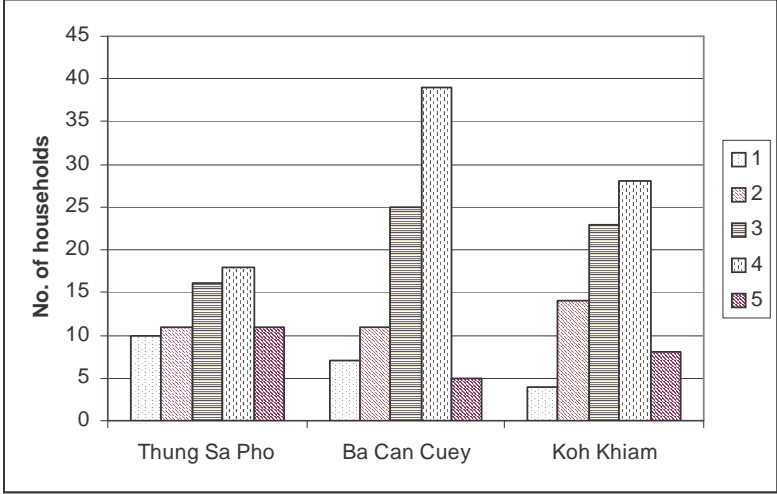


Creating indicators of wealth status

In order to understand the livelihood strategies of households in the three case study communities, it is beneficial to relate strategies to the 'well-being' or wealth status of each household. During the qualitative phase of the study, participatory exercises were carried out to classify households according to wealth status. Households were classified on a scale of 1 to 5, 1 being the wealthiest group, 5 the poorest. Every household in Thung Sa Pho and Ba Kan Khoei was assigned a wealth rank in this way. In Koh Kham, the wealth status analysis was based on a sample that included 50% of grouper raising households and a sample of equal size, selected at random, of households not raising grouper. The distribution of households amongst the 5 wealth classes, derived from the PRA exercises, is illustrated in Figure 1. As the wealth ranking carried out in Koh Kham assigned ranks to only 23% of households in the community, there was insufficient information to classify the entire community. Thus, a wealth indicator was required that could classify every household in the survey data set in a consistent manner and permit analysis of the data set with reference to the wealth status of households.

Figure 1 Distribution of households in case study communities, amongst five well-being categories, based on PRA wealth ranking exercises



The information generated by the PRA exercises to assess the relative wealth status amongst households in the communities can be usefully combined with data gathered during the quantitative phase of data collection to produce a wealth indicator variable that can be applied across the whole data set, reducing the effect of bias of individual respondents in different communities.

The Wealth Indicator Variable was created based on criteria identified by key informants and wealth ranking participants. The criteria were considered to define households of different wealth status. This information was combined with data from the survey questionnaire to understand the distribution of assets amongst different wealth groups.

Key criteria identified by informants included:

- ⇒ Land ownership – households in the middle to upper wealth categories, as defined by PRA participants, owned some land from which they could generate a financial benefit or grow crops, including rice, for their own subsistence. This was of particular importance in Thung Sa Pho where only the poorest families could not grow their own rice.
- ⇒ Vehicle ownership – the wealthiest members of the community owned a car or a truck.
- ⇒ Type of house – wealthier members of the community had better housing. The wealthiest households had brick and concrete homes that were painted, and had ceramic floor tiles. Poorer households had homes constructed of wood and bamboo. The poorest households did not have land for the construction of housing and had to build their houses on stilts over water.
- ⇒ Ability to save money – poorer households were forced to live hand-to-mouth.
- ⇒ Average earnings and associated livelihood activities – the wealthiest households earned up to 1000B per person per day, according to one respondent in Ba Can Cuy. Trading was an activity undertaken by the wealthier members of the community. The activities of the poorer and middle wealth groups varies between communities, and requires further investigation.

The ranks assigned to each household during the wealth ranking exercise were entered into the survey database, according to the house number recorded on the wealth ranking cards. This provided a point of reference for the comparison of asset ownership, recorded as part of the survey, with the wealth categories assigned by key informants.

The survey included a number of questions designed to contribute to the development of a Wealth Indicator Variable. These included:

- ⇒ The type of house in which the respondent lived
 - a. Traditional wooden/bamboo house
 - b. Basic brick and concrete structure, concrete flooring, unpainted
 - c. Brick construction, but painted and tiled with ceramic floor tiles.
- ⇒ Location of the house
 - a. Built on land
 - b. Built over water
- ⇒ Ownership of household appliances, capital assets and amenities
 - a. TV
 - b. Radio
 - c. Refrigerator
 - d. Piped water
 - e. Water tank
 - f. Mobile phone
 - g. Telephone
 - h. Motorbike
 - i. Car/truck
 - j. Boat

⇒ Land ownership – does the household own any land used for generating a benefit?

Figure 2 Type and location of house inhabited by survey respondents

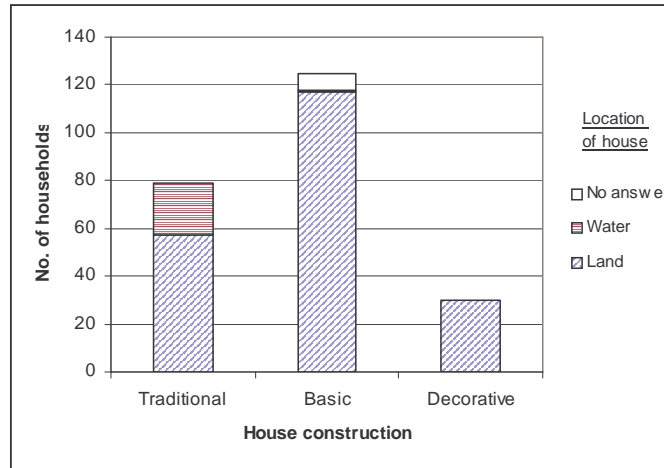


Figure 3 provides an indication of possession of household assets by households in the villages surveyed. It is apparent that most households possess a television (91%), whilst few households possess mobile phones, telephones or some type of vehicle (car or truck). More than half of all households surveyed possess a refrigerator, a radio, a water tank or a motorbike.

Figure 3 Household assets and amenities owned by respondents

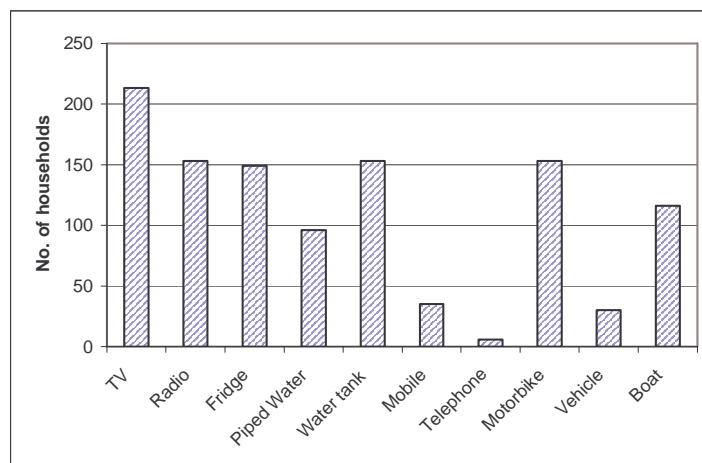
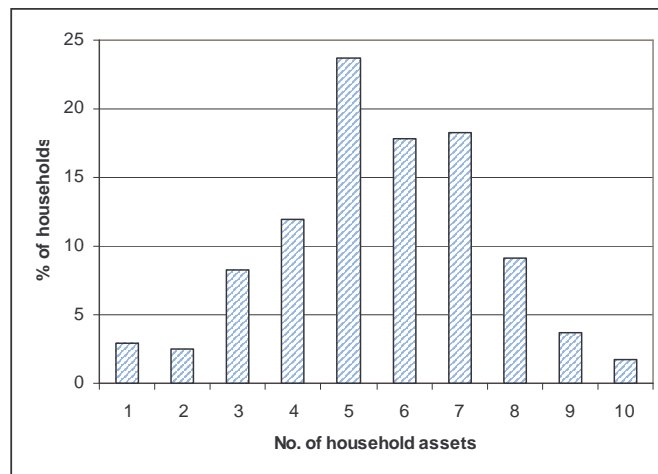


Figure 4 shows the number of household assets owned by households surveyed. The modal number of household assets is 4, accounting for 23.7% of households. It was hypothesised that the number and type of household assets a household possessed would provide an indication of the wealth status of the household.

Figure 4 Total number of household assets owned by households surveyed



Defining the criteria for the Wealth Indicator Variable

The wealth rank categories assigned to individual households from the wealth ranking exercise were entered into the survey record database, for comparison with household attributes as recorded during the survey. As complete sets of wealth rank data existed only for Thung Sa Pho and Ba Can Cuy the comparative analysis of household attributes against wealth rank was limited to these two villages.

Figure 5 Type of house lived in by households, according to wealth category assigned during PRA

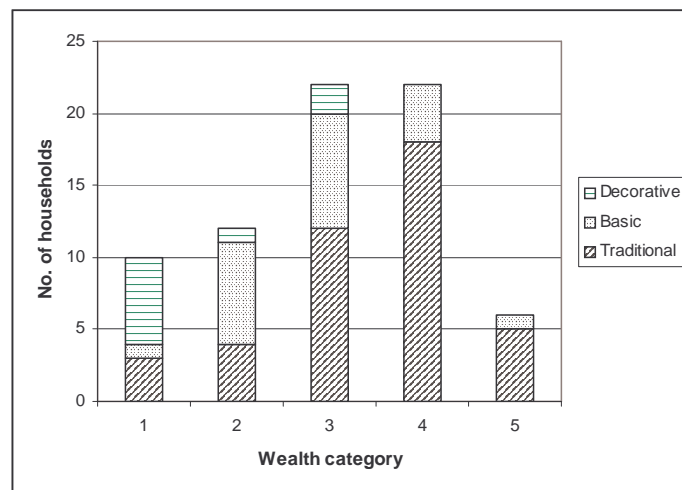


Figure 5 shows how the type of house owned by respondents is related to location and distributed between the wealth categories, as assigned during the PRA. It shows that only households assigned to categories 1 to 3 have more decorative homes, with 60% of respondents in category 1 living in the decorative style house (brick but painted and tiled). The majority of respondents in wealth classes 4 and 5, the poorer groups, live in the traditional style wooden houses.

Figure 6 Location of house, by wealth category

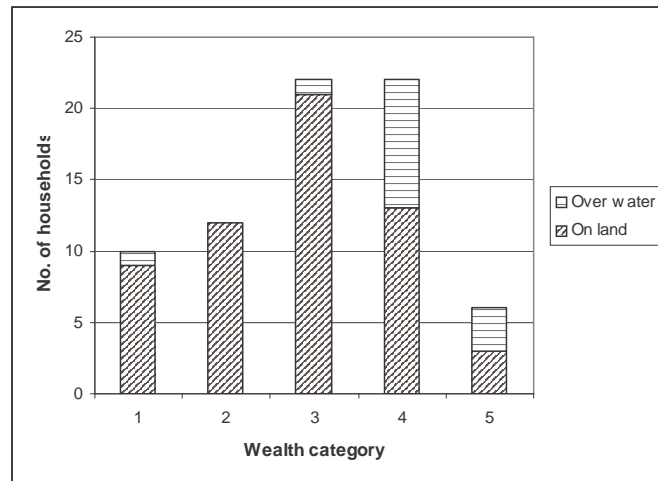


Figure 6 shows that most houses belonging to households in wealth categories 1 to 3 live in houses built on land (95%), whilst 43% of households in wealth categories 4 and 5 live in houses built over water.

These figures suggested that combining type of house and house location may provide a useful variable for development of the indicator variable. Figure shows that four categories of house type and location can be identified from the data set:

1. A decorative house built on land
2. A basic house built on land
3. A traditional house built on land
4. A traditional house built over water

Table 1 Number of respondents living in the 4 different housing categories, by wealth category

Type of house	Wealth category					Total
	1	2	3	4	5	
1	6	1	2	0	0	9
2	1	6	5	4	1	17
3	2	4	11	8	2	27
4	1	1	4	9	3	18
TOTAL	10	12	22	23	6	71

The housing categories given above were further aggregated to produce 3 groups, based on Table 1. House type 1 was most indicative of the wealthier households in the village, whilst category 4 was most indicative of the poorer groups in the villages. The following Housing indicator groups were created:

- | | |
|------------------------------------------------------|---------------------------------|
| Type 1 (decorative house, built on land) : | Wealthiest households |
| Type 2 (basic or traditional houses built on land) : | Middle wealth status households |
| Type 3 (traditional house built over water) : | Poorer households |

Ownership of household assets

The potential for ownership of household assets to contribute to the Wealth Indicator Variable was explored by comparing the relative distribution of each asset between wealth categories to identify which assets could be ascribed to different wealth categories. The ‘water tank’, ‘piped water’ and ‘telephone (land line) variables were excluded from the analysis as they are determined more by village development than household wealth.

Table 2 Ownership of household and land assets according to wealth category. Figures are given as the % of households who possess each asset

Asset type	Wealth category				
	1	2	3	4	5
TV	100	83	68	65	83
Radio	80	58	54	39	16
Fridge	100	83	68	30	33
Mobile phones	80	16	9	4	0
Motorbike	90	92	86	56	33
Vehicle	50	0	0	0	0
Boat	20	66	50	65	83
Land	90	58	59	39	33

Table 2 shows that some assets are more indicative of wealth status than others, according to their distribution across the wealth categories. Vehicles are only owned by households assigned to category 1, and are therefore a clear indicator of wealth. The majority of mobile phone owners also fall within the upper wealth categories.

Households in all categories owned land, although less than 40% of households in categories 4 and 5 owned land. More households in group 4 owned land than owned a refrigerator. Few households do not own a television, but this cannot be attributed to wealth status as the same percentage of households did not have televisions in group 2 as in group 5.

More than 50% of households in groups 1 to 4 own a motorbike, indicating that more households own a motorbike in group 4 than own a refrigerator.

The ownership of a boat was higher amongst the lower wealth groups than amongst the wealthier groups. This supports that information provided by key informants that poorer households are dependent upon the sea for a livelihood, whilst wealthier households adopt more stable, land-based activities such as trading and rubber tapping.

Based on the distribution of household goods across wealth categories, the following assets were selected as being most indicative of household wealth status:

- ⇒ Ownership of a refrigerator
- ⇒ Ownership of a mobile telephone
- ⇒ Ownership of a motorbike
- ⇒ Ownership of a vehicle

The number of appliances owned by households proved not to provide a clear indicator of wealth status of households, as Table 3 shows.

Table 3 Number of appliances owned by households, by wealth category

No. of appliances	1	2	3	4	5
0			1		
1		1		1	
2				6	1
3		1	3	3	2
4	1	1	7	7	1
5	2	3	4	3	1
6	1	4	5	1	1
7	4	1	2	1	
8	1	1			
9	1			1	
Range	4-9	1-8	0-7	1-7	2-6
Total	10	12	22	23	6

Wealth and livelihood activities

In order to provide additional information for the creation of the WIV, the wealth groups were also related to household activities, as key informants reported that wealthier households were more likely to be traders or to own a rubber plantation, whilst poorer households would be employed as labourers and are dependent on the sea.

Deriving a benefit from rubber plantation is an activity exclusive to wealth groups 1 to 3, and thus provides a good indication of wealth, relative to the assets indicators identified above.

Table 4 % of households engaged in livelihood activities, by wealth category

Activity	Wealth category				
	1	2	3	4	5
Rubber plantation	50	16	9	0	0
Coconut plantation	40	50	37.5	17	0
Shrimp culture	40	16	4	9	0
Rice culture	50	25	40	13	0
Small scale fishery	40	58	68	87	83
Labourer	10	41	40	22	16
Trading	40	16	9	17	33

Generating the Wealth Indicator Variable

The Wealth Indicator Variable was finally created by amalgamating the key variables identified above and creating a weighted score to divide households amongst housing type and by the type of assets the household possessed.

Variables were weighted according to their relative ability to explain the wealth status of a household. For example, very few households in the wealthiest group owned a vehicle, thus the ‘Vehicle’ variable was weighted with a score of 25. The sum of scores for each asset creates an assets score for each household, which indicates the number and type of assets the household possesses. Combined with the House code, these indicators create a good assessment of household wealth status. Household assets were weighted as follows:

⇒ Motorbike	Score 5
⇒ Land owner	Score 10
⇒ Refrigerator	Score 15
⇒ Mobile phone	Score 20
⇒ Vehicle	Score 25
⇒ Rubber plantation	Score 30

The household asset score was plotted against the House code to determine the final WIV.

Table 5 Number of households within categories created by Asset scores and House Type codes

Possible asset combinations	Asset Score	Distribution and number of households according to type of house and asset score		
		Type 1 (decorative, on land)	Type 2 (basic or traditional, on land))	Type 3 (traditional, over water)
	0	1	26	4
Motorbike only	5		15	4
Land only	10		15	2
Motorbike + land <u>or</u>	15	2	20	5
Fridge only		4	34	2
Fridge + Motorbike <u>or</u>	20	2	9	1
Mobile phone only				
Mobile + motorbike <u>or</u>	25			
Fridge + land <u>or</u>				
Vehicle only				
Mobile +land <u>or</u>	30	4	20	
Vehicle + motorbike <u>or</u>		1	4	
Fridge + land + motorbike <u>or</u> Rubber plantation only			8	
At least one major asset	40			
	45			

	50	2	4	1
	55		4	1
	60	2	4	1
	65	1	4	
	75	5	1	
	80	2		
	85	1	2	
All assets	105	2	4	1

The households were classified according to both house type and asset attributes. Three divisions were created within the attribute score. Households with an asset score of less than 30 were considered to have minimal assets. Those who had assets scores of more than 45 were considered to be wealthy in terms of asset ownership, as at least 2 major assets attributed to wealthier households such as vehicles, mobile telephones and rubber plantations could be included in a score of 50 or more, or the household had numerous other assets to account for this score.

A third category accounted for households in house type 2 who owned a vehicle but few other assets, and were therefore not as poor as those with a score less than 30, or as wealthy in terms of assets as households scoring more than 45.

The categories are defined in Table 6.

Table 6 Definition of categories in the Wealth Indicator Variable

Wealth class	House type	Attribute score
1	1	More than 45
2	2	More than 45
	3	More than 80
3	1	Less than 45
	2	30-45
	3	More than 45
4	2	Less than 30
5	3	Less than 30

Assigning wealth rank categories in this way proved to be an accurate method as the results were highly comparable to the original categories assigned by key informants. A comparison of the PRA wealth ranks and the categories assigned from the Wealth Indicator Variable showed an exact match in 37% of cases. A further 52% of cases matched to within one category.