

RURAL INLAND WATER TRANSPORT

A case study in May Chreiy, Puok District

Doekle Wielinga

ILO Upstream Project



“Rivers and canals are often 'highways' through land that would otherwise be impassable. Even small boats can carry many times the load that can be carried by an animal or person, and water transport allows heavy cargoes to be brought from inaccessible regions. For versatility and open access, waterways are hard to match by other means of transport.” (Colin Palmer - IFTRD newsletter 1996)

Water transport in the region

Numerous examples of water transport networks and of water-based communities in the region

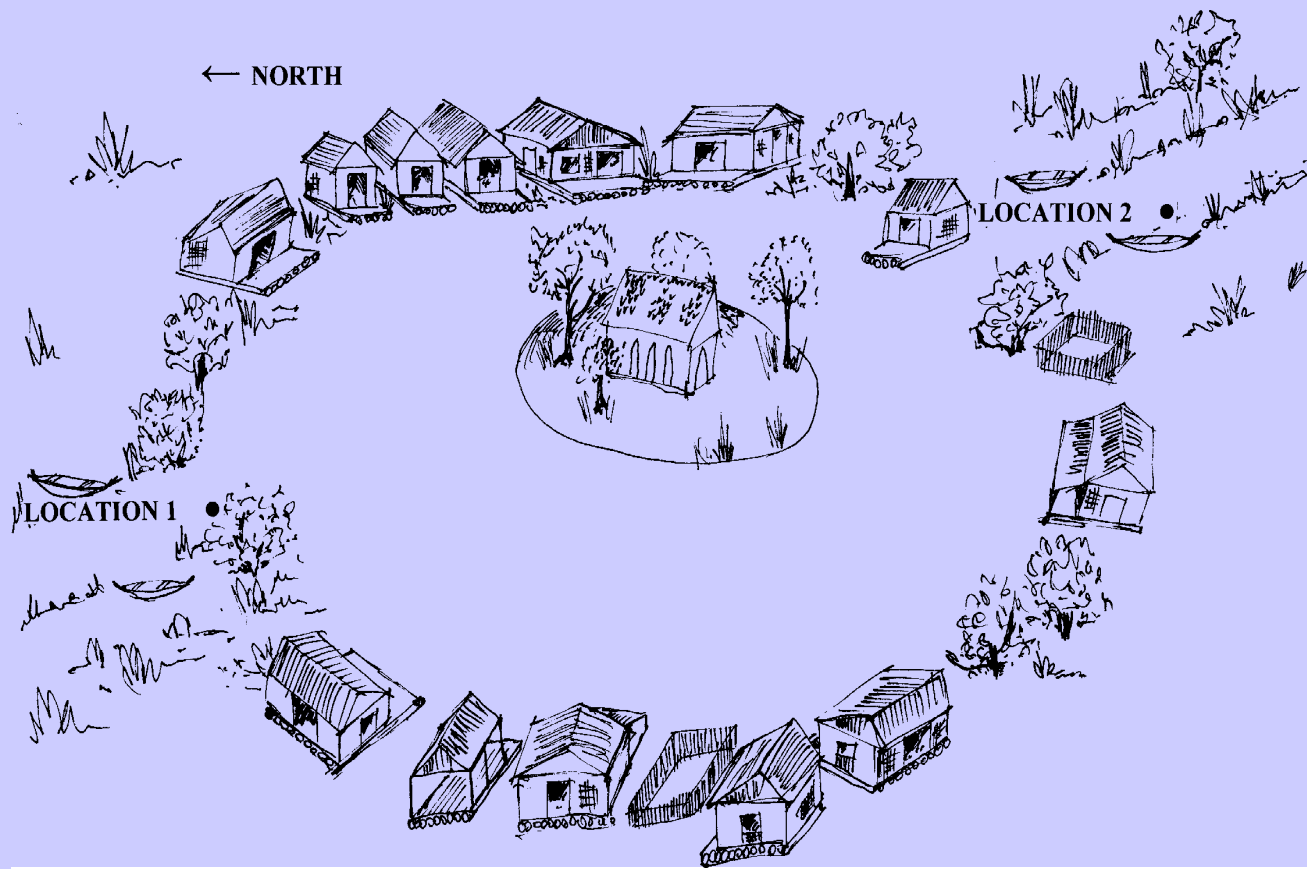
- **Bangkok and other cities in Thailand**
- **Canals system in China**
- **Communities along the Mekong and its delta**
- **Kampong Ayer - in Bandar Seri Begawan, Brunei - the largest water-based settlement in the world**
- **Coastal settlements in Malaysia and Indonesia**
- **Bangladesh - 36% of goods transported by water**

Purposes of the case study

1. Understand the role of inland water transport in providing accessibility to basic needs and services
2. Develop and improve data collection methods and tools used for analysing inland water transport systems
3. Identify interventions that could improve the accessibility for communities using inland waterway systems

This was the first study in Cambodia to look at rural communities dependant on inland water transport

The case study village - May Chriley

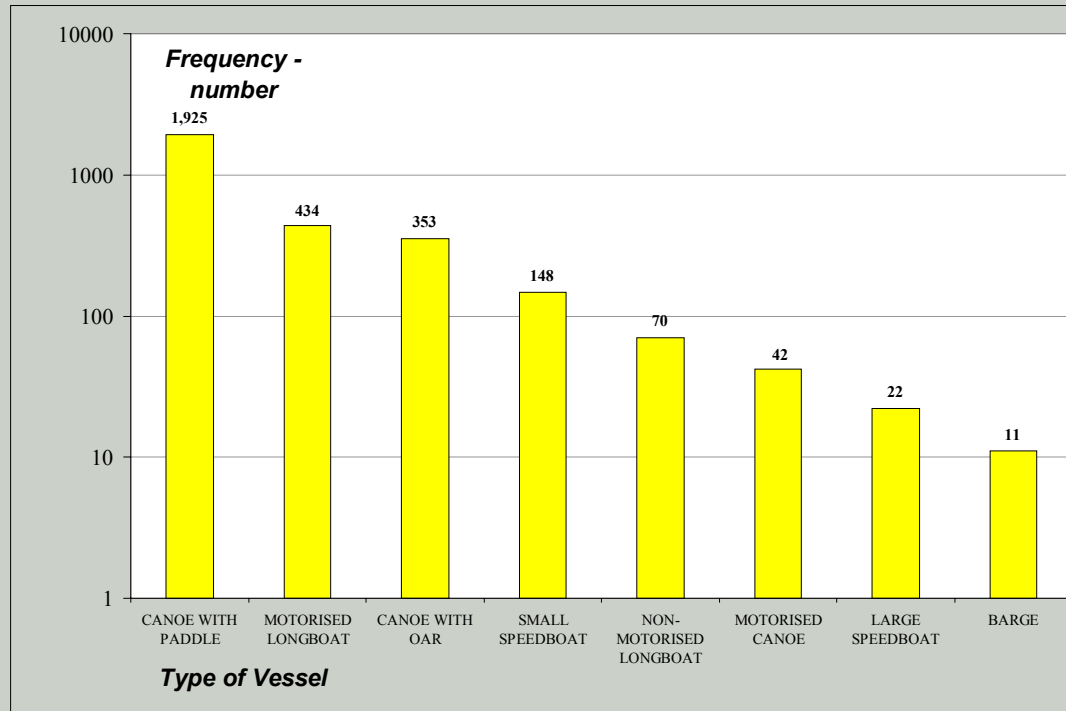


Survey methodology

The village was studied using a range of five survey methodologies normally used on land:

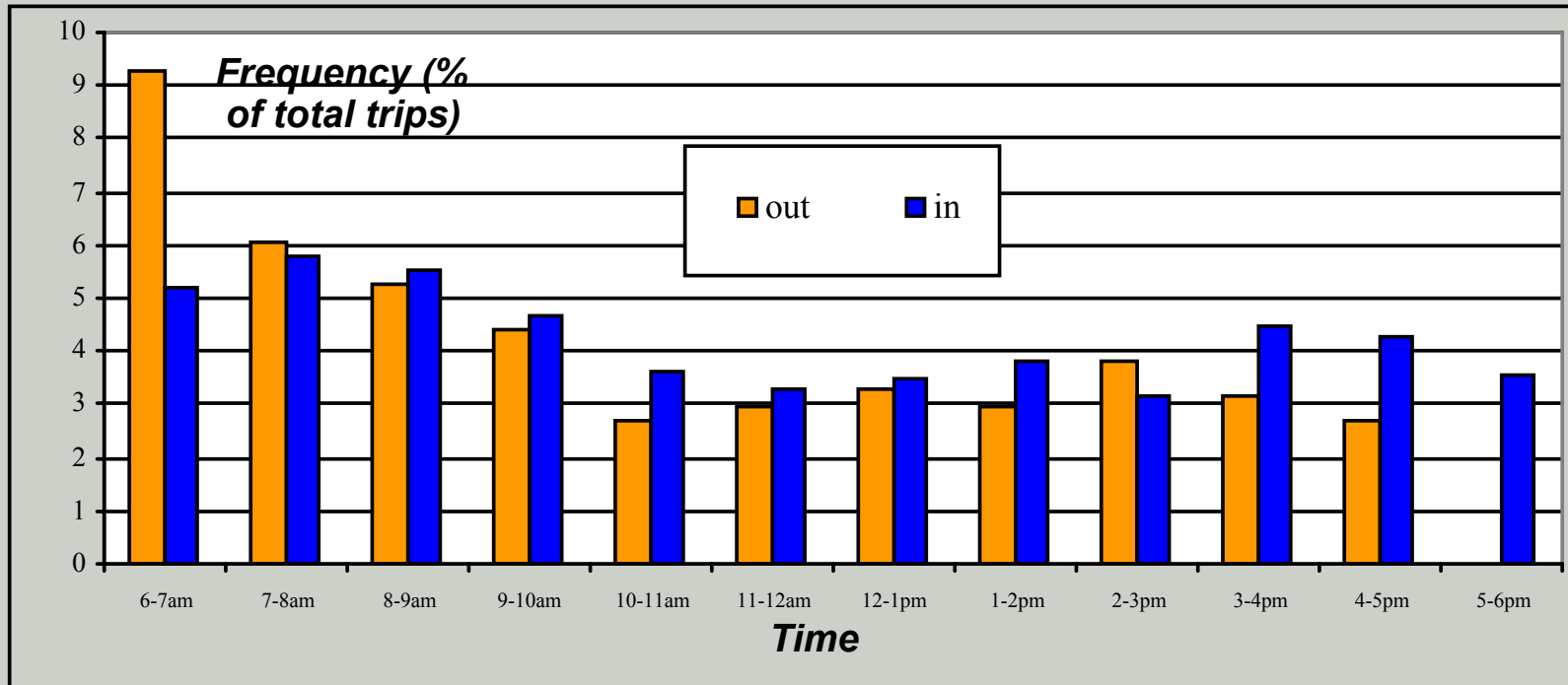
- Traffic counts
- Origin and destination survey
- Household questionnaire interviews
- Wealth Ranking
- Integrated Rural Accessibility Analysis (IRAP)

Types of local boats



- **Commonest is locally-made wooden boats, using paddles**
- **Larger motorised vessels provide goods and passenger transport connections to Phnom Penh and beyond**

Results - traffic flow

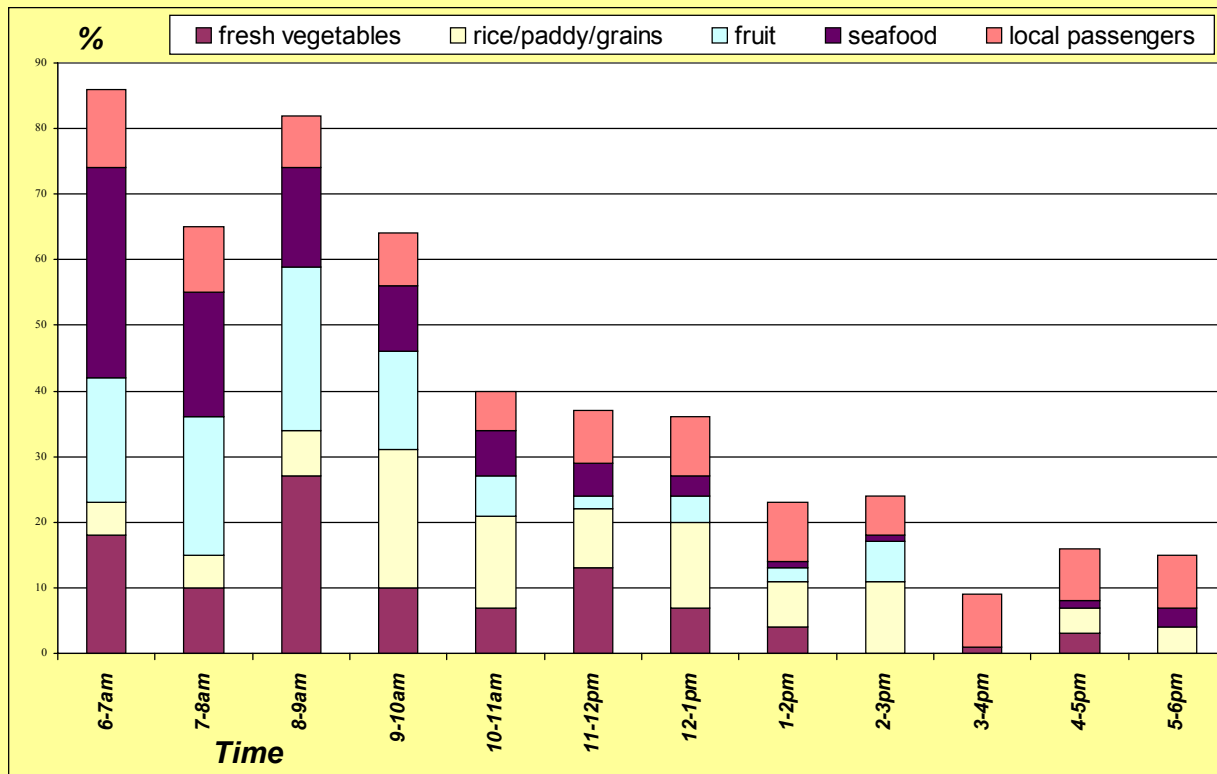


- Over 3,000 boat movements past traffic cordon over 7 days
- Peak traffic flow at 6-7 in morning - fishermen leaving
- Inward movement is more spread throughout the day

Who owns and operates the boats?

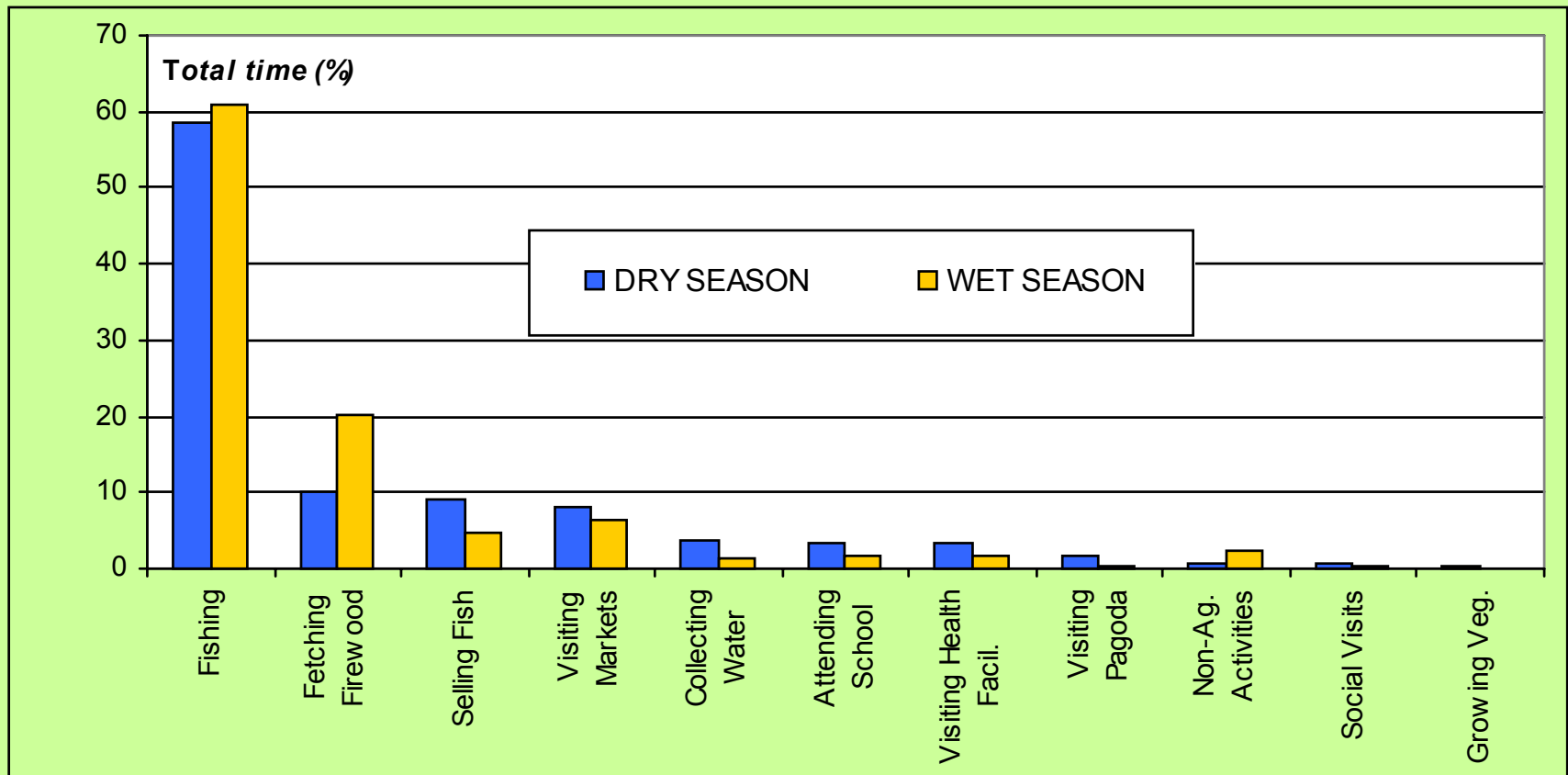
- **The average household has 2 non-motorised boats**
- **The majority of vessels (88.4%) are privately owned**
- **Wealth affects ownership: only the richer families own motorised boats; the poorest-of-the-poor own only non-motorised boats**
- **High boat ownership rates explained by using local materials and high skill level of local boat makers**

What types of trips are made?



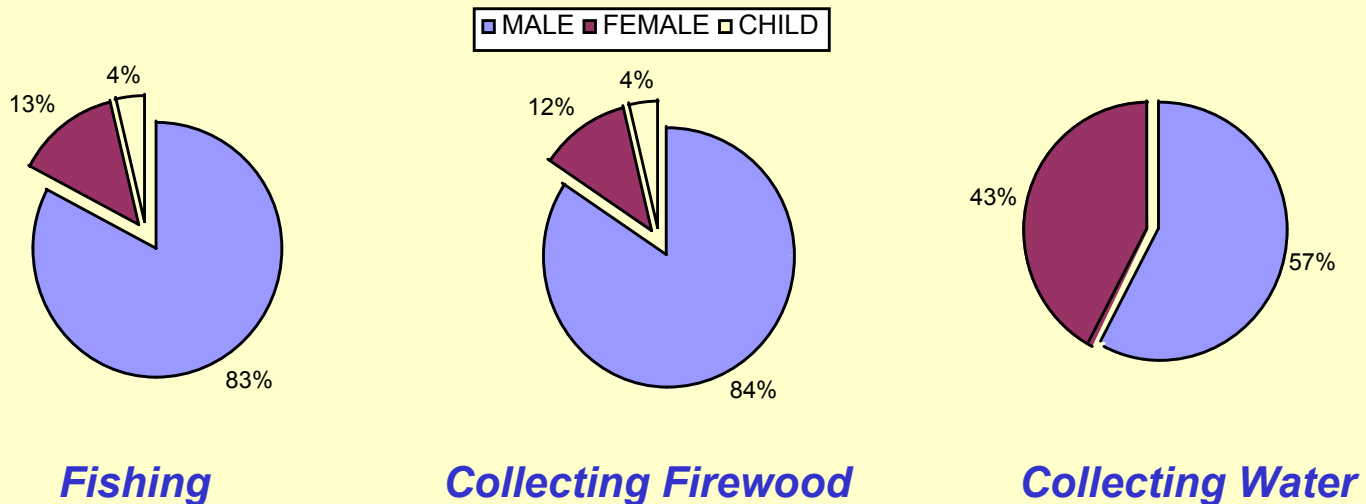
- **Fish and crustaceans account for 40% of weight transported**
- **Firewood second most important item transported**
- **Fresh vegetables, fruit, firewood and ice brought in**

What is the seasonal variation?

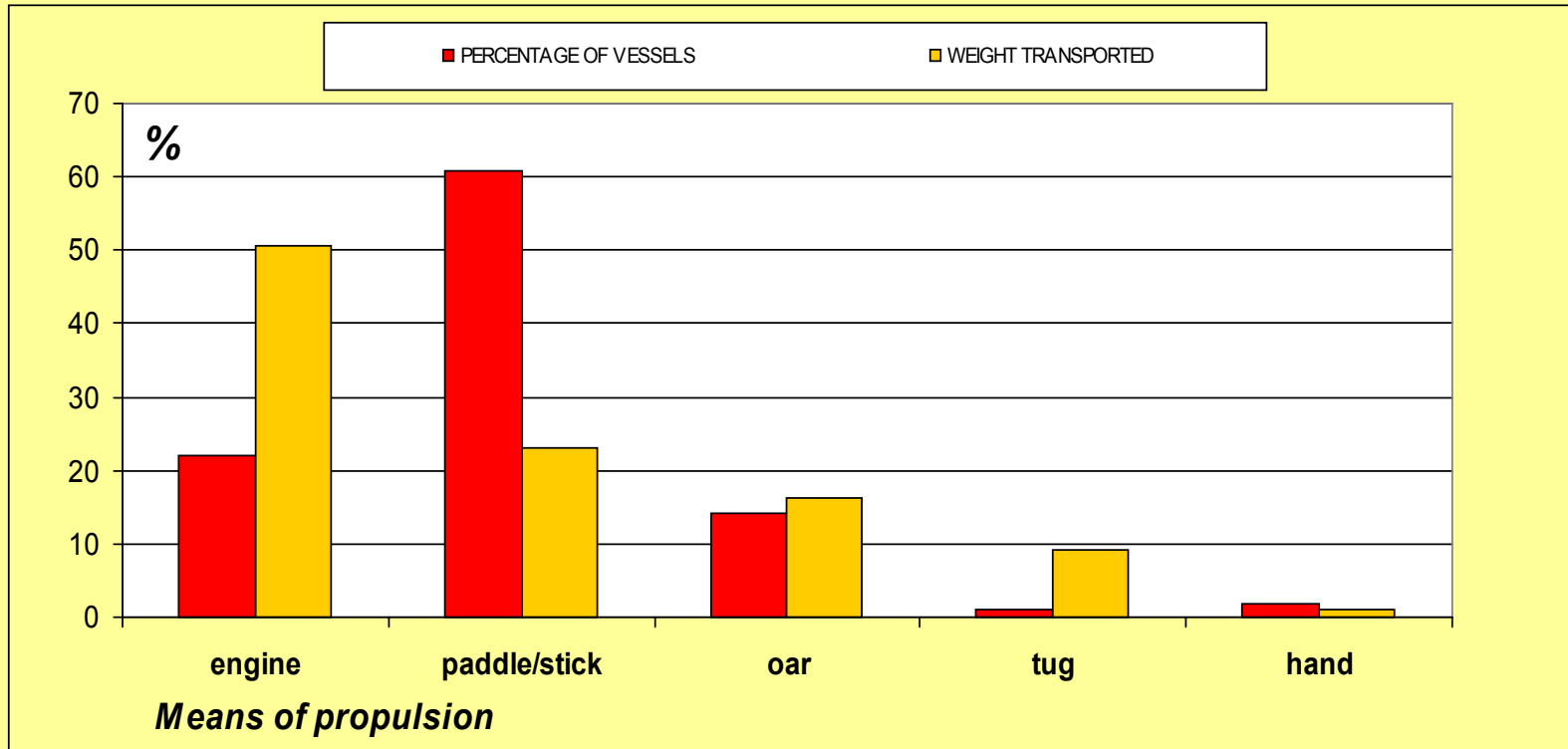


Who makes these trips?

- Men send 67% of their travel time fishing, 17% collecting firewood and 10% selling fish
- Women spend 41% of their travel time fishing, 12% visiting markets and 16% selling fish



How are the trips made?



- **The average household has 2 non-motorised boats**
- **Each family has at least 1 non-motorised boat**
- **Motorised boats - only the richer families own motorised boats**

Why the seasonal variation?

Villagers generally spend less time carrying out basic activities in the wet season than in the dry season

- During the wet season, which is six months of the year, most destinations are reachable by water
- During the dry season, villagers travel by water for a portion of their trip and overland for the remainder
- Travel times during the dry season are generally higher because of the poor condition of roads and the need to change transport mode - e.g. boat to motorbike

How much time is spent in travelling?

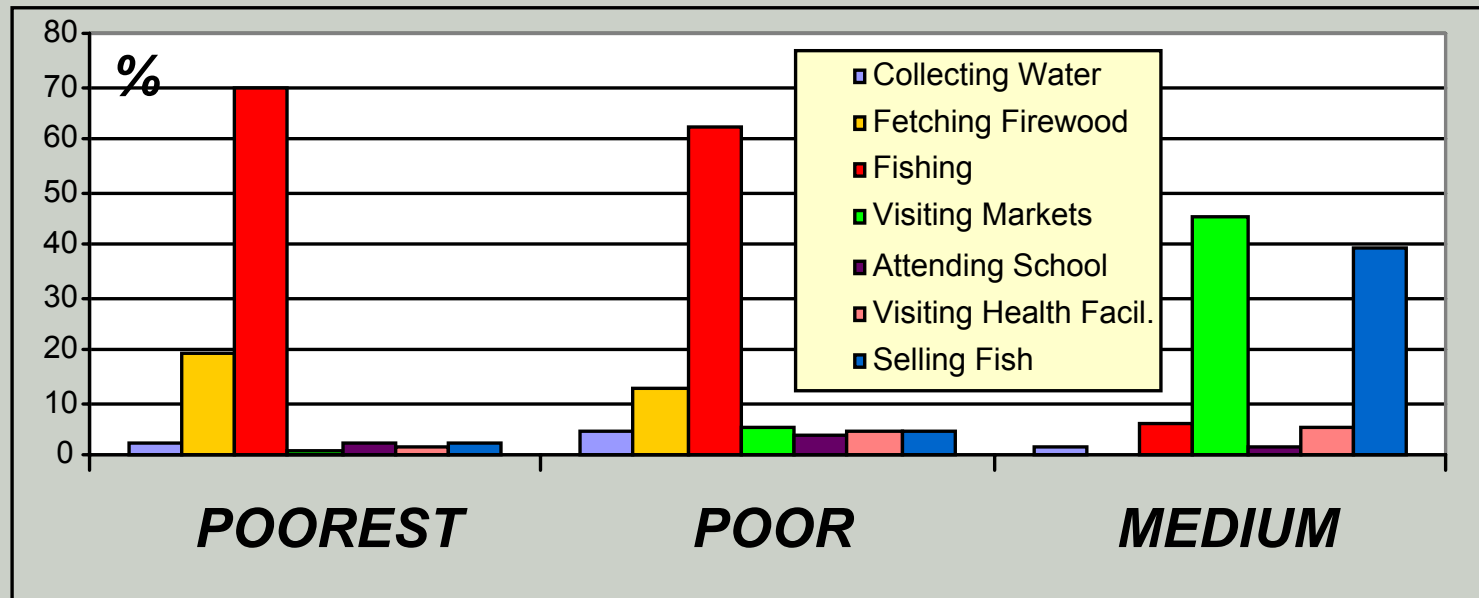
- The average household travel time per day is 5 hours
- Men travel almost 4 hours per day - which is equivalent to 14.5 kilometres - representing 70% of all travel
- Women travel around 1 hour per day- which is equivalent to 5.5 kilometres
- Children travel the equivalent of 700 metres per day
- 50% of all travel time is for fishing
- 8% of all travel time is for collecting firewood

The human level - poverty

The poor make up 42% of families and the poorest-of-the-poor represent 52%. The poorest-of-the-poor spend :

- **70% of their time fishing and 20% collecting firewood**

This leaves very little time for marketing their fish or for other social and economic activities



Accessibility to basic needs

Basic needs are those which you would expect to meet within the village or at a short distance

- 70% of families obtain water from Tonle Sap and 30% from roof rainwater. During dry season villagers need to travel 30 minutes to unpolluted source 6 times a day
- All families use firewood for cooking - collected from Oh Brortorb Forest, 2 hours from the village - trips 4 times a month in wet season and 8 times a month in dry season
- New floating primary school in village with 5 classrooms and attended by 253 pupils - negligible travel cost or time
- Health workers in village, pharmacy with limited drugs

Accessibility to services

Services are those facilities for which you would expect to travel outside the village or use less frequently

- **Secondary schooling is 2 hours distant - thus all 7 students from the village are boarders**
- **Health centre is 60-80 minutes away by boat. Hospital is at Siem Reap, which is 2.5 hours away by motor boat and car - very expensive journey up to \$20**
- **Marketing - most villagers sell their fish at a landing stage that relocates along the canal road to Chong Teuk - 15 minutes in dry season - 2 hours in wet season**
- **Main retail market is at Puok, the District Centre, 140 minutes in dry season and 80 minutes in wet season**

Accessibility conclusions

From the IRAP workshop clear conclusions arose:

- The access route along the canal between May Chreiy and the nearest all weather road at Chong Teuk needs to be rehabilitated - this is a canal in wet season and becomes a roadway in the dry season
- **Accessibility to potable water needs to be improved - 2 new wells needs to be provided - a wet season well and a dry season well**
- A sustainable source of energy for cooking needs to be identified - a guaranteed firewood source (ideally with replanting) plus introducing more fuel efficient stoves

New study in two villages in Cambodia

10 country studies (IFRTD)

C20 could consider this transport