

Analysis on Water Allocation Between Farmer Groups for Sustainable Rice
Production: A Case Study in Pursat River Basin, Cambodia
持続的なコメ生産のための農民間での水配分解析
－カンボジア国プルサト流域における事例－

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I. Introduction

The Participatory Irrigation Management and Development (PIMD) approach was introduced into Cambodia in 2000. The goal of PIMD is to establish Farmer Water User Communities (FWUCs) to manage irrigation scheme in their district in order to improve the performance of irrigation system. Through the establishment of FWUCs, development of irrigation infrastructures are more promoted, and reliable operation and management increases benefit for farmers (NSDP, 2014). However, PIMD is not active in Charek FWUC in Kandieng district, Pursat river basin (RBWRU, JICA project Cambodia, 2016). This case study is aimed to analyze factors through direct interview that influences farmers' participation of FWUC such as demography, rice production and water utilization, and perception of farmers' on FWUC related water demand and supply.

II. Materials and Methods

The research was conducted in Charek FWUC, Sya commune, Kandieng district, Pursat province, situated downstream of Pursat river basin. 63 purposive samplings. 1 village 9 respondents, head 2 villages, middle 2 villages, and tail 3 villages was recommended by head of Charek FWUC. Data were collected during February-April and August-September 2017, using structured questionnaire of qualitative and quantitative regarding to demographic characteristics of farmers, agricultural production and water utilization; And regarding perception of farmers on water allocation, field survey was conducted for the current condition of irrigation infrastructures. The interviews were used to acquire information on the status of current irrigation management and its challenges, 2 group discussions with 11 head of farmer groups and 7 representatives of farmer in

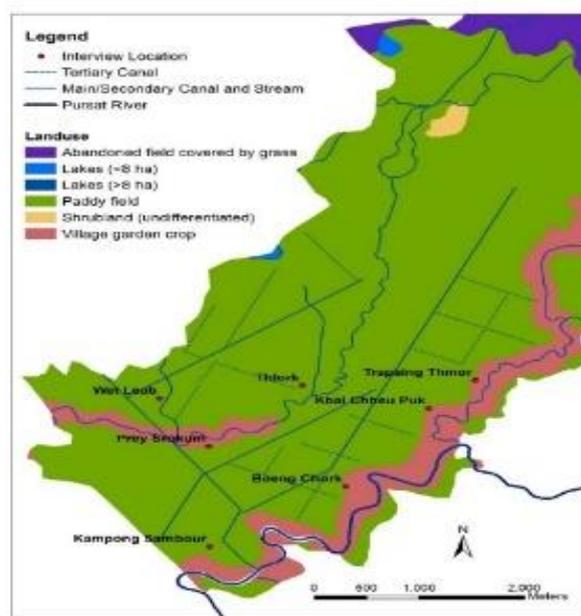


Fig.1 Map of study area

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each 7 villages. The Statistical Package for the Social Sciences (SPSS) 20 and excel 2010 version were used to analyze descriptive and frequency. GIS analysis on priority of irrigation scheme.

III. Results

- 1-To understand farmers' demographic characteristics and attitude toward participation in irrigation management;
- 2-To identify and rank obstacles for farmers' participation in irrigation management;
- 3-To study relationships between farmers' attitude and factors affecting them participation.

Table 1: Demographic Characteristics of Respondents

Characteristics	N	Min.	Max.		Mean	S.D
Age (years)	63	29	74		47.8	10.2
Education (years)	63	0	12		5.4	3.2
Household size (number)	63	2	11		5.5	1.9
Land size (ha)	63	0.7	12		3.0	2.2
Irrigated farm (ha)	63	0	6		1.7	1.4
Not irrigated farm (ha)	63	0	6		1.1	1.3
Agricultural experience (years)	63	6	38		27.4	11.2

Table 2: Perception of farmers on water allocation, N=63

Rank statement of respondents	None	Low	Average	High	Very High	Mean	S.D.
Water allocation	4	46	7	2	4	2.3	0.9
Necessary. Est. FWUC	5	3	21	6	28	3.8	1.3
Role & Responsible FWUC	13	14	12	8	11	3	1.5
Satisfaction water allocation	3	20	24	5	11	3.02	1.15
Awareness of ISP	11	9	13	7	23	3.2	1.5

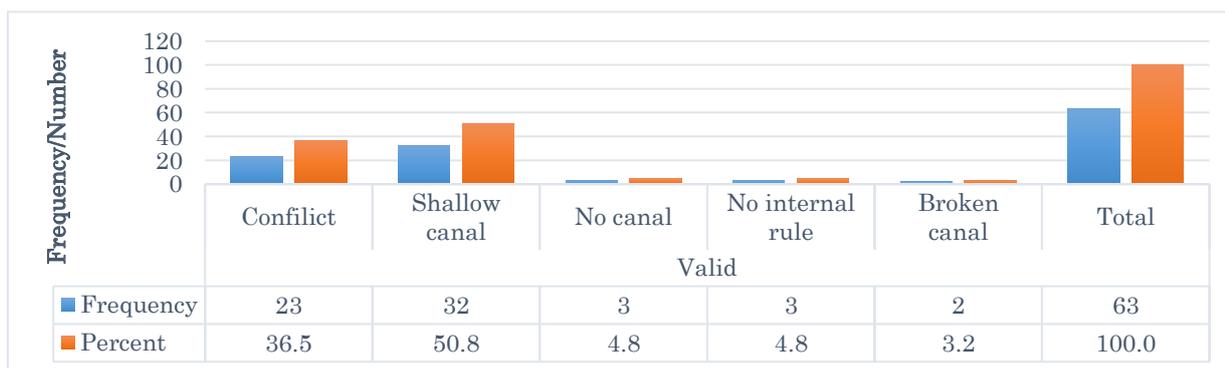


Fig.2 Problem of Irrigation Management

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