

The Dynamics of Water User Associations in a Large-Scale Irrigation System in Thailand

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Content

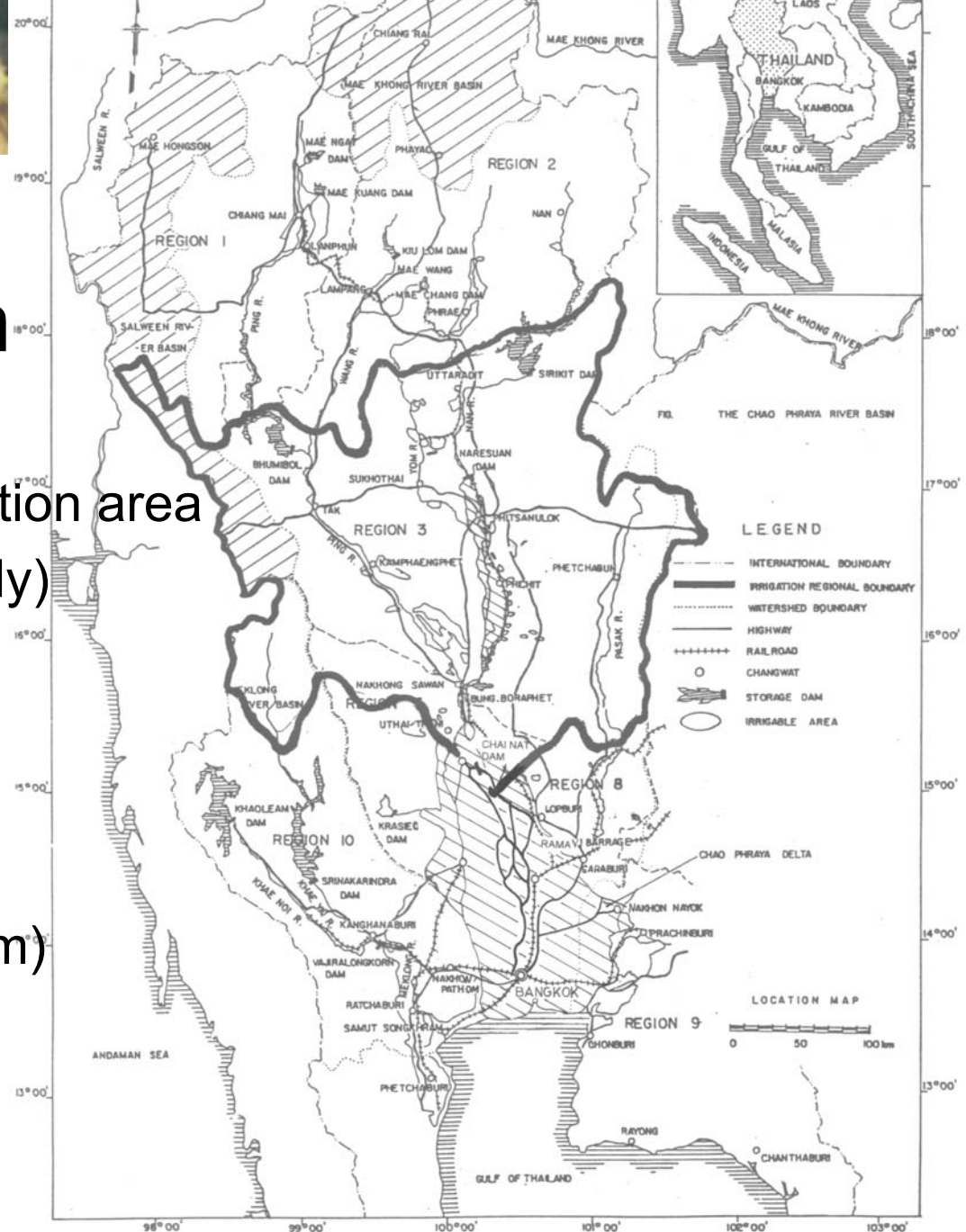
- The case study of Phitsanulok Irrigation System, Thailand
- Incentives and motives for participation in Water User Associations
- Changes in the need structure
- Analysis of the participation situation
- Challenges and chances for the community of water users

The case study of Phitsanulok Irrigation System



Phitsanulok Irrigation System

- 30,000 water users
- 91,580 ha of potential irrigation area
- 1-2 production cycles (paddy)
- Project construction 1977 - 1985.
- Characteristic
 - ➔ long and narrow shape
 - ➔ long main canal (179 km)
 - ➔ low gradients



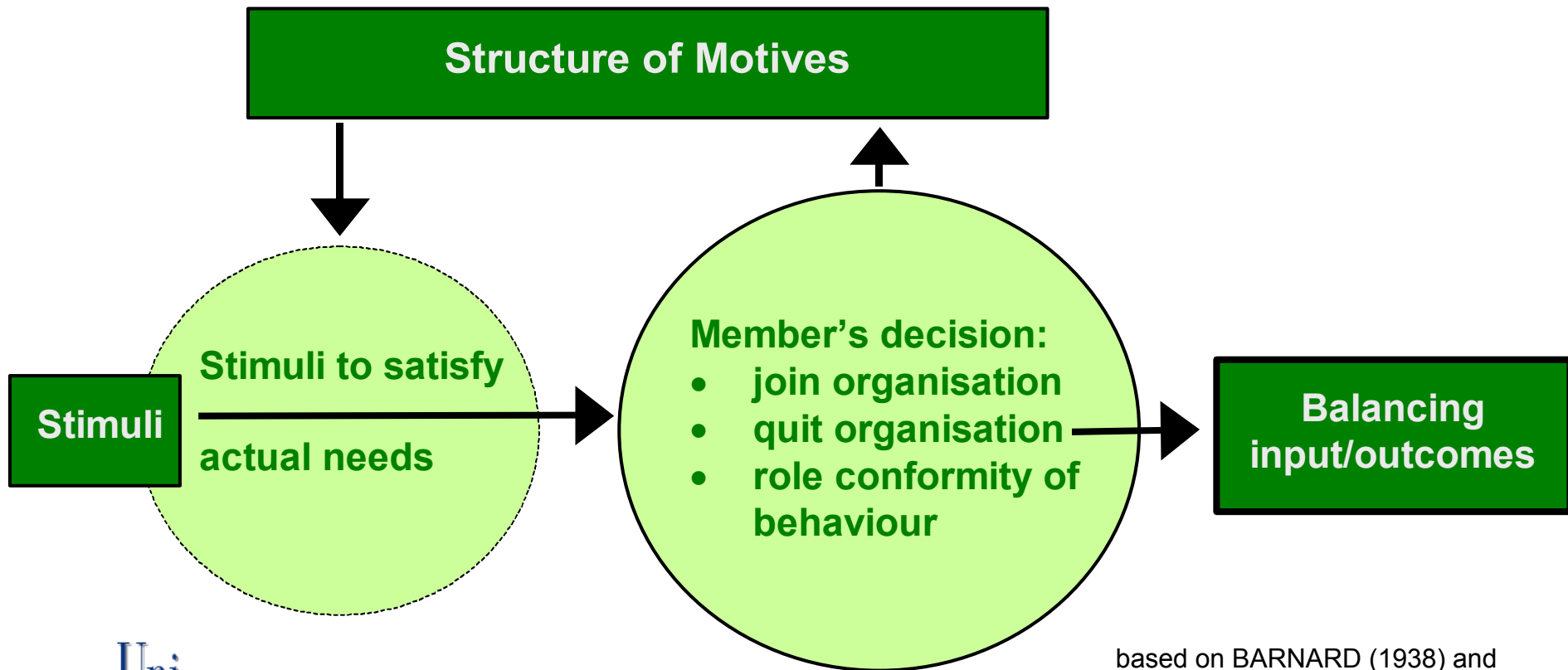
Organisation

- Public irrigation agency (RID)
 - ➔ Main system management
- Water User Associations
 - ➔ Water Users Groups (WUG) (43 % of service units)
Self-organised and financed O&M at lowest distribution level of a farm ditch, from which water is directly diverted to the plots.
 - ➔ Water User Cooperatives (WUC)
(very low representativeness)
larger command areas: 40 service units (WUG),
under Thai legislation for agricultural co-operatives

Incentives and motives for participation in Water User Associations



Farmers Contribution to the Farmers Association in Response to Stimuli



based on BARNARD (1938) and SIMON (1947) in HENTZE (1991)

Positive and negative factors for participation in WUG

type of need	incentives and motivators	disincentives and frustration factors
economic needs: existence needs and economic security	income increase related to participation	<ul style="list-style-type: none"> •no/insufficient income/security increase through participation •income/security increase also without participation •alternatives to WUA activities more effective
	an increase of security of the economic system for the farm household	
	represent the diverging individual interest against other individuals	individual diverging interests not represented in group
	influencing environmental conditions* via channel of a group representative	<ul style="list-style-type: none"> •the environment does not react to group claims •the environment does not respond more to group than to individual
	financial reward for activities for the benefit of the group	no reward for activities for benefit of group

* Environment comprises elements surrounding the farm/household: economic, ecological, political and social environment

Positive and negative factors for participation in WUG

type of need	incentives and motivators	disincentives and frustration factors
social needs: relatedness needs and growth needs	socialisation need, the urge to be member and not outsider	<ul style="list-style-type: none"> ● membership not/no more important because other social units are more important ● the group of outsiders is also strong
	the sense of having common interests	<ul style="list-style-type: none"> ● experience that others have different interests ● change of interests/ losing common interest
	feeling stronger in the group, also related to a strong group leader, to influence the environmental conditions	<ul style="list-style-type: none"> ● disappointment with the success of the group ● no need to influence environmental conditions ● no expected benefit from influencing environment
	a forum of achieving fair treatment and obtaining a fair share of benefits, either by consensus or through the authority of a leader	<ul style="list-style-type: none"> ● perception of being treated unfair by community or leader ● envy for benefit received by other members ● lack of authority of leader
	receiving acknowledgement for activities within the group, e.g. by becoming an elected representative	<ul style="list-style-type: none"> ● envy for acknowledgement obtained by other group members ● losing acknowledgement once obtained



Positive and negative factors for participation in WUG

type of need	incentives and motivators	disincentives and frustration factors
behavioural needs general security need to strive for avoidance	preservation of economic security by not being excluded from the local mutual assistance network	<ul style="list-style-type: none"> ●the local social security system is independent from the group membership ●outside social security systems develop ●the local mutual assistance network has failed
	preservation of social security by avoiding threats	<ul style="list-style-type: none"> ●group pressure in case of non-conformity not perceived/not

Identification of the most important person or institution for solving water related problems of farmers

	irrigation agency		Water User Association		village headmen		farmers themselves		politicians	
	No. of cases	%	No. of cases	%	No. of cases	%	No. of cases	%	No. of cases	%
head sub-system	28	31%	1	1%	17	19%	42	47%	1	1%
middle sub-system	17	34%	0	0%	6	12%	21	42%	6	12%
tail sub-system	37	29%	1	1%	37	29%	48	37%	6	5%
total sample	82	37%	2	1%	60	27%	111	51%	13	6%

Changes in the need structure



Changes of the production conditions

- Change from labour intensive manual plantation/transplanting and harvesting to highly mechanised technologies in HYV
- Spreading of private tubewells, water pumps
 - ***Higher independence from resource restrictions (labour, water)***
 - ***Decrease of need to cooperate among farmers***

Changes in the economic environment

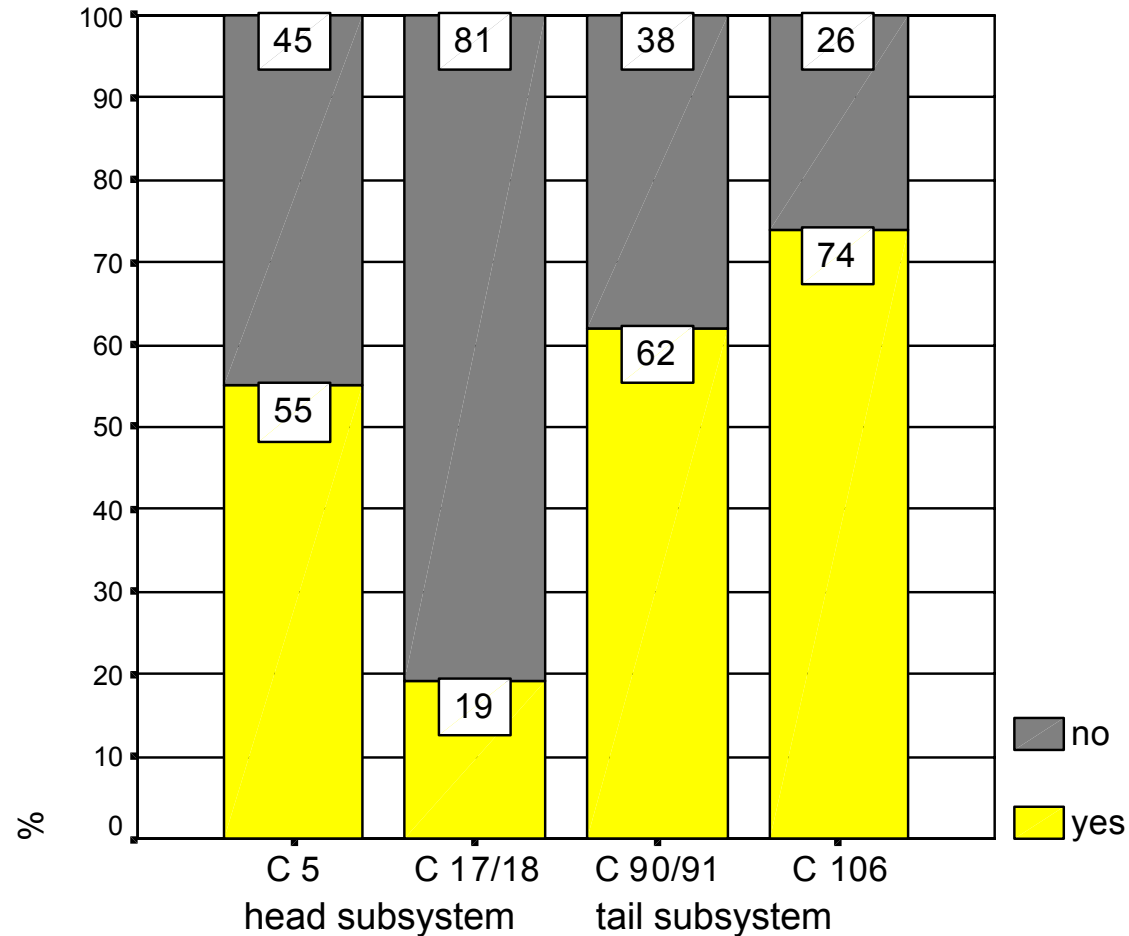
- Increased mobility
- Increased off-farm income opportunities
- Better access to markets
- ➔ ***Increased economic independence***
- ➔ ***Opportunity costs for irrigation O&M activities***

Analysis of the participation situation



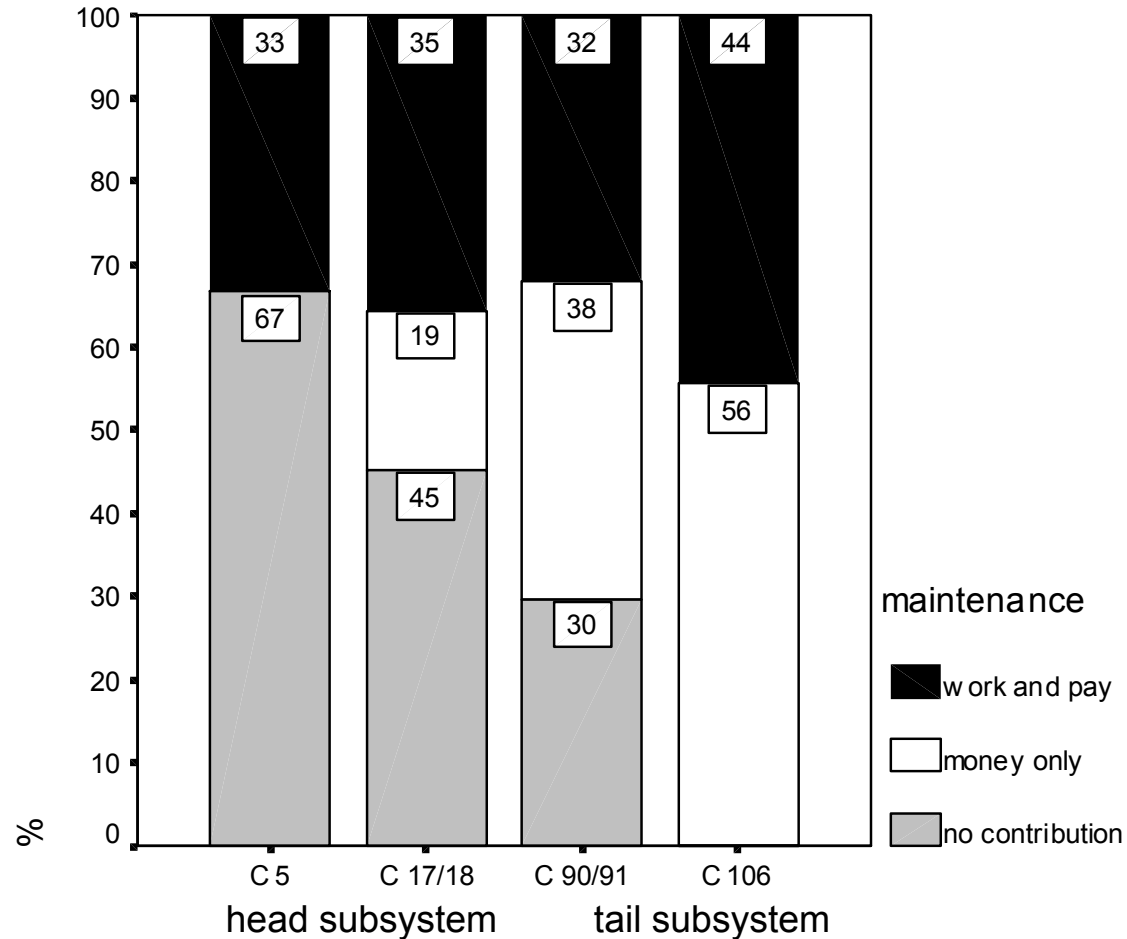
Perception of membership in WUG

Share of farmers considering themselves to be members of a WUG and who do not consider themselves to be members in samples of selected lateral canal service areas



Maintenance activities

Forms of participation in maintenance of farmers in samples of selected lateral canal service areas



Perception of fairness and WUG

Interdependence of participation frequency in WUG meetings and farmer perception of water distribution fairness and the general satisfaction level with the service unit irrigation system

participation frequency in WUG meetings	evaluation of water distribution			evaluation of WUG and service unit in general		
	fair	unfair	indifferent *	positive or to be improved	negative	indifferent *
always (N=97)	93%	2%	5%	82%	4%	13%
sometimes (N=41)	83%	0%	17%	61%	10%	29%
never (N=59)	39%	3%	58%	37%	24%	39%
no WUG (N=55)	35%	7%	58%	40%	24%	36%

Perception of fairness and maintenance

Interdependence of participation frequency in maintenance activities and farmer perception of water distribution fairness and the general satisfaction level with the service unit irrigation system

participation frequency in maintenance	evaluation of water distribution			evaluation of WUG and service unit in general		
	fair	unfair	indifferent *	positive or to be improved	negative	indifferent **
always (N=83)	54%	14%	31%	66%	2%	31%
mostly (N=61)	66%	7%	28%	69%	5%	26%
rarely (N=37)	62%	14%	24%	76%	3%	22%
never (N=55)	61%	17%	22%	61%	3%	36%

Challenges and chances for the community of water users



“No-problem” peace

- Groundwater pumping to compensate
- Irrigation service for free, so why complain?

BUT:

- ➔ *Increased economic pressure on public budget*
- ➔ *Water pricing for resource allocation*

Main obstacles for participation

- Large number of farmers in some service units
- Design of WUG as a group of land owners, excluding farm operators
- Lack of interest in irrigation system
 - ← deficient water delivery
 - ← lack of water pricing system

Rethinking the farmers' role

- Water pricing system:
 - ➔ Clear water right
 - ➔ compensation system
 - ➔ accountability of irrigation agency
- Responsive communication system among agency and water users
- Gradual transfer of responsibilities to water users

Communication potentials at farmer/agency interface

