relationships are given in Fig. 4 and 5.

For example, case A perceived the opportunity of selling fish and vegetables even without having a means of transport. In this case, husband used wife's knowledge in obtaining institutional credit to capitalize the perceived opportunity. Similarly the husband used their family network to obtain a trustworthy fishing partner and capital.

Case B uses the social network to obtain second hand fishing gears from the extended family, which reduces the operational cost of fishing. Case B also purchases raw materials for assembling nets from a well-known trader at Galgamuwa on credit. They have established very strong relationships with their fish vendors and both take loans from vendors to buy nets. They also obtain market information and reduce market uncertainty (by maintaining fairly stable prices throughout the year) through the network of two-wheeler vendors, a strong business network, which provides many services. In case B, husband supplies fish to two vendors who have agreed to purchase the whole catch by the fisherman throughout the year. During the slack season his obligation is to ensure a continuous supply to the vendor. He fulfils this by disposing a part or full amount of his son's catch together with his catch and supply the vendor with a reasonable volume of fish. Case A and B have obtained agricultural inputs through the farmer organisation under flexible terms. Case B has leased in additional paddy lands (1.5 acres) for cultivation using the family network. By doing so the farmer cultivates two varieties of paddy in the same season and obtains high yields. He sells a part of the paddy harvest to a known trader in the village to obtain a relatively better price. In both cases, labourers for paddy cultivation are hired through the social networks. Exchange

(attam) labour relationships enable them reducing coat of labour in paddy cultivation and also meeting deadlines imposed by natural environmental factors. Both these farmers sometimes lend their canoes (free of charge) to casual fishermen who do not own crafts. It helped them building and sustaining social networks.

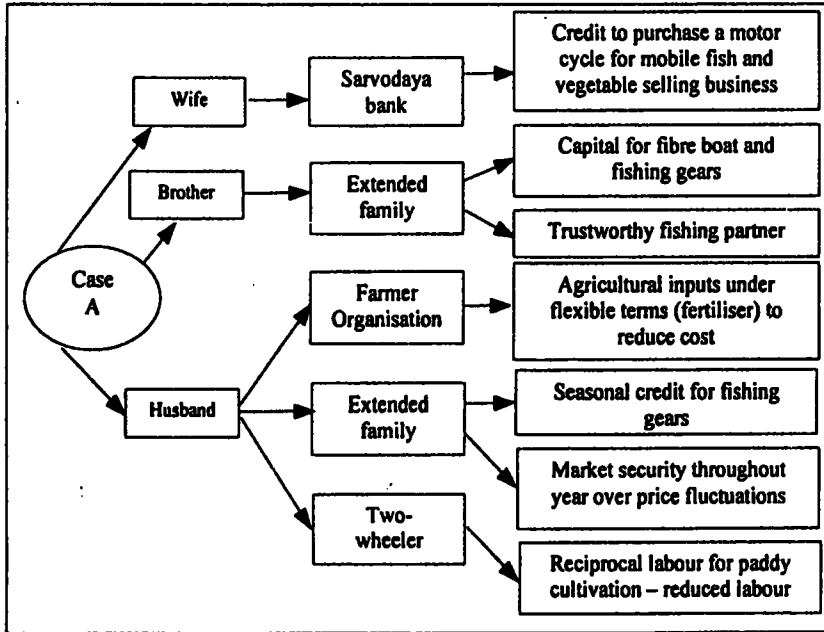


Fig. 4. Resources mobilization and value extraction through the personal and social networks (in case A).

Managerial capabilities, time and market orientation

It was revealed from the findings that efficient and effective allocation of limited resources in the given opportunity-starved environment is also of vital importance for one to achieve socio-economic success. Delegation of responsibilities was found to be one of the main personal attributes, which enabled successful farmer-fishermen managing their time efficiently and effectively. For example, case A engages in farming during the cultivation season whereas his brother (his usual fishing partner) gets together with a casual fisherman to do fishing. However, this arrangement is co-ordinated by case A. This clearly indicates the awareness of the opportunity cost of time by case A. On the other hand, case B adapts to his time constraints by engaging in early fishing (i.e., early morning) to utilise his limited time both for fishing and cultivation.

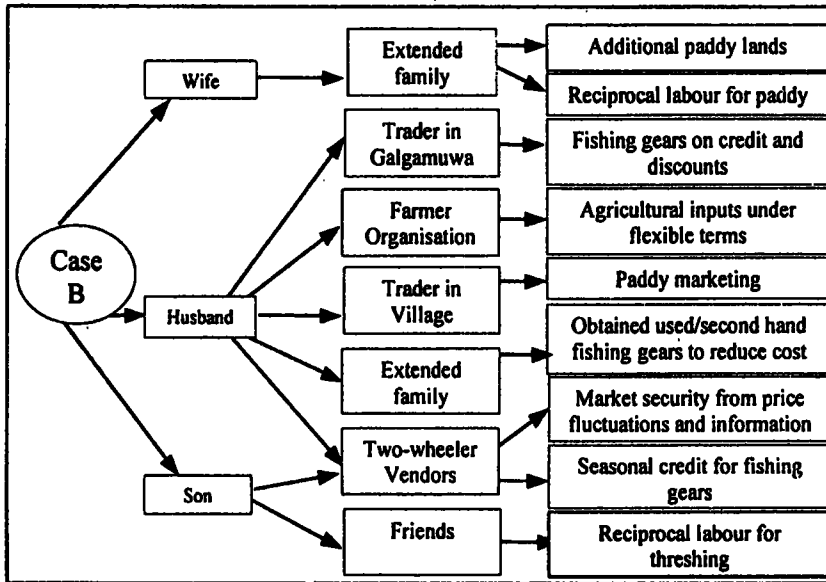


Fig. 5. Resources mobilization and value extraction through the personal and social networks (in case B).

The market orientation by successful farmer-fishermen can again be clearly demonstrated from case A's capitalisation of seasonal and geographical market windows. During fish production peaks the fish prices go down (except for larger fish) and the vegetable prices (Fig. 2-e, h) increase. It is also evident that the majority of the poor people substitute smaller fish for vegetables due to high vegetable prices (Murray *et al.*, 2001). In this context, the case A sells larger fish in the Mahaveli H area as there is a heavy demand for larger fish since farm labourers are fed with inland fish by their employers. He buys vegetables from Mahaweli H area (where the prices are lower due to high supply) and sells in his own village at a slightly lower price than the average market price. He has been able to capitalise the demand for larger fish as he has the appropriate combination of fishing gears. He also maintains strong relationships with some customers who assure him of a permanent retail sale. He always tries to obtain orders in advance to reduce the marketing risk. During gluts, he also acts as a wholesaler in addition to retailing, which enables him to supply fish to casual vendors at roadsides and junctions.

Similarly case B also retails more fish in the village during the off-peak season in addition to selling them wholesale. He also maintains contacts with regular customers in the village. During the cultivation seasons he delivers fish locally. Moreover, he undertakes special orders to supply for weddings and other occasions. The market orientation by these cases is further evident from their decision to cultivate vegetables and cash crops during the time of the study where majority of the other farmers grew only paddy. On one hand this has enabled them to obtain an additional income (the ability to produce the right crop at the right time and to sell in the right

market) and on the other hand, to fully utilise the available family labour leading to capital accumulation and wealth creation.

Personal attributes

Personal qualities like attitudes and values of family members have also influenced cases A and B's success. Among these attributes, positive attitude towards work, hard working, ability to form and sustained trustworthy relationships, delegation of responsibilities and habit of differed gratification were noted (these were closely related with the finding of Kodithuwakku, 1997).

CONCLUSIONS

The environment in which the fishermen operate is characterised by less opportunities and high level of constraints. Farming and fishing are found to be the most prominent sectors in the given environment. Findings revealed that the risk associated with fishing is relatively lower than that of farming. The main reasons for low risk in the fisheries sector were stability in production (fish catches) compared to agricultural outputs, existence of an open equitable market and relatively low barriers to exit.

Findings also revealed that successful farmer-fishermen were both entrepreneurial and managerial in their endeavours. They are found to be entrepreneurial in creatively perceiving opportunities and capitalising them through overcoming resource and other constraints by means of social networks. The entrepreneurial ability of these farmer-fishermen has enabled them to maintain a combination of both low and high-risk activities. This was mainly achieved by efficiently and effectively managing pluriactivity. The processes of value extraction adopted by each farmer-fisherman were found to be unique and different from each others leading to different combinations of resources and opportunities adopted by each individual. In contrast, the majority of the less successful farmer-fishermen were highly dependent on primary agricultural income sources (paddy cultivation and fishing), which are highly susceptible to unfavourable environmental conditions. The other main income generating activity was selling labour to their wealthy fellow villagers.

Managerial capability of the farmer-fisherman plays a vital role in extracting the maximum value perceived in each opportunity. For example the ability to delegate responsibilities to the right people at right times has enabled the entrepreneur to avoid resource conflicts among different pluriactive enterprises. This has also enabled them to retain funds (which would otherwise have spent on hired labour) within the household and to re-invest them in the business. Time orientation is also found to be an important aspect in the particular context, since most of the available opportunities and emerging constraints are seasonal in nature.

Market orientation of the successful farmer-fishermen clearly differentiated them from the majority of less successful production oriented inhabitants who produced similar products overtime. This was further demonstrated by the successful farmer-

fishermen's ability to identify and capitalise the geographical and time based market windows in terms of what to produce, in what forms to produce, where and when to sell.

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