

Potential and Constraints for Intensive Land Use with Pond Irrigation in Northeast Thailand

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1, Background and Purpose

- In NE Thailand, sugarcane or cassava is important cash crop for the farm household economy.
 - But there are also such serious problems as increased soil erosion, and depletion of soil fertility by successive planting.
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- The integrated (or mixed) farming introducing vegetables or fruits, and agro-forestry would be paid more attention nowadays. These are both more sustainable and also give farmers more independence from the agribusiness companies.
 - But it is not easy for farmers to change the farming systems.

In this report,

the potential and constraints

for the development of intensive land use

based on vegetables or fruits production

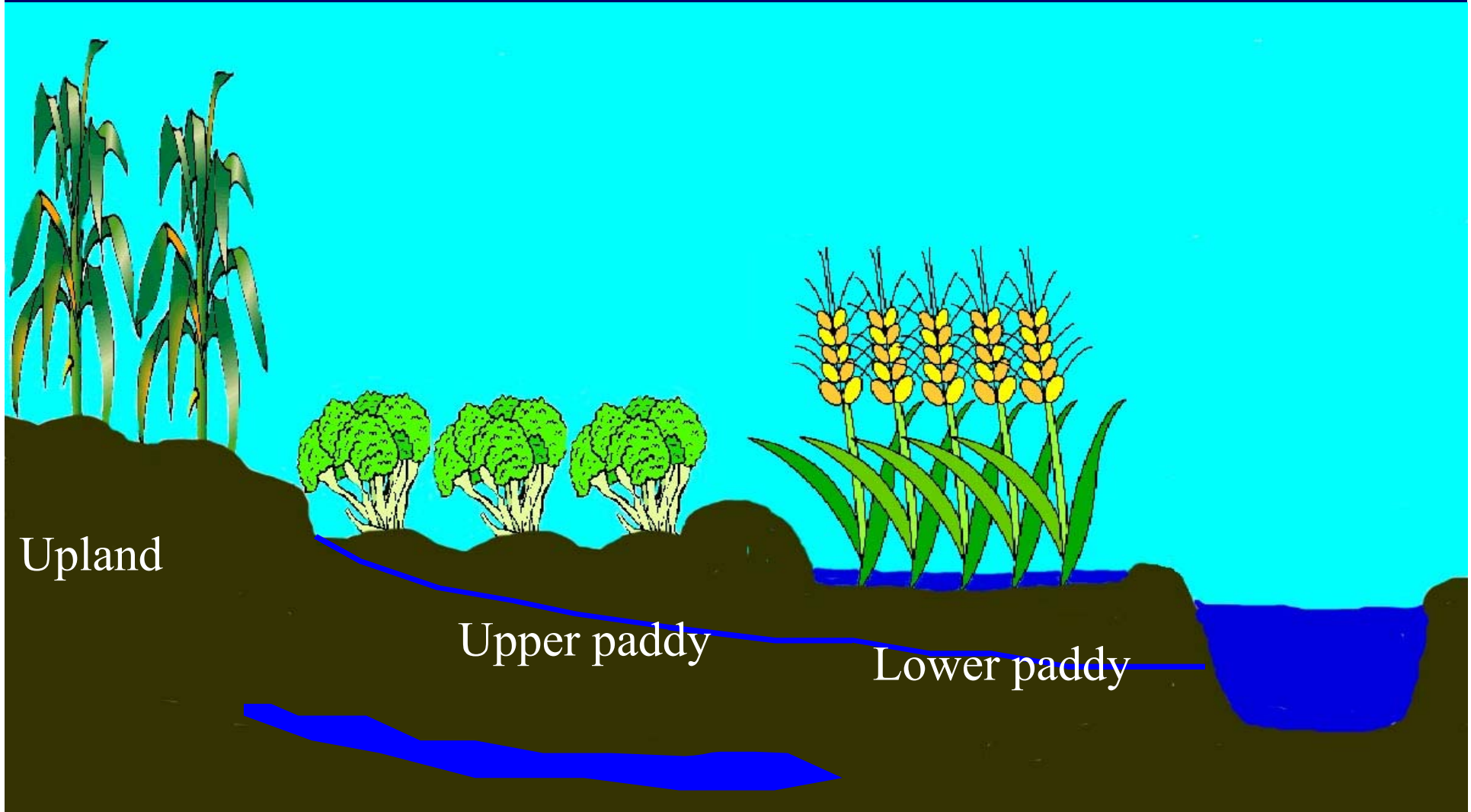
with irrigation from farm pond,

using the case study of a typical village in

Northeast Thailand

2, Characteristics of the Research Site

Topography around Khon Kaen Province



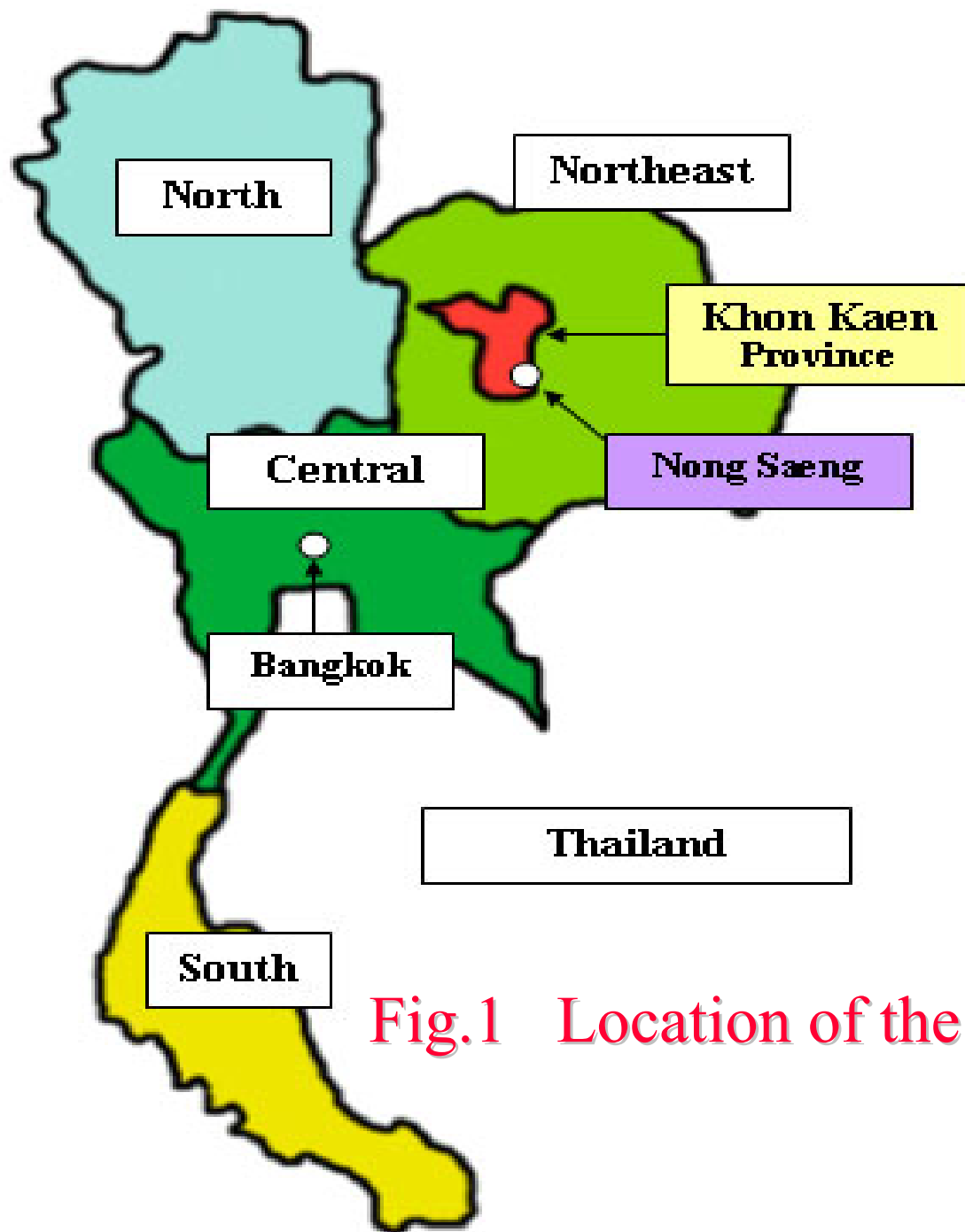
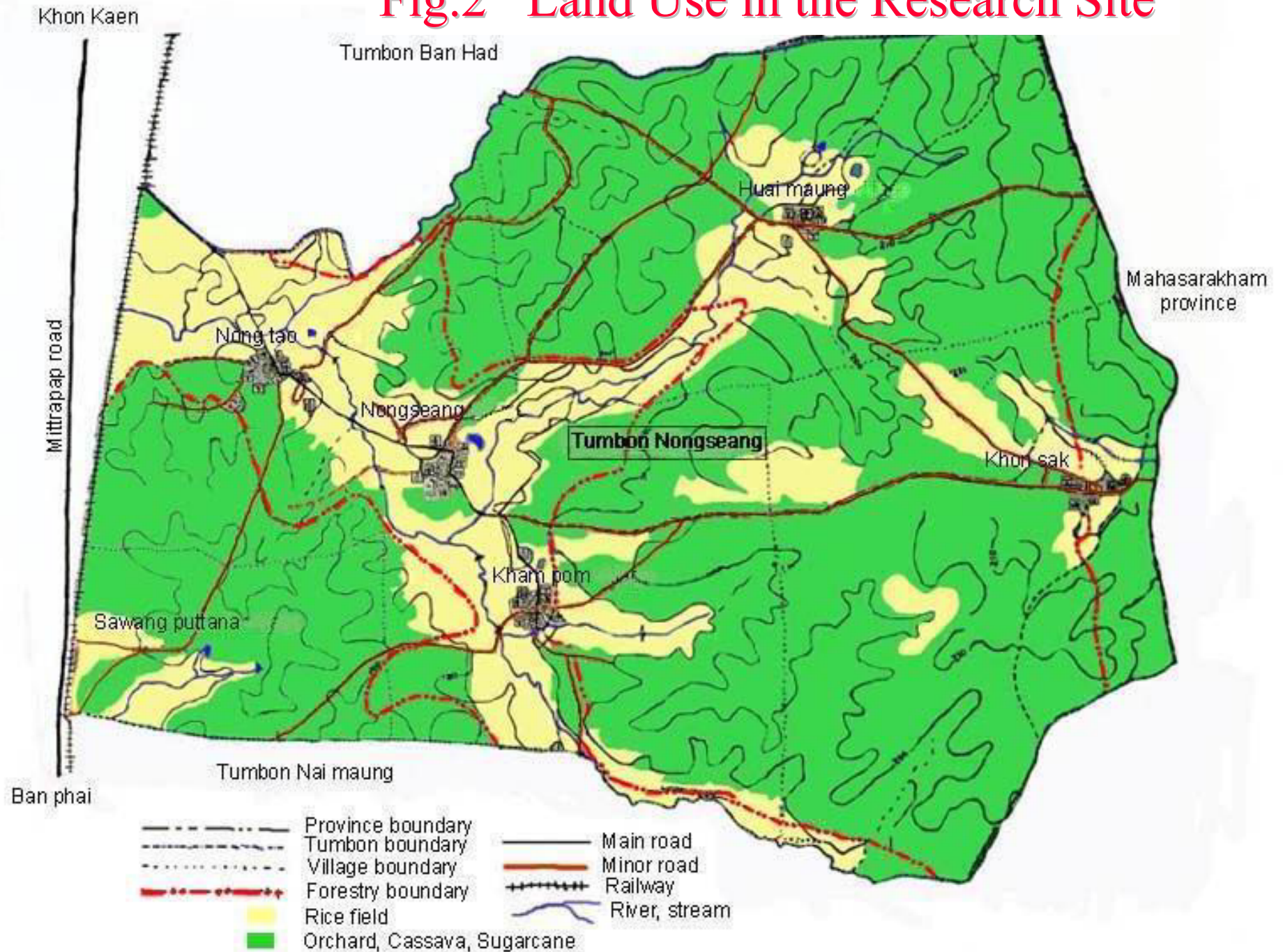


Fig.1 Location of the Research Site

Fig.2 Land Use in the Research Site



3, Current Status of Agriculture in the Research Site



Fig. 3 Distribution of Farm Households Based on Number of Farm Ponds / Household

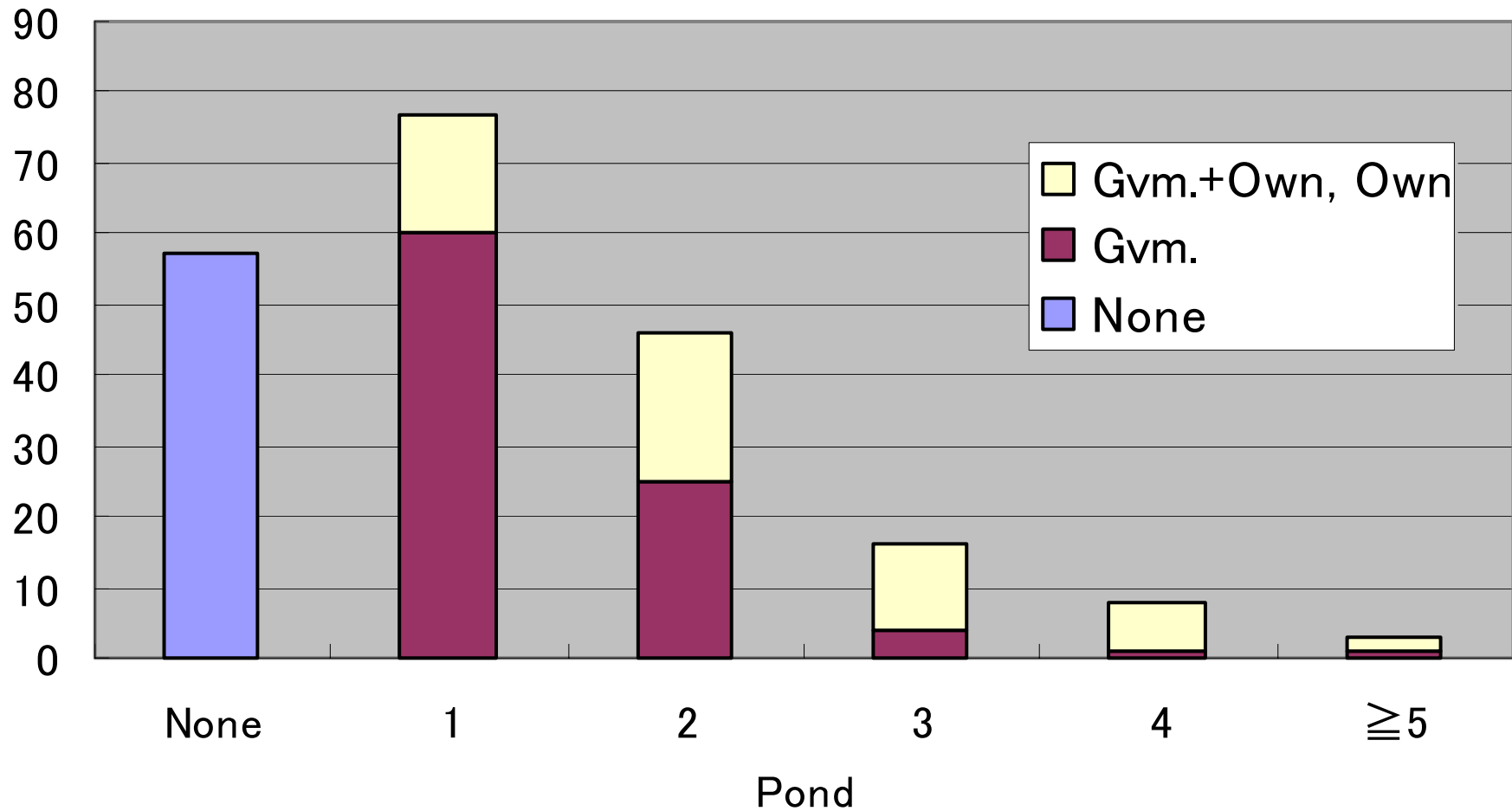
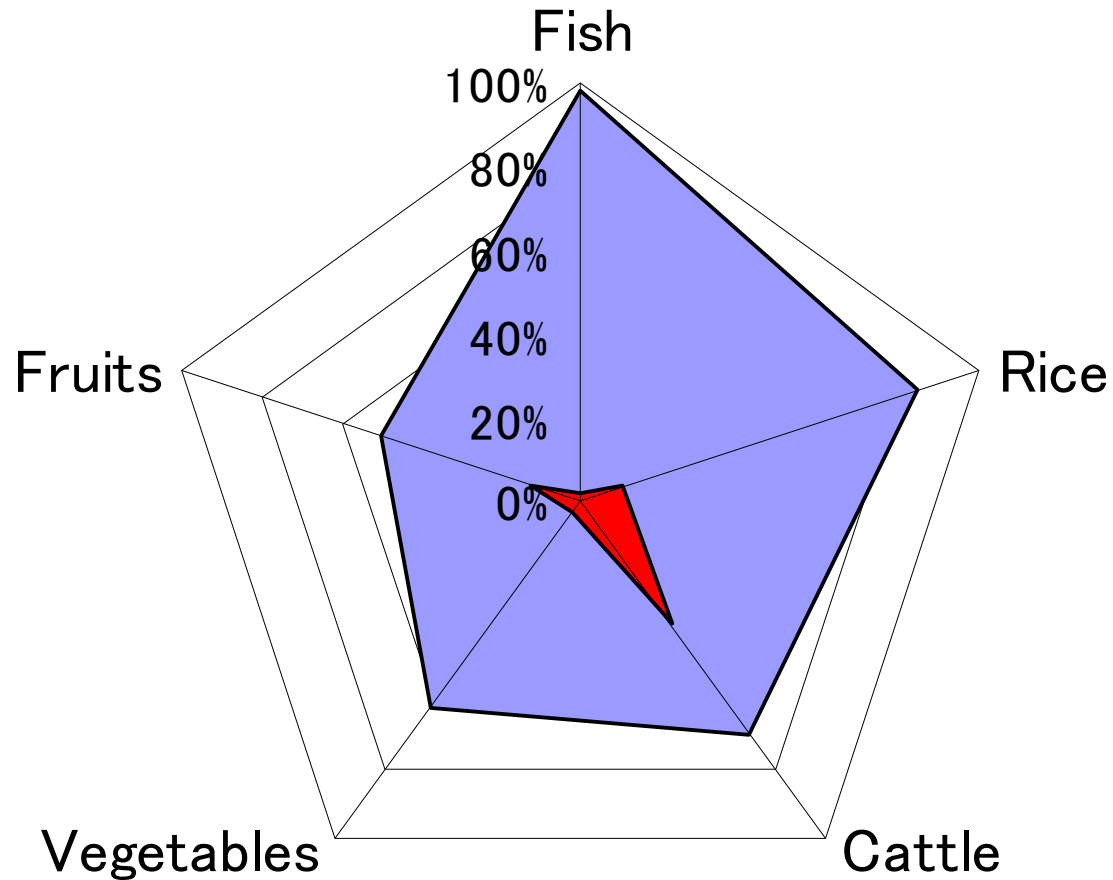


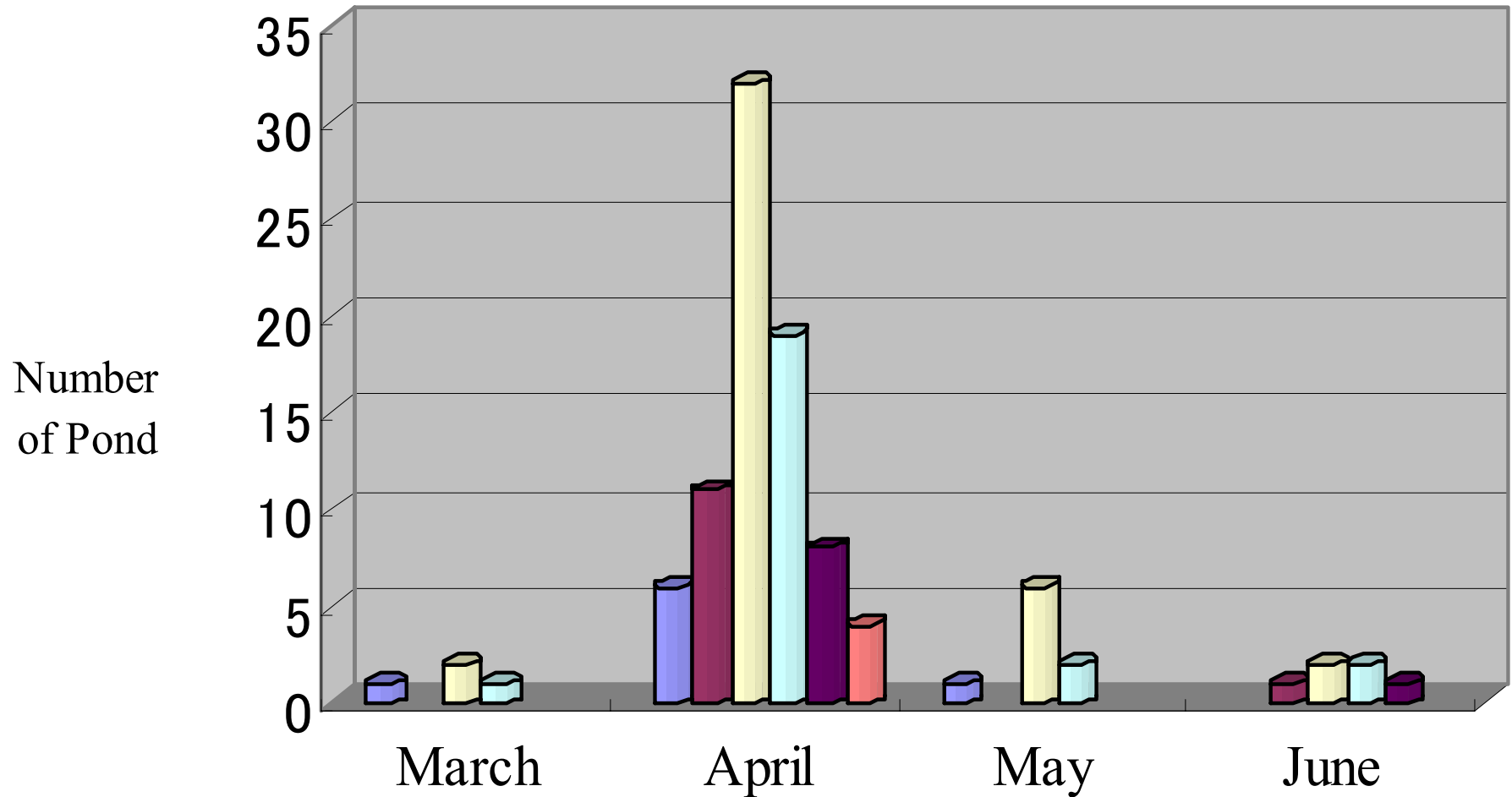
Fig. 4 Uses of Farm Ponds and Proportion Generating More Than 5,000B Gross Income



■ farms using ponds

■ more than 5000B gross income

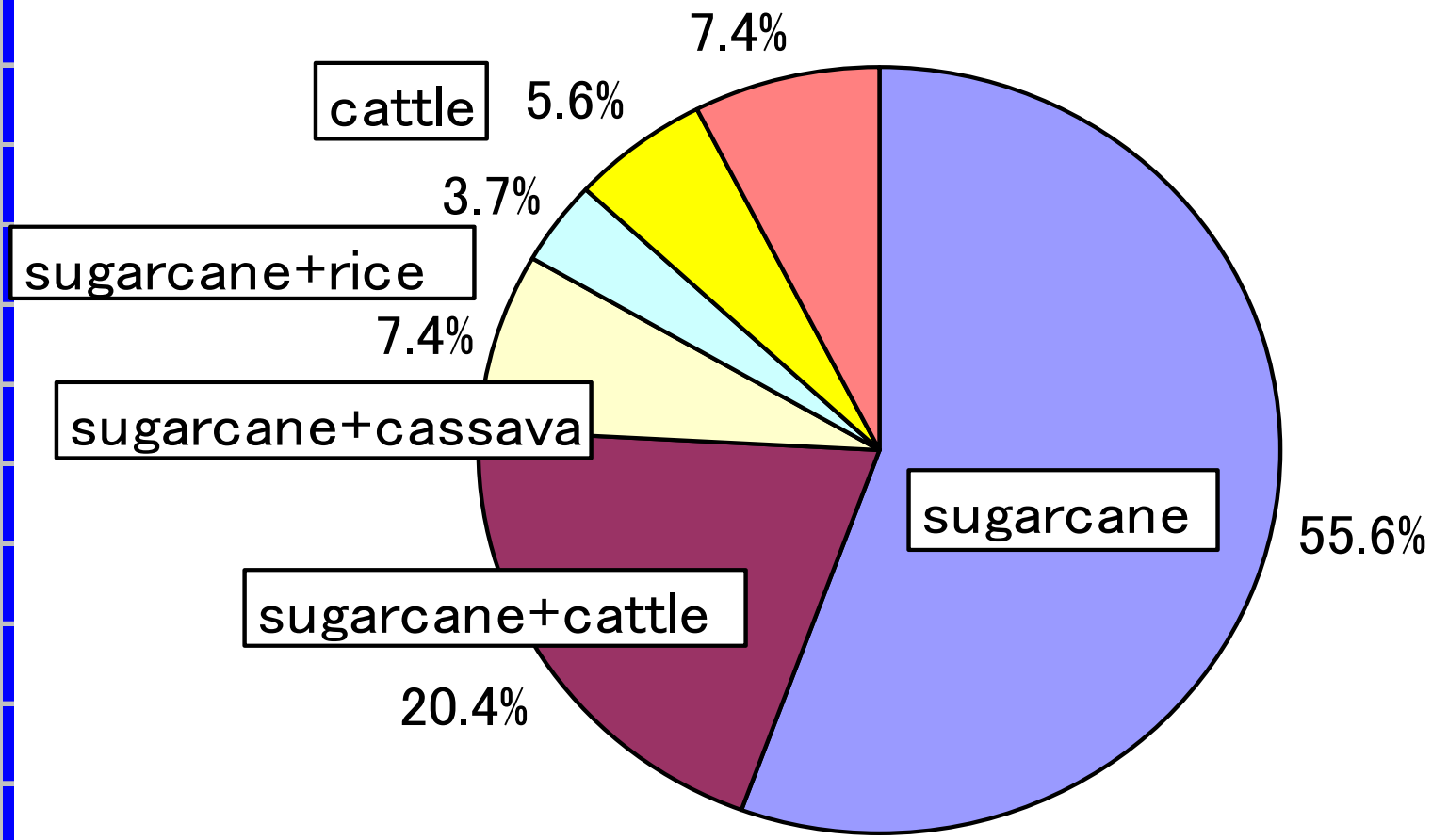
Fig. 5 The Depth and Month When Pond Water is Shallowest



Total number of ponds: 99



Fig. 6 Ratio of Farms by farming Type



cf. Enterprises $\geq 80\%$ of gross amount

Table 3 Debts and Repayments of Farm Households

Total amount of debt	Number of farm	Average repayment
$D=0$	3 (5.5%)	0
$D < 10,000B$	5 (9.1%)	3,358 B
$10,000 \leq D < 50,000$	20 (36.4%)	26,807 B
$50,000 \leq D < 100,000$	22 (40.0%)	53,123 B
$100,000B \leq D$	5 (9.1%)	71,030 B

Source: survey result on Jan. Mar. Jun. in 2003

4, Examples of Diversification into Intensive Crops



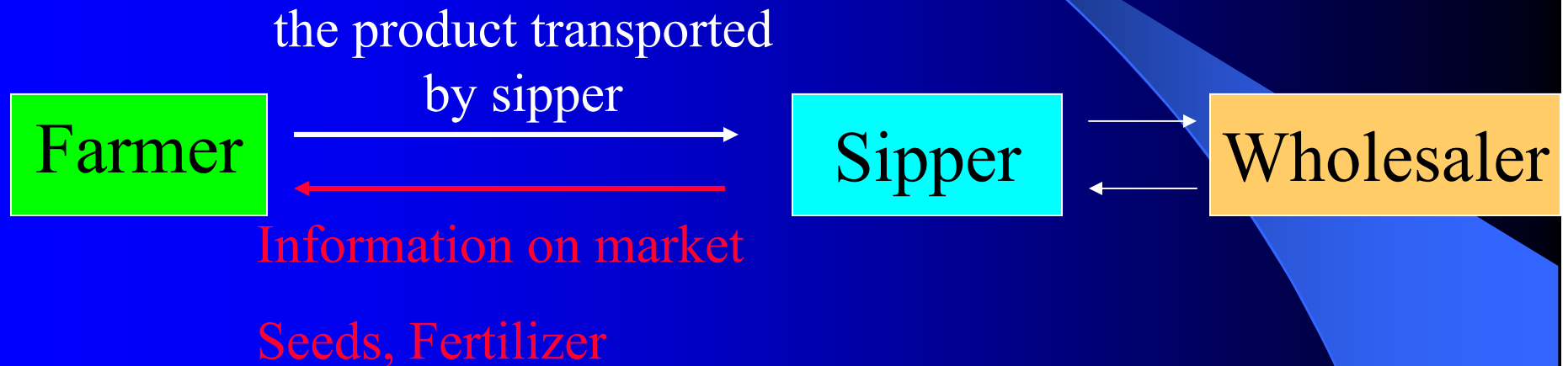
Table 4 Labors, Land areas, Ponds, Income and Marketing of Farmers Introducing Vegetables and Fruits for Sale

	Agri.	Cultivated Land (rai)				Number of Pond	Gross income for sale (Bart)				Marketing
	Labors	Total	Paddy	Upland	Orchard		Rice	Sugarcane	Vegetables	Fruits	
A	4	58	15	38	5	5	875	70,000	63,440	23,520	Direct sale
B	4	66	17	49	-	4	-	147,000	1,680	1,000	Shipper(Veg.)
C	3	60	13	47	-	5	6,090	176,250	12,350	2,600	Shipper(Veg.)
D	2	45	10	15	20	3	1,375	34,500	-	30,000	Farmer' group
E	3	40	10	20	10	3	-	30,000	-	50,000	Farmer' group
Avrg	1.97	40.8	13.2	23.8	1.6	2.2	1,616	59,562	668	2,535	
Source: survey result on Jan. Mar. Jun. in 2003											

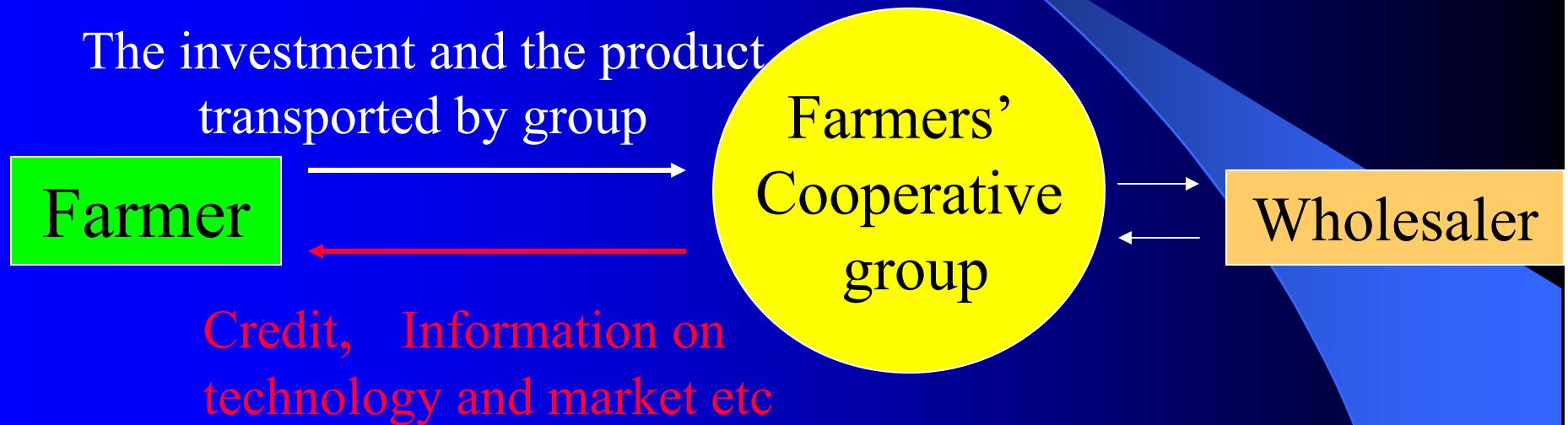
< Direct Sale >



< Sale to shipper >



< Sale through farmers' group >



5, Prospects for a Pathway of Transformation from Present Constraints



Some kind of supporting system is necessary



Farmers have very little information about technologies and marketing, as well as materials for production

Type	Characteristics	Prospects
Direct Sale	<ul style="list-style-type: none">➤ Do everything by oneself➤ Time consuming	Difficult to establish and maintain the stable linkage with consumers
Sale to Merchant	<ul style="list-style-type: none">➤ Most often seen➤ Just like laborer➤ Less profitable	Only real option to sell the products
Farmers' Group	<ul style="list-style-type: none">➤ Most desirable➤ Do everything cooperatively	Difficult to organize and manage