Public Participation in Integrated Water Resource Management:

Villages in Lao PDR and the Mekong River Basin

by
Julia Ko

A thesis
presented to the University of Waterloo
in fulfilment of the
thesis requirement for the degree of
Master of Environmental Studies
in
Environment and Resource Studies

Waterloo, Ontario, Canada, 2009

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Several authors have challenged Integrated Water Resource Management (IWRM) as inoperable and technocratic for the issues surrounding water resources known as contemporary water resource politics. As a result, new methods and analytical frameworks have been suggested for IWRM that have been qualified as interdisciplinary water research. Interdisciplinary water research is proposed to be context-based and focused on politics and management. Thus, principles underlying IWRM, such as public participation are gaining more attention because those principles enable sustainable water resource decisions to achieve socio-economic and ecological equity.

This exploratory case study examines public participation in IWRM by looking at two villages in Lao Peoples Democratic Republic (Lao PDR). Participatory activities used to incorporate villages into water resource decisions are evaluated at different levels of government up to an international river basin organization known as the Mekong River Commission (MRC). The study uses a critical Third World political ecology perspective to elucidate water resource politics surrounding low levels of participation found among IWRM institutions in Lao PDR. Findings also reveal public participation in water resource decisions is politically complex. The participation of villages in water resource development decisions was related to issues surrounding national policies such as poverty alleviation, land allocations, resettlement, and swidden agriculture. Meanwhile, other types of participation were found in which villages could maintain control over their water interests. The study concludes more research is required surrounding water resource politics to better identify more effective and genuine participation of people whose livelihoods are dependent on water resources.

Keywords: Public participation, Integrated Water Resource Management (IWRM), international development, citizenship participation, critical Third World political ecology.

ACKNOWLEDGEMENTS

Fieldwork is an uncertain, humbling, but validating business. Many of the participants kindly gave me their time, in some cases their trust, their misgivings, and their resources to help me complete this study. I am uncertain as to the effect my work actually had on the villages studied. The villages and I were left with fond memories: folding and playing with paper airplanes, chewing on sugar cane, and engaging in what the Lao call *yulala,* (doing nothing in a good way). Rather, I found a relationship between the remote mountainous villages in my study, a vast network of organisations responsible for their water and land resources, and poverty alleviation.

I am grateful for being given the opportunity to conduct this study in the Lao People's Democratic Republic, and I met friends one could only meet within a life time. I would like to thank the people involved in the study. In no particular order, I would like to thank the German Agro Action because their generosity, trust, and patience enabled me to conduct research within their field sites. Without them, I doubt I would have been able to do the study. In addition, I would like to thank Dr. Gerd Foerch and Dr. Hubert Roth from the University of Siegen for their support in helping connect my research to their Asia-Link Programme, as well as Associate Professor Sengprasong from the National University of Laos. From the German Development Service (DED), I would also like to extend my gratitude to Jos Vander Zanden and Wolfgang Schunke. Lastly, I would like to thank PhomNgeng's Family for adopting me into their family, and taking care of me as one of their own.

I am indebted to the people who have and continue to support me in the writing and development at the University of Waterloo and at home (Vancouver BC). I am thankful for Paul Kay's generous supervision, patience, and support to develop and clarify the ideas in my thesis. I would also like to thank the Department of Environment

and Resource Studies for their support. And, I am grateful for the generous help of my committee members, Bruce Mitchell and David Wood, whose thoughtful insight and work pushed me to write a better thesis. And, lastly, to my friends and family, I will always be thankful and grateful, you know that, but the journey isn't over yet.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF MAPS

LIST OF BOXES

LIST OF PHOTOS

LIST OF ACRONYMS

ADB	Asian Development Bank
DED	Deutsche Entwicklungsdienst
GAA	German Agro Action
GMS	Greater Mekong Sub-Region Project
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
INGO	International Non-Governmental Organisation
IWRM	Integrated Water Resource Management
LNMC	Lao National Mekong Committee Secretariat
MRC	Mekong River Commission
MRCS	Mekong River Commission Secretariat
NGPES	National Growth and Poverty Eradication Strategy 2003
NSEDP	Sixth National Socio-Economic Development Plan 2006-2010
NGO	Non-governmental organization
UN	United Nations
UNESCO	United Nations Education and Scientific Cultural Organisation
UNDP	United Nations Development Programme
WB	World Bank
WWC	World Water Council
WRCC	Water Resource Coordinating Committee

CHAPTER 1: INTRODUCTION TO INTEGRATED WATER RESOURCE MANAGEMENT (IWRM)

Integrated water resource management (IWRM) is a process used in developed and developing countries to facilitate a sustainable management of water and water-related resources. IWRM attempts to balance multiple competing demands for water (Loucks, 2000; GWP, 2000; Jønch-Clausen, 2004; Warner, 2006) from water-dependent ecosystems and society (Millennium Ecosystems Assessment, 2005).

Perhaps the most familiar definition of IWRM amongst practitioners is from the Global Water Partnership (GWP), which defines IWRM as:

> "a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" (GWP, 2000: 22).

At the United Nations Earth Summit in Rio de Janeiro in 1992, Agenda 21 recognised IWRM as necessary to manage water as "a natural resource and a social and economic good, whose quantity and quality determine the nature of its utilization" (United Nations, 1992: Chapter 18, Programme Area A, Para. 8). Thereafter, numerous developments in the 1990s cemented IWRM as a prominent paradigm (Allan, 2003; Merrey et al., 2005; Conca, 2006; GWP, 2008). Conferences such as the International Conference on Water and Environment (1992), World Water Forums (since 1997), the International Conference on Freshwater Resources (2001), the World Summit on Sustainable Development (2002) and the Millennium Ecosystems Assessment (2005) affirmed that managing water resources was so complex as to require interdisciplinary action. In addition, IWRM has been adopted by several countries as an official policy, which is well documented in the Global Water Partnership Tool Box. National and sub-national levels of government have used IWRM to manage water systems such as the

Murray Darling Basin in Australia, Chesapeake Bay in the United States (GWP, 2008), and the Cross River Basin in Nigeria (Akpabio, 2007). And, IWRM has been used by multiple governments for international river basins such as the Rhine, Nile, and Mekong. Meanwhile, international expert networks such as the World Water Council, International Water Management Institute, and International Water Association have emerged, followed by private research institutes, governmental research organisations and non-governmental agencies such as the World Resource Institute, Stockholm International Water Institute, World Wildlife Fund, and WaterAid.

IWRM has several guiding principles: the Dublin Principles and the three "e"s. The Dublin Principles emerged from the 1992 International Conference on Water and Environment; their approach to water management integrates socio-economic and socio-political decision making with ecological decision making (see Box 1: Dublin Principles; Hermans et al., 2006).

The three "e"s for IWRM were developed by the GWP and are based on GWP's "perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quantity and quality determine the nature of its utilization" (GWP, 2008: http://www.gwptoolbox.org/index.php?option=com_principle&id=7). The three "e"s are economic efficiency in water use (due to the finite nature of water as a vulnerable resource); equity in recognising water as a basic right (in regards to both quantity and quality); and, environmental and

BOX 1: DUBLIN PRINCIPLES

Principle No. 1 – Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

Principle No. 2 – Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.

Principle No. 3 – Women play a central part in the provision, management and safeguarding of water.

Principle No. 4 – Water has an

ecological sustainability (in that water is a life-support system and present management cannot compromise the use of water for future generations).

1.0 IWRM: AS A POLITICAL PROCESS AND PUBLIC PARTICIPATION

The GWP affirms IWRM is a process (GWP, 2000; GWP, 2008). More specifically, IWRM is a political process requiring political reforms at all levels of government, from the local to the international scale (GWP, 2000; Fugl and Jønch-Clausen, 2001; Jønch-Clausen, 2004). Institutional reforms, such as the integration of different disciplines, departments, and ministries, are required to facilitate an integrated approach (GWP, 2000; Fugl and Jønch-Clausen, 2001; GWP, 2008). An integrated approach is needed because decisions about water are multi-facetted; water is value weighted as a finite resource with economic values and as a public good with normative values (Gleick, 1998; GWP, 2000; Blatter and Ingram, 2001; Hermans et al., 2006; Warner, 2006). Hence, the full value of water is the combined value of water as a finite, economic, and public good (GWP, 2000). Water decisions are often linked to the distribution or allocation of water (Blatter and Ingram, 2001; Collentine et al., 2002; Allan, 2003; Falkenmark et al., 2004; Warner, 2006). Consequently, IWRM decisions are political because they involve different interest groups with competing demands for water (Blatter and Ingram, 2001; Collentine et al., 2002; Allan, 2003).

Particular attention to the political complexity of water resources has emerged in critical discussions of IWRM. The Dublin Principles which make IWRM a modern approach as a political process (Hermans et al., 2006) have been challenged by Asit Biswas (2004, 2008). And, several authors have commented about the technocratic nature of IWRM that has hindered IWRM as a political process to be actively involved in political reforms (Banister and Scott, 2008; McDonnell, 2008; Warner, 2006). As a result, an investigation and prescription of new methods (McDonnell, 2008; Jeffrey and

Gearey, 2006; Falkenmark et al., 2004; Lankford et al., 2004) are suggested to evaluate IWRM that reflect the multiple uses of water (Warner et al., 2006) IWRM proposes to integrate in the arena of water resource politics (McDonnell, 2008; Banister and Scott, 2008; Poolman and Van de Giesen, 2006; Heyd and Neef, 2006). From these critical discussions, the possible emergence of a water sharing paradigm is suggested by the United Nations World Water Development Report 2 (WWDR2) (UN, 2006), explained further in Chapter 2.

As a guiding principle, public participation permits IWRM to reach the goal of ecological and socio-economic equity by involving the public in the decision-making process (Mitchell, 1990; GWP, 2000; Slocombe, 2004; Delli Priscoli, 2004; Creighton, 2005; Pangare et al., 2006). Public participation helps achieve a participatory decision-making process (GWP, 2000; Delli Priscoli, 2004; Creighton, 2005; Warner et al., 2006; Warner, 2006) by recognising different stakeholders within the public (HarmoniCOP, 2005; Warner, 2006; WWC, 2006; UNESCO, 2006; Newig and Özerol, 2008). Normative values can be incorporated into water resource management through public participation by using livelihoods perspectives and rights-based approaches (WHO, 2002; Butterworth and Moriarty, 2003; Merrey et al., 2005; Herman et. al, 2006; Warner, 2006). Furthermore, public participation illuminates larger democratic principles by showing transparency in how IWRM decisions are accountable and making IWRM decisions accessible to the public by establishing a working relationship with technical experts and decision makers (Collentine et al., 2002; Pahl-Wostl, 2002; HarmoniCOP, 2005; WWC, 2006).

For the purposes of this thesis, participatory decision making will refer to bringing the public into IWRM decisions. Participatory decision making is a bottom-up approach (GWP, 2000; International Conference on Freshwater, 2001). Corbett and Lane (2005) describe bottom-up approaches in environmental management as a

means to facilitate direct participation of local actors who may have access to endemic knowledge concerning natural resources in their area (Berkes, 1999; WWC, 2006). Public participation in decision making links people whose lives are affected by water and water-related resource decisions to the bureaucracies that manage them (Gayer, 1999).

1.1 QUESTION GUIDING THE STUDY

Because IWRM is context specific, how IWRM operates depends on where IWRM is being used. This study explores public participation in IWRM for a developing country by examining what control villages and villagers have in water resource decisions, in order to better understand the opportunities and barriers for villages to participate in IWRM decisions in a developing country. The question guiding the study is: how can villages participate in the integrated water resource management framework of an international basin?

1.2 IWRM: IWRM FOR DEVELOPING COUNTRIES

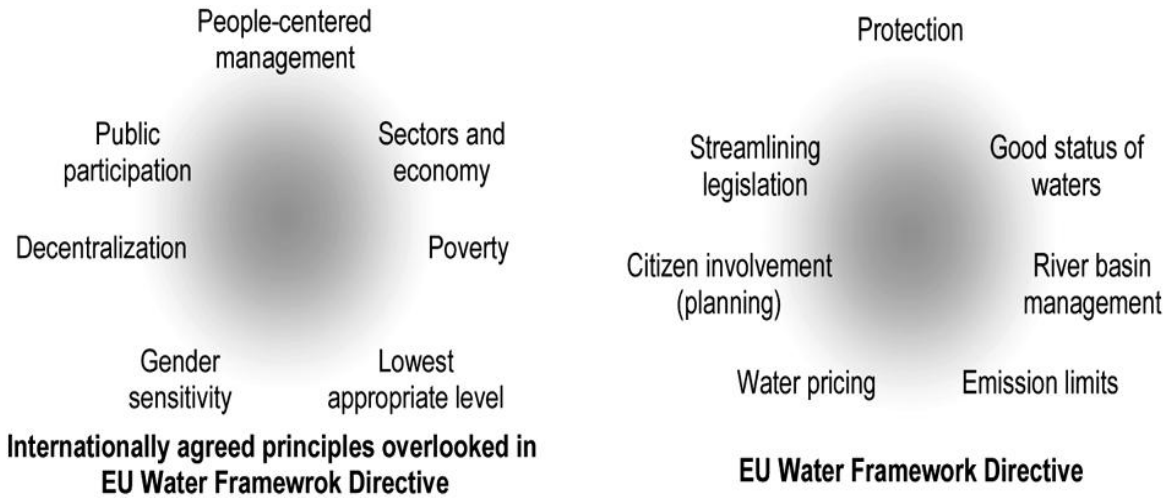
Jønch-Clausen (2004) suggests the diversity of IWRM applications is largely due to the varying contexts in which IWRM operates. IWRM is context specific. Context in IWRM refers to the specific geographical, historical, cultural, and economic characteristics of any country within which management occurs (Jønch-Clausen, 2004: 9). In other words, context influences or shapes how IWRM is used to manage water and water-related resources (Jønch-Clausen, 2004; Kallis et al., 2006a). Therefore, different countries may implement the principles of IWRM differently, according to their physical geographical constraints and their historical, cultural, and economic characteristics.

Differences in the ways countries use IWRM are often explained in terms of broad contextual generalisations that identify countries as developed or developing

(Butterworth and Moriarty, 2003; Rahaman et al., 2004; Merrey et al., 2005; Varis et al., 2006). The two groups of countries seem to have different water resource goals and different issues surrounding water resources. In a review of the goals in the European Water Framework Directive, Muhammad Mizanur Rahaman, Olli Varis, and Tommi Kajander (2004) compare the outcomes of several international conferences: the 1992 International Conference on Water and Environment, the 2000 Second World Water Forum, the 2001 International Conference on Freshwater, and the 2002 World Summit on Sustainable Development. They conclude that seven mismatches, demonstrated in *Figure 1*, exist between the principles of the European Water Framework Directive and the international principles for other countries, including developing countries.

FIGURE 1: SEVEN MISMATCHES BETWEEN INTERNATIONALLY AGREED PRINCIPLES AND THE EU WFD

.



Ultimately, Rahaman et al. (2004: 574) query the differences between the international principles for developing countries and countries in transition and the principles that guide the European Union. They ask, "does the EU require others—mainly developing and transition countries—to follow different principles than it requires from its member countries?" In an editorial by Olli Varis, Matti Kummu, and Marko Keskinen (2006, online document), the differences in water resource goals are said to have been shaped by history, the dependence of livelihoods on flows of natural resources, and the involvement of international development agencies.

Adding to the complexity of public participation in IWRM are the water resources themselves. Rivers can cross jurisdictional boundaries and countries' borders, which increases the levels of government, organisations, and people involved in decision-making. Managing an international river basin is beyond the capacity of one actor, political group, or nation to manage; thus, the study of hydropolitics illustrates how governments do or do not work with each other. Historically, top-down decision-making models, wherein bureaucracies make choices without consulting the public (Elhance, 1999; Milich and Varady, 1999; Pigram, 2000), have been ineffective in fostering legitimate, effective, efficient, accountable, and transparent decisions in international basins (Milich and Varady, 1999; Hemmanti, 2002; Falkenmark et al., 2004). Hence, linking international decision making to local scales by using bottom-up approaches such as public participation in water management is lauded as being able to integrate different stakeholders, promote enhanced governance, and decentralise decisions (Milich and Varady, 1999; Creighton, 2005).

1.3 ANALYSIS OF WATER RESOURCE POLITICS: POLITICAL ECOLOGY FOR IWRMS

The examination of public participation in IWRM fits within a field of study known as political ecology. Political ecology identifies several areas of focus that can be useful in this thesis. Political ecology is the examination of natural resource decisions within a political economy with a "clear notion of ecology" (Blaikie and Brookfield, 1987; Bryant and Bailey, 1997:2). Or, political ecology can also be described as the examination of the relationships among society, space, and nature by looking at how decisions are constrained, transformed, or enabled by nature or natural resources (Peet and Watts, 2004: 10) in which politics takes precedence (Latour, 2004a). This study identifies with political ecology, specifically a critical Third World political ecology that combines critical political ecology and Third World political ecology; this will be further explained in *Chapter 2, Public Participation and IWRM*.

Political ecology clarifies the political complexity surrounding public participation in IWRM decisions in several areas, which addresses the aforementioned critical discourse from several authors (Biswas, 2008, 2004; McDonnell, 2008; Banister and Scott, 2008; Jeffrey and Gearey, 2006; Falkenmark et al., 2004; Lankford et al., 2004). Political ecology centres upon the relationship between ecology and society at a local level within a political economy such as a provincial, national, or international level, for natural resource decisions (Blaikie and Brookfield, 1987; Bryant and Bailey, 1997); thus it is possible to examine public participation at a local scale in IWRM.

A multi-level and multi-scaled field of study, political ecology looks at the relationship between society and nature at different levels of government and different levels of physical scale (Bryant and Bailey, 1997; Peet and Watts, 2004). Thus, multi-level analysis can aid in determining how levels of government and organisations are involved with the public. Offering a theoretically diverse and robust foundation, political ecology also incorporates social theory, Neo-Marxism, feminism, and critical

theory (Forsyth, 2003; Robbins, 2004; Latour, 2004b; Walker A, 2006). Last, the centrality of power, the control over the "environment and ability to allocate human and financial resources to projects and problems", in political ecology can aid in understanding water resource politics (Bryant, and Bailey, 1997: 41-42).

1.4 CASE STUDY: LAO PEOPLE'S DEMOCRATIC REPUBLIC AND THE MEKONG BASIN

The case study examines public participation in IWRM for Lao People's Democratic Republic (Lao PDR or Laos). Lao PDR is trying to implement IWRM and therefore one of the principles in IWRM, participatory decision making. Lao PDR can be described as a developing country because it demonstrates uneven applications of market-orientated reforms (Hart, 2001), such as special economic zones, and political economy, in trying to develop natural resources within its borders (Ong, 2006). In addition, Lao PDR has experience with international financial institutions, international donors, and international development agencies. Moreover, Laos has different experiences with democracy and citizenship than Western countries; it has a history marked by colonialism, the Cold War, and international intervention.

Lao PDR is one of six riparian states (China, Myanmar, Thailand, Cambodia, Vietnam) sharing the international Mekong Basin. Thailand, Cambodia, Laos, and Vietnam belong to an international river basin organisation known as the Mekong River Commission (MRC) for the Lower Mekong River Basin. As a member state within the MRC, the Lao Government, like those of the other riparian states, is attempting to implement and operate an IWRM framework. In particular, the MRC is using the GWP's definition of IWRM. High profile international stakeholders, such as ministries and international financial institutions, are also involved in the political landscape of Laos within which IWRM operates. Above all, the IWRM decisions made by the Lao

Government and other riparian states of the Mekong affect people's livelihoods in the Mekong Basin, specifically, villages which are affected by water resource decisions.

1.4.1 SECONDARY QUESTIONS

Because public participation in IWRM for Lao PDR is complex, secondary questions are used to support the primary question by dividing the subject conceptually:

1. How is IWRM institutionalised and operational for Lao PDR?
2. What is the role of public participation in IWRM for Lao PDR?
3. What organisations are involved in the public participation for IWRM, and in what activities do they engage in Lao PDR?
4. What are the benefits from and limitations to public participation in IWRM for Lao PDR?

1.4.2 OBJECTIVES

In order to answer these questions, the objectives of this study are:

1. Describe IWRM for a developing country such as Lao PDR in practice, and for villages as members of the public participating in IWRM.
   Relates to Secondary Questions 1 -3

2. Explore the range of public participation activities, and the organisations formally related to IWRM and similar to IWRM, or informally related to IWRM, taking place in villages.
   Relates to Secondary Question 3

3. Classify both formal and informal public participation in IWRM activities and identify opportunities for and barriers to public participation, according to the academic literature.
   Relates to Secondary Question 4

4. Identify avenues and consequences of public participation through the comparison of public participation in IWRM and informal IWRM activities to the academic literature.
   Relates to Secondary Questions 4

1.5 METHODOLOGY USED IN THE STUDY

The study can be described as a qualitative case study that explores a contemporary phenomenon (Yin, 2003: 41-54). Using multiple types of data from multiple methods, the study investigates public participation in IWRM for Lao PDR in the Mekong Basin using multiple embedded units for the analysis. These units are the actors or organisations directly involved with IWRM, such as ministries, donors, and commissions, and those indirectly involved such as international non-governmental organisations, consultant agencies, and sub-national departments. Within these units are sub-divisions and individuals that are the embedded units of analysis—departments, task forces, working groups, consultants, etc. (Yin, 2003: 13). For instance, a unit of analysis could be the Ministry of Agriculture and Forestry, and the embedded unit within the Ministry could be a Department of Irrigation, which itself consists of multiple embedded units, which could be the director of an irrigation program, the international agency monitoring the progress of that irrigation program, and the funding agency enabling that irrigation program to happen.

Over nine months in Lao PDR, institutions directly involved with IWRM, that is, levels of government and the organisations affiliated with those levels of government which make IWRM decisions and policies as well as implement IWRM were identified. These institutions were identified as embedded units comprising ministries, sub-divisions of those ministries, departments, institutes, organisations, and individuals. To gather data, the following methods were used: interviews; a primary desktop literature review (a literature review done prior to field work); an on-site literature review; participant observation; physical evidence; and participatory rural appraisals. From August 2006 to April 2007, I collected data using an iterative four-part method of inquiry (explained in *Chapter 4*) to place the data in the context of Lao PDR and IWRM to answer the secondary research questions. Prior to conducting field work, the

study was reviewed by the Office of Research and Ethics at the University of Waterloo, and given clearance on August 6, 2006.

1.6 ACADEMIC JUSTIFICATION AND CONTRIBUTION:

The study can be described as an interdisciplinary study within the social sciences. The study contributes to filling a gap in literature concerning public participation in IWRM for a developing country and the water resource politics surrounding IWRM (UNESCO, 2006; WWC, 2006; Kallis et al., 2006a; Kallis et al., 2006b; Banister and Scott, 2008; McDonnell, 2008). The study also contributes to the increasing literature suggesting IWRM should be livelihoods based and focused upon citizen rights at a domestic household level (Butterworth and Moriarty, 2003; Merrey et al., 2005; Herman et al., 2006; Warner, 2006).

This study uses political ecology as a means to examine the water resource politics surrounding public participation in IWRM at different scales from the village to an international basin. The use of a political ecology analysis in IWRM is relatively new, as only a few authors (Allan, 2003; Browning-Aiken, 2005) have studied political ecology as it relates to other disciplines such as international development, political science, geography, and anthropology. In addition, this study is an exploration of political ecology outside of the basic land-based studies by looking at contemporary water resource politics that incorporate decisions on land (Bryant and Bailey, 1997: 192; Walker, 2005; Walker A, 2006).

1.7 APPLIED CONTRIBUTION AND SIGNIFICANCE TO AUDIENCE

Upon completion, the thesis will be provided to the National University of Lao PDR and future IWRM programs in the Mekong Basin upon request. Participants involved in the study will have access to this study through an open URL. Furthermore, the study will be accessible through the DirectoryofNGOs.org, a comprehensive

website for donors, international non-governmental organisations, universities, and research institutes, detailing the activities of a majority of the International Non-Governmental Organisations (INGOs) working in Lao PDR. The study will also be submitted to the Mekong River Commission Document Library and MekongInfo.org, a free online database of research related to the management of the Mekong River. The thesis will also be sent to M-Power (a NGO monitoring participation in the Mekong Basin), TERRA (Towards Ecological Recovery and Regional Alliance) with the intent that it be published in their journal *Watersheds: People's Forum on Ecology*, *Juth Pakai* (a UNDP journal on development in Lao PDR), and the Australian Mekong Resource Centre.

I regret the villages involved in this study did not directly benefit from the study. However, this study provides a record of how IWRM is being used in one developing country and demonstrates how poverty alleviation is integrated into decisions about land and water resources. Real-time recommendations, or recommendations while in the field, were given to field operators who worked with the villages, and training was provided for both local research assistants who accompanied me during the field work, which they have used to further their careers. Many of the professionals working in Lao PDR in IWRM and international development were exceptionally supportive of this study, as they were interested in bridging a perceived gap between theory and practice. As mentioned in the section *Applied Contribution and Significance to Audience*, an open URL will be made available to various organisations and research bodies.

1.8 ORGANIZATION OF THE THESIS

In the following chapters, this thesis investigates public participation in IWRM for Lao PDR. This investigation examines how a segment of the public, villages, whose

livelihoods are connected to water resources, are able to participate in IWRM for the Mekong Basin under the MRC at a macro scale. The literature review in *Chapter 2: IWRM and Public Participation* further elaborates upon elements of public participation in IWRM, exploring the composition of the public as water users, stakeholders, and citizens, as well as the methods or activities organisations use to engage the public. The literature review introduces political ecology as a means to analyze the research question for the study. *Chapter 3: Lao PDR and IWRM* provides a brief overview of Lao PDR and IWRM. *Chapter 4: Methodology* discusses the qualitative methods and methodology used to assess the level and degree of control that villages have in IWRM decisions. Data collected according to this methodology is presented in *Chapter 5: Case Study—Remote Mountainous Villages in Lao PDR*; presented according to the criteria identified in *Chapter 2: IWRM and Public Participation* to assess the level and degree of public participation in Lao PDR. Specifically, *Chapter 5* presents using a multi-level approach, outlining the organisations involved, their mandates (policies and water interests), their activities, how they approach villages, and their direct involvement with villages. In *Chapter 6: Discussion and Conclusion*, public participation in IWRM is discussed within political ecology as a field of study in order to better understand the relationship between water resources and the public. The conclusion elucidates the progress of public participation in IWRM for Lao PDR as it relates to the progress toward wider goals of socio-economic and ecological equity in IWRM.

CHAPTER 2: PUBLIC PARTICIPATION IN IWRM

2.0 INTRODUCTION

This chapter outlines the politics surrounding water resources that seems to be missing from IWRM, as suggested by McDonnell (2008), Banister and Scott (2008), Warner et al. (2006), and Allan (2003) that fit within the emergence of a water-sharing paradigm (UNESCO, 2006; WWC, 2006). Public participation in IWRM is related to contemporary water resource politics since politics affects public participation. Water sharing is an emerging paradigm that has increased the attention to public participation in IWRM.

Public participation in IWRM is needed to reach decisions that are socio-economically and ecologically equitable. There are different levels (describing degrees of citizen power) at which the public is involved in IWRM decisions as users, stakeholders, or citizens. These different levels are used for the conceptual framework of this thesis. However, the conceptual framework is unable to address the issue of the effect that contemporary water resource politics has on public participation in IWRM. Thus, an analysis using a critical Third World political ecology field of study is proposed. By looking at public participation in IWRM within the context of contemporary water resource politics, this thesis seeks to better understand the relationship between the public and IWRM decisions.

2.1 PUBLIC PARTICIPATION IN AN EMERGING PARADIGM

The United Nations World Water Development Report 2 (WWDR2) (2006) describes water sharing as an emerging paradigm. *Chapter 11: Sharing Water* states that the water sharing paradigm "emphasizes integrated management, the duty to cooperate, equitable utilization, sustainable use, minimization of harm and true cost, in addition to public participation" (UNESCO, 2006: 376-377). Public participation is

necessary because it decreases political tensions, promotes reaching decisions by consensus, and assists in finding reasonable and acceptable solutions (UNESCO, 2006). The search for a new paradigm, such as water sharing, has emerged from several areas:

- new judicial norms such as the establishment of water as a public good under communal control,
- flexible institutions which help to clarify ownership,
- the establishment of competent legal authorities to enforce decisions,
- the establishment of transparent national policies and mechanisms for coordination,
- a focus on demand-driven water policies,
- new concepts of water types (blue and green water, and virtual water),
- and public participation (UNESCO, 2006: 377).

The renewed focus on public participation in IWRM was also discussed in the 2006 Fourth World Water Forum by the World Water Council (WWC) and the European Union's Water Framework Directive (EU WFD). The Synthesis Paper from the WWC Forum (2006) develops the idea of public participation as a political asset. It suggests that public participation enables the use of local knowledge for risk management, aids in the transfer of technology, creates social networks of awareness, and furthers innovation (WWC, 2006). The EU WFD exemplifies the use of public participation (WWC, 2006) since public participation in water resource planning has been given "new institutional stature" by the EU WFD, according to Kallis et al. (2006a). Public participation plays a key role in the EU WFD and is required by legislation (WWC, 2006). The European Union commissioned the HarmoniCOP Project in November of 2002 to produce a practical guide outlining the major concepts of public participation for the EU WFD and steps for implementation.

2.1.1 THE POLITICAL NATURE OF WATER

The water sharing paradigm comes from a better understanding of the politics of water. Water has multiple values that cannot be readily transformed into monetary values (Acreman, 2001: 257; Blatter and Ingram, 2001). Water is valued as a resource, a communal good, a human right (see Gleick, 1997; WHO, 2002), an ecological right (see Falkenmark et al., 2004) and an economic resource (see Dublin Principles; Blatter and Ingram, 2001). The multiple values make decisions about water use, water management (WB, 2004; WWC, 2006) and the integration of water-related sectors (Allan, 2003; WB, 2004) political in nature (Allan, 2003; WB, 2004; WWC, 2006).

IWRM is political because, as the WWDR2 (2006: 47) writes, "water is power, and those who control the flow of water in time and space can exercise power in various ways". The WWC Synthesis Report (2006: 16) states:

> "Contemporary water polities reveal the existence of great societal and cultural diversity among user groups with very different understandings, interests, and perspectives about water issues; a situation that complicates the water policy process. Hence, IWRM plans should aim to acknowledge social disparities and political pluralism in order to proceed to establish the necessary water governance structures capable of dealing with decision making and conflict resolution in a democratic and egalitarian manner."

Water sharing acknowledges the political nature of water because it recognises the multiple values of water and the diversity of users (Warner et al., 2006). Moreover, water decisions embody risk, uncertainty, and vulnerabilities that go beyond the abilities of technical experts to assess or single stakeholders to represent (Creighton, 2005). Thus, the participation of all users is sought (WWC, 2006). When responsibility is shared between decision makers (i.e., political institutions and bureaucracies) and the public, it can lead to more equitable socio-economic and ecological outcomes

(WCD, 2000; International Conference on Freshwater Resources, 2001; Dubash, 2001; Collentine, et al., 2002; Mostert, 2003; Delli Priscoli, 2004; Bandaragoda, 2005; Lundqvist, 2006; Conca, 2006). Hence, public participation continues to be an important principle in IWRM because the public involves users with multiple values regarding water.

2.1.2 WATER ALLOCATIONS

IWRM involves the distribution of water, and IWRM decisions are supposed to incorporate all water users affected by the changes to the distribution of water (Warner et al., 2006; Hermans et al., 2006). In a working paper, Allan (2003) suggests water allocations are the source of water politics because different stakeholders, each with different capacities, determine the distribution of water. Kallis et al. (2006b) and Banister and Scott (2008) depict political issues surrounding water allocations in IWRM. In an investigation of stakeholders in Naxos, Greece, Kallis et al. (2006b) demonstrate that water allocations are the central source of socio-political and economic tension between water users at different levels of government. Banister and Scott's 2008 case study examines the decentralisation of water resources in the Yaqui River Basin in Mexico. They argue that water allocations were "a critical source of state authority in a context of declining federal power in the management realm" (Banister and Scott, 2008: 67), thereby making water allocations a central part of federal and regional politics.

Nonetheless, contemporary water resource politics appears nascent. Scott and Banister (2008: 63) suggest that technocrats and decision makers continue to ignore the "deeply social, political and cultural nature of the hydrological systems [they] control." Warner et al. (2006: 4) write, "IWRM and adaptive management have tended to overlook the 'human factor'." By "human factor," Warner et al. (2006) mean the diversity of water users and the multiple uses of water that are not necessarily reflected in

market prices (Acreman, 2001). McDonnell (2008) suggests that more research and discussion are required to investigate water allocations made through the complex water politics in IWRM. She suggests that IWRM decisions based on a scientific agenda to measure the accuracy of water supply is inadequate to address issues surrounding the equitable distribution of water. The observations of Ingram et al. (2008) are similar. As they conclude unless equity in water use is secured for all users, water reforms which seek to increase efficiency in the use of water resources will fail to meet the goal of sustainable water resource management.

2.2 IWRM: NEEDING NEW METHODS

2.2.1 IWRM: CRITICAL LITERATURE

IWRM has been challenged, most notably by Asit Biswas (2004). In "Integrated Water Resource Management: A Reassessment," Biswas (2004: 253) argues that IWRM is "a nostalgic approach to a broader and more holistic way to manage water, as may have been possible in the past." He argues that IWRM is based upon the principle of reductionism. Furthermore, Biswas (2004) argues that IWRM's attempt to integrate water and water-related sectors, such as water and energy, is unmanageable institutionally and therefore undesirable, if not counterproductive. Moreover, Biswas challenges IWRM as a political process, saying that, as a road map, IWRM lacks a starting point, a destination, and indicators of progress. He also claims "objectives like increased stakeholder participation, decentralization, and decision making at the lowest possible level are unlikely to promote integration" (255); he thus challenges the utility of participatory decision making (the Fourth Dublin Principle) as a principle in IWRM.

Mitchell (2004) rebuts Biswas, pointing out there is a difference between the normative and operational functions of IWRM. He agrees that the concerns about the

political reforms IWRM requires are relevant, including the likelihood of disciplinary and departmental conflicts, turf wars, and operational uncertainty in similar departments such as energy and water. However, he points out that conceptually IWRM remains robust and that Biswas does not offer an alternative to achieving sustainable management of water resources when water is so clearly connected to other sectors such as energy, food, health, and transportation. Furthermore, the lack of evidence to back Biswas's general claims that IWRM is undesirable leaves the reader questioning if there are any alternatives to such a widely used concept.

Biswas (2008) has re-iterated his earlier claims but addressed certain inconsistencies in his argument. His overall dissatisfaction with IWRM remains. He asks "a very fundamental question: why it has not been possible to properly implement a concept that has been around for some two generations in the real world for macro- and meso-level water policies, projects and programmes?" (2008: 21). Stating that critics of IWRM have been ostracized, Biswas writes that practitioners of IWRM are uncritical and not very accepting of criticism. Biswas claims that the international community did not agree to the Dublin Principles that make up IWRM; rather, the Dublin Principles were decided on by a few experts during a meeting. Biswas also castigates the Global Water Partnership for its work in increasing the popularity of IWRM, which he says is a waste of resources. In an attempt to present more evidence to back his claims, Biswas offers a literature review, which was not included in the first article. From this literature review, he finds three "unwelcome developments." First, he claims that no clear definition of IWRM exists, despite the continued acceptance of IWRM. Second, he says that IWRM has produced only meager results. Third, he says that IWRM needs "an objective, impartial and undogmatic assessment of the applicability of integrated water resources management" (2008: 21).

Evidence in Biswas's 2008 article to support his claim that IWRM is undesirable remains problematic if not inconsistent. The adoption of IWRM by several countries (see GWP, 2008) in practice, by international conferences, by expert networks, by research institutions, and by non-governmental organisations refutes Biswas's claim that the Dublin Principles, and therefore IWRM, have not been accepted by the international community. As well, he offers no alternatives to IWRM. Therefore, Biswas' argument is incomplete for two reasons; it overlooks the gains in both theoretical and applied knowledge from IWRM, and it overlooks the importance of timeliness, as some water issues are pressing. Biswas continues to claim IWRM is reductionist, but his call for an impartial, undogmatic, and objective assessment has two contradictions (2008: 21). First, the premise IWRM is reductionist contradicts the definition of IWRM as a context-specific and interdisciplinary concept, as pointed out by Mitchell (2004). Second, an ontological and epistemological contradiction exists. Biswas inadvertently implies there is a two-sided argument between reductionist and constructivist positions, that a "right" and "wrong" exists, and that the world is indeed moving in a progressively reductionist trend. This position contradicts the relativist claim that the increasing complexity of water has "reduced disciplinary knowledge" in a twenty-first-century world characterised by interdisciplinary knowledge (Biswas, 2004; 2008).

2.2.2 IWRM: INTERDISCIPLINARY WATER RESEARCH AND METHODS

Other critics, such as Jeffrey and Gearey (2006), are more particular, citing the difficulties of obtaining data and reports to provide evidence supporting IWRM. Jeffrey and Gearey (2006)'s brief review of the critical literature looks at the gap between the theory (policy) and practice (the implementation of policy) of IWRM (Jonker, 2002). These findings are supported by the findings in a joint paper by the International Water Association and the United Nations Environment Programme (2002). Jeffrey and Gearey

(2006: 4) conclude that the type of science that IWRM uses should be acknowledged, rather than IWRM being dismissed altogether:

> "we envisage a need for the development of new metrics (things to classify or measure), techniques (ways of classifying or measuring), and analytical frameworks (perspectives on the utility of classes or measures)".

Lankford et al. (2004) elaborate on this "type of science" as a "new type of science" representing interdisciplinary water research. Falkenmark et al. (2004) discuss the purpose of interdisciplinary water research as being a water science in which water for nature is non-negotiable in terms of management. However, Kallis et al. (2006b) in a separate editorial explain that although water science has a definite place in IWRM, the role of interdisciplinary water research is also to look at context-based approaches. In other words, the growing understanding about the political nature of water has made contemporary resource politics a part of interdisciplinary water research (UNESCO, 2006; WWC, 2006; Kallis et al., 2006b; Banister and Scott, 2008).

McDonnell (2008) suggests the information on which IWRM practitioners base their decisions is an ontological problem (2008). She explicates how the physical data used for science-based decisions are concerned with accuracy in measuring water supplies. This type of knowledge, she explains, is maladapted to measure judicial power, capacities of actors, and the water interests that make up water resource politics (2008: 141). McDonnell (2008) suggests that case studies can be used to assess contemporary water resource politics and governance in IWRM by using multi-levelled stakeholder analysis (see Kallis et al., 2006b; Poolman and Van de Giesen, 2006; Heyd and Neef, 2006; Banister and Scott, 2008). Thus, appropriate methods in stakeholder analysis are appropriate for the examination of contemporary water resource politics in IWRM.

2.3 PUBLIC PARTICIPATION IN IWRM: NECESSARY FOR SOCIO-ECONOMIC AND ECOLOGICAL EQUITY

Public participation has expected outcomes in IWRM. Listed in the EU WFD preamble 14, these outcomes are distilled by HarmoniCOP (2005) to be learning together and managing together through social learning. Social learning in public participation is said to build trust, develop consensus, resolve conflict, and find joint solutions that are technically sound and implementable (HarmoniCOP, 2005). Social learning involves having stakeholders understand the technical aspects of river basin management and recognise other stakeholder interests in order to find solutions (HarmoniCOP, 2005). The caveats regarding public participation are that social learning is resource intensive and that no specific outcome of social learning can be defined. In addition, social learning is about sharing responsibility between the government and public, and cannot be imposed (HarmoniCOP, 2005: 4).

Public participation is expected to improve the quality of IWRM decisions by making them effective, equitable, legitimate, and socially feasible through social learning, decentralisation, and governance (International Conference on Freshwater Resources, 2001; Collentine, et al., 2002; Mostert, 2003; Delli Priscoli, 2004; Bandaragoda, 2005; Lundqvist, 2006; Conca, 2006; Newig and Özerol, 2008). Özerol and Newig (2008:641) list several objectives that motivate and justify the use of public participation:

- increasing public awareness of environmental issues;
- increasing the quality of decisions by drawing on local knowledge;
- social learning and developing a shared understanding of the problem dimensions;
- less litigation, fewer misunderstandings, fewer delays and more effective implementation;

- public acceptance, commitment and support with regard to decisions and plans;
- stronger democratic legitimacy of decisions since the public is allowed to have a say in and/or an influence on the decisions at stake;
- social goals such as the building of trust in institutions.

2.3.1 EXPECTED OUTCOMES: LOWEST APPROPRIATE LEVEL

Public participation in IWRM increases the quality of decisions through the principle of subsidiarity, which essentially leads to the decentralization of decision making regarding water resources (International Conference on Freshwater Resources, 2001; WB, 2004; WWC, 2006). The principle of subsidiarity identifies the lowest appropriate level of management for equitable and efficient solutions (Brooks, 2002; Butterworth and Moriarty, 2003; Ribot, 2004; Warner, 2006). The lowest appropriate level can be defined, according to Føllesdal (1998), as a sub-unit of a greater organisation, such as the nation-state. Yet, the nation-state may intervene where the local level cannot achieve a desired outcome independently (Føllesdal, 1998: 194).

2.3.2 EXPECTED OUTCOMES: DECENTRALISATION

Decentralisation is supposed to increase the efficiency, efficacy, and equity of natural resource management to reach ecological sustainability (Ribot, 2004; Lundqvist, 2006; WCC, 2006). Decentralisation changes the distribution of power by handing greater authority to local authorities and citizens to make natural resource decisions, thereby enabling local level decisions to be relatively autonomous (Ribot, 2004). This process can rely on non-governmental organisations known as civil society organisations (Brannstrom et al., 2004; Ribot, 2004; WWC, 2006). Civil society organisations are frequently seen as a means to decentralise citizen power because in theory they can identify and respond to resource needs quickly, so that local issues can be placed within a broader national context (Brannstrom et al., 2004; Ribot, 2004;

WCC, 2006; GWP, 2008). Hence, the participation of the public involves organised civil society groups (GWP, 2008). These groups institutionalise IWRM through "deliberative and participatory institutions like river basin organizations, micro-basin committees and groundwater committees" (WWC, 2006:15).

2.3.3 EXPECTED OUTCOMES: GOVERNANCE

Broadly speaking, "good" governance or normative governance describes decisions that are transparent, accountable, collaborative, accessible, and democratic (Hemmati, 2002; Adger et al., 2003; Eckerberg and Joas, 2004; Millennium Ecosystems Assessment, 2005; WWC, 2006). For the purposes of this thesis, the definition of governance, particularly water governance, is based on the GWP definition (2003). The GWP identifies governance as a distributed system composed of different parties with different roles and responsibilities. These different parties are the government, civil society, the private sector, and individuals. Water governance, according to the GWP, is based on a balance of power and actions at different levels of authority that develop water resources for national socio-economic goals (GWP, Dialogue on Effective Water Governance, 2003: 2). The premise of water governance is that the nation-state or national government alone cannot solve societal problems and reach equitable, efficient, and effective management of water as a finite resource (GWP, Dialogue on Effective Water Governance, 2003: 6; Newman et al., 2004; Finger et al., 2006). In terms of operation, governance has been described by the WWDR2 (2006: 48) as "the exercise of power in policy-making and whether or not to implement particular policies".

2.4 PUBLIC PARTICIPATION: COMPOSITION AND ANALYSIS

2.4.1 COMPOSITION OF THE PUBLIC

Public participation depends upon the definition of the public as users, stakeholders, or citizens in order to determine the type of participation in which the

public is involved. The classification of "water users" implies an organisation or water user association which constitutes a civil society (GWP, 2008). Extending beyond the physical boundaries of the catchment, water users include those who benefit from the trade and services of a catchment, such as through the supply of water through diversions, the catching and selling of fish, and the production of food (Johnson, et al., 2002). Johnson et al. (2002) suggest user participation has significant implications for the sustainability of watershed management, and for the improvement of organisational mechanisms for decision making. Encouraging the participation of water users in decision making and defining the public as water users is problematic. Water users include living organisms, human and non-human. Non-human users provide invaluable ecosystem services, raising the question of which should take precedence (Falkenmark et al., 2004). Although the concept of water users serves as an ecologically rational choice, as suggested by Johnson et al. (2002), the jurisdictional boundaries confining the actions of water users is opaque. Political conflicts, water rights, and the capacity to exercise rights are missing from the definition of water users. Moreover, the political realities of contemporary water resource politics, as discussed above, are not necessarily incorporated into a definition of the public that is based solely on the concept of water users.

A "stakeholder" is a narrower definition of the public, according to the HarmoniCOP Guidebook (2005), presented in Box 2. Crucial for defining problems, setting priorities, monitoring, and evaluation, the participation of stakeholders is supposed to increase project performance (Johnson et al., 2002). Stakeholder participation is usually one component of IWRM models (Jaspers, 2002; GWP, Dialogue on Effective Water Governance, 2003; HarmoniCOP, 2005; MRC, 2006; Millennium Ecosystems Assessment, 2005).

Chapter 11: Water Sharing by UNESCO defines public participation as the involvement of the public as "citizens": "*public participation*, the most intense form of interaction between authorities, experts and citizens, implies shared leadership, truly joint planning and a democratic delegation of power" (UNESCO, 2006: 389). This understanding of the public as "citizens" is shared by Gaventa (2004) and the Hungarian Declaration (1999; found in Gayer, 1999) which discuss citizenship as a more direct connection between people and the bureaucracies which affect them. The involvement of citizens in environmental issues beyond electoral politics is suggested in order to legitimise decisions in environmental governance (Collentine et al., 2002; Baber and Bartlett, 2005; Eckersley and Joas, 2005; Kabeer, 2005). The participation of citizens is also purported to support rights-based approaches to governance and thus to foster human rights (see Arnstein, 1971; Raco and Flint, 2001; WHO, 2002; Mostert, 2003; Cornwall, 2004; Gaventa, 2004; Kabeer, 2005; Warner, 2006; Hermans et al., 2006).

BOX 2: PUBLIC AND STAKEHOLDER DEFNITION BY HARMONICOP

Public: includes individuals, organisations, and associations that do not perform official government functions.

Stakeholder: anyone who has a "stake", that is, anyone who will be affected by or has the ability to influence the outcome of decisions. Stakeholders can include individuals, companies, and

UNESCO (2006) draws a clear line between "engaging citizens in public participation" and "citizen participation." "Citizen participation" is an idealised concept, according to UNESCO (2006), in which all stakeholders are active, open, and competent in planning and negotiation. However, "engaging citizens in public participation" is a pragmatic means to negotiate and plan amongst planners, decision makers, and

citizens in order to deal with the “harsh demands of public policy” (UNESCO, 2006: 390).

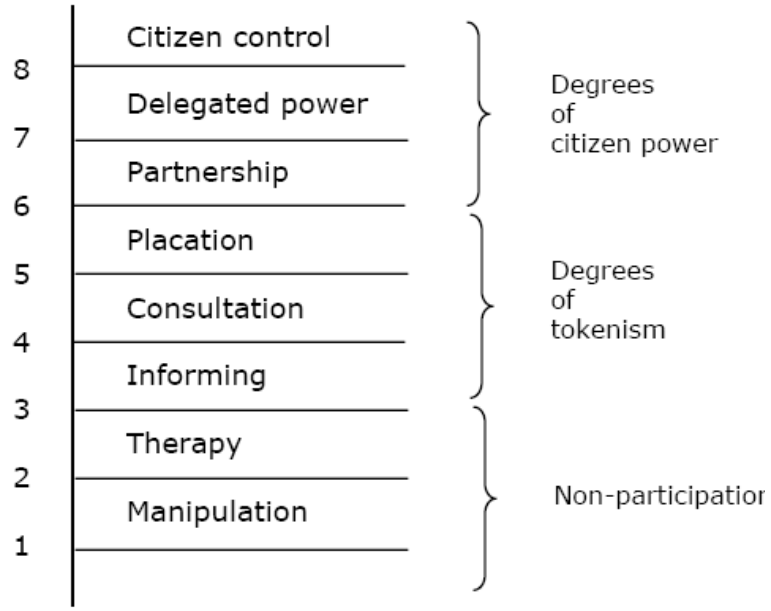
The literature on public participation uses different interpretations of the public. For the GWP Tool Box website (2008), the public is defined as civil society, where “all relevant categories of water users should be represented in the association.” Both Mostert (2003) vis-à-vis HarmoniCOP (2005) and Pahl-Wostl (2002) make a distinction between the general public and stakeholders. The public can be composed of organised groups, stakeholders, and unorganised groups (the "general public”), according to Mostert (2003). Interpretations of public participation can range from the involvement of the general public only, which is at a lower threshold of participation to stakeholder participation, which involves stakeholders with a specific water interest (Pahl-Wostl, 2002).

For the purposes of this thesis, public participation will be defined using the definition by UNESCO (2006). UNESCO (2006) defines the public as composed of stakeholders and citizens, similarly to Mostert (2003). Under this definition, “stakeholder participation” involves only some groups, whereas “public participation” involves all, including the general public. The inclusion of all covers the diversity of users discussed by Warner et al. (2006), and therefore takes into account contemporary water resource politics. Therefore, the definition of public participation used in this study, following UNESCO (2006), supports the emerging water sharing paradigm.

2.4.2 METHODS, LEVELS, AND DEGREES FOR ANALYSIS

HarmoniCOP (2005) cites three main levels of participation: informational, consultative, and active involvement. Informational is the lowest level, where information about water decisions is given to the public. Consultative is higher, where the public is able to react to government proposals. And, lastly, active involvement offers more opportunities for the public to participate in decision making by discussing water resource decisions with authorities, helping determine policy agendas, being involved in decisions, and participating in implementation. Public involvement is different from public participation in that "*public involvement* implies two-way communication and is a means of engaging community members in information exchange and dialogue" (UNESCO, 2006: 389). Therefore, the public may be involved, but that does not necessarily equate to the type of public participation sought in engaging citizens as described by UNESCO (2006).

FIGURE 2: SHERRY ARNSTIEN'S LADDER



Although HarmoniCOP defines three main levels, background papers of HarmoniCOP (2005) edited by Mostert (2003) indicate that five levels were initially considered, drawn from Sherry Arnstein's (1971) ladder of participation. In the case of IWRM, Mostert (2003) elucidates the five levels of participation as informative, consultative, discussion, co-decision making, and, finally, decision making. Mostert's

(2003) levels originate from Arnstein's ladder, which has even more levels (*Figure 2*). Degrees of citizen power, omitted from Mostert (2003) and therefore HarmoniCOP (2005), are included by Arnstein (1971). Although the omission of those degrees of citizen power is not explained by Mostert (2003), the general consensus of both Arnstein (1971) and Mostert (2003) is that the higher the level of participation, the higher the degree of citizen power.

The activities, procedures, and methods used to engage the public correspond to the different levels of public involvement demonstrated in *Table 1*. Work from Sherry Arnstein, Andrea Cornwall, and Erik Mostert informs *Table 1*. Cornwall (2003) adds a new dimension to understanding the public by referring to how the public is engaged according to four categories (as objects, instruments, actors, or agents); these categories correspond to what she classifies as types of participation (from beneficiary participation to citizenship transformation).

The methods through which the public is asked to participate may not accurately reflect water resource politics. Even though these methods may indicate a degree of participation, they do not take into account socio-economic and political barriers to participation in IWRM decisions (Kallis et al., 2006a). Kallis et al. (2006a: 216) write about the methods used to assess participation, stating that there is "a lack of accumulated research critically assessing alternative participatory methods in terms of their applicability and limitations in different contexts." Kallis et al. (2006a) raise several points regarding the use of participatory methods that may reflect socio-economic and political barriers related to making scientifically sound decisions in a context of limited data, knowledge, high uncertainty, and legitimacy.

TABLE 1: LEVELS AND DEGREES OF PARTICIPATION			
Level of Participation	Public Participation Methods	Degree of Citizen Power	Public Viewed As…
1. Information: The public is provided with or has access to information. (This may not be genuine public participation, but is the basis for all forms of it.)	1. Leaflets and brochures 2. Mailings 3. Use of the media: press releases, press conferences 4. Information centres 5. Repositories (other than 4, e.g., libraries and city halls) 6. (Travelling) exhibitions 7. Information hotlines/ contact persons 8. Open houses 9. Field trips 10. Briefings (at meetings of residents' associations, women's clubs, etc.) 11. Internet and other ICT tools (see chapter 5) 12. Cultural events (e.g., street theatre, especially for raising awareness)	Token: participation is functional, to enlist people in projects or processes, so as to secure compliance, minimize dissent, and lend legitimacy. This is often associated with beneficiary participation.	Objects
2. Consultation: The views of the public are sought.	13. Reply forms 14. Opportunity to comment in writing 15. Public hearings and meetings 16. Interviews 17. Opinion polls 18. "Stakeholder analysis" 19. Gaming	Token: participation is instrumental, to make projects or interventions run more efficiently by enlisting contributions and delegating responsibilities. This is often associated with community participation.	Instruments ; Water Users

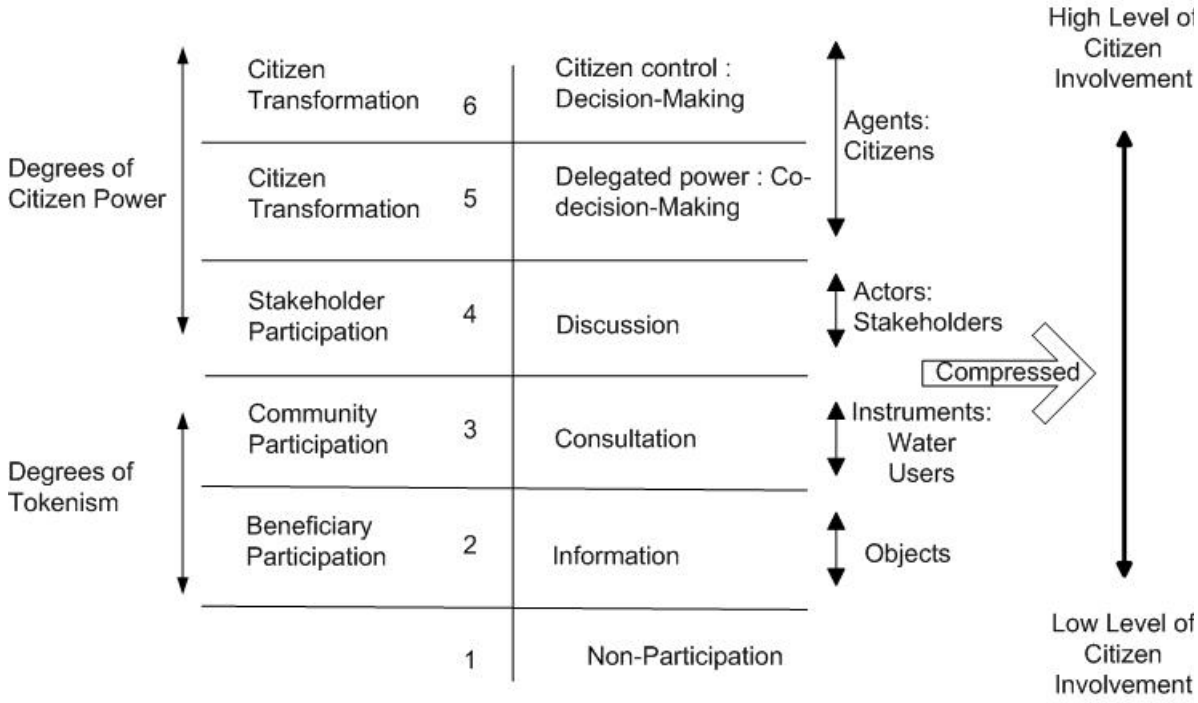
	20. Internet discussions 21. Advisory commissions/boards, focus groups 22. Non-binding referenda Methods 4, 6, 7, 8, 9, 10 and 11 could also be used.		
3. Discussion: Real interaction takes place between the public and government.	23. Small group meetings ("workshops", "charrettes", "coffee meetings", "round tables", "study circles", "brainstorm sessions", "planning cells", "citizen juries", etc.) 24. Large group meetings involving splitting up into smaller groups and/or rotation between front benches and back benches or between subgroups (e.g., working groups, "Samoan circles", "open space meetings", carrousels) 25. Virtual (Internet) discussions Methods 8, 9, 10, 11, 19 and 21	Citizen Power: participation is consultative, to get in tune with public views and values, to garner good ideas, to defuse opposition, to enhance responsiveness. This is often associated with stakeholder participation.	Actors; Stakeholders
4.Co-decisionmaking: The public shares decision-making powers with government.	26. Negotiations, e.g., resulting in a "voluntary agreement" 27. Stakeholders represented in governing bodies 28. Corrective referenda and binding referenda initiated by government. Some of the meeting formats mentioned under 23 and 24. 29. Multi-stakeholder platforms	Citizen Power: participation is transformative, to build political capabilities, critical consciousness, and confidence; to enable citizens to demand rights; to enhance accountability. This is associated with citizenship transformation.	Agents
5. Decision making: The public performs public tasks	30. Water users' associations and other NGOs performing public functions 31. Popular initiatives	Citizen Power: participation is transformative, to build political capabilities, critical consciousness	Agents

independently.	Some of the meeting formats mentioned under 23 and 24 .	and confidence; to enable to demand rights; to enhance accountability. This is associated with citizenship transformation. Here, the public is completely self functioning.	
Adapted from: Mostert, 2003: Table 1. Public Participation levels and methods (not exhaustive); Cornwall, 2003: Table 1. Modes of Participation; and Arnstein, 1971: Fig 8. Eight rungs on a ladder of citizen participation.			

2.4.3 CONCEPTUAL FRAMEWORK FOR ANALYSIS

To analyse public participation in IWRM, this study draws from *Table 1*. *Figure 3* illustrates *Table 1*. The single line to the far right indicates the level of citizen involvement that corresponds to the degree of citizen power (Arnstein, 1971; Mostert, 2003), the methods used (Mostert, 2003), the type of participation and how the public is viewed (Cornwall, 2003).

FIGURE 3: CITIZEN INVOLVEMENT FOR PUBLIC PARTICIPATION IN IWRM



2.5 CONCEPTUAL MODEL FOR DEVELOPING COUNTRIES

An equivalent to the HarmoniCOP (2005) Guidebook for developing countries was not found in the survey of literature concerning public participation in IWRM. As already established in the Introduction, the operation of IWRM in developing countries differs from the operation of IWRM in developed countries. Different contextual variables exist, as discussed by Rahaman et al. (2004), Hermans et al. (2006), Jønch-

Clausen (2004), Kallis et al. (2006b), and Banister and Scott (2008). These contextual variables yield different expected outcomes of public participation.

2.5.1 CONSIDERATIONS FOR PUBLIC PARTICIPATION IN DEVELOPING COUNTRIES USING IWRM

Developing countries work with uneven geographies of market-oriented development, and these have political implications (Hart, 2001). The lack of reliable hydrological data lends credence to the idea that participatory approaches are needed to collect biophysical and socio-economic data from water users (Merrey et al., 2005; Creighton, 2005; Hermans et al., 2006), even though these data may not necessarily be recognised by the "hard sciences" (Patton, 1990). Furthermore, developing countries have an added element of political complexity because of the presence of international development agencies (Bryant and Bailey, 1997; Francis and Roberts, 2003; Thomas, 2003; Ribot, 2004; Corbett and Lane, 2005; Poolman and Van De Giesen, 2006), which often overlook themselves as stakeholders in the participatory processes for IWRM (Poolman and Van De Giesen, 2006).

Participation also has a specific meaning in international development as Kumar (2002) explains, differentiating between participatory development and participation-in-development (*Table 2*).

TABLE 2: PARTICIPATION AND DEVELOPMENT

Participatory Development	Participation-in-Development
Approaches conventional project practices in a more participatory and sensitive manner.	Entails genuine efforts to engage in practices that openly and radically encourage people's participation.
Is introduced within the predetermined project framework.	Stems from the understanding that poverty is caused by structural factors. It attempts to alter some of the underlying factors that lead to poverty.
Is a top-bottom form of participation,	Is a bottom-up form of participation,

in the sense that management of the project defines where, when, and how much the people can participate.	in the sense that the local people have full control over the process, and the project provides for necessary flexibility
Is the more prevalent practice. It is more dominant in terms of resources available.	Is more prevalent with NGOs than with the government.
Source: Oakley, 1991 found in Kumar, 2002: 27	

Thus, the critical discussion of participation in international development applies to IWRM for developing countries because public participation activities used by IWRM institutions can determine participation in international development as suggested in *Table 2*. Several authors (Cooke and Kothari, 2001; Francis and Roberts, 2003; Ribot, 2004; Chhotray, 2004; Kabeer, 2005; Corbett and Lane, 2005) are critical of participation in developing countries. The use of participation by expatriates and international researchers in international development has led to allegations of co-option, which is the use of local knowledge and local participation to legitimize international agendas (developmental aid, research agendas, policy, and international principles) without an equitable result and without the informed consent of local participants (Cooke and Kothari, 2001; Ribot, 2004; Corbett and Lane, 2005; WWC, 2006). In addition, critical discussions concerning participatory methods have also questioned the validity of applying Western-style democratic citizenship in non-Western countries (McLaverty, 2002; Gaventa, 2004; Kabeer, 2005). Because terms such as "participatory methods" and "participatory decision-making" are used in IWRM, Poolman and Van De Giesen (2006) conclude that IWRM practitioners must be conscious of the discourses surrounding international development for developing countries.

2.5.2 EXPECTED OUTCOMES IN PUBLIC PARTICIPATION FOR IWRM IN DEVELOPING COUNTRIES

In a global pilot study found in the WWDR2 *Chapter 2,* the Access Initiative reported several generalisations about the outcomes of public participation independent of developed or developing countries. The Access Initiative pilot study assessed public participation in China, Hungary, India, Indonesia, Mexico, South Africa, Thailand, the United States, and Uganda. Public participation study was defined as incorporating environmental and social factors into decisions, thus making for higher quality decisions (UNDP and IFAD, Access Initiative, 2006: 77). The broad survey also indicated weak levels of public participation in terms of constitutional guarantees, also independent of developed or developing countries. However, literature regarding the principle of subsidiarity, decentralisation, and governance shows context-specific considerations in developing countries.

When the principle of subsidiarity is applied to developing countries the literature suggests that the lowest appropriate level for determining local water security is the household to village level (Allan, 2003; Butterworth and Moriarity, 2003; Merrey et al., 2005; WWC, 2006; FAO and IFAD, 2006). Nonetheless, households are often represented, researched, and defined in villages (Butterworth and Moriarty, 2003; Merrey et al., 2005; WWC, 2006; FAO and IFAD, 2006).

Discussions of drinking water and sanitation in villages are generally paired with poverty alleviation (Butterworth and Moriarity, 2003; Merrey et al., 2005; WWC, 2006; FAO and IFAD, 2006). Frequently cited figures are that 1.1 billion people lack access to safe drinking water and the 2.6 billion lack access to basic sanitation (International Year of Sanitation, 2008). These figures represent people living on less than $1USD/Day or $2USD/day as an indicator of poverty (GWP 2003; Merrey et al, 2005) in reference to the Millennium Development Goals (MDG, 2008). The MDG identifies

developed countries as the donors, partnering with developing countries, the beneficiaries. Thus, discussion of water security in villages is associated with poverty alleviation (see MDG, 2008; Headington et al., 2007).

That calculation, equating the lack of access to drinking water and sanitation with incomes of less than $1USD/Day or $2USD/day, is flawed, according to Wescoat Jr. et al. (2007). For instance, when the calculation is applied to the United States, it would indicate that 100% of the population has access to safe water and sanitation. Yet, in a case study of Colorado, Headington et al. (2007) determined that pockets of poverty exist. The analysis also shows that sanitation services are fragmented, especially in areas of low income, among Hispanic populations, and in rural and mountainous terrain, where access to water services is inadequate. Headington et al. (2007) conclude that a context-based approach would offer a more accurate definition of water security and water poverty in developing countries.

Decentralised decisions that involve villages also involve an added element of political complexity. Although local level decisions maybe efficient and effective at bringing local issues into natural resource management, the equity surrounding decisions and normative expectations such as legitimacy, accountability, and transparency have led to discussions of embedded authorities in developing countries by Francis and Roberts (2003), Ribot (2004), Lane and Corbett (2005), and the WWC (2006). These embedded authorities are sometimes referred to as customary authorities (Francis and Roberts, 2003; Corbett and Lane, 2005) or traditional organisational heads (Ribot, 2004), such as village chiefs, district officials, and international NGOs. Embedded authorities act as representatives of villages (Brannstrom et al., 2004; Ribot, 2004; Corbett and Lane, 2005; WWC, 2006) and are often involved in power plays in water resource politics (Walker, 2003; Banister and

Scott, 2008). As a result, embedded authorities can use decentralisation reforms to divert funds for their own interests (political or economic or social) at the expense of the villages they represent (see Francis and Roberts, 2003; Ribot, 2004; Corbett and Lane, 2005; WWC, 2006).

Developing countries also have different experiences of citizenship (Hickey and Mohan, 2005; Gaventa, 2005; Kabeer, 2005; Ong, 2006), and this may also affect how water is governed. Bandaragoda (2005) points out that the democratic experiences which countries have may affect public participation, particularly in Asian developing countries. Ong (2006) proposes that the type of government can create different tiers of citizenship in regard to the spatial development of resources. She gives the example of economic development policies applied to specific physical areas, such as the New Economic Zones in China, Malaysia, and Singapore, and that have territorialised labour rights in these zones, creating tiers of citizenship (2006). Therefore, the scope of public participation in decisions about natural resources can be limited by the democratic experiences and type of government in an area (Bandaragoda, 2005; Kabeer, 2005; Ong, 2006).

2.6 CRITICAL THIRD WORLD POLITICAL ECOLOGY

This study uses a field of political ecology known as Third World political ecology, but with a critical perspective. Third World political ecology addresses specific challenges facing developing countries in regard to decisions by different actors, including the impacts of international actors (Bryant and Bailey, 1997). A "bottom-up" approach, Third World political ecology critically looks at the policy and water interests of actors in international development and development theory from the perspective of fields predominantly in the disciplines of geography, anthropology, and sociology (1997: 17). Politics is central in a Third World political ecology approach, because

politics concerns the interactions between actors and the environment/natural resources and recognises that weak actors also have the power to pursue their interests (Bailey and Bryant, 1997: 25). A Third World political ecology interprets power as "control over the environment and ability to allocate human and financial resources to projects and problems" (Bryant and Bailey, 1997: 41-42). Hence, politics for Third World political ecology is applicable to IWRM (see Allan, 2003; WWC, 2006; UNESCO, 2006).

2.6.1 CONTEMPORARY POLITICAL ECOLOGY: A CRITICAL PERSPECTIVE

Vayda and Walters (1999) are widely known critics of political ecology. They argue that political ecologists have less to do with ecology and more to do with politics that cannot achieve or explain environmental change. In response, Walker (2005: 76) argues in "Political Ecology: Where is the Ecology?" that these critics' charge is

> "an exaggeration; while some political ecology has indeed branched in directions that do not engage biophysical ecology or environmental change directly, the tradition of careful examination of environmental change (rooted in older cultural ecology) remains alive in political ecology today."

Forsyth (2003: 132) explains how critical political ecology attempts to reconstruct a more "transparent and relevant basis for politics" by revealing the politics involved in scientific explanations. Forsyth (2003) clarifies how generally understood statements on environmental degradation are oversimplified. Therefore, the decisions derived from oversimplified statements are faulty because they mask the uncertainty, debate, and complexity of environmental decisions (Forsyth, 2003: 36-79).

Contemporary political ecology also uses language as a means to achieve a critical perspective and enable cultural sensitivity (Robbins, 2004; Peet, and Watts, 2004; Walker, 2005). Zimmer and Bassett (2003) argue that language matters because

specific terms such as socio-ecological relationships, environmental politics, and environmental policy can have entirely different foci than ecology does. Narrative or "story" is used in political ecology to explain how power, language, and culture shape decisions (Forsyth, 2003; Robbins, 2003; Latour, 2004a; Walker, 2006). Walker (2006) agrees with Forsyth (2003) that political ecologists need to be better "storytellers" in relaying complex situations to policy makers so they can make better decisions. According to Robbins (2004), language can also polarize environmental problems, yielding flat characters ('good guys' and 'bad guys'). Consequently, the complexity of environmental decisions (i.e., uncertainty, debate, and risk) is omitted (Forsyth, 2003). Furthermore, language poses ethical implications since political ecology is part of Western discourse (Latour, 2004a) and therefore belongs "to large institutions which political ecology seeks to challenge" (Robbins, 2004: 116). Thus, a critical Third World political ecology examines how language shapes "nature" and environmental interests.

2.6.2 For the Case Study

Third World political ecology is multi-levelled or multi-scaled (see Cox, 1998; Bulkeley, 2005). It enables an examination of the local level within the context of a greater political economy in natural resource decisions (Blaikie and Brookfield, 1987; Bryant and Bailey, 1997). Five main aspects define Third World political ecology, according to Bryant and Bailey (1997: 20-25) a specific environmental problem, such as tropical deforestation or water pollution; (2) power relations among different actors; (3) inter-linked political and ecological problems of a specific geographic region; (4) socio-economic characteristics such as class, ethnicity and gender; and (5) the interests and actions of actors in political-ecological conflicts.

A critical Third World political ecology can be used to frame the analysis of water resource politics for public participation in IWRM. The first aspect, a specific

environmental problem, is the involvement of the public in IWRM decisions in a developing country. Second, since Third World political ecology is multi-levelled, a multi-levelled stakeholder analysis as demonstrated in IWRM case studies by Kallis et al., (2006a), Poolman and Van de Giesen (2006), Heyd and Neef (2006), and Banister and Scott (2008) satisfies the second requirement that the study concern power relations among actors. In the third aspect, IWRM decisions are interlinked politically and ecologically to a specific geography, as IWRM policies and projects depend upon the location of water resources and the context of decisions (see Rahaman et al., 2004; Jønch-Clausen, 2004; Kallis et al., 2006a; McDonnell, 2008). Fourth, as mentioned above, the local level is of particular interest in Third World political ecology. The principle of subsidiarity in IWRM focuses on the local level, such as villages that have socio-economic and political characteristics. Fifth, the activities which actors use to engage villages may reveal areas of potential political-ecological conflict. In this study, the conceptual framework will be used to analyse public involvement in IWRM, while the discussion of water resource politics will use a critical Third World political ecology perspective. A critical Third World political ecology perspective elaborates upon power relations, geography, socio-economic characteristics of actors, and the interests of actors and their activities that the conceptual framework is unable to illustrate because it focuses on the levels of public involvement at different jurisdictional levels.

2.7 CONCLUSION

Public participation in IWRM is a part of an emerging paradigm of water sharing, which thus involves water resource politics. Water resource politics in IWRM appear nascent (WWC, 2006; Warner et al., 2006; McDonnell, 2008; Banister and Scott, 2008) in that they focus on the supply of water to address equity while seeking efficient management of water resources (Kallis et al., 2006a; Ingram et al., 2008; McDonnell,

2008) and giving little attention to the diversity of water users (Warner et al., 2006). New methods proposed for IWRM, such as stakeholder analyses, take into account the political nature of water decisions (Allan, 2003; Biswas, 2004; Falkenmark et al., 2004; Lankford et al., 2004; Jeffrey and Gearey, 2006; Kallis et al., 2006a; Biswas, 2008; Banister and Scott, 2008; McDonnell, 2008).

The EU WFD has renewed interest in public participation in IWRM as a means to make better quality decentralised decisions (Collentine, et al., 2002; Mostert, 2003; Conca, 2006; Kallis et al., 2006b; Özerol and Newig; 2008). However, the outcomes of the EU WFD model are observed to be different in developing countries (see Rahaman et al., 2004; Bandaragoda, 2005; Poolman and Van de Giesen, 2006; Varis et al., 2006; Heyd and Neef, 2006; Banister and Scott, 2008). Public participation in international development in developing countries has a different meaning and has an added political dimension due to the involvement of international actors (Cooke and Kothari, 2001; Francis and Roberts, 2003; Ribot, 2004; Chhotray, 2004; Kabeer, 2005; Corbett and Lane, 2005; Poolman and Van de Giesen, 2006). Thus, a critical Third World political ecology perspective is needed to discuss water resource politics and public participation in IWRM for a developing country.

CHAPTER 3: LAO PDR AND IWRM

3.0 INTRODUCTION: LAO PDR

Lao People's Democratic Republic (Lao PDR) meets several criteria that define a developing country, as discussed in Chapter 1. It has a recent history driven by political agendas from a post-colonial Cold War era, and now Lao PDR is using international development to foster economic growth through a market-based economy (Hart, 2001). Through the development of its natural resources (Rigg, 2005), the Lao Government anticipates challenges to natural resource development because of the country's physical geography, being a mountainous land-locked. For these reasons, Lao PDR's socio-economic status remains that of a developing nation (Lao Government et al., 2008).

Poverty alleviation and economic growth are priorities of the Lao Government (Sixth National Socio-Economic Development Plan 2006-2010 (NSEDP). The socio-economic characteristics of poverty are said to reflect the physical geography of Lao PDR because Lao PDR is a land locked country (Lao Government et al., 2008). Thus, factors such as the environment, land-use, and natural resources shape interventions and policies by actors in the development of Lao PDR that also influence international development activity (Lao Government et al., 2008).

Water resource development and the implementation of IWRM, is seen as a means to fulfill objectives to alleviate poverty and promote economic growth by the NSEDP. The development of water resources is also interpreted by the Lao Government as an opportunity to link Lao PDR to the rest of Southeast Asia through the Greater Mekong Sub-Region Program (GMS Program). In sharing the resources of the river, the Lao Government is a member of the Mekong River Commission (MRC). One means to develop water resources is through the potential hydropower in Lao PDR that is

exportable to other countries. The development of hydropower directly affects Lao PDR's neighbours because of Lao's position in the upper reaches of the Mekong River.

3.1 LAO PDR

Lao PDR is a communist state, organised as a one-party system under the Lao People's Revolutionary Party since 1975. The majority (80%) of the approximately 5.6 million people are engaged in agriculture (ADB, 2007). Lao PDR is defined as a Least Developed Country (LDC) by the United Nations (United Nations Development Program for Lao PDR Website: http://www.undplao.org/) with a ranking of 130 out of 177 on the Human Development Index (2007). The annual Gross Domestic Product (GDP) from 2001 – 2005 had increased from $1.76 billion USD to $2.88 billion USD (*Table 3*). Public investments, such as infrastructure, are primarily financed through overseas development assistance. Approximately 70% to 80% of public investments in Lao PDR are from overseas development (Jerve, 2001; United Nations, 2002; Pham, 2004). In 1986, the Lao Government started to make economic reforms to move to a market-based economy based on a policy titled New Economic Mechanisms.

TABLE 3: BROAD ECONOMIC FIGURES FOR LAO PDR

	2001	2002	2003	2004	2005
Gross Domestic Product, GDP (billions USD)	1.76	1.82	2.14	2.50	2.88
Government Financed % of GDP	12.40	12.60	12.70	11.70	12.00
Official Development Assistance and Official Aid (billions) USD	2.45	2.78	3.00	2.72	2.96

Source: World Bank Group, 2007; ADB, 2007.

Lao PDR is a multi-ethnic nation, comprising different ethnic groups. The Government of Laos classifies ethnic groups into three categories: the Lao Loum (Lowland Lao), Lao Theung (Midland Lao), and Lao Sung (Upland Lao). As many as 230 ethno-linguistic groups exist in Lao PDR, one of the cultural assets distinguishing Lao

PDR as a nation (Chamberlain, 2001). As pointed out by Chamberlain (2001), the distinction between lowland and upland divisions of ethnolinguistic groups has a direct influence upon eco-societal relations within ethnic groups, most notably, perceptions of gender, labour, forest practices, and conceptions of space.

3.2 PHYSICAL GEOGRAPHY

Approximately 80% of Laos is mountainous; flat flood plains are found in the South (Lao Government, Census, 2005). The most pronounced topographical features are the highlands in the North, the Bolovens Plateau in the South, and the natural border of the Truong Son Mountains (Annamite Mountains) in the West. Land-locked, Lao PDR is sandwiched between China, Myanmar, Thailand, Vietnam, and Cambodia. All but two provinces share an international border (sometimes three) (Lao Government, Census, 2005).The Mekong River is a defining feature in Lao PDR. The Mekong River provides a natural border between Lao PDR and Thailand to the west.

The 'Mother of Rivers' in Lao, the Mekong River originates from the Himalayas. The area of the Greater Mekong Basin is 795, 000 km^2 and the river is approximately 4,880 km in length (MRC, 2005; World Research Institute, 2003). Lao PDR occupies 202 000 square kilometers (25%) of the total catchment, with 1898 km of the Mekong River's length passing through the nation (Lao Government, Census, 2005). The Mekong River's average discharge is 15,000 cubic meters per second and the lowest flow an estimated 1,700 cubic meters per second (MRC, 2005). About one-third of the Mekong's flow is fed from tributaries and the Mountains of Lao PDR. The Upper Mekong River Basin consists of China and Myanmar (Burma), and the Lower Basin consists of Laos, Thailand, Cambodia and Vietnam. The Lower Basin has most of the catchment area, and supplies most of the average flow from the Mekong's tributaries. Due to highly variable precipitation, the Mekong River Basin has "wet" and "dry"

seasons, in a region prone to both monsoons and droughts. The “wet season” occurs between May and October, whereas the “dry season” is between November and April.

3.3 THE MEKONG RIVER COMMISSION AND LAO PDR

The desire to develop the Mekong River for navigation, irrigation, flood control, and hydroelectricity has existed since Western colonial expansion in the 1860s-1890s. Until the 1990s, the Mekong River had been one of the few rivers in the world to be left relatively untouched by development. Founded in 1957, the Mekong River Committee under the Economic Commission for Asia and the Far East (ECAFE) involved Laos, Thailand, Cambodia and Vietnam in attempt to develop the region. However, this organization became largely ineffective as a result of the Cold War and national independence movements, including a coup d’etat in 1978 by the Khmer Rouge.

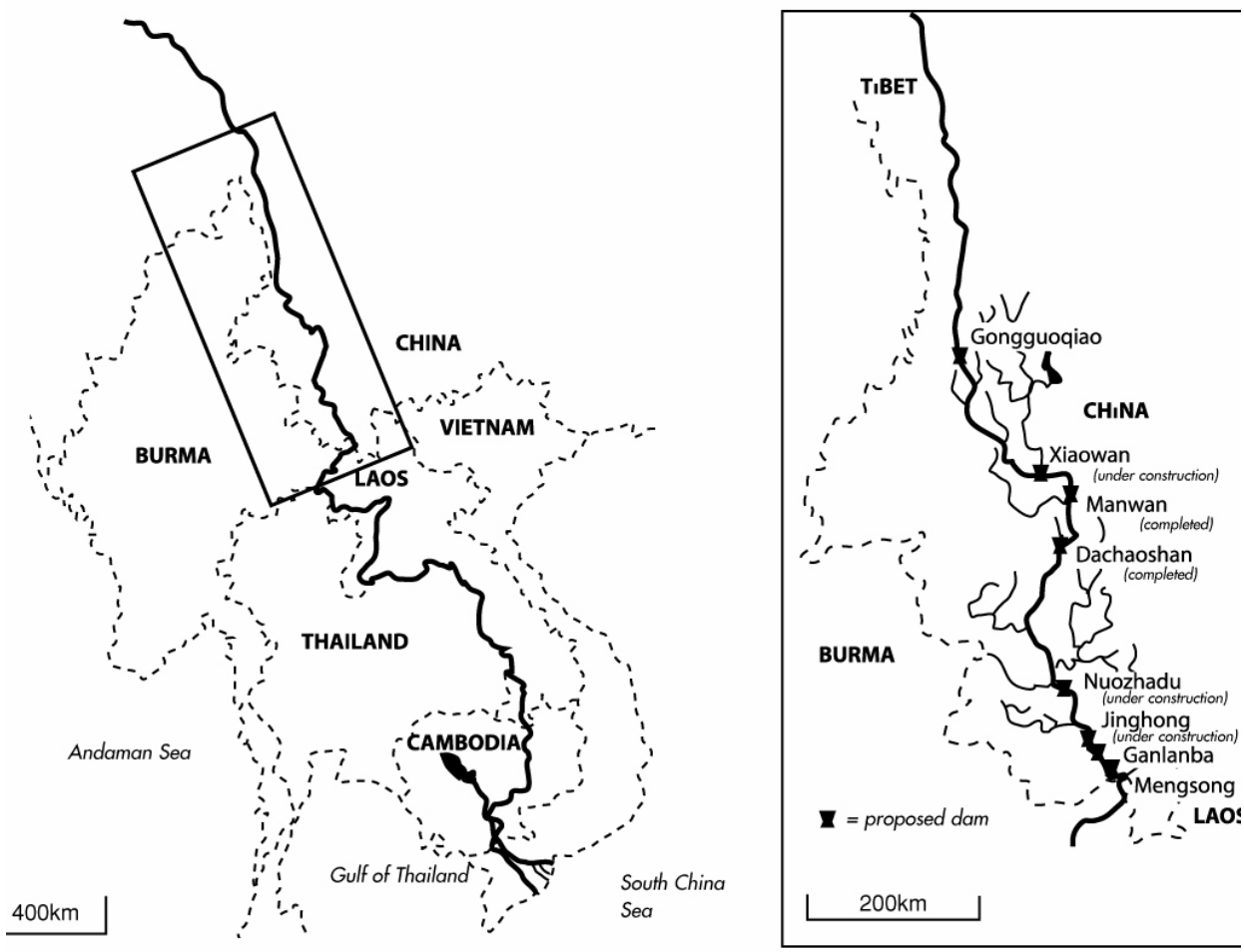
On 5 April 1995 in Chiang Rai, Thailand, the Lower Mekong states of Laos, Myanmar, Vietnam, Thailand, and Cambodia signed a treaty entitled the “Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin." This international treaty affirmed that cooperation was necessary for a peaceful and economically prosperous future through the Mekong River Commission (MRC). The goals of the MRC are to alleviate poverty (MRC, 2001; MRC, 2006), promote economic growth (MRC, 1995), and promote international cooperation (Elhance, 1999; Conca, 2006; Finger et al., 2006). The international community has supported the Mekong River Commission through many forms of technical support, and substantial aid to develop the river, alleviate poverty, develop the economies of the basin states, as well as facilitate a basis of cooperation. Even though China and Myanmar are not members of the Commission, in 2002 they became “dialogue partners,” where agreements have been made to share some data concerning the flow from the main stem of the Mekong River.

Since the inception of the Mekong River Committee in 1957, the effects of large engineering plans on inhabitants of the basin have been of concern. For example, White (1962: xi) presented the economic and social aspects of development to the Mekong Committee, saying:

> "it would be a grave mistake to believe that heavy investment in dams, canals, and generators, however expert the engineering and however generous the foreign assistance, would automatically lead to solid growth in social structures and economic production."

This statement is still true today. The MRC has adopted IWRM, using the definition of the Global Water Partnership (GWP). Perhaps one of the greatest constraints to implementation of IWRM by the MRC is the absence of membership by the Upper Mekong riparian states of China and Myanmar. Some authors have observed that as "dialogue partners," Myanmar and most notably China have a soft approach to international cooperation, whereby upstream countries can be disengaged from downstream water issues (Bakker, 1999; McCormack, 2001; Chenoweth et al., 2002; Nguyen, 2003; Dore and Xiaogang, 2004; Sneddon and Fox, 2006; Mehtonen, 2008). Although it is a dialogue partner with MRC, China has commenced building a series of cascade dams in Yunnan as illustrated in *Map 1*. This project coincides with the Greater Mekong Sub-Region (GMS) project of the Asian Development Bank, which prioritizes regional electric grid expansion (Sneddon and Fox, 2006). The impacts of upstream dams are controversial, in that China's role in control of the river's flow influences water levels, fisheries, sediment transport, navigation, energy, ecosystems, and political economy of the lower riparian states (Nguyen, 2003; Dore and Xiaogang, 2004).

MAP 1 UPPER MEKONG DAMS



ekong River basin. Box highlights section of river where China is constructing 8 dams

The development of hydropower along the mainstem of the Mekong River has led to speculation by several authors that economic growth is a source of cooperation for China with the other nations (Bakker, 1999; Chenoweth et al., 2002; Sneddon and Fox, 2006; Mehtonen, 2008). However, Sokhem and Sunada (2008: 146) argue that the belief that regional economic growth projects like the GMS project and hydroelectric projects on the main stem of the Mekong will "automatically result in a 'common

prosperity'" is an assumption. The myth that regional economic growth will be equitably distributed among the riparian states in the Mekong (Bakker, 1999; Sokhem & Sunada, 2008) has increased interest in main-stem developments on the Mekong River (Chenoweth et al., 2002; Sneddon and Fox, 2006). This main-stem focus has detracted attention from water resource developments on equally important tributaries (Chenoweth et al., 2002; Sneddon and Fox, 2006) which drain into the main stem of the Mekong River and contribute to the regional sustainable development in the Mekong River Basin (Bakker, 1999; Chenoweth et al., 2002; Sneddon and Fox, 2006; Mehtonen, 2008; Sokhem and Sunada, 2008). In *Map 2*, existing and proposed dams outside the MRC's jurisdictional control in Laos are illustrated.

MAP 2: LAO PEOPLE'S DEMOCRATIC REPUBLIC WITH KEY EXISTING AND PROPOSED DAMS

Source: Modified from Internationals River Website, 2008

**High resolution image, zoom in for details. On print, text is legible.
See Annex: Map for larger view

3.4 CONCLUSION

This chapter described Lao PDR's status as a "least developing country," and defined how water is conceptualised as a resource to be developed for economic growth and poverty alleviation. Lao PDR's physical geography has shaped a growing desire to develop hydropower and increase economic growth. Poverty alleviation and economic growth are definite motivations for development of hydro-power, increasing the attention given to main-stem developments along the Mekong River, hence the creation of the MRC. However, as indicated in *Map 2*, other water resource developments along branches of tributaries draining into the Mekong are equally important. These water resource developments have socio-economic and ecological impacts on people living in the Mekong Basin. Therefore, poverty alleviation in Lao PDR provides regional and national interests to develop water resources. Regionally, the MRC is concerned with main-stem activities to promote economic growth and cooperation among riparian states to alleviate poverty with definite motivations to develop hydropower. And, nationally, the Lao Government feels that Lao PDR's physical geography is the reason for its socio-economic weakness that requires economic growth and projects like the GMS to alleviate poverty and move out of the title of a 'least developed nation.'

CHAPTER 4: METHODOLOGY

4.0 INTRODUCTION

This study can be described as an exploratory case study with multiple embedded units. The research design is used to examine the relationship between public participation and IWRM in two villages. The two villages, referred as Village A and Village B, are located in a project site of an international non-governmental organisation (INGO), the German Agro Action (Deutsche WeltHungerHlife GAA). Village A and Village B enabled a study of how villages could and did participate in IWRM decisions. The villages were comparable because they were under the same development project, located within the same district, had the same ethnic composition, and had a similar demographic profile. A third village was also examined, referred to as REF Village. The REF Village was examined separately because this village was further along the GAA's development plan, and did not illustrate some of the key changes happening in Village A and B. For example, the preliminary Participatory Rural Appraisals (PRAs) and planning process, initiated by the GAA, had been completed in the REF village four years earlier. Because references were made from Village A and B to REF Village, information concerning the REF Village was gathered to triangulate data. Villages were determined as appropriate units of analysis for theoretical reasons, as mentioned in Chapter 2, and for logistical reasons such as working with the GAA project timeline; time of preliminary PRAs; location of villages as targets of poverty alleviation projects; time of data collection indicated in the research timeline; organisation of the GAA project in getting to and from villages; relations GAA had with district and provincial authorities; timeliness of getting permissions from district and provincial authorities; and time allotted for funding. A plurality of methods was employed that led to the collection of data to inform the findings of this study.

4.1 EXPLORATORY CASE STUDY DESIGN

I chose a case study research design because my study satisfies two main criteria for "how" and "why" questions that characterise a case-study approach, according to Yin (2003). First, a case study approach enables the investigation of a contemporary phenomenon, in this case how villagers could participate in decisions about water, using a concept called IWRM. Second, the case study relies upon multiple sources of evidence that builds upon prior theories in development, sustainable water resource management, and public participation. From this evidence obtained from multiple sources and from different methods, information was triangulated to validate the findings.

As already mentioned, public participation in developing countries using IWRM from a village to international scale is largely unstudied. Therefore, I chose an exploratory strategy, using participatory methods, to examine villages under the existing organisational framework of IWRM in Lao PDR in comparison to the conceptual model referred to in *Chapter 2* of public participation in IWRM. Furthermore, an exploratory strategy enables an inductive approach, where themes, patterns, and categories emerge out of the data collected prior to the analysis (Patton, 1990: 390; Palys, 2003: 12). An exploratory strategy was designed to identify political organisations known as actors relevant in the study. These actors represented different governments, national policies, and international development policies. In addition, these actors included different departments, development projects, and individuals.

4.1.1 RESEARCH TIMELINE

Field work was conducted over a nine month period from August 2006 to April 2007. Preliminary research was conducted in the first three months in which I accustomed myself to the language, culture, and politics in Lao PDR. I obtained a language competency: I could ask questions if I didn't understand a word, and most of

my vocabulary consisted of words I picked up related to “food security”. In this time, I commenced my on-site literature review, which initiated a preliminary investigation of key informants and discussion with other researchers in Lao PDR. I also used this time to speak with facilitators familiar with participatory methods in Lao PDR to determine the limitations of my research design. The susequent six months were devoted to the collection of data in my villages, at various levels of governments, and with international actors. I conducted two separate field visits in remote villages located in the Mekong Basin under the GAA’s timeline. The first field visit lasted one week, during the GAA’s preliminary PRA in November 2006, and the second ten days in December 2006 which collected the remaining data for GAA’s preliminary PRA. Each visit to villages lasted for an average of a three day period per visit in Village A and Village B, with one night in REF Village before returning to the provincial capital. Afterward, interviews were conducted with key informants at different levels of government and key IWRM organisations for the next five months of the study.

4.1.2 RESEARCH ASSISTANTS

Two research assistants were hired. Both spoke Lao and English fluently, and one spoke different dialects of Hmong. The assistants were found through key informant interviews, as well as through referrals from other graduate students who had completed field research in the area. With each assistant, the case-study protocol was reviewed before entering the field. Research assistants were asked to give their insights into the methods as well as anticipated translation of the questions (See Annex: Methodology under Case Study Protocol). Questions were designed with language and cultural barriers in mind. Potential questions were prepared ahead of time with the research assistants, with the understanding that the questions should be simple, easy to translate, as well as easy to answer. Each research assistant had to agree to the terms of the study outlined in the Information Letter and forms indicated

in Annex: Methodology, under Information Letter: Research Assistants and Forms. The research assistants helped to organise groups, record resource maps, assist in translation for the GAA, and explain my research ethics and objectives to participants. Both of my research assistants had to sign a letter of intent that outlined they would maintain the confidentiality of the participants in the study, that they understood the contents in the letter of intent, and would not discuss the research or participants with anyone. Furthermore, the importance of confidentiality in the study was repeatedly stressed during the field period.

4.2 RESEARCH METHODS

The methods informed and shaped the findings related to the primary research question. These methods included a literature review, key informant interviews, participatory methods, participant observation, photographic evidence, and notes from secondary investigators.

4.2.1 LITERATURE REVIEW

A desktop literature review and on-site literature review were conducted throughout the research period. Initially, the literature review drew from secondary sources, including documents from:

- the internet database Mekonginfo.org,
- published documentation available on the Mekong River Commission's (MRC) website,
- academic journals,
- reports from the GWP,
- international development institutions,
- international financial institutions,

- and books as well as other documentation from a library search were consulted.

This documentation amounted to approximately 100 separate pieces of documentation. During the on-site literature review in Lao PDR, I was able to review primary literature such as project reports, studies conducted within the site area, raw data from different organisations, government statistics, quantitative data from international organisations, and newspapers. These resources totalled approximately 100 separate pieces of documentation. Newspapers available in Lao PDR were the English version of the *Vientiane Times*, and the *Bangkok Post*. The on-site documentation involved was obtained at the international development offices libraries at the Mekong River Commission Document Centre, Asian Development Bank, GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), Concern Worldwide, IUCN, World Bank, and L'Ecole Française D'Extrême-Orient. Internet databases and documentation was obtained by collaborating with other academic researchers. I also leasrned of several internet databases, such as the Directory of NGOs in Lao PDR, the National Agriculture and Forestry Institute, and the LaoFAB Google Group, to further inform the research. After my field work in Lao PDR, I revisited questions emerging from Lao PDR with another desktop literature to confirm and triangulate my findings from library resources. In total, I reviewed approximately 280 different pieces of documentation.

4.2.2 PARTICIPATORY METHODS

Participatory rural appraisals (PRA) were used in conjunction with interviews. The main objective of the PRA was to gather data about the priorities of the village in relation to water and if water was a priority in the village in the face of development. Initially, the study drew heavily upon Chamberlain (2001) and Kumar (2002) as demonstrated in *Table 6*. Once in the field, consultations with facilitators of PRAs in

Lao PDR from the Asian Development Bank, INGOs like Concern, German Agro Action and CUSO, as well as anthropologists. Facilitators of PRAs emphasised having a flexible plan. I used six participatory rural appraisal methods listed in *Table 4* with interviews and focus groups illustrated in *Table 5* of the next section.

TABLE 4: PARTICIPATORY RURAL APPRAISAL USED IN THE STUDY

Method	Description	Objectives
Informal Discussions	Talk about village histories, rituals, village hierarchy, what they see in other villages and their opinion.	Establish a common basis of understanding and rapport.
Do-it-yourself:	Asking to be taught, performing village tasks—transplanting, weeding, ploughing.	Establish a common basis of understanding and rapport.
They do it:	Villagers and village residents as investigators and researchers—women, poor people, school teachers, volunteers, students, farmers, village specialists. They do transects, observe and interview other villages.	May be used in conjunction with other methods, thereby collecting a wide range of data and perspectives that an outsider may miss.
Participatory mapping and modeling:	Local people use the ground, floor, or paper to make to map natural resources, construct three-dimensional models, and farm maps.	Able to identify water strategies, while building consensus within the village over water use. Sometimes used in planning to explain changes or possible changes in the village.
Transect walks:	Walking with or by local people through an area, observing, asking, listening, discussing, identifying different zones, soils, land uses, vegetation, crops…etc.	This can potentially identify problems, solutions, and opportunities.
Selection of Priorities	Villagers decide upon their priorities, and choose which they	Finding out if water was a priority in the village as

	feel they need	well as aid in identifying water-related resources.
Adapted from: Chambers (1994: 960) and Kumar (2002)		

Women were not engaged in the preliminary PRA activities (priority rankings, resource map, or village planning) by the GAA because there was not a Lao Women's Union Representative in the village. The Lao Women's Union is called a mass media organisation that promotes gender equality and gender equity in international development with an extensive national network with representatives at provincial, district, and village scales (see ADB, 2004). Because women had not been engaged in the resource mapping or ranking of priorities, a a separate PRA with women in Village A was conducted, mirroring the same method as the GAA, starting with a resource map to open discussions. This was done for Village A to test the use of the resource map as an effective PRA. The resource map consisted of the women gathered around an area outside the village chief's house. One woman had taken a stick because she was the only one who spoke Lao, and drew the map in the dirt with the stick with the input of other women. The women were given little guidance, and just asked to make a map of their village in relation to the others, drawing things they felt were important. On the whole, the PRA went well and generated a lot of discussion for the village priority rankings.

The village priority rankings followed the methods of the GAA, first by brainstorming different topics, then enabling the women to "vote" for which one they thought as the most important. Done early in the morning at approximately 7:00am, this time seemed to work as most of the women in the village woke at 4:00-4:30am to start their daily chores. This first PRA took place near the end of the harvest season for rice. Water was not specifically mentioned as that could have influenced their thinking

or responses. Approximately, 28 women showed up from Village A, declining to 22 later in the PRA. While each woman wanted to vote, they would talk among their peers before making a decision during the PRAs. This PRA took three and a half hours.

Another PRA was undertaken a month later to confirm the findings of the first session with Village A by using a different technique. The second PRA was generated by GAA staff and my own assistant, where baskets with drawings of village priorities were laid out on a table. Each woman was given a sunflower seed to put into a basket to vote. This was with the intention to save on time as the last PRA took too long. This PRA took less time, about an hour, and my field visit took place during the Hmong New Year, where both women and men take a 10 day to three week holiday to meet prospective brides and grooms.

4.2.3 INTERVIEWS

Key informants were used in this study so that information could be gathered efficiently, and uncover previously unfamiliar information, critical to the success of the case study (Gilchrist, and Williams, 1999: 72-74; Yin, 2003). Questions in the interview were semi-structured, following the objectives of my study. Most of the interviews were recorded digitally, which I could playback on my computer, so that I could ask follow up questions. As I knew I was going to be in Lao PDR for nine months, I was able to have subsequent interviews. This was helpful because I could revisit questions and subject matter to test if there were any inconsistencies in the participant's information. Furthermore, I was able to ask more in-depth questions as I became more familiar with Lao PDR, the issues surrounding public participation, and IWRM in Lao PDR.

I also used the key informant interviews to test and formulate the village-level participatory rural appraisals (PRAs). Many of my discussions involved both PRA practitioners as well as anthropologists. I found these interviews very useful, as a great amount of localised experience in participatory rural appraisals (both from Lao and

International facilitators) offered an insight into the challenges of PRAs that the desktop literature did not elaborate upon. For instance, women are often too busy taking care of children to contribute to PRAs. Sometimes if snacks such as sunflower seeds or candy are provided, this can give you time to talk with the women. Also, following farmers in their daily schedule also offers the ability to build better rapport, as by working with the women during their daily chores. Several PRA facilitators during the interview suggest I consider the time I do my PRAs, such as avoiding harvesting seasons. I was unable to avoid a harvest season for my first field trip, where women were busy harvesting rice in the field, however, for the second, more time was available with women because it was Hmong New Year, which lasted 10 days. Moreover, key informants provided a critical perspective to PRAs that was useful for my analysis.

Initially, I identified my key informants from the on-site literature review as and referrals from other graduate students, different government departments, international aid offices, and banks. Often, authors of some of the primary and secondary literature were available in Lao PDR, worked in Lao PDR. A diversity of individuals representing various international development organisations (governmental and non-governmental), donors, facilitators, planners, projects technicians, project or program managers, resource engineers, government staff, government authorities, anthropologists, and technical experts was interviewed. They can be divided into the categories indicated in *Table 5*. A total of 33 interviews were conducted in English. A translator was used for interviews conducted in Lao, namely for district and provincial government interviews.

TABLE 5: LIST OF KEY INFORMANT INTERVIEWS

Name of Organisation	Area of Authority or Scale	Number Interviewed	Average Length

Key Informant Interviews Directly Related to IWRM Organisations			
Mekong River Commission (Basin Development Plan)	Regional	5	1.5 hours
Lao National Mekong River Commission Basin Development Plan Planning Division (including Secretariat)	National to Provincial (rarely District)	1	2 hours
Water Resource Coordination Committee	National to Provincial (some interaction with District)	2	2 hours
Key Informant Interviews Affiliated with Villages			
German Agro Action	International to District	8	2-3 hours
DED (German Development Service)	International to District (sometimes Village scale)	2	1 hour
European Commission	International to National	2	1 hour
Key Informant Interviews with Actors Potentially Affiliated with IWRM Organisations and Villages			
District Authorities	District to Village	4	1 hour
Provincial Authorities	Provincial to Village	4	0.75 hours
Key Informant Interviews with Unaffiliated IWRM Actors (for triangulation)			
Consultants	International to Village	2	2 hours
Technical Experts from other projects	International to Village	4	1 hour
TOTAL		33	

Interviews with farmers, facilitators of PRAs, project staff, and district authorities related to villages in the field site were approached differently due to language barriers. For instance, for IWRM experts whose first language was English I would refer to water governance in discussing how villages were involved in the decision-making process. If I was with an official whose language was not English I would ask how villages could make decisions about water and who in the government would be responsible for handling those decisions. These language barriers included with my

limited understanding of the Lao and Hmong. Neither of the GAA staff of my team, nor the district authorities, spoke Hmong. In general, the GAA staff and district authorities spoke Lao, the official language in Lao PDR. Every time I spoke with a participant, regardless to how many meetings I had in the day, I reviewed my protocol for ethics, even if they had heard it before. An ethics review prior to entering Lao PDR had been approved and I had clearance to conduct interviews according to principles outlined by the Office of Research Ethics at the University of Waterloo.

Focus groups were also used to collect data. The advantages of focus groups are that a large amount of information can be obtained with a large group of people, and the discussion can be controlled. Disadvantages of focus groups can also occur, such as some members speaking more than others, limitations on the number of questions that can be raised, and unexpected interruptions (Patton, 1990: 335-336). The ability to control who spoke in these focus groups unexpectedly was aided by my inability to speak the participant's languages. Thus, participants would talk among themselves and come to a conclusion, then pass that conclusion to my assistant who would translate what the others had said.

TABLE 6: LIST OF PARTICIPANTS FOR VILLAGE INTERVIEWS

Type of Engagement	Number of Participants	Remarks
Individual Interviews	14	The average interview was 0.5 hours for each session. The total time was difficult to measure because many of the conversations elapsed over periods of a couple days.
Focus Groups		
Focus Groups Village A: Women	3	Talked about changes in the water regime of the village as a result of a higher concentration of people.
Focus Groups Village B:	6-8	Talked about the priorities, the current water regime of the village, and changes to supply in water.

Focus Groups REF Village: Women and men	Women Hmong: 2 Khamu: 10 Tai Lue: 6 Men Hmong:3 Khamu:8 Tai: 9	Talked about the changes in water as a result of drinking taps being built by the GAA.
Participatory Rural Appraisals (PRA)		
PRA: Women Village A	22 minimum – 28 maximum	These were PRAs engaged by the German Agro Action that focused upon "problems" seen by the women, their effect, and possible solutions. This focused mainly upon family planning and health. A separate PRA was conducted to see the priorities of the women, as well as a resource map to identify major geographical features.
PRA: Women Village B	28 minimum -35 maximum	These were PRAs engaged by the German Agro Action that focused upon "problems" seen by the women, their effect, and possible solutions. This focused mainly upon family planning and health.
PRA: Men Village A + B	25 minimum -47 maximum	These PRAs dealt with a resource map, village priorities, village planning, and a cause/effect diagram.
TOTAL	136 to 173 people	

Focus groups were incorporated to determine a general consensus over how water was governed and to uncover the opinions of villagers concerning water resource developments by the GAA. In focus groups which I had conducted, the village chiefs in Village A and B had been notified prior to the PRA activity, requesting heads of households to see if their wives would like to participate in the forums. After the participatory rural appraisals (PRAs) of the GAA, I would enlist women in these PRAs to see if they were available for a focus group a day in advance. I also participated in their daily activities by cutting up cassava for the pigs and feeding chickens, a chore done

by the women in the village. The two focus groups in Village A and Village B were with women to discuss the changing regimes in water access. I found these small groups to be helpful in uncovering general agreements about how water was governed. I also brought sunflower seeds and candy during the focus group, the sunflower seeds and candy were popular with the kids while they played near the women during the focus group. Thus, I was able to take my time in talking with the women.

The third focus group was more complex, involving men and women in a collaborative effort with staff from the GAA and my assistant. The GAA staff and my assistant both helped with the logistics of contacting the men and women, what types of questions to ask, and how to record the information needed for the study. The GAA staff were given instructions to divide the men and women into separate ethnic groups; however, during the focus groups, the men and women re-organised themselves. The men chose to gather together, delegating two people to write a summary of the group while the women divided themselves up into smaller groups with a mixture of ethnic backgrounds. Conducting a focus group involving three ethnic groups of both men and women in REF village, I had asked what they thought of the change with drinking water taps installed in their village in November 2006. The men had combined their responses on a sheet of paper which they had delegated one person to record their answers; meanwhile the women divided into separate groups according to their ethnic groups, and instead of talking to the GAA staff, decided to talk among themselves and write what they felt to report to the group later.

4.2.4 PARTICIPANT OBSERVATION

Described as "looking with a purpose," I used a combination of participant-as-observer and observer-as-participant (Palys, 2003: 203), reflecting different levels of involvement by the researcher (Hong and Duff, 2002). As participant-as-observer, the investigator is involved in the research with participants by asking questions about

what is happening to understand a process, whereas an observer-as-participant enables the investigator to step-back and observe participants to understand a process (Hong and Duff, 2002). I played a variety of roles, as an investigator, as a participant in different activities, and facilitator as a participant-as-observer (Palys, 2003: 213). As a participant-as-observer, I was engaged in participatory rural appraisals, such as participating in the household responsibilities of the women, working with the GAA team, and engaging people in resource decisions. As an observer-as-participant, I also had the opportunity to examine how the GAA team engaged villages in their PRAs, to learn from the GAA staff about how they did their PRAs, as well as to ask villagers how they felt about these PRAs. The framework describing how I conducted the participant observation used questions similar to J. Goetz and LeCompte (1984: 112-113), as cited in Bogdewic's (1999: 55) chapter entitled *Participant Observation*:

1. Who is present? What are their roles? How did they enter the setting? Why is each person present? Who seems to be in charge?

2. What is happening? Who is involved? What is the tone of the communication? Is it routine or unusual?

3. When does this happen? Is this the regular time for this occurrence? How long does it last?

4. Where is this happening? Is this the usual place? How is the space used? Who seems to be comfortable here and who is not?

5. Why is this happening? What precipitated in this occurrence? How is this activity organized? What are the rules? How are various events observed connected?

I watched the GAA perform several PRAs: resource mapping, ranking of village priorities, a cause and effect analysis, and collection of socio-economic data through discussions with farmers. Then I aided GAA staff with their PRAs in family planning and

health issues with women in Village A and Village B. Afterwards, I designed my own PRAs based upon what I had seen and did in comparison to the literature I read on PRAs (Chambers, 1994; Cooke and Kothari, 2001; Kumar, 2002; Rowlands, 2003; Hickey and Mohan, 2005) and what I learned from speaking with other PRA practitioners.

4.2.5 PHYSICAL EVIDENCE

Digital photos were taken of maps and government documents found in the villages, as well as the villages themselves. I took photos of the PRAs done by the GAA, and documentation used by the GAA, as well as the village chief. This was useful in recalling events, as well as providing concrete evidence of how maps, documents, and the conduct of PRAs were done. Some of the photos included audio recordings as a reminder of the object if written in Lao or the rationale for taking the picture.

4.2.6 PRIMARY FIELD NOTES AND FIELD NOTES FROM SECONDARY INVESTIGATORS

Field notes for my own use were written throughout the day, and then re-written for clarity shortly after returning from the villages. Two research assistants were asked to write a journal throughout the research period to discuss what they thought of the villages, the GAA project, and reactions of villagers, as well as any other issue they considered important. The team from the GAA mainly comprised staff living in the Project district, whose family came from there, or had recently moved into the area within a 3-4 year period. GAA facilitators were asked for their feedback about the PRAs they were doing. Feedback of these PRAs focused upon elements they found difficult and useful.

4.3 SELECTION OF INTERNATIONAL NON-GOVERNMENTAL ORGANISATIONS AND VILLAGES

When I arrived in Lao PDR, I found public participation activities directly engaging villages in Lao PDR under the Mekong River Commission's (MRC) Basin Development Plan were not being used. As a result, I looked at what other organisations were doing in terms of public participation or participatory activities directly engaging villages involving water resources. Looking at the mandates of different organisations and their activities, I identified several potential organisations: Concern (not Worldwide Concern), the GAA, GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), and Action Against Hunger (also known as Action Contre La Faim). All have objectives that engaged villages using participatory activities in water resource decisions. Of these organisations, the GAA was chosen. The GAA fit with many of the constraints such as funding, timing, and logistics. A description and criteria for selecting the GAA will be explained in Chapter 5. And, thus, the villages examined were from the GAA project site. The GAA had its own team, and I had to hire my field assistants for my field visits to help translate and organise PRAs for my research. My field assistant also had to be approved on my research visa by the Ministry of Foreign Affairs, the provincial authorities, and district authorities in Oudomxai. This took time, and my assistants were not always approved by the Ministry because they feared my assistants were not "qualified."

4.4 LIMITATIONS TO THE RESEARCH

Several methodological limitations were found in the study. These limitations include the methods used to collect data, the role of the researcher, cross-cultural issues, and sensitivity of information.

4.4.1 LIMITATIONS OF METHODS: KEY INFORMANT INTERVIEWS

Interviews and observations of the GAA team were scrutinized for the phenomenon known as the "Hawthorne effect." The Hawthorne effect occurs when a

participant being studied is conscious of being studied and thus behaves differently. As the Hawthorne effect could distort the data, information from the interviews was triangulated with various methods and information from other interviews to determine a common theme, pattern, or trend (Holden, 2001). From my experiences in conducting interviews in Village A, Village B, REF Village, and different organisations (government and non-governmental), I found a level of self-censorship was dependent upon the participant's feeling of information's political sensitivity even after signing the letter of information. Villagers would either decline to comment or explain there was little they could do to change their situation to end a subject. For governmental and international organisations, interviews would usually begin with statements from participants to ensure they were recorded as politically aligned to institutional mandates (policies and water interests).

Data collected from interviews also varied in quality. Some interviewees were inconsistent in their statements when revisiting subjects, or rewording phrases, but on the whole, most interviewees answered clearly. Even though participants were assured that their participation and comments would be treated in confidence, and most interviews were done outside their working places, candid responses from some participants were hard to obtain. The number of interviews was difficult to quantify in duration, as many of them occurred over a period of a couple days. Furthermore, at the request of some participants, a digital recording device was not used. One of the problems with digital recordings in the field was the amount of memory recordings took. The sheer volume of voices recorded in a 16 hour period made it such that I had to delete conversations that did not relate to the research questions.

Influencing some key informant interviews were the experiences of some participants with other researchers. These participants voiced their concern over the

control they had over the information because some studies in which they had participated previously had been used "improperly." Thus, the responses from informants varied from those who were open, while others were guarded in how they answered my questions. Another consideration was the issue of water resource development and domestic political issues that limited the exploration with key informant interviews. Participants in government and international development agencies in particular were quick to identify areas of my questions which they felt could be highly contentious political areas, such as resettlement. Sometimes participants would either decline to answer, or request to talk more about participatory activities and governance. Most interviewees were generous in giving me their time. Shortly after interviews with participants, I provided them a copy of the transcript for them to approve.

Although key informant interviews are essential pieces of data collection, I found interviews relaying empirical experience more useful, often in the form of a narrative, than participants trying to substantiate their opinions by referring to other projects they had 'heard' about. Some participants had stated information they gave me on on governance, public participation, the involvement of international development agencies in Lao PDR, and national policy as fact. I would revisit this information and ask if they could offer evidence to support their claims, such as the study they were getting their information from, how they knew what they knew, and if they could offer any documentation or another informant to back up their statements. Sometimes these claims could not be substantiated, reinforcing why multiple methods are needed.

As mentioned, I was able to speak with some key informants numerous times, with follow up questions over a period of six months. Many of the experts I consulted

were difficult to reach because they had busy work schedules. Thus, the availability of key informants was inconsistent. I had to wait months before being able to talk some, as they may have been on sabbatical, on-leave, at a training workshop, or conference. Others were more readily available, after or before business hours. Other issues regarding access and availability of informants included the access to field sites. Unfortunately, I was unable to visit my field sites numerous time because if I wanted to enter legally, I had to receive permissions from the provincial and district departments, as well as go with a GAA team because the villages were remote and, for safety reasons I could not travel alone.

4.4.2 LIMITATIONS IN PARTICIPANT OBSERVATION AND PARTICIPATORY RURAL APPRAISALS

I found several limitations in using participant observation and participatory rural appraisals. One limitation of being a participant-as-observer in collaboration with the GAA was the separation of my study from the GAA as an organisation. The villages could have thought I worked for the GAA. I had the GAA explain who I was, as a researcher, and I reminded participants in my interviews, focus groups, and PRAs that I was separate from the GAA, even though I was working with them.

Before collecting any data through interviews, informal discussions, and PRAs, participants in villages were reminded of how I was going to use their information. I cannot say for certain if all the villagers understood that I was also observing the GAA and what critical research meant.

A limitation as an observer-as-participant was the effect upon the GAA and its PRAs. First, I had no experience of being a farmer, an ethnic minority in Lao PDR, or a Lao citizen, or PRA facilitator. Thus, my deep understanding of what was happening was limited. Second, before entering the GAA project site, I met with the project manager and GAA team to explain what I was doing, their participation in the

research, their confidentiality, and how I was going to collect data. In collecting data from the GAA, I was aware that GAA facilitators of PRAs may have been conducting their PRAs differently than their usual practice, as the staff were aware of my role as a researcher that could alter how I understood how the GAA conducted PRAs. Some staff seemed to care while others did not.

Another factor limiting the data quality was the PRA method. Despite the language barrier between the Hmong and Lao, some of the activities such as mapping seemed like a game. Some suggestions for playing games as a PRA method, like having villagers draw pictures of dream villages, pictures in the sand, and passing around a stick to indicate whose turn it was to talk, seemed disrespectful. I cannot be certain if participants doing PRAs fully understood them, and I am uncertain if these PRAs helped build rapport between myself and the participant or the GAA and the participant. I think the level of respect between the participants and me was best gained through interviews and focus groups, even if only one person could speak Lao for everyone, and they were more effective than the mapping and village rankings. Furthermore, the quality of data was better from the interviews and focus groups. One more limiting factor of the PRA method was treating the PRA like a method similar to following a recipe book. I found PRAs as a method to be limited because they lacked creativity, adaptability, and flexibility for a context-specific situation. In the case of team building, in trying to have facilitators understand the "fun" of a PRA, the method seemed to work in the training of GAA staff. However, at a village scale, some of the PRAs were found to be limited, such as doing transect maps and recording village priorities, which I copied from the GAA. The maps, which will be explained in Chapter 5, were poorly understood by participants. Meanwhile results from the priorities discussed in Chapter 5, illustrated different results from men and women.

Furthermore, the "fun" aspect of the PRA seemed inappropriate in addressing adult men and women because I felt I was disrespectful. Instead, informal discussions, partaking in daily chores and asking how-to, as well as the transect walks as a means to generate discussion yielded better data and seemed more appropriate.

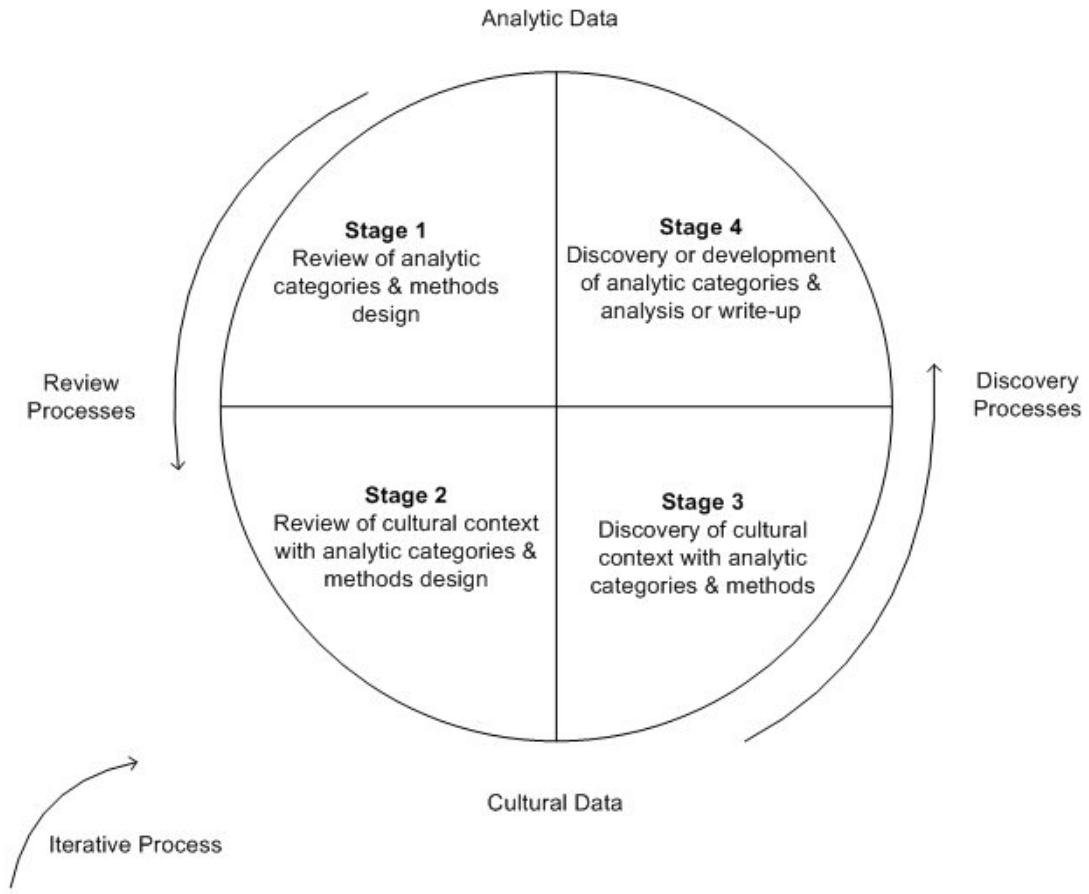
The other challenges of using PRAs as a method are the normative expectations of their use. The literature suggests that PRAs should be used under the condition it will contribute to village control over natural resource decisions also referred to as citizen power. Without that control, the efficacity of the PRA is limited (see Chambers, 1994; Cooke and Kothari, 2001; Rowlands, 2003; Cornwall, 2003; Cornwall, 2004; Hickey and Mohan, 2005). The practice of PRAs by the GAA staff did not match the best practices identified in the literature (Chambers, 1994; Kumar, 2002). Chambers (1994) and Kumar (2002) suggest best practice as being on the same level as participants (not being the only one standing in a lecture style), allowing participants to do most of the talking, and enabling genuine participation.

Originally, I wanted to conduct PRAs on my own with my research assistants, however, I quickly realised how little I understood of Hmong or Lao culture, the work of the GAA, my own experiences compared to my participants and my position as a researcher. I had no experience being a Hmong farmer or GAA personnel, nor was I an expert in either Lao or Hmong culture. Moreover, under the normative expectations of the PRAs, I had no authority or legitimacy to use PRAs as a method because I could not guarantee their efficacity in enabling the change villagers wanted. Or, in other words, I was a foreigner who had no right to advise or implement a tool meant to change the political and domestic circumstances (such as empowering women) of my participants. Thus, I focused my research on the evaluation of the GAA's position and PRAs.

4.4.3 CROSS-CULTURAL ISSUES

I used an iterative method of inquiry to incorporate cultural and societal issues into the research design as I became aware of those issues the longer I lived in Lao PDR, which I found from McCraken (1999) as demonstrated in *Figure 4*. *Figure 4* shows how data collected for analysis and the methods used for collection are constantly reviewed, integrating cultural and societal issues constantly as those issues are discovered. The more I understood about Lao PDR and issues surrounding IWRM, the more I applied those issues to my research questions. I had used my preliminary collection of data from practitioners to inform my methods before entering villages, as well as drew from my own experiences living and working in Lao PDR. I also taught a participatory development course titled Development and Education where the class comprised Lao university students and Lao from other provinces who worked for international development agencies looking to complete a certificate degree in International Development in English. From my students, I gained an important perspective about how they viewed international development in Lao PDR, and the pride they took in working on the issues facing their country. Taking a number of language lessons, I also lived in a village outside of the city centre of Vientiane, the capital of Laos. Once I started to understand the structure of the language, I had a great appreciation for the language barrier of Lao PDR.

FIGURE 4: ADAPTED FOUR-PART METHOD OF INQUIRY



Adapted from Figure 1: Long Qualitative Interview: Four-Part Method of Inquiry

4.5 SENSITIVITY OF INFORMATION

To conduct research in Lao PDR legally, I had to obtain a research visa, which is generally issued only to those affiliated with an established development organisation or national institution. I found that some of the information and issues raised in the on-site literature review suggested that water had the potential of being a politically sensitive topic. The involvement of Government officials in my research was unavoidable due to their role in development projects, as well as my own work, thus confidentiality was a primary concern. Throughout my field work with GAA, a

government or GAA observer was present, and sometimes during interviews with officials. Emphasising confidentiality, I had the government observer and GAA observer sign the same letter of intent that I had my research assistant sign, confirming that they understood the letter of intent, the objectives of my research, maintaining participant confidentiality, and keeping information to themselves. Also, I emphasised how they would be legally bound to this letter as if it were a contract.

Data were encrypted while in Lao PDR with Pretty Good Privacy Software, as the interviews were recorded digitally. Digital photos and sensitive documents, including hardware to store data, were locked in a guarded Project House. Information from participants was understood to be gained by varying degrees of trust, which raised a number of ethical considerations. As exemplified by Palys (2003), an ethical question exists regarding the rights of the participants and knowledge gained for the study. On one hand, sensitive data should be included in the study which would imply limits to the confidentiality of the participants. This does not imply a limit to the ethical obligations of the investigator, but risk of compromising the participants' confidentiality and welfare exists. On the other hand, I also had the option of omitting data I felt was too sensitive because it would compromise the confidentiality and welfare of the participant. Here, the rights of the participants were placed before the research itself.

Participants who I felt could be at risk of being identified were asked to keep information to themselves, especially after an interview. Particular care was given to the villages, as their geographical nature and involvement with the GAA could be used to identify the villages and, hence, compromise their confidentiality. Only the GAA knew which villages I went to. Most of the participants in the key informant interviews

were given the opportunity to review information they provided, as well as given the option to withdraw any of it up until the date of publication of the thesis.

CHAPTER 5 CASE STUDY: REMOTE MOUNTAINOUS VILLAGES IN LAO PDR

5.0 INTRODUCTION

Data presented in this chapter follow a stakeholder analysis, examining actors at different levels of authority to determine public participation in IWRM for Lao PDR. The study first looks at villages, following levels of authority outlined by the Lao National Mekong River Commission (LMNC) in *Table 7*. The study also starts with villages because they are the lowest appropriate level used by the international NGO (INGO) in the study. In *Table 7*, the administrative designations specify levels of authority and "key agencies" or actors also responsible for public participatory activities. Each actor is ranked according to the Conceptual Framework described in Chapter 2 in *Figure 3*, so each actor and corresponding level of government had a line indicating their level of citizen involvement with the villages. The participatory activities used by each actor in Lao PDR are matched with methods described in *Table 1*. As outlined in the Framework, methods have corresponding degrees of citizen power, levels of participation, and types of participation. Together, the degrees, levels, and types of participation make up an indicator for the involvement each authority has with villages.

A critical Third World political ecology perspective is used for the analysis of water resource politics, using the same data as for the Conceptual Framework, but also other types of data in five other areas. First, Third World political ecology examines international actors such as the INGO in the study. Thus, an extra "administrative" area was determined to exist, because international development projects can follow separate rules and procedures from those in *Table 7.* Second, Third World political ecology examines the power of actors at different levels of authority. Power is determined by an actor's water interests, as well as the actor's ability to implement

those interests. Third, Third World political ecology examines power and the ability to implement water interests. The "Indicative Area Extent" in *Table 7* shows the role of land in water resources. The jurisdictional authority, or administrative area, of each level of authority is tied to land, thereby tying water resource development to land at different spatial radii. Although a physical area establishes administrative boundaries, the development of water resources depends upon the ability of an agency to accrue capital and distribute that capital (human, physical, and financial). Therefore, IWRM in Lao PDR is interlinked to a specific geographical area because the location of water resources can determine the type of development happening. Fourth, Third World political ecology investigates how other actors view villages. It thus provides a multi-scaled picture of the socio-economic characteristics of villages, as well as of how villages understand their situation. The examination of socio-economic characteristics may also illustrate water issues in contemporary water resource politics surrounding villages. Fifth, Third World political ecology examines participatory activities in ways that may illustrate opportunities for and barriers to participation.

TABLE 7: POLITICAL JURISDICTION WITHIN THE MEKONG RIVER BASIN FOR LAO PDR

Level	Indicative Area Extent	Administrative Coverage	Key Agencies
Mekong River	International		-Government of Mekong Riparian Countries -Mekong River Commission
	National	Whole Country	-Government of Lao PDR -Water Resource Coordinating Committee -Lao National Mekong Committee -Ministry of Agriculture and Forestry
River basin or large	> 1600 km^2	Provinces	-Provincial authorities -Provincial Agriculture and Forestry

watershed			Services
Medium watershed	< 1600 km^2	District	-District Authorities -District Agriculture and Forestry Office
Microshed	< 100 km^2	Village	Village Development Committee
Source: Table 7 Watershed Level in Lao PDR from LMNC, 2004.			

5.1 VILLAGES

5.1.1 DESCRIPTION OF VILLAGES

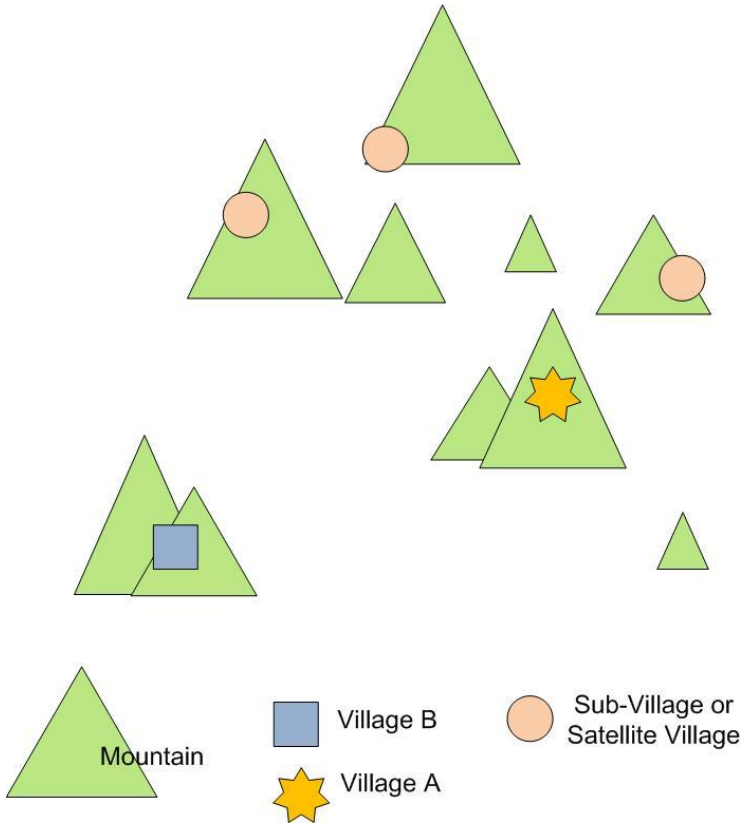
Two villages located in the Muang Nga district in the Northern Province of Oudomxai were the focus of the study. The two villages, A and B, are Hmong. Another village, the REF village, was also used in the study to triangulate information. The Hmong in Village A, Village B, and REF Village practiced upland swidden agriculture, also referred to as shifting cultivation, and slash-and-burn agriculture. The villages I examined are defined as remote by the GAA and Socio-Economic Atlas of Lao PDR (Lao Government et al., 2008: 10). They had no road access by vehicle for at least a half day's walk and were approximately a day's journey from the district capital. Village A and B were in the preliminary phases of GAA's planning process for development.

Village A and Village B were a part of a set of villages, totalling five. At the time of the study, villages surrounding Village A were termed sub-villages by GAA staff and district authorities. Village B was classified as one of the sub-villages surrounding Village A. Sub-village, as a classification of the villages surrounding Village A, did not indicate differences in size, ethnicity, proportion, or wealth.

Field work took place in November 2006 and December 2006. Prior to my visit, the district and provincial authorities had determined land allocations for Village A, Village B, and the other sub-villages in September 2005 (see Annex: Land). The four sub-villages, which included Village B, around Village A were to be amalgamated in a new location close to Village A. Combined, the five villages numbered 145 households

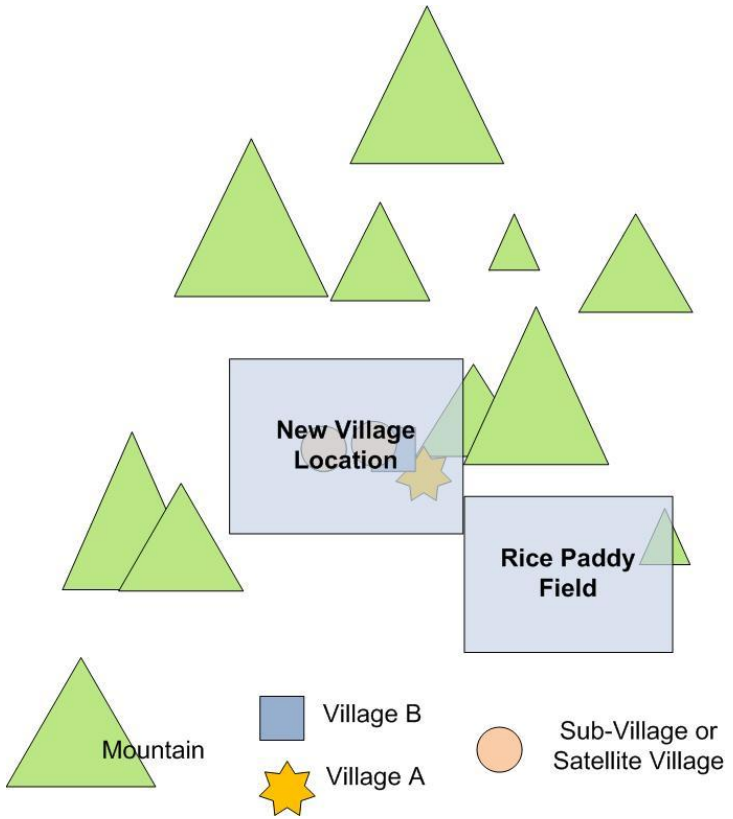
with approximately 680 inhabitants. The proposed area of development is indicated in the maps below. Village A and Village B seemed to have had little interaction with each other, except for meetings involving village planning such as the preliminary PRAs initiated by the GAA.

MAP 3: SCHEMATIC OF VILLAGE A AND VILLAGE B BEFORE DEVELOPMENT



*Not to scale

MAP 4: SCHEMATIC OF VILLAGE A AND VILLAGE B AFTER DEVELOPMENT



*Not to scale

5.1.1.1 Geographical Features of the Site

Northern Laos is mountainous, characterized by limited arable land, and a high potential for hydroelectric projects, according to the Northern Region Development Plan (NRDP) (2004). Also mentioned in the NRDP are energy, forest products, agriculture, minerals, and other resources which makeup the exports from Lao PDR to with neighbouring countries. And, as the NRDP explains

> "by western standards most people in Northern Lao PDR are poor, severe poverty is not widespread and community life is generally much better than indicated by US dollar income measures" (NRDP, 2004: 21).

The GAA project site was located within the Mekong Basin. Village A and Village B were near a river to be referred to as the River that eventually drains into the Mekong. Both villages had little vegetation around their homes with their crops located further away, nearby bamboo forests used for construction.

5.1.1.2 The Hmong

The residents of Village A and B are upland ethnic group known as the White Hmong, belonging to the ethno-linguistic group Hmong-Mien. In all of the interviews conducted in Village A and B, no inhabitants referred to themselves as Lao; rather, they referred to themselves as Hmong. For instance, interviewees would refer to themselves by their given name, and their Hmong clan. According to Yia Lee (2005), swidden agriculture for the Hmong has shaped specific cultural and religious beliefs, particularly about the use of time and the value of productivity through labour, as well as guiding the integration of spiritual beliefs in health and productivity and the impact of labour upon gender roles. The lives of the Hmong, as highlanders, have been characterised as "vertical":

> The world of the lowlanders is essentially flat . . . their existence is premised on the horizontal, on wetness, and on fish . . . highlanders, on the other hand, live

> vertical lives, dominated by steep slopes, over-powering landscapes, enormous trees, and a vastness of open space. (Chamberlain, 2001: 42)

The Hmong are a highly labour conscious society and considered 'pioneering swiddeners,' as they do not practice rotational fallowing but continually move to new locations when resources have been depleted, living a nomadic life style that has potential to cause conflict with other lowland or midland ethnic groups (Chamberlain, 2002: 46).

This pioneering characteristic of the Hmong has led to what Tapp (2005: xxv) describes as "the old scape-goating stereotype of the Hmong as destructive of the natural environment, which first emerged in the 1960s". Furthermore, the Hmong grow opium, which has lent to biases and is used as justification by Thai and Lao governments for the resettlement of populations (Tapp, 2005). However, the validity of the claim that swidden agriculture causes environmental degradation has been questioned by Chaplot (2004: 45) who suggests that shifting cultivation is more sustainable on sloping land than continuous cultivation:

> "If shifting cultivation in the uplands is permanently replaced by continuous agriculture, environmental damage will rapidly and greatly increase since punctual features with high infiltration possibilities, such as roots, stumps and associated biological activity remaining after slash-and-burn, will all disappear. Runoff, instead of infiltrating soils, will flow down and off the hillslopes, producing more and more erosion and flooding."

Nonetheless, debate regarding the sustainability of swidden agriculture continues (see Walker, 2003; Tapp, 2005).

5.1.1.3 Village A

Village A comprises approximately 28 households, with one chief and three deputies. At the time of the study, the village was accessible via a rough trail. The

main crop for Village A was upland rain-fed rice. Mostly un-electrified, a pico-generator powered a radio for the village, a sewing machine, and rice thresher. One of research assistant who was White Hmong compared Village A to his own village in another province nearby, named Luangprabang. The research assistant described Village A as conventional or "old." The examples he gave were the tools, like a wooden rice pounder, style of the houses, and lack of amenities (flashlights, lights, radios). Other examples were how Village A did not fence off its livestock (chickens, pigs, and cows) and the type of spiritual ornaments hanging in the houses.

5.1.1.4 Village B

Village B had approximately 25 households. Village B contrasted with Village A considerably. A majority of the houses had fluorescent lights, as well as lights outside the homes, electrified from two of three pico-generators. The fencing of livestock and around houses was more sophisticated than in Village A and villagers had rice banks in case of drought. This village was wealthier than the Village A as a number of turkeys and two horses were found, which according to several anthropologists in the field indicates the wealth of a village. Five of seven interviews in Village B expressed concerns about moving to the new site near Village A, because of the limited availability, land with fertile soil, and the availability of water.

5.1.1.5 REF Village

The REF village was not used in the comparison of Village A and Village B for several reasons, however, in understanding the role of GAA to Village A and B, REF village was invaluable. First, the REF village comprised three ethnic groups. Each ethnic group, Tai Lue, Hmong, and Khamu, lives separately from the other; however, this did not mean these populations did not interact with each other. Another reason the REF village was not used in the Village A and Village B comparison was because the REF village was nearing the completion of a four year development phase under the

GAA projects. The GAA had worked in the same village for the previous two years, rendering preliminary PRAs or memory of them to be four to six years old. The physical geography of the REF village changed with the development projects facilitated by the GAA, including changes in agriculture such as the creation of cash crops and irrigated paddies, as well as changes to the layout in terms of ethnic divisions, and construction of roads, making the REF village distinctly different from Village A and Village B.

The REF Village was used in the study for several reasons. Inhabitants from Village A and Village B passed by the REF Village, to get to the markets near the provincial Capital Muang Xai, and inhabitants of Village A and B had relatives in the REF Village. The REF village has had the greatest involvement with the GAA over five years, starting in 2002, largely because the GAA teams entered through this village to access other villages such as Village A and Village B. The Hmong in the REF Village had recently settled approximately 2 years earlier. Farmers from Village A and Village B indicated the REF Village served as the model for changes Village A and Village B expected to happen in the new site for development (amalgamation of the five villages together as indicated in *Maps 3* and *4*). Data collected from REF village was used to compare what Village A and B expected from GAA as a result of work done in REF Village with the realities of those living in REF Village. Inter-ethnic biases against the Hmong were found through interviews in REF villages. The Tai Lue in the interviews felt the Hmong were responsible for degrading the environment through deforestation in the area.

5.1.2 WATER INTERESTS OF VILLAGES

The water interests of Village A and B were internally governed by a hierarchy of authority which established rules for water use and sharing which villagers followed. Villagers' water interests found in the study related to agriculture, drinking water, and

multi-purpose dams all of which were managed and enforced through existing customs and the village hierarchy.

5.1.2.1 Agriculture

For both villages, the primary source of food, economic security, and spiritual belief was the cultivation of upland rain-fed rice (also referred to as upland rice or rain-fed rice). Interviews with several farmers in Village A and B, as well as discussions with the Hmong research assistant, suggested some rice strains that vary in shape and color are passed from from clan to clan. Farmers also grew two types of rice: one which grows in three to four months considered "cheap and not so tasty," and another which takes five to six months considered "more expensive and tastier." At the time of the study, no wet-paddy rice fields (wet-paddy rice is also referred to as irrigated rice) existed in Village A and Village B.

The four sub-villages, including Village B, combined with Village A, had approximately 106.5 hectares of land, yielding 1.04 tonnes of upland rice per hectare, and totalling an average of 113.39 tonnes of rice annually, according to villagers in reporting to the GAA. These numbers were reported by participants at the preliminary PRA, 28 to 47 heads of households (men) who also reported the amounts of land of their neighbours who were not present. As a technical advisor in the area pointed out, this amount supplies enough rice for four months a year for the villages. As mentioned, farmers are able to grow two varieties three to four months apart, and five to six months apart. Thus, farmers were able to store rice for four months, depending upon the yield of their crops. However, the margin for error in judging how much rice and what type of rice to grow makes them vulnerable. There were also a number of gardens in Village A and B containing chilis, tomatoes, papaya, mangoes, pineapples, and sugar cane, as well as other crops.

5.1.2.2 Drinking Water and Sanitation

Village A and B both knew to boil their water, based on the advice from a nurse who had visited in April 2005 from the provincial office of Rural Water Supply and Health and Sanitation. Interviews with villagers indicated they understood the River nearby was unsafe to drink, but they would bathe or wash clothes in it. For both villages, drinking water came from that drained into the River nearby. Village A's source of drinking water came from an intermittent stream located downhill from the village, approximately 800m away. When the streams near the village dried, two women and three men in the village informed me they would boil water from the River. A small reservoir was built for drinking water made of a dam of stones, mud, and wood. In the morning, water was carried up from the creek by women and children in large buckets. This contrasted with the system in Village B.

Drinking water for Village B came from approximately 1 km away from a small reservoir originating from an intermittent stream located uphill from the village. Built by the villagers, the supply of water to the village was through bamboo piping, while the reservoir was made from materials (wood, rock, and mud) from the forest. Approximately 0.5 m high, the reservoir collected drinking water that was transported by halves of bamboo, measuring 1.5 – 1.6 meters long. This gravity fed tubing was supported by sticks and each bamboo half could be moved to divert the flow of water easily into a bucket and also could be easily replaced to maintain a steady flow of water. An example of this tubing is shown in *Photo 2.* At the end of the diversion, the stream ended in a stream bed at the centre of the village where the chief's home was located. The water piping structure eliminated the need for women to carry water and was maintained and operated by village authorities.

Existing customs regarding water conflicts emerged from focus groups with women in Village A and interviews with women from Village B. The topic of potential

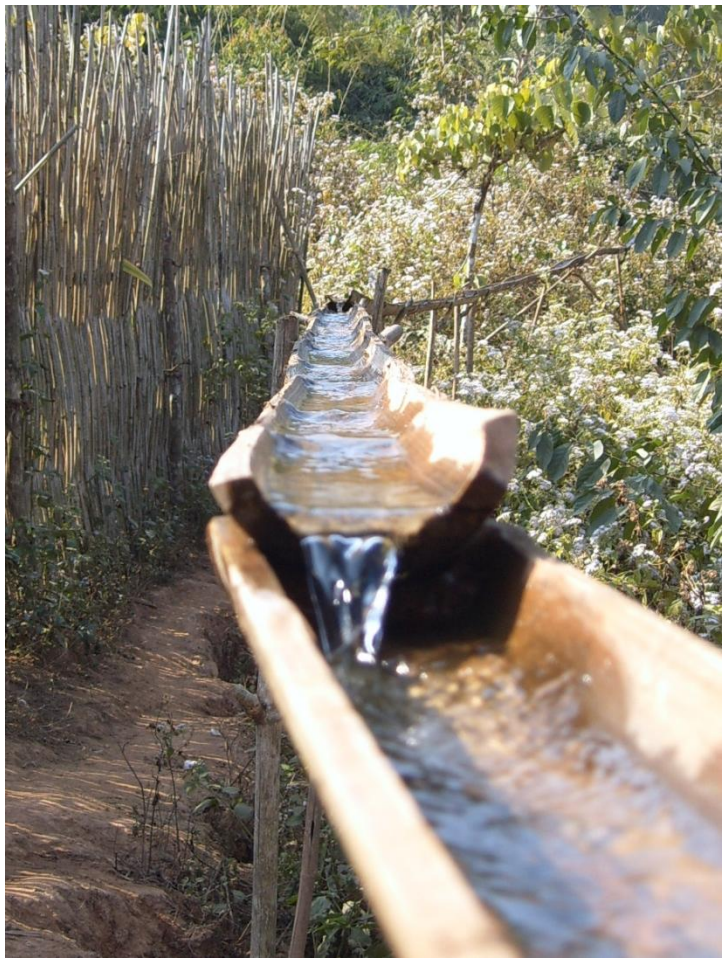
water conflicts came up as a result of confirming Village B was moving into Village A in the new project site. In the focus group with Village A, women felt potential conflicts over water as a result of an increasing population were "childish and silly." They explained two things would most likely happen: the women who collect water would wait in line and village law would ensure this rule. Village B had similar views, saying water conflicts were "not possible." Women from Village A were mainly concerned about the impact of more people affecting their work or daily chores in collecting water. More people meant women and children would have to wake up earlier and wait longer in the morning for water before going out to the field to work.

5.1.2.3 Fishing and Hydropower

Both Village A and Village B had small hydro-electric generators known as pico-generators. Village A had one, and Village B had three. The funds for these generators were from relatives in the United States, according to one of the owners of the pico-generator from Village B. As mentioned, Village B had fluorescent lighting for most of the village at night, and they had built a multi-purpose dam not only to generate electricity from a pico generator, but also to catch fish, and control the flow of water as demonstrated in *Photo 1*.

PHOTO 1: EXAMPLE OF MULTIPURPOSE DAM FROM VILLAGE B FOR HYDRO-ELECTRICITY GENERATION, WATER DETENTION AND CATCHING FISH.

PHOTO 2: EXAMPLE OF PIPING MADE OF BAMBOO TO TRANSPORT WATER TO THE



5.1.3 HOW VILLAGES VIEW THEMSELVES

Based on interviews, focus groups, and the physical evidence of structures built for drinking water, fishing, and hydro-electricity, both villages seemed to have independent control over their water interests. Thus, villages were determined to be at a level of "Citizen Control: Decision Making" as defined in *Table 1*. Villagers were determined to be self-interested actors, comprising several sub-groups, like heads of households and village chiefs. The degree of control was illustrated by interviews with heads of households, village chiefs, village deputies, and women who felt they were the ones who ultimately decided if they would participate in GAA activities.

Both villages were aware of the opportunities the GAA provided. Whether or not "centralisation" would happen for Village A and Village B depended upon the changes they saw from the GAA. Factors determining the cooperation of Village A and Village B were the availability of fertile land, workload placed upon women as described in *Section 5.1.2.2 Drinking Water and Sanitation,* and expectations of developments similar to those they saw happening in the REF Village. Most spoke of making a decision collectively in deciding to move, although three heads of households indicated they had relatives in other villages to whom they could go for help or move in with.

5.1.4 PUBLIC INVOLVEMENT: NON-PARTICIPATION AS PARTICIPATION

The absence of water from the list of priorities (see *5.2.2 Activities* by the GAA) illustrated a type of participation unanticipated in the literature review or discussions with on-the-ground PRA practitioners. I call this "non-participation". Non-participation is when villagers intentionally do not to participate in specific projects in order to maintain control over natural resources. For example, the omission of information from PRAs could enable Village A and Village B to maintain control over their water interests. As mentioned, the total hectares of crop land were reported from 28 to 47 heads of households, out of a total of 145. Furthermore, the omission of information

could appear in income from other crops, physical capital that determined the desirability to move such as the pico-generators, existing capital or machinery obtained from other development projects, and livestock (the horses and turkeys were not factored into the socio-economic data). In addition, villages could maintain control over water interests because they could determine the sustainability of projects after project timelines.

5.1.5 BARRIERS AND OPPORTUNITIES IDENTIFIED BY VILLAGES

One of the disadvantages of non-participation was the inability of villages to develop water resources. Villages depended upon district authorities and the GAA to develop water resources or provide government services such as health care, education, and access to infrastructure (roads, electricity, and running tap water). Thus, if villages wanted to increase their crop output through wet-rice paddy or irrigation, they would have to cooperate with district authorities vis-à-vis the GAA. In all of the interviews in Village A and Village B, it was clear that villagers knew there were benefits in cooperating with the GAA because they said the REF Village illustrated the benefits of such cooperation. They saw GAA as a means to increased access to markets, concrete taps, roads, fencing, irrigation, cash crops, and microloans GAA offered to villagers to change their livelihoods in ways they could not do independently.

5.2 INTERNATIONAL ACTOR: GERMAN AGRO ACTION

The German Agro Action (GAA) illustrated how an international actor was able to work at the village level that created an extra administrative area.

5.2.1 ORGANISATION OF GAA AND WATER INTERESTS

As an INGO, GAA is organised into three levels: an international head office, a country resident office for Lao PDR, and a provincial or district office. The head office

is in Bonn, Germany, while the country resident office for Lao PDR is in the national capital of Vientiane. Depending upon the location of the project as well as the objectives of their projects (as they do not only employ holistic rural development approaches), the GAA projects can be seen as locally based, at the levels of the village, district, or province. These local projects are given relative autonomy in a decentralised style of management, where project managers are largely given the responsibility, and decision-making power, to implement their project according to what they see on the ground. In the case where local project decisions require authorization at a national to international scale, then the head office will often support their local projects. The ability to respond on the ground at the village level was due to the GAA's proximity to the project villages themselves.

The GAA provincial office is located in the Northern Lao province of Oudomxai, in the provincial capital of Muang Xai. The GAA district office is in Nga. With a combination of formal monthly and bi-weekly meetings, the style of project management showed constant updates from project staff about what they saw or found happening within their villages. Most of the project staff either had family within the district of the project site or lived in the district of Nga. According to the International Directory of NGOs Website for Lao PDR (2008: http://www.directoryofngos.org/pub/ngo_intro.php?id=41), the GAA has been operating in Lao PDR since 1993:

> "the overall programme aims at a sustainable contribution to securing basic needs, in particular the food supply, while also protecting natural resources. Especially disadvantaged rural households in the highland regions (Khamu, Hmong, Tai Lue, Tai Dam) and in the marginal rice cultivation regions of the

lowlands (Lao Loum) are the main target groups. Structural support for the districts accompanies the work."

Project time lines could be anywhere between one to four years, depending upon funding allocated to two high level officers from the European Commission for Lao PDR. Both officers indicated that the longer the project could work in an area, the more successful they would be, and sometimes projects could be extended another four years, depending upon how budgetary headings were interpreted.

5.2.2 ACTIVITIES

Participatory activities by the GAA consisted of two stages for the preliminary PRAs. The first stage is known as a "fast-and-dirty participatory rural appraisal" in which basic data such as population, number of households, and hectares of arable land available for wet-rice paddy are collected. Then, a preliminary participatory rural appraisal (PRA) is done, which consists of a more in-depth collection of data. The preliminary PRAs took place in Village A, and were set up like a large meeting of heads of households, involving three other villages, and Village B. Prior to the preliminary PRA, the village chiefs were called for a meeting, after which the GAA team had written reports outlining the village history and religion. The options or projects available to the GAA to meet village needs were divided into four categories: what villages could do, what the GAA could do, what the local authorities (district and provincial offices) could do, what other organisations could possibly do. The tools which the GAA considered at the time of the study are listed below:

- water supply for drinking and sanitation,
- road construction
- identification of suitable areas for wet-paddy rice production or irrigation,
- planting cash crops (fruit trees, tobacco, legumes…etc)
- organise protection of conservation areas: i.e. forests by fines

- microfinance: setting up a revolving women's fund for small businesses
- watershed protection in coordination with conservation area protection
- construction of fish ponds
- preservation of fish biodiversity

In implementing these projects, organisations in villages were set up for a food-for-work program, in which rice is given to farmers in exchange for their labour on such projects.

5.2.2.1 Mapping and Land Allocations

The five satellite villages surrounding Village A had been asked to participate in preliminary participatory planning facilitated by the GAA to determine the priorities of the villages, and the changes that would occur. The resource map involved the heads of households (men) that led to discussions about the priorities of the village. This map (see Annex: Map with Men GAA PRA) differed from the map drawn by the women in Village A (see Annex: Map with Women). Men drew changes that would take place as a result of increasing the amount of land for wet-paddy rice cultivation, and the gradual decrease of swidden agriculture. Here, allocations of land as represented *Table 8* were outlined.

According to development plans from the preliminary PRAs done by the GAA, the amount of land for rain-fed upland rice was going to be decreased and wet-rice paddy (irrigated land) was to increase. The reason given by the GAA was that wet-rice paddy land usually gives higher yields of rice over less area. In the plan, the amount of land for rain-fed rice was to be decreased with increases in paddy land, orchard and gardens, area for infrastructure, protected forest land, land for villagers to use in forest land, and a proposed area for new villages.

In interviews with farmers, none had experience growing wet-paddy rice and they would require the assistance of the GAA which they also referred to as the

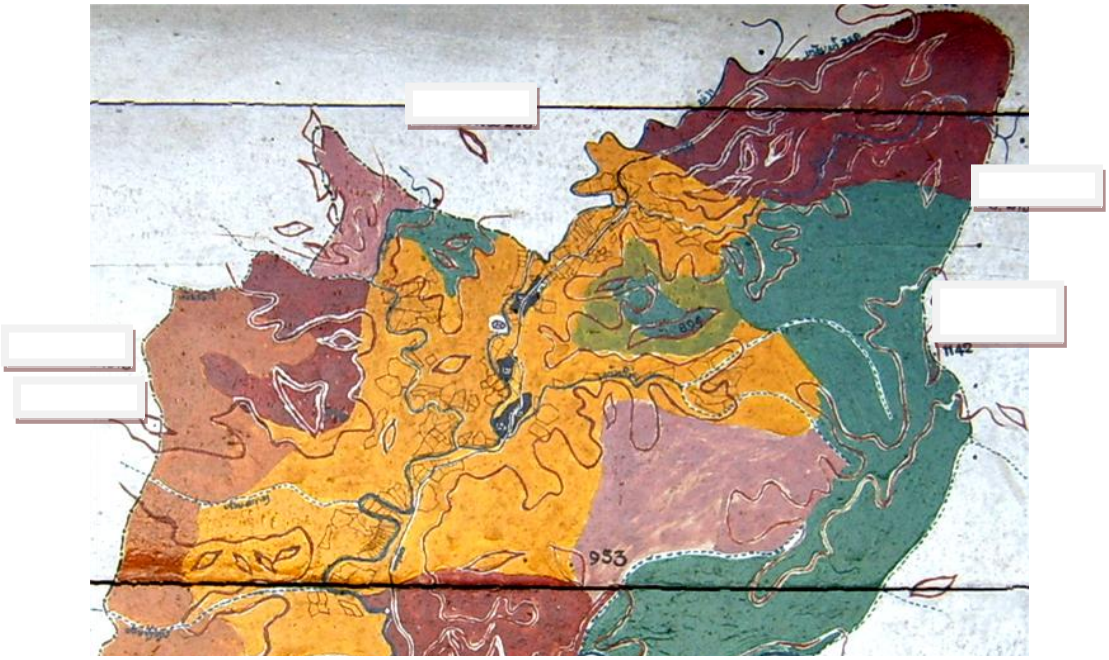
government. Despite the proposed changes in land use, the implementation of these changes largely depended upon the cooperation and willingness of Villages A and B, as the proposed changes in life followed elements of sedentary life styles that differ from the nomadic lifestyles described in *Section 5.1.1.2 The Hmong*. Eventually, the allocations of land would be posted in the new village location similar to the picture below, which is the standard layout for most villages undergoing land allocations.

TABLE 8: LAND ALLOCATIONS

	No	Land use	Current area (ha)	Proposed area (ha)
	1	Paddy land	0	36
	2	Orchard and garden	9.52	21
	3	Upland/Swidden	107.1	80
	4	Infrastructure land	0	7.5
	5	Forest protected land	-	50
	6	Village utilization forest land	-	6
	7	Area for new villages	-	38
		Total		238.5

The use of the resource map was confusing to villagers. Of the five villagers interviewed regarding the map, none could explain why the map was being drawn because they already knew they were going to move. The creator of the PRAs (a local Lao) admitted: he wasn't sure about the PRA map's intended use either.

PHOTO 3: EXAMPLE OF LAND ALLOCATIONS



5.2.2.2 Priority Ranking

Priorities were also ranked by the heads of households for all five sub-villages. Their participation varied from 28 to 47 people throughout the two day PRA. As indicated in *Table 9*, the approximate times of attendance and PRA activities are listed. Women were not present during these priority rankings. Women were unable to attend because the PRA took place during the harvesting season, and they were working in the rice fields. Furthermore, women were not intended to participate in the preliminary PRAs, as their participation depended upon the presence of a representative from the Lao Women's Union according to the technical advisor with the GAA.

According to the heads of households, water was their fourth priority. The top priority was construction of a road to connect the villages to the district centre of Nga and other surrounding villages. The road had already been under construction, involving the five sub-villages, including Village A and B, since 2005 through a food for work program with the World Food Program. The second priority, rice sufficiency, suggested a need for more rice. The solution offered by the GAA was the creation of wet-rice paddy or irrigated rice that had also been previously surveyed. Healthcare, the third priority, included discussions of family planning, and drinking water would be developed as done in the REF Village. Education, the fifth priority, depended on district and provincial authorities, leaving the sixth, and the last priority, centralisation.

TABLE 9: PRAS BY GAA, AND PRIORITY RANKINGS

Time of Day (24 hour time)	Number of Participants	Type of Activity	Village Priority Ranking	Priorities Men	Number of votes
7:00-9:00	16 men 5 children	Mapping	1	Road Construction	17
9:00-10:00	22 men	Mapping	2	Rice Sufficiency	9
10:00-11:00	24 to 28 men	Mapping/Socio-economic Data	3	Healthcare	6
11:00-12:00	34 men	Mapping/Socio-Economic Data	4	Drinking Water	5
12:00-to Day End	47 men	Priority Ranking/Socio-Economic Data	5	Education	3
Next Day Morning	47 men	Priority Ranking	6	Centralisation (moving of all five sub-villages to Village A)	

5.2.2.3 Collection of Socio-Economic and Cultural Data

Baseline data from Village A and Village B, including the number of people in each village with their corresponding household, the numbers of women, people of working age, and children, as well as level of education, were collected by the GAA team. Also documented were the number of hectares of upland dry-cropping rice each person had, a record of livestock (buffalos, cows, pigs, and chickens), as well as approximate income and expenditure for each household (*Table 10).* From 2002 to 2003, IFAD (International Food and Agriculture Development) conducted the "Community Initiative Support Project" (CISP), in which villages in seven districts were surveyed for potential sites for international development efforts. In this survey, the same villages involved with the GAA were approached. According to numbers obtained by the provincial Department of Rural Water Supply, Drinking, and Sanitation, the total number of people in the same five sub-villages was 722. Data obtained in 2006 by the GAA indicated 680 people.

TABLE 10: SOCIO-ECONOMIC DATA COLLECTED DEC. 2006 FOR VILLAGE A, VILLAGE B, AND OTHER THREE SUB-VILLAGES BY GAA		
Data Type	Description of Units	Number
Household Demographic		
	Number of Families	145
	Number of people able to work	219
	Number of women	339
	Number of working women	102
	Total number of people (all five villages:	681
Land Designations		
	Upland rice (ha)	107.1
	Upland rice produced (ton)	113.69
	Irrigated rice (ha)	0
	Irrigated rice produced (tons)	0
	Garden/ other (ha)	9.52
Number of Animals		
	Cows	227
	Pigs	551
	Buffalo	113
	Goats	54
	Poultry	2906
Income and Expenditure		
	Aggregate Income for all five villages ($1 USD = 10,000 kip)	$10, 280
	Aggregate Expenditure for all five villages ($1 USD = 10,000 kip)	$ 8,800
Wealth Ranking		

5.2.2.4 Cause and Effect Analysis

Relationships between food security and village livelihoods were drawn for Villages A and B by a member of the GAA staff, who explained the supply of rice related to health, labour, scarcity of land, and village wealth. In a separate PRA for the women in Villages A and B, the GAA staff focused on population growth (sometimes referred to by field operators, provincial authorities, district authorities, and literature on rural development, see Bounthong et al., 2003; Evrard and Goudineau, 2004, as having too many children).

5.2.3 GAA VIEWS OF VILLAGES

Villagers were enlisted to contribute to the project, and responsibilities were delegated to villages by the GAA. The GAA enlisted villagers in a food for work program in conjunction with the World Food Programme. Villagers are essentially paid with rice for their labour in building infrastructure such as roads, dams for drinking water and irrigation, as well as drinking water taps. Meanwhile, at the end of the PRAs, village committees were set up by the GAA, which outlined their responsibilities in helping to centralise the villages to the new village site.

5.2.3.1 Women

As mentioned, women were not involved because no Lao Women's Union representative was available. Women were engaged in areas of health (family planning) during the cause and effect analysis, and identification of their problems. As illustrated in *Table 10*, women comprise nearly half the population and half of the working force. In separate PRAs by me following some of the GAAs methods, I did a resource map and village priority ranking with the women of Village A as shown in *Table 11* and *Table 12*.

TABLE 11: FIRST PRA WITH VILLAGE A WOMEN: NOVEMBER 2006	
List of Priorities by Women	Number of Votes
Money	8
Machines for harvesting rice	1
Road improvement	5
Better roof	2
Fish pond	1
Fruit trees and timber to sell	1

TABLE 12: SECOND PRA WITH VILLAGE A WOMEN: DECEMBER 2006					
Priority	Votes	Ranking	Votes for Effect on Labour	Ranking	Problem They Can Solve Themselves
Food insecurity	11	2	13	1	5
Sickness	6		5		4
School	4		6		10
Lack of Income	15	1	11	2	9
Livestock health	1		2		13
Forest Products	2		2		11

The rankings obtained from the first and second PRAs with women in Village A, and from the men's rankings, highlight that water is not a priority.

5.2.2.6 Gender

According to interviews with several heads of households and women, the REF village served as a model for Villages A and B. Women from Village A and Village B would regularly pass the REF Village en route to the market, and concrete drinking water taps were visible (as they were close to the road). From the women's focus group in Village A, drinking water taps in the REF Village seemed to have generated interest in the project sites of the GAA. Another focus group in the REF village was held to ask Hmong women about the changes caused by the drinking water taps installed in

early November 2005. The focus group also involved other women from the REF Village because the village chief of REF Village was worried I wouldn't have enough opinions. These drinking water taps were fed by a gravity reservoir, located five to six kilometres away from the village. *Table 13* shows the benefits from drinking water taps from focus groups done in REF Village.

TABLE 13: FINDINGS FROM FOCUS GROUP DECEMBER 2006 WITH REF VILLAGE

Answer from Men about the installation of taps:	Allow women to work in the field Makes village life more comfortable
Answers from Women about the installation of taps	Lue: Able to make alcohol, saves time, able to stay at home with the family more, more comfortable Khamu: More comfortable, clean, and able to spend more time with the children. Hmong: Water is convenient, and have more time to spend with children.

5.2.4 PUBLIC INVOLVEMENT: CONSULTATION AND CO-DECISIONMAKING

According to participatory activities alone as listed in *Table 1,* the GAA level of public involvement was consultative, characterised by their food-for-work programmes and delegation of responsibilities to the villages for rural development. Activities such as mapping, seemed superficial, as their use seemed to inform villagers of land allocations that had already been determined in September 2005 by provincial and district authorities. Moreover, as land allocations had also already been planned, related water resource developments had been planned as demonstrated in *Table 8*. However, these GAA initiated activities, such as the preliminary PRAs, gave villagers an opportunity to informally negotiate with district authorities over the access, control, and development of resources. This will be explained in the next section. The level of participation corresponding to this informal type of negotiation is "Co-Decision-

Making" as indicated in *Table 1* in Chapter 2. Therefore, the level of participation of the GAA was determined to be between "Co-Decision-Making" and "Discussion."

5.2.5 BARRIERS AND OPPORTUNITIES FOR GAA AS AN INGO

The existence of a civil society in Laos is debatable because local non-governmental organisations (NGOs) do not exist (Vander Zanden, 2006; UNFPA, 2004). As a result, many NGOs working in Lao PDR are international NGOs (INGOs). Under the Decree of the Prime Minister on the Administration of Non-Governmental Organisations (NGOs) in Lao PDR (No. 71/PM), this law enables INGOs to operate in Lao PDR, as opposed to local NGOs, because the terms of Decree No. 71/PM concern expatriates working for INGOs in Lao PDR. Permits to operate as an INGO in Lao PDR are managed by the Department of International Organisations in the Ministry of Foreign Affairs. To issue a permit, the Ministry requires a Memorandum of Understanding (MOU) by the Ministry of Foreign Affairs. New organizations tend to receive significant direction by the Ministry of Foreign Affairs initially, determined by the project location and may be given more leeway as the INGO becomes more established.

In these MOUs, it is often a non-negotiable requirement for an INGO to hire local government staff. One reason government officials are hired is to increase administrative and knowledge capacity for project implementation to fulfill project goals. Yet, in hiring local staff, this number depends on the number available to work for INGOs. Hence, there may be a deficit of local government staff an INGO can hire. The hiring of local government staff has raised questions, however, over the critical capacity of international agencies (Baird and Shoemaker, 2005). In the case of the GAA, government staff being seconded to the GAA was non-negotiable and may have represented a barrier to its critical capacity in looking at the management of the Lao Government in international development.

In working with villages, language and non-participation were also barriers for GAA staff. Language was a barrier for the GAA in interacting with Village A and Village B. None of the facilitators were Hmong or could speak Hmong which negatively affected the degree of participation by villagers during PRAs with the GAA. For instance, using the few villagers who spoke Lao, only incomplete translations or interpretations of instructions were relayed to the group, limiting the GAA staff's ability to respond to the reactions of villagers and making the PRAs drawn out. Furthermore, as indicated in several interviews, in which participants were chosen throughout the day, few understood what was happening or could explain what they were doing. Another barrier for facilitators was non-participation which seemed to harden biases against villagers in rural development. Some GAA staff felt "villagers are irresponsible, they do their own thing," and if villagers did not have the desire to sustain the project, it was unlikely to happen. As one field operator explained, the project has no control over what the villagers do next or in the future once the project is finished.

Because of seconded local government staff in the GAA project, villagers were able to negotiate developments informally. In interviews with people in Village A and Village B, villagers made no distinction between the GAA and the district authorities. Both were referred to as "the Government." Some of the district extension staff made up the GAA team for the preliminary PRAs enabling them, as GAA staff, to be critical of the work happening and to experience first-hand the difficulties in non-participation and project implementation. In addition, by being GAA staff, these staff members could gain information and a perspective from international counterparts such as the German Development Service.

5.3 DISTRICT AUTHORITIES IN NGA DISTRICT

5.3.1 MANDATE

Officially, district authorities are to implement national priorities. District authorities were using land allocations to meet national policies to alleviate poverty. The use of land allocations to help develop mountainous populations is not explicit in the national priorities, as outlined in the National Growth and Poverty Eradication Strategy (2003) and Sixth National Socio-Economic Development Plan 2006-2010 (NSEDP); however, the use of land allocations as a tool to alleviate poverty is prevalent (Evrard and Goudineau, 2004; Rigg, 2005; Baird and Shoemaker, 2005).

In the case of Village A and Village B, Nga district authorities worked with the GAA to alleviate poverty through food security. The development of water resources to meet food security in villages therefore included surveys to identify arable land for wet paddy rice production, potential drinking water from reservoirs to be distributed by taps, conservation activities in restoring fisheries, and propagation of cash crops. No formal policy for public participation in IWRM was found. GAA staff and interviews with Nga district authorities revealed no knowledge of IWRM or of the Mekong River Commission's (MRC) activities.

5.3.2 ACTIVITIES

The level of participation which district authorities used with Villages A and B was determined to be between "Information" and "Discussion," as indicated in *Table 1* Chapter 2. Nga district authorities had the most contact with villages as compared to the other levels of government. Documents signed by Village chief A indicated that Nga district officials had visited his village monthly for taxes, surveying, livestock, statistics, or health. All of these visits were informative. The documents were dated March 26, 2006; July 3, 2006; July 20, 2006; September 8, 2006; September 22, 2006; September 26, 2006; and, October 5, 2006. Most of these documents were handwritten on sheets of paper by government staff of the Nga district office.

5.3.3 DISTRICT VIEWS OF VILLAGES

Interviews with district authorities uncovered a general bias against the Hmong. The officials felt Hmong villages were the main reason why project implementation was not successful.

The proximity of the district to villages suggests a higher level of participation relative to the district government may exist because villages can be approached as citizens. As a World Bank Consultant who was interviewed said:

> When you start talking about the district level here, most of these guys come from the district, which in other countries is where officials are moved around. So, here when district governments make these policies it is their families that get affected or their relatives. What we have seen at the district level is personal. Therefore, when faced with these policies they naturally want a better life for their families and district.

Other studies provide a different perspective (Daviau and Romagny, 2003; Baird and Shoemaker, 2005; Evrard and Goudineau, 2004; Romagny, 2005), arguing that local authorities, including district officials, continue to implement an unofficial policy of resettlement that associate ethnic minorities with rural development (Evrard and Goudineau, 2004). Regardless of these familial relations, as suggested above, local authorities rarely change their plans to move villages from the uplands downhill (Evrard and Goudineau, 2004). Land allocation schemes have variable outcomes and have caused contention in rural development plans for international agencies (Daviau and Romagny, 2003; Evrard and Goudineau, 2004; Baird and Shoemaker, 2005).

The observations of the World Bank Consultant did not match Villages A and B in their relationship with Nga district authorities or extension workers. None of the staff in the GAA or extension workers in the preliminary PRA with Villages A and B were related to the villages by family or ethnicity. Nevertheless, the proximity of the GAA

staff living in Nga as well as extension workers enabled them to be responsive to Villages A and B in implementing water resource developments. The Nga district authorities could delegate responsibilities or offer assistance to the Villages A and B through agricultural, livestock, and gender extension workers working for the GAA. For instance, the relatively frequent contact of extension workers as seconded GAA staff enabled district officials to observe the success of drinking taps in villages or learn about biologically friendly fertilizers for cash crops.

5.3.4 PUBLIC INVOLVEMENT: INFORMATIVE AND CONSULTATIVE

Actions of district authorities with Village A and Village B correspond to a level of public involvement entitled "Informative", according to *Table1*. As mentioned, all the visits to villages were informative. Land allocations were not negotiated with Village A or Village B in their inception in September 2005. However, because district staff comprised GAA staff, they shared a similar level to the GAA in "Discussion" and "Co-Decision-Making."

5.3.5 BARRIERS FOR THE DISTRICT

District authorities discussed the need for more funding to compensate a lack of capacity in the number of capable staff to oversee various international projects to implement national priorities. A high ranking official in the district office commented that the success of projects to alleviate poverty was from the work of the GAA and showed the reason why more funding was needed to develop the poor villages in the district.

5.4 PROVINCIAL AUTHORITIES IN OUDOMXAI

5.4.1 MANDATE

Officially, provincial offices in Muang Xia had similar responsibilities to implement national policies as district authorities. Land allocations seemed to be a tool

which provincial authorities were using to implement national policies as indicated in September 2005 regarding land allocations in Village A and Village B. None of the seven interviewees at the Provincial Agriculture and Forestry Office, Department of Rural Water Supply, Drinking, and Sanitation, Science Technology and Environment Agency, and GAA provincial office were aware of IWRM or public participatory IWRM activities. This information was inconsistent with information gained from the Basin Development Plan (BDP) of the MRC that described a sub-basin area forum with provincial authorities in 2003.

5.4.2 ACTIVITIES

Informative activities were observed being carried out by provincial authorities, such as the deployment of the rural nurse who in April 2003 instructed villagers to boil their water, collecting annual taxes also in April, and affirming land allocations in September, 2005. However, no activity was observed or was found that indicated provincial authorities were encouraging public involvement with the villages.

5.4.3 PROVINCIAL VIEWS OF VILLAGES

According to interviews with the Provincial Agricultural and Forestry Office, the success of the province was based on the number of poor villages that had been developed through projects. As mentioned, provincial officials from the Agriculture and Forestry Office and Department for Rural Water Supply and Sanitation said the largest barrier to project implementation was specifically the Hmong who were described as “stubborn,” “lazy,” and “backward,” and one provincial official also remarked the Hmong “were working against the government.”

5.4.4 PUBLIC INVOLVEMENT: INFORMATIVE

The provincial authorities were determined to have an “Informative” level of participation, based upon the activities corresponding to methods in *Table 1*.

5.4.5 BARRIERS AND OPPORTUNITIES FOR THE PROVINCE

Barriers such as project funding and provincial capacity were cited as an issue by a high ranking official from the Provincial Agriculture and Forestry Office in Muang Xai, Oudomxai. In the interview, he explained that policies from Vientaine offered little help in implementation at a provincial level. Thus, policies from the national government, as reported by the high ranking official, were up to them to interpret and implement. There were many international development projects, but, the number of provincial staff monitoring those projects was small. And, both high ranking officials in two separate departments indicated that more funding would create opportunity for more participation.

5.5 NATIONAL IWRM AUTHORITIES: POLICY AND DEPARTMENTS

5.5.1 MANDATE

The implementation of IWRM through the Lao Government ministries shows an agenda for the development of water resources, namely to "graduate" Lao PDR from the status of a least developed country by 2020. The 2001 Lao Revolutionary Party Socio-Economic Strategy for Poverty Reduction, the National Growth and Poverty Eradication Strategy 2003 (NGPES), and the Sixth National Socio-Economic Development Plan 2006-2010 (NSEDP) all explicitly acknowledge the need to alleviate (or eradicate) poverty and grow economically as a means to develop and meet the 2020 goal. In the NSEDP, poverty alleviation strategies and implementation of projects specifically target remote mountainous villages (also referred to as upland villages). The vision for rural development under the NSEDP (2006: 109) "is to reduce the disparities between rural areas and urban centres, enhance the transport and communications networks and improve the living conditions of the rural people, especially those in mountainous and remote areas. "

5.5.2 ACTIVITIES

No formal attempts were found to directly engage villages in public participation in water resource development. Attempts to assess, coordinate, and facilitate participation were found in the Participatory Poverty Assessment done in 1999, existence of the Water Resource Coordinating Committee (WRCC) and Lao National Mekong River Commission (LMNC), use of unions called mass organisations, and the coordination of international and regional development.

5.5.2.1 Participatory Poverty Assessment

In 1999, the State Planning Committee, National Statistic Centre and Asian Development Bank commissioned the Participatory Poverty Assessment to engage the public at the village scale. The study was intended to "identify and initiate more effective forms of poverty alleviation...by combining different forms of knowledge (statistical, cultural, anthropological, institutional, economic etc.,) to understand the views of the poor" (Chamberlain, 2001: i). From the Participatory Poverty Assessment, rice is a primary indicator of poverty in Laos because it was defined as such by farmers, according to the assessment, as an indicator which was later used to determine poor districts to be discussed in *5.5.2.4 National Policy: International and Regional Development.* Rice as a staple is necessary for subsistence in labour intense societies and rice sufficiency avoids the pitfalls of calorie-based or kilograms-per-month based figures but does not effectively measure food security alone (Chamberlain, 2001: vi, 88).

BOX 3: INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT'S STEPS FOR IDENTIFICATION

Five techniques are in widespread use for setting the poverty line.

1. The food energy method (FEM) estimates a food-energy minimum required to satisfy dietary energy (caloric) requirements and then determines the level of income/consumption at which this minimum is typically met.
2. The cost-of-basic-needs (CBN) method sets the poverty line as the level just sufficient to buy an exogenously set, low-cost adequate diet plus other cheap basic requirements.
3. The food-share method (FSM) estimates the minimum cost of a food basket that satisfies the food energy minimum
and multiplies this by the share of non-food expenditure in total consumption of a sub-group defined as poor.
4. The international poverty line method is described in endnote 1.
5. The relative consumption method sets the poverty line at a percentage of national mean or median consumption, often half or one third

The Participatory Poverty Assessment was led by Jim Chamberlain. Chamberlain (2001: 53) explains "new poverty" defines poverty in Lao PDR, which is poverty resulting from an ideology of development and social engineering because "poverty, as it is defined by the poor today, was not an original condition for the people of Laos." More specifically, Chamberlain argues poverty in Lao PDR is **not** the lack of food and extreme hunger, exponentially increasing populations, and vulnerability to natural disasters as demonstrated in *Box 3: International Fund for Agricultural Development's Steps for Identification* (Chamberlain, 2001). In short, Chamberlain writes that poverty in Lao PDR is not synonymous with resource scarcity prevalent in Western development theory. Instead, poverty is from new expenses arising from the market, health, and education that include external factors which villages have no control over such as war, the weather, resettlement, or poorly implemented development programs (Chamberlain, 2001: 52-57; 78-79).

5.5.2.1 Water Resource Coordinating Committee

Nationally, two political IWRM organizations exist in Lao PDR, the Lao National Mekong River Commission Secretariat (LMNC) and the Water Resource Coordinating Committee (WRCC). The Water Resource Law of 1996, updated in 2001 with a Decree to Implement the Law on Water and Water Resources (No.204/PM), lays the foundation for the roles and responsibilities of organisations managing water.

The Water Resource Co-ordinating Committee (WRCC) was established on 8 February 1999 (Decree of the Prime Minister No.09/PM) to work on the research, monitoring, coordinating, and advising of IWRM in a national context. The WRCC coordinates with "local authorities" consisting of provincial authorities expected to delegate and implement national priorities with district offices. According to the 1996 Water Resource Law, the LMNC and WRCC are to provide a framework of rules to administer, exploit, develop, and plan water resources, and prevent water pollution at the discretion of ministries and agencies responsible. These ministries are the Ministry of Agriculture and Forestry, Ministry of Communication, Transportation, Post and Construction, the Ministry of Industry and Handicraft, the Ministry of Public Health, the Ministry of Trade and Tourism, and the Science Technology and Environment Agency.

Ministries have their own agencies and departments known as line agencies in offices at the provincial and district levels. For instance, the Ministry of Agriculture and Forestry has provincial offices (PAFSO) and district offices (DAFSO) that are sometimes referred to as local authorities. Provincial authorities and district offices work closely together, but are generally instructed to implement national priorities using their own resources and personnel.

5.5.2.2 Lao National Mekong River Commission

Lao PDR is a regional member of the MRC. The Lao National Mekong Committee Secretariat (LMNC) acts as an intermediary between the Mekong River Commission

Secretariat (MRCS) and the Lao Government (Decree of the Prime Minister No. 197/PM 15 Nov 1999). The LMNC works to coordinate and facilitate IWRM at a regional and national level; that is, they work with the MRC and the Lao Government to negotiate national and regional strategies, as well as coordinate with other line agencies. The line ministries the MRC are concerned with are shown in *Table 14*:

TABLE 14: NATIONAL INSTITUTIONS ASSOCIATED WITH IWRM

Lao National Mekong Committee (LMNC) -LMNC Secretariat -Planning Division
Committee for Planning and Investments (CPI) -Department of General Planning
Ministry of Agriculture and Forestry (MAF) -Department of Planning -Department of Irrigation -Department of Livestock and Fisheries
National Tourism Authority (NTA) -Department of Statistics and Planning
Ministry of Foreign Affairs -Department of Foreign Economic Cooperation
Science Technology and Environment Agency -Agency's Cabinet -Water Resrouce Coordination Committee (WRCC) -WRCC Secretariat
Ministry of Communications, Transports, Posts, and Construction -Department of Planning and Finance -Department of Roads
Ministry of Public Health (MPH) -Department of Hygiene
Ministry of Industry and Handicraft -Minstry's Cabinet -Department of Electricity SOURCE: Informant, Mekong River Commission

The National Mekong Commissions which work under the MRC, such as the LMNC, are seen as the main entry point for the MRC to cooperate with member states as national, inter-ministerial agencies with limited or no interaction among other National Committees or with their own National Governments to create or make policy decisions (MRC, 2007a: 10). In sum, the LMNC relies on other ministries in the Lao Government.

5.5.2.3 Mass Organisations and Water User Associations

Decrees on Water Law and established rules for water user associations established in 1997 illustrated a legal basis of engagement (although none were found in the villages in the study). Unions, known as government mass organisations in Lao PDR, are considered as a means to engage the village scale from a national scale. Mass organisations in Lao PDR are essentially three unions: the Lao Women's Union, Labour and Trade Union, and Youth Union. None of the villages in this study had any union representatives or water associations.

5.5.2 NATIONAL POLICY: INTERNATIONAL AND REGIONAL DEVELOPMENT

Over the last 20 years, the Lao Government has directed international development to decrease swidden agriculture and resettle swidden populations (Daviau and Romagny, 2003; Evrard and Goudineau, 2004; Baird and Shoemaker, 2005; Rigg, 2005; Tapp, 2005). Often in the literature, rising populations are blamed for the unsustainable practice of swidden agriculture; however, numbers alone are inadequate to determine ecological sustainability of land-use (Chaplot, 2004; Evrard and Goudineau, 2004). The physical characteristics of Lao PDR have shaped national policies, as observed by Jonathan Rigg (2005: 114),

> "a feature of both the Focal Site and Land-Forest Allocation programmes is that they are area-based approaches to rural development. This is for good reason: the government of Laos simply lacks the resources to comprehensively develop the country.

Area-based approaches to rural development, according to Rigg (2005), spatially assign swidden agriculture to be profoundly reworked (Evrard and Goudineau, 2004). International development projects in the province of Oudomxai intended to alleviate poverty under the Lao Government's policy confirm observations by Rigg (2005). Organisations working on separate projects in Oudomxai with projects in Nga district indicated little overlap or collaboration amongst INGOs (Table 15).

TABLE 15: ORGANISATIONS FOUND IN OUDOMXAI WITH PROJECTS IN NGA DISTRICT

Name of Organisation for 2006	Project Description
International Food and Agriculture Development	Oudomxay, Community Initiative Support Project, community based rural development, 187 target villages
Action with Lao Children	Reading Promotion Project funded by Japan International Cooperation Agency
Asian Development Bank	Funding ethnic minority schools
Agir pour les Femmes en Situation Precaire: Action for Women in Distressing Circumstances	Project title: Repatriation, Rehabilitation and Reintegration of Women Victims of Trafficking and Sexual Exploitation
American Friends Service Committee	Community development and small scale irrigation
CUSO	2004-2009 Development Volunteer
International Rice Research Institute for the Greater Mekong Sub-Region	Funded by the Swiss Agency for Development and Cooperation: Supporting the development of a national rice research system
SNV Netherlands Development Organisation (SNV)	Capacity Development for Non-Timber Forest Products
World Food Programme (United Nations)	Assist Food for Work Projects
German Agro Action (Deutsche Welthungerhlife)	Holistic Rural Development targeting 24 villages

Control over regional development demonstrates how the Lao Government controls physical water resource development by directing borrowed capital from the Asian Development Bank (ADB) to develop land and water resources as demonstrated in the Greater Mekong Sub-Region Program (GMS Program) and hydro-electric power. Lao PDR as a landlocked country is to be "land-linked" through a project called the GMS Program, which is intended to increase trade, investment and tourism to "knit" Southeast Asia together financed by the ADB (Bryant, 2005). The ADB and Government of Lao PDR (ADB, 2006; NSEDP, 2006) share a mutual desire to link Lao PDR.

Termed as "corridors" from North to South and East to West, these corridors are expected to facilitate cross-border investments, reduce trade barriers, and increase trade. The North to South transmission line is expected to enhance the Greater Mekong Sub-Region and Lao PDR by harnessing the hydroelectric potential of Lao PDR, thereby facilitating a greater electrical grid (ADB, 2006: 139). Physical infrastructure (transport, power, and telecommunications) is expected to promote economic growth, trade, and tourism while addressing common social development and environmental sustainability concerns (Bryant, 2005).

Hydroelectric power generation is high on the Lao PDR's list of development priorities. As a consequence of physical geography, the hydroelectric potential of Laos is one of the strongest assets of the nation, as well as a means to increase government revenues. Lao PDR has an estimated generating capacity of approximately 18 000 to 23 000 MW (Vitranen, 2006; Schumann et al., 2006).

The physical geography of Laos has been a determining factor in the discursive imaginings of geopolitical space in Lao PDR (Bakker, 1999; Dieu, 1999) that is explicit in the Socio-Economic Atlas of Lao PDR (Lao, 2008). In terms of foreign direct investment (FDI) that has been invested into Lao PDR, the sector "Electricity

Generation" has received the largest investments over the last five years totalling almost 1.52 billion USD (Schumann et al., 2006: 51) out of a total of 2.79 billion USD FDI invested in Lao PDR (Lao, 2005). The Lao Government has placed hydropower as a means to transform Lao PDR into a power-linked nation that will help alleviate poverty. The 2001 National Poverty Alleviation Program essentially allows water resource development to be a means to eradicate poverty (Lao, 2003: 5) by allowing the increase of FDI for the development of hydropower to broaden the government's tax revenue base (Vitranen, 2006). Visible and contentious, hydroelectric dams are the means to reap the benefits from trade, but how these benefits from increases in private capital and investment weigh against the cost and impacts over time at different scales imply a loss of transparency, accountability, and scrutiny from the public (Bakker, 1999: 228-229). Regional land-based development projects have significant impacts. The Lao Government's approval of road construction as a means to alleviate poverty and increase accessibility (Rigg, 2005; Lyttleton, et al., 2004: 7) "has played a significant role in demographic changes that are fundamentally transforming the social fabric in this region."

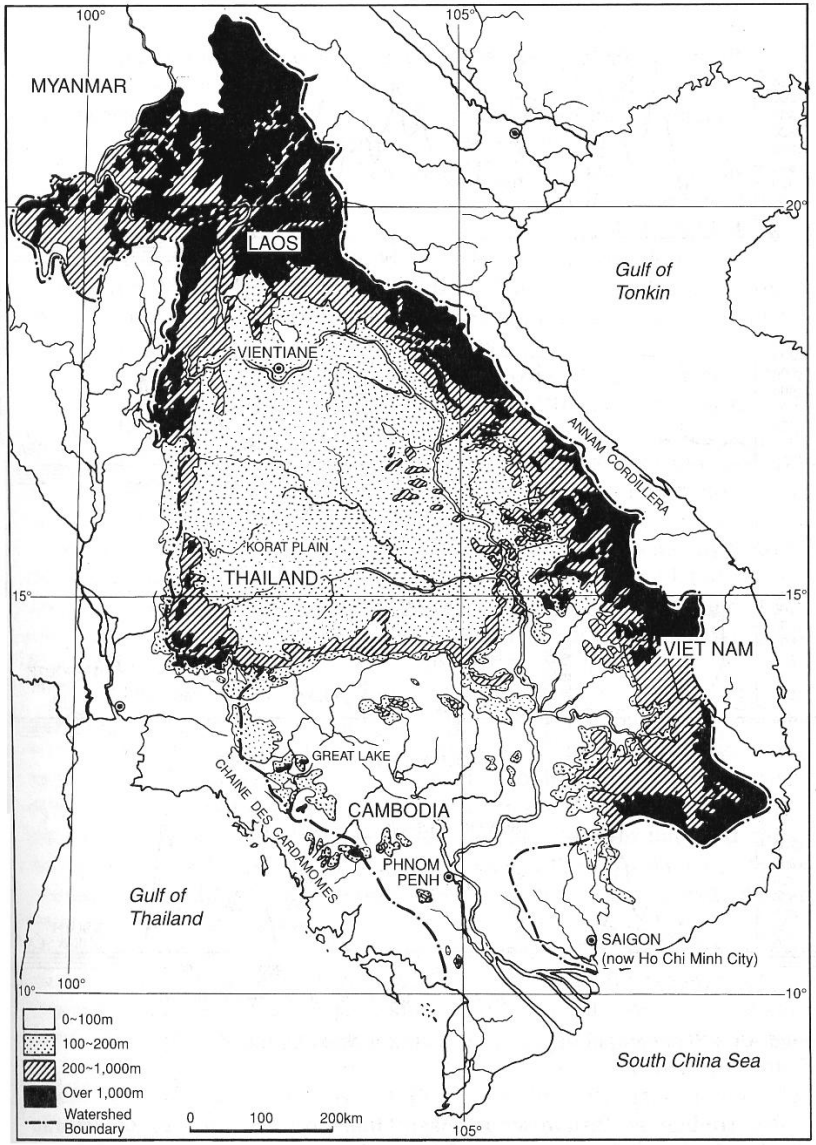
5.5.3 NATIONAL VIEWS OF VILLAGES

Villages A and B are labelled as a remote mountainous communities practicing swidden agriculture by the NSEDP. Remote mountainous communities are divided into districts, and as a result of their location, these populations are largely ethnic groups. The Participatory Poverty Assessment conducted in 2002 and the Committee for Planning and Investment with the National Statistics Centre determined 72 districts as "poor" in the *Map 1: 47 Poor Districts in Red*. A consultant for a large donor commented:

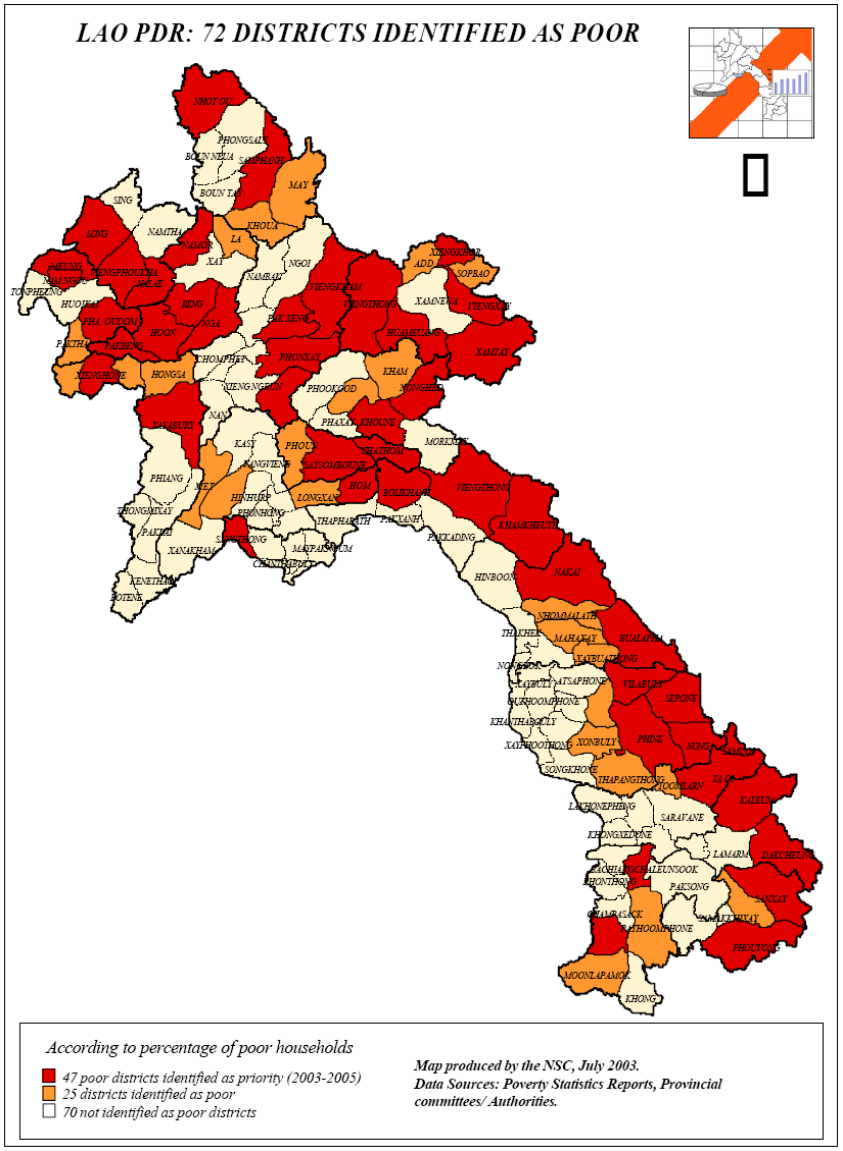
> "There is nothing we do in Laos where our policies on ethnic minorities don't get triggered. We know that the ethnic groups are forest people. We know that

> they are highly concentrated in those 47 districts, where 60% of the population are ethnic groups. In theory if you are putting money into poverty reduction strategy, the poverty reduction strategy targets the 47 districts. In theory, you [are] targeting with an affirmative action policy that targets ethnic groups."

As exemplified in *Map 5*: *in Red Topographic Map of the Mekong Basin* and *Map 6: 47 Poor Districts*, the location of mountains in the Mekong Basin coincides with the location of poor districts. Thus, the spatial relationship of poor districts coincides with ethnic minorities who are classified as remote mountainous communities, a relationship established in the Socio-Economic Atlas of Lao PDR (Lao, 2008). In other words, Village A and Village B are treated as objects that corresponds to the level of participation known as "Information" according to *Table 1* in Chapter 2, because of where they are and their ethnicity.



MAP 5: TOPOGRAPHIC MAP OF THE MEKONG BASIN



MAP 6: 47 POOR DISTRICTS IN RED

Source: Lao Government, National Statistics Centre, 2004

Ethnic groups in the North of Lao PDR face several inter-related issues in being targets of poverty alleviation. In an area infamously known as the Golden Triangle, the alleviation of poverty effectively fulfills two national objectives, the eradication of opium and eradication of swidden agriculture (Baird and Shoemaker, 2005; Rigg, 2005; Tapp, 2005). Village A and Village B, as mentioned in *Section 5.1.1.2 The Hmong*, are targets for both of those objectives. Officially, opium was successfully eradicated in Lao PDR as of 2006 (NSEDP, 2006: iv). Efforts to eradicate opium identified specific types of agriculture which have allowed opium to proliferate, for one, swidden agriculture. The eradication of opium is supported by international agencies because it is viewed as a security concern (Baird and Shoemaker, 2005). Furthermore, efforts to eradicate opium and swidden agriculture coincide with the 1998 Focal Site Strategy to resettle villages (Rigg, 2005). Popularly seen as intensifying or being the cause of environmental degradation, "slash and burn'" agriculture is scheduled to be fully eliminated by the Lao Government by 2010, which includes other ethnic groups (i.e., those which do not traditionally grow opium) (Daviau and Romagny, 2003; Evrard and Goudineau, 2004).

The methods to eliminate swidden agriculture are contentious, making the description of processes surrounding the elimination of swidden agriculture political. Several words are used amongst international development agencies (governmental and non-governmental) to describe their work with villages: resettlement and relocation. Resettlement is the most controversial, largely because it hinges upon whether the movement of villages is voluntary or involuntary, a definition that can be ambiguous (Evrard and Goudineau, 2004), because international development agencies can be construed as aiding the involuntary resettlement of people by only offering development that requires villages to move (Braid and Shoemaker, 2005).

Resettlement is controversial because resettled villages can result in the loss of capital, loss of livelihoods, land conflicts, marginalised populations, and mortality (Daviau and Romagny, 2003; Evrard and Gordineau, 2004; Romangy, 2005). "Resettlement" places donors and international aid agencies in a delicate position. Consequently, some development organisations and donors remain ambivalent to be supportive of, or diplomatic about resettlement (Braid and Shoemaker, 2005). Relocation, on the other hand, is supposed to be the voluntary settlement of villages to a new location (Brown, 2007 personal communication), which according to an international development consultant is a more neutral term preferred for diplomacy.

5.5.4 PUBLIC INVOLVEMENT: MINIMAL

Given the 1999 Participatory Poverty Assessment as a "field trip," and use of mass communication organisations, the Lao Government's level of participation with Village A and Village B is at best "Informative", according to *Table 1*. The national policy indicates a top-down (or nationally-driven) agenda that targets remote mountainous communities, as emphasised in the NSEDP. No national government body had been in contact with either Village A or Village B. And, as indicated already, the LMNC and WRCC rely upon provincial, district, and mass organizations to have their IWRM schemes implemented. The national government thus seems to have authority over the development of water resources and land at a large scale due to the ability to regulate and move financial capital (human, knowledge, and physical) for large hydroelectric projects and infrastructure with the assistance of regional and international aid.

5.5.5 OPPORTUNITIES AND BARRIERS

Experiences with IWRM have been frustrating for some technicians in Lao PDR. National Lao and international technicians confirm findings from Asit Biswas (2004)

over the vagueness of the IWRM definition to operate the framework. As one interviewee commented the definition of IWRM is

> "a joke because the people who created IWRM say it is very easy to implement, but when we ask how to do it? Nobody answers. And, then we ask to these experts to please help us apply the IWRM concept, but they say it depends upon your local needs; it depends upon your perceptions. What is the point of you saying this was such a brilliant idea? When I ask you to help to apply it, you say it depends upon your needs? There is no proof [IWRM is a solution] in what you say. [sic]"

Both the LMNC and the WRCC are supposed to implement IWRM under Lao PDR's Water and Water Resource Law of 1996. They are also expected to draft with local authorities and line agencies a National Water Resource Plan (NWRP) at what the Lao Government defines a "river basin level," under the 2001 Decree to Implement Water and Water Resource Law. Having overlapping mandates, the two organisations exist in "coordination" with local authorities, yet the LMNC and WRCC rarely work together, according to several interviews in each institution. The LMNC is limited to implementing IWRM under the MRC's mandate, whereas the WRCC is directly under the Prime Minister's Office and therefore the Lao Government.

From interviews with the LMNC and other National Mekong Committees (NMCs), a central agency like a Ministry of Water or Water Authority in guiding IWRM for Lao PDR does not exist. Later, as confirmed by several interviews in the WRCC and LMNC, a Water and Environment Association was created in March 2008, replacing the LMNC and WRCC. This Water and Environment Association was seen as a means to mirror institutional structures of Lao PDR's neighbours (Thailand, Vietnam, and Cambodia), leading to a more coherent and workable institutional structure for transboundary water management. With a change in management, the introduction of the Basin

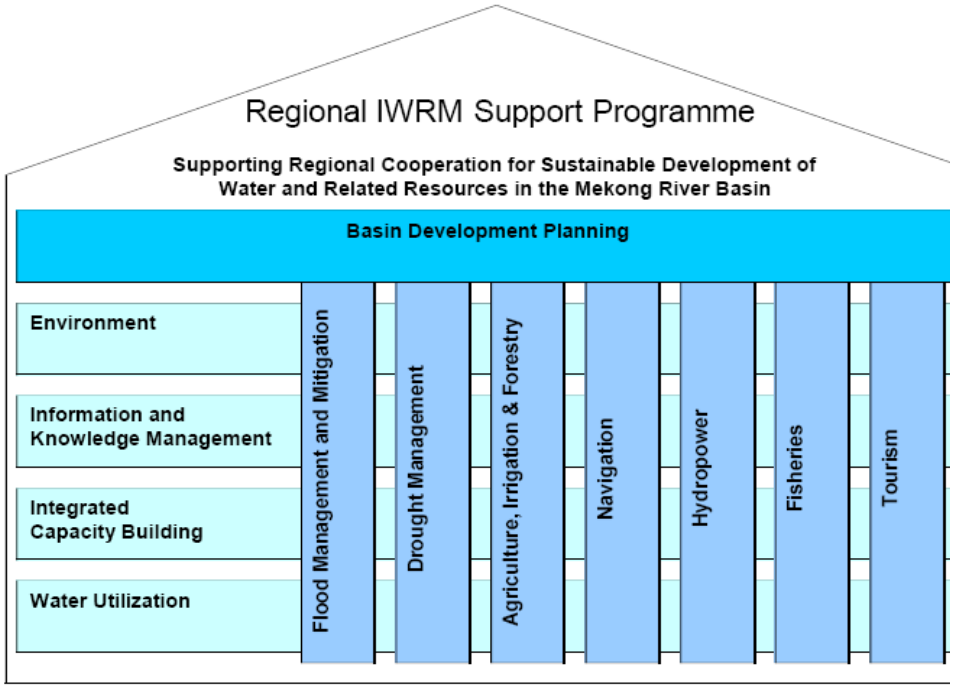
Development Plan Phase II, the internal review of the MRC and NMC has pressed for a clarification in roles (MRC, 2007a) that could lead to greater attention to public participation activities.

5.6 REGIONAL: MEKONG RIVER COMMISSION

5.6.1 MANDATE

The Mekong River Commission Secretariat (MRC) is responsible for regional transboundary issues while the National Mekong Commissions (NMC), such as the LMNC, are responsible for relaying transnational issues to their respective national governments. The role of the MRC with the NMCs is similar to that of an international river basin organisation, working to promote joint regional interests of its member states and sustainable development (MRC, 2006). The Basin Development Plan Programme (BDP) is responsible for implementing stakeholder and public participation, as depicted in *Figure 5: Basin Development Programme.*

FIGURE 5: BASIN DEVELOPMENT PROGRAMME



The BDP is a permanent core programme within the MRC following the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, using principles of IWRM as defined by the GWP, to establish a basin-wide participatory planning process (MRC Website). This basin-wide participatory planning process under the BDP is conceptually shown in *Figure 5: Basin Development Plan Programme*, illustrating its role in integrating seven water and water-related sectors with four broad programs: Environment, Information and Knowledge Management, Integrated Capacity Building, and Water Utilisation. Decisions for the BDP are made by the MRC Council and MRC Joint Committee. The MRC Council under the 1995 Agreement has the ability to make policies and decisions, consisting of ministerial and cabinet bodies representing the member states of the MRC (Article 18). Meanwhile, the Joint Committee is supposed to implement the decisions, guided from the Council, working with mainly technical issues for a basin development plan (Article 24). The rhetoric of the *State of the Basin 2006-2010* (2006: 31) indicates that a basin-wide participatory planning process is to provide "for substantial public participation and involvement of basin and sub-basin stakeholders" to identify projects prioritized for funding to be implemented by the BDP and all MRC regional programmes.

The main purpose of the MRC is to support the member states, mainly comprising those in the Lower Mekong Basin (Thailand, Laos, Cambodia, and Vietnam) in their established goal to alleviate poverty. The alleviation of poverty is one of three broad "issues." The other issues are the strengthening of ownership and value-added functions of the MRC to national governments, as well as adopting an IWRM approach (MRC, 2006: 4-5). In the opening message of the *Strategic Plan 2006-2010,* the Chairman of the MRC, H.E. Mr Yongyut Tiyapairat (2006: iii), writes "the most important development in this Strategic Plan is reflected in its poverty alleviation focus." Under the heading "Reducing Poverty through Sustainable Water Resource Management,"

poverty alleviation is given the primary role to produce "tangible results" which are cited to be increasing investments into irrigation, navigation, and hydropower for food, transport, and energy.

Several aspects are missing in the *Strategic Plan 2006-2010*. For instance, details of operation between the BDP and other sectors in the participatory basin-wide planning are vague. None of the staff who I interviewed from the BDP could explain how public participation worked in *Figure 5*. The definition of poverty, like the criteria used to determine poverty, for the Mekong Basin is unknown. In addition, the way the development of water resources at regional and national levels directly correlate and can be substantiated to alleviate poverty is unclear. Lastly, political methods that describe the interests of other stakeholders and negotiation of these different interests that include villages in the Mekong Basin, as a part of the public, or address the challenges of political reforms IWRM proposes, are missing. The *Strategic Plan 2006-2010* thus contains gaps relative to the literature available at the MRC.

5.6.2 ACTIVITIES

The MRC involves the public with forums as observed by Fox and Sneddon (2006). Stakeholder participation is considered as "essential if the BDP *programme* and *process* is to live up to its participatory claims [sic]" (MRC, 2006: 5). Internal BDP Stakeholders have been identified as the organizations within the MRC as a whole, including the NMCs, while external stakeholders are defined as Civil Society Organisations (CSOs), the private sector, donors, policy research institutes, universities (including individuals with "relevant" knowledge), and the media. There are 10 sub-areas, defined by their corresponding riparian member states such as (T)hailand, (V)ietnam, (C)ambodia, and (L)aos— see *Map 7* below. In these sub-areas, a series of forums are supposed to engage stakeholders:

Sub-area Forums (SAFs)—identify key issues surrounding development of water and water-related resources in the Sub-area, establish participatory planning process for Sub-area, involving representatives of a wide range of stakeholders; and identify information gaps to complete the Sub-area situation analysis

Country Forums—held after the SAFs, offers local and national stakeholders to critique and elaborate on further sectoral and thematic analyses drawn by the SAFs.

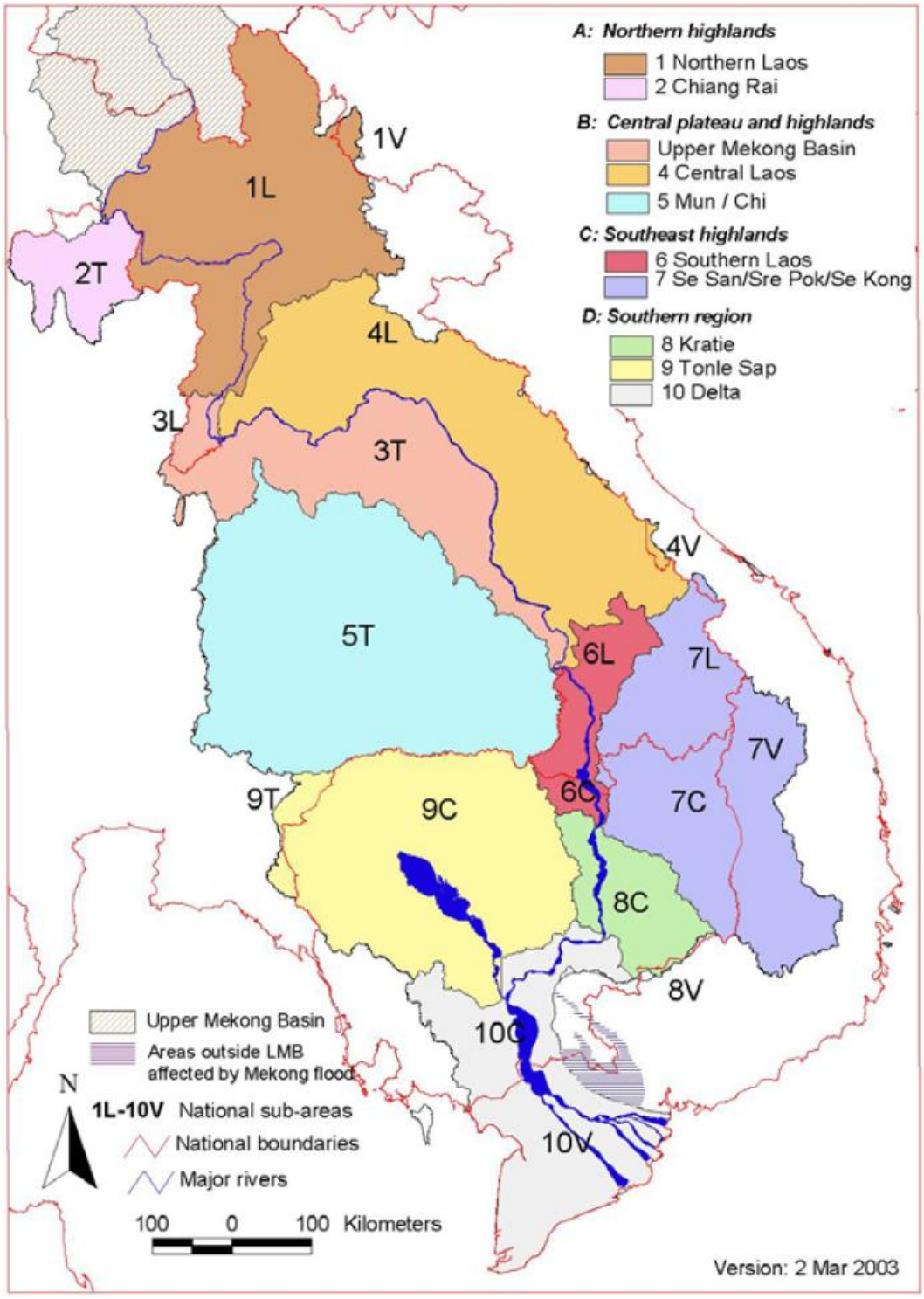
Basin Forums—ensures a basin overview, offering opportunities of exchange and interaction between sub-areas at a technical level.

(MRC, 2003b: 7-10, sic).

The BDP has been engaged in Sub-area Forums to collect, verify, and identify data within the sub-areas. The first Sub-area Forum was conducted for the L1 Sub-Area in Northern Lao PDR in April 2003, as indicated in *Map 7: Mekong River Basin: Sub-Divisions*. The attendees of these forums have been largely provincial authorities and their counterpart district staff.

The ability of attendees in these forums to implement changes and negotiate national imperatives is unclear. In interviews with regional and national technicians in the MRC and LMNC, villages have not been involved. In December 2006, none of the staff in the provincial or district offices of the Ministry of Agriculture and Forestry knew what the phrase IWRM meant, or had contact with the Mekong River Commission. Mention of a staff member in planning and construction at the provincial level was suggested; unfortunately, no one was able to identify this person or provide me with contact information. Furthermore, the GAA had not been approached as a potential NGO by the MRC or national IWRM component.

MAP 7: MEKONG RIVER BASIN: SUB-DIVISIONS BY MRC



Source: MRC, 2003b

5.6.3 VILLAGES VIEWED AS: STAKEHOLDERS AND THE PUBLIC

The MRC's guiding document for public participation is based on a study formally approved by the MRC Joint Committee in 1996. The 1996 study outlines the MRC's position on public participation that was published later in the *1999 Public Participation in the Context of the MRC.* This 12-page document defines public participation in the MRC. Stakeholders are defined as any person, group, institution, beneficiary, intermediary, "positively affected," and people marginalized by decision-making processes that have an interest in an activity, project or program from the public sector, private developers, and (unclassified category) "others". These stakeholders are later categorized as: "directly affected" and "indirectly affected."

Key stakeholders are considered as those who have a significant influence or impact on the success of the programme or project, to take part and gain influence in the decision-making (1999: 3, 8). The process of public participation includes the planning, implementation, monitoring and evaluation of MRC programs and projects. Participation occurs at four stages according to the document: "information gathering, information dissemination, consultation, and participation."

How "the public" is viewed is open to interpretation, as in the *1999 Public Participation in the Context of the MRC* report the public is undefined. Chenoweth et al. (2002: 505) comment that the 1999 document "does little more than give the broadest possible overview of the concept of public participation and points out that its short list of principles and guidelines for public participation needs further refinement if they are to be used in MRC projects and programs."

The origins of *Public Participation in the Context of the MRC* are from a study conducted in 1996 funded by Swedish International Development Agency which contracted with the Thailand Development Research Institute (TDRI) from September 1997 to June 1998. The name of the study was *Towards Public Participation in Mekong*

River Basin Development. Unlike the 1999 MRC version, the findings make a distinction between a cost-sharing model and empowerment model.

According to the report, a cost-sharing model is where citizens voluntarily contribute their labour, cash, and materials for the production of collective public goods, a means historically employed by the riparian states of the Mekong Basin before the 1995 Agreement. The TDRI Report writes that an empowerment model is more appropriate for large-scale projects to encourage "ownership" in the Mekong Basin and potentially change the culture of support by donor agencies. This model, according to the 1998 TDRI Report, is supposed to be adopted in the *1999 Public Participation in the Context of the MRC*; however, the 1999 document makes no mention of the empowerment model. The TDRI Report (1998: Page 2-15) also comments that the structure and mechanisms that enable participation in the MRC bear the "hallmarks of participation: bi- or multi- directional flow of information, consultation over issues and joint decision-making" amongst ministerial and department heads. However, this participation amongst higher-level authorities contrasts with the participation of the public which has little or no input.

Since the TDRI Report of 1998, little has changed concerning the transparency of the Joint Committee and Council meetings in sharing minutes with the public. The Council meetings are involve the member state's ministerial and cabinet ministers, and their recommendations are then forwarded to the Joint Committee consisting of Departmental heads or higher who meet with the Chief Executive Officer Office of the MRC. Furthermore, information about public participation or stakeholder engagement through up-to-date progress reports from the Basin Development Plan is unavailable. Dr. Helen Rosenbaum observed similar findings in what will be referred to as the 2002 Rosenbaum Report. Published in February 2002, the Rosenbaum Report is another investigation into public participation in the MRC entitled *The Mekong River*

Commission Steps Towards a Public Participation Strategy. Overall findings indicate that, without clear roles and responsibilities between the Mekong River Commission Secretariat and National Mekong Committees, little progress in public participation can happen.

Recommendations from the 2002 Rosenbaum Report or from the 1998 TDRI are not included or referred to in the 2005 document by the MRC titled *Public Participation in the Lower Mekong Basin* (2005). Stakeholders in the 2005 document are identified as riparian governments, government agencies, (an ill-defined) community, and partners such as IUCN, USAID.

5.6.4 PUBLIC INVOLVEMENT: NONE

The MRC has yet to create activities for villages to be involved in IWRM decisions. Despite the validity of their locations in the L1 Sub-Area, Villages A and B have not participated in any of the MRC's activities.

5.6.5 BARRIERS AND OPPORTUNITIES FOR THE MRC

There are several reasons why the MRC is unable to implement public participation. Control of physical capital limits the relevance of the MRC. The MRC and NMC control no physical water resources, and, thus, have no real power to transfer financial or human labour to develop water in the Mekong Basin. Although the MRC has financial and human capital to support collection and storage of information and research, the translation of information into action or enabling the MRC to be a regulatory institution is limited due to the political will of participating member states.

The area in which the MRC is relevant in terms of political jurisdiction and by the 1996 Water Resources Law that defines the MRC by territory was explained in the beginning of this chapter. Interviews with both the MRC and LMNC confirm findings in the 2002 Rosenbaum Report, however, indicating that since the 1995 Agreement, the MRC's relevance has diminished, mainly because it lacks the ability to implement

projects both regionally and nationally (Bakker, 1999). As an institution, evidence that the MRC is limited as a regional body and its jurisdiction is shown in *Table 8*. Basically, the MRC *does not directly involve the public or villages in IWRM decisions*. Thus, the level of public involvement largely depends solely upon NMCs such as the Lao Government. The MRC remains a "soft" institution both in terms of physical power, and in political legitimacy as defined by the scope of the MRC's jurisdiction.

Some interviewees, such as international experts working as consultants with the MRC, felt IWRM in the Mekong was developing, to explain the absence of public participation activities at a village level. Evidence supporting claims by international experts could be interpreted as the inactivity of the MRC and LMNC to enable participatory decisions at a village level that would suggest public participation in IWRM is not functional. Thus, expectations for an operational IWRM framework by stakeholders such as member countries and affiliate organisations as well as donors such as the ADB, GTZ, Belgium, USAID, and the European Commission (all listed in the *Statement of Contributions Received, Expenditures Incurred, and Fund Balances by Donors*, MRC, 2007b) would require more patience because reforms were political and social according to the same international experts.

The 1998 TDRI Report on public participation for the MRC remains relevant in that "the public" is undefined, and apparently has little or no opportunity to participate. Information regarding public participation or the decisions of the MRC have remained invisible, as noted in the 1998 TDRI Report, Chenoweth et al. (2002), and 2002 Rosenbaum's report. To the credit of the MRC, a document library is available to the public, with a sign-in sheet and a selection of some of the BDP reports, and the Mekonginfo.org project has a rich array of information on IWRM. Both developments are encouraging, yet, the audience for both sources of information seem to be directed to English literate researchers, technical experts, and international policy makers. On

the other hand, information from the Mekonginfo.org, according to informants, is based upon the approval and filtration of documents from the MRC. As mentioned in the 1998 TDRI Report, it would be understandable if some of the minutes from the decisions made by the Joint Council and MRC Council were censored for security issues, but censored minutes from these meetings and access to progress reports from the BDP remain inaccessible to the public. Thus, the MRC has opportunities to open areas of information so that they are more accessible to the public.

5.6.6 EXTERNAL STUDIES OF PUBLIC PARTICIPATION IN THE MRC

Previous academic studies on the MRC regarding public participation qualify the lack of public participation as resulting in weak governance in the Mekong Basin. Pech Sokhem and Kengo Sunada (2006) explain greater public participation could promote better governance needed for the ecological sustainability and livelihoods tied to the Tonle Sap Lake and River. However, the existence of "true" public participation, as elaborated by Chenoweth et al. (2002), is "not necessarily possible" given the diversity of stakeholders and languages in the Mekong basin. Others suggest that current public participation practices of the MRC are limited because programs and polices work under the assumption that hydropower development is the ultimate goal (Fox and Sneddon, 2006) of inter-state cooperation dominated by the largely top-down decisions made by the MRCs and NMCs, (Bakker, 1999).

The absence of public participation, as explained by Prachoom Chomchai (2005), reflects a separation between the principles member states agree upon and their actions. He asserts that transboundary principles of public participation hold no weight because the MRC depends upon its national counterparts, the NMCs, to implement public participation (2005). Hirsch and Wyatt (2004) suggest that the reliance upon the NMCs is symptomatic of an MRC unresponsive to different stakeholders, as argued in their case study of the Se San Basin that crosses from

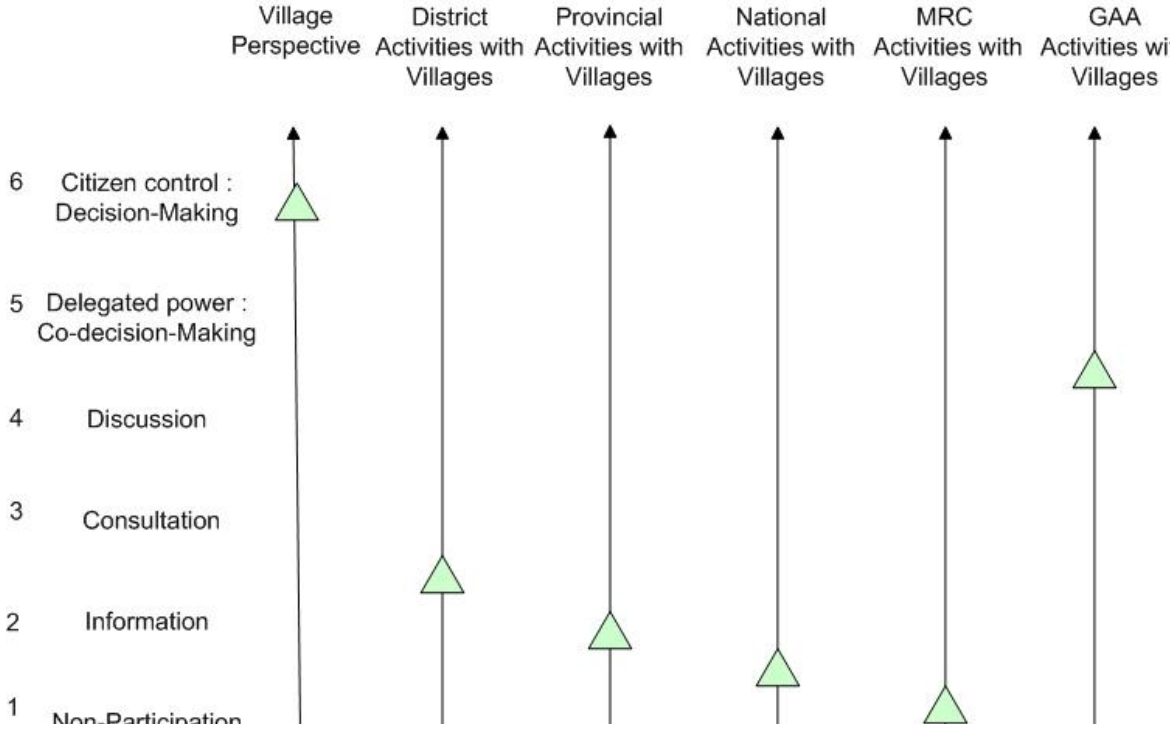
Vietnam into Cambodia and is under the jurisdiction of the MRC (2004). Therefore, the principles of subsidarity and decentralised decisions are highly constrained by national water resource development interests in natural resource management, representing a crisis in governance (Hirsch and Wyatt, 2004).

5.7 APPLICATION OF DATA TO CONCEPTUAL FRAMEWORK

Before applying the conceptual framework, several caveats should be considered that emerged from data in this chapter. First, the data presented on the GAA and district authorities demonstrated how there could be several types of participation for each actor. For instance, public interaction with district authorities indicated the level of participation to be Informative, but because some of the district staff worked in the GAA, the level of participation rose to the category of Discussion, because district authorities could negotiate with villages. Furthermore, unanticipated in the data was non-participation as a form of participation that enabled villages to have control over their water interests similar to the level of citizen control in the level of Decision-Making. Thus, findings in the conceptual framework are broad indicators of public involvement.

Figure 6: Conceptual Framework: Citizen Involvement in Lao PDR illustrates actors at different levels of authority and their involvement with Villages A and B in water resource decisions. Villages were capable of governing and implementing their own water interests. Meanwhile, the GAA had the highest level of participation because it worked with villages to facilitate water resource developments through participatory activities. District to regional authorities responsible for IWRM, on the other hand, ranked at a lower level of involvement.

FIGURE 6: CONCEPTUAL FRAMEWORK: PUBLIC INVOLVEMENT IN LAO PDR



5.8 CONCLUSION

Low public involvement was found in Villages A and B in regard to participation with government authorities in water resource development decisions or potential IWRM decisions. However, opportunities for participation did exist through the GAA, an international non-governmental organisation (INGO), which also worked with seconded government staff. Village A and Village B were found to have their own water interests that they could control independently from the GAA.

However, Village A and Village B were to merge with three other villages in a pre-defined area as a result of land allocations. These land allocations determined the type of water resource developments that could happen. For instance, the development of water resources had to serve a larger concentrated population. This required changing the production of rice from shifting cultivation to sedentary irrigated rice

paddies, as well as introducing cash crops, to meet the food security needs of a larger concentrated population. To promote economic growth and alternative livelihoods, an improved road system was being built to provide better market access. As well, the installation of drinking water taps from a larger reservoir would be needed to meet the water needs for a consolidated population. Thus, Village A and Village B needed help from district authorities and the GAA to develop water resources.

Village A and Village B could negotiate water resource developments with the GAA and district authorities through non-participation. However, biases against the ethnicity of Village A and Village B at provincial and district offices prevented participatory outcomes such as "social learning." Districts and provinces had relative autonomy to interpret and implement national priorities to alleviate poverty. And, Village A and Village B were labelled "poor," which also meant district and provincial authorities had other policy priorities to eliminate swidden agriculture and the production of opium through resettlement and land allocations. However, the constraints for district and provincial authorities were the lack of funding and capacity; this meant they relied upon the participation and cooperation of Village A and Village B if projects such as that of the GAA were to be successful.

The national Lao Government's ability to control capital for international and regional water resource development indicated a lack of control at the provincial and district levels of authority. However, national priorities and how they impacted levels of planning in land allocations for Village A and Village B indicated national policy was taken seriously by district, provincial, and international levels of authority. Furthermore, as indicated, the Lao Government's ability to promote regional and international infrastructure projects, including the exploitation of hydropower, illustrated its power over water resources. Outside regional and international water resource developments are the MRC, LMNC, and WRCC, which control no physical

capital and rely upon national departments to implement IWRM. Their lack of power also reflects the dearth of public participation activities to involve villages in IWRM decisions.

CHAPTER 6: POLITICAL ECOLOGY, EXPLORING WATER RESOURCE POLITICS

6.0 INTRODUCTION

A critical Third World political ecology perspective is used to explain the low levels of public participation in regard to the Lao Government and MRC documented in Chapter 5. A political ecology perspective draws upon data similar to that used for the conceptual framework by describing actors at different levels of authority who are involved in participatory activities. Political ecology also draws upon other areas for data that describe contemporary water resource politics, specifically water issues arising from water interests and power, the socio-economic characteristics surrounding water issues, and any participatory activities themselves.

The examination of contemporary water resource politics surrounding public participation and power relations among actors answers several secondary research questions: 1) How is IWRM institutionalised and operational for Lao PDR? 2) What organisations are involved in the public participation for IWRM, and what activities do they do in Lao PDR? and part of 3) What is the role of public participation in IWRM for Lao PDR? The location of water resources helps determine the power that actors have to develop water resources at different levels of authority. Physical limitations to power help elucidate the limitations of participatory activities and the extent to which villages are able to participate in IWRM decisions. This examination of power also highlights the use of socio-economic characteristics surrounding villages as a means to legitimize water resource developments, particularly as they relate to national policies. The conceptual framework highlighted several areas of participation not anticipated in the study that gave villages opportunities to control their interests in water. Thus, the geography and socio-economic characteristics of Village A and Village B help answer

question 4) What are the benefits from and limitations to public participation in IWRM for Lao PDR?

6.1 POWER RELATIONS: THE INSTITUTIONALISATION OF IWRM IN LAO PDR

IWRM institutions were found from the national level of government to the international river basin organisation: LMNC, WRCC, and MRC. As already indicated, none of these institutions was found to involve Village A and Village B through public participatory activities because they relied upon sub-national organisations such as ministries and departments in the Lao Government. As described in Chapter 5, other actors at different levels of authority were also found to have some responsibility for the development of water resources. Those actors relevant to Village A and Village B were international aid agencies such as the GAA, and local (provincial and district) government authorities from the Ministry of Agriculture and Forestry and the Ministry of Public Health; they also included other institutions outlined in *Section 5.5.2.2 Lao National Mekong River Commission*.

Complex political issues were found in the development of water resources that demonstrated contrasting abilities to develop water resources, or power, of IWRM institutions in relation to the Lao Government. Those contrasting abilities of actors affirmed the use of a multi-leveled stakeholder analysis from McDonnell's (2008) observations and by several case studies (see Kallis et al., 2006a; Poolman and Van de Giesen, 2006; Heyd and Neef, 2006; Banister and Scott, 2008). Power was measured according to an actor's ability to move capital (monetary, labour, knowledge, physical) for the development of water resources. Taking the definition of distributed governance from Chapter 2 *Section 2.3.3 Expected Outcomes: Governance,* participatory activities were matched to different levels in the Lao Government. As demonstrated in *Section 5.7 Application of Data to Conceptual Framework*, a gap

exists between different levels of government and the villages in the study. Some have identified this gap as a "crisis in governance" (Hirsch and Wyatt, 2004), or weak governance (Chenoweth et al., 2002; Chomchai, 2005; Fox and Sneddon, 2006), because opportunities for villages to participate in water resource development decisions were limited (see *Section 5.3.5.1 External Studies of Public Participation in the MRC*).

The national Government's ability to direct capital was unmistakable, as it was able to develop water resources outside of the MRC, confirms the findings of the MRC (2007b) that national governments are the most relevant political organisation to implement and operate IWRM. National policies such as the 2001 Lao Revolutionary Party Socio-Economic Strategy for Poverty Reduction, the National Growth and Poverty Eradication Strategy 2003 (NGPES), and the Sixth National Socio-Economic Development Plan 2006-2010 (NSEDP) made it possible for the Lao Government to direct capital and international development (see *Section 5.5.2 National Policy: International and Regional Development).*

Policy goals of the Lao Government to alleviate poverty and promote economic growth demonstrated interests in the development of water resources that were neither managed nor regulated by the MRC or LMNC. Already illustrated in *Map 2* (Lao PDR with Key Existing and Proposed Dams), water interests such as hydropower and the GMS Programme are said to fulfill national interests to alleviate poverty and promote economic growth (see Bakker, 1999; Walker, 1999; Walker, 2003; Lyttleton et al., 2004; Bryant, 2005;Rigg, 2005; Vitranen, 2006). Other water interests which help to fulfill the national policy to alleviate poverty were associated with an unofficial policy to allocate land (Evrard and Gordineau, 2004; Rigg, 2005; Romagny, 2005), affecting the development of water resources in Village A and Village B, as shown in *Section 5.2.2 Activities*. As discussed in *5.5.3 National Views of Villages*, land allocations were

associated with other issues, including resettlement, the elimination of swidden agriculture, and the eradication of opium production, that have been known to have adverse impacts on villagers (Daviau and Romagny, 2003; Romangy, 2005; Evrard and Gordineau, 2004; Lyttleton et al., 2004; Braid and Shoemaker, 2005; Rigg, 2005; Tapp, 2005). Collectively, hydropower, infrastructure, land allocations, resettlement, swidden agriculture, and opium production are the central issues that make up water resource politics in Lao PDR (Allan, 2003; Warner et al., 2006; WWC, 2006; UNESCO, 2006; Walker A, 2006).

Water resource politics in Lao PDR presents distinct challenges for the integration and management of water for IWRM. The inability of IWRM institutions to implement public participation from national to sub-national scales seems to mirror an argument in Hodgdon (2008) over the control of natural resources in Lao PDR. Hodgdon (2008) uses comments from a US State Department official to back his argument regarding the Lao Government's control of natural resources:

> "'In Laos there are two political realities,' according to a US State Department official, who like most other foreign nationals interviewed for this article requested anonymity to safeguard access to the country. 'On the face of things there is the civilian government, which is ultimately a rubber-stamp body. It is mostly a showpiece for outsiders. Then there is the Party, which is controlled by the military. They make all the decisions. They are the real government" (online journal publication).

The "real government" appears to control water resource development at the national and regional levels of authority through cohesive national policies, such as the 2006-2010 NGPES, without the oversight of a formal IWRM plan. Therefore, the claims of regional IWRM institutions that they help to alleviate poverty are superficial because these institutions control no capital and no water.

6.2 GEOGRAPHY AND POWER IN WATER RESOURCE DEVELOPMENT

The involvement of MRC and LMNC with local actors or issues surrounding land allocations was not found in literature available to the public. Furthermore, spatially, Village A and Village B were found to be located outside the mandate of the MRC and other national and international IWRM mandates. Even though Village A and Village B are in the Mekong Basin, located in the L1 Sub-Area by the Basin Development Plan, the villages are outside the legal and political jurisdiction of the MRC. This is because the 1995 MRC Agreement indicates Village A and Village B were neither on nor near the main-stem of the Mekong River, nor were they along the tributaries draining into the Mekong.

Where water resource developments were happening, various local actors (GAA, district authorities, and provincial authorities) were intimately engaged with water resource politics in Village A and Village B. An analysis of the power to develop water resources indicated decisions were decentralised at village to provincial levels of authority. *Table 7* in Chapter 5 confirmed village to provincial levels of authority had control over water resource developments. District authorities, provincial authorities, and the GAA had the most contact with Village A and Village B in implementing water resource developments as a result of land allocations, as illustrated in *Section 5.2.2 Activities* of the GAA, *Section 5.3.4 Direct Involvement: Informative to Consultative* (concerning districts), and *Section 5.4.2 Activities* (concerning provinces).

The GAA and district authorities were responsive to local issues because they conducted activities that involved Village A and Village B in water resource developments. Participatory activities indicated the GAA fostered a higher level of participation that included district authorities working with the GAA. The GAA and district authorities could respond to potential problems posed by water resource development in villages within the broader national policy of poverty alleviation; hence

water resource decisions were decentralised (Ribot, 2002; Brannstrom et al., 2004; WCC, 2006; GWP Tool Box, 2008).

District and provincial authorities tried to implement national policies to alleviate poverty. One means they used was land allocations (see *Sections 5.3.1 Mandate, 5.4.1 Mandate, and 5.5.2 National Policy: International and Regional Development*). However, their ability or power to move capital was limited. The limited funding and the limited capacity of authorities (in terms of personnel and knowledge) were described by district and provincial authorities as "barriers" (see *Section 5.3.5 Barriers for Districts* and *Section 5.4.5 Barriers for Provinces*). The number of international development projects in Oudomxai (*Section 5.5.2 National Policy: International and Regional Development*), including the work of the GAA, supported district and provincial claims to control funding and capacity development. Government services were being built through the GAA, under the authority of district and provincial authorities, to develop specific types of water resources in Village A and Village B. Water resources were developed by setting up concrete taps for drinking water; this work involved doing surveys to find suitable locations for reservoirs, setting up irrigated agriculture and cash crops to decrease swidden agriculture, and allocating land for conservation.

The limitations of provincial and district authorities to develop water resources in their administrative areas seemed to explain why international development agencies were facilitating rural development. The study could not confirm if the GAA was co-opted by the Lao Government (Branstrom et al., 2004) because the mandate of the GAA fit within the realm of providing government services (Baird and Shoemaker, 2005). However, the position of the GAA illustrated the grey area that INGOs are in due to the lack of a true NGO in Lao PDR (UNFPA, 2004; Vander Zanden, 2006). Furthermore, international projects were only temporary (see *Section 5.5.2 National*

Policy: International and Regional Development), meaning that local organisations did not necessarily have to be accountable past the project timeline. Thus, clear lines of accountability were established for maintaining government services, such as the servicing of taps or the maintenance of irrigation systems, but these functions would eventually be the responsibility of district and provincial staff, assuming they had the people and knowledge.

Unanticipated in the study was the role of the GAA in facilitating negotiations between district staff and the villages (see *Section 5.2.5 Barriers and Opportunities for GAA as an INGO*). The GAA was able to coordinate the flow of capital at the international level (from the Government of Germany to the Government of Lao PDR), and to decentralise control of the capital from the national level (in Lao PDR) to a local level (provincial to district to villages). Non-participation enabled Village A and Village B to maintain control over their water interests, independent of GAA water resource development plans. Because the REF Village had already been under the GAA for four years, Village A and Village B were able to see changes happening, as well as the benefits of cooperation with the GAA. Furthermore, Village A and Village B were able to informally negotiate with government authorities through the GAA, affirming the findings from Hirsch and Miller (2003) that much of Integrated River Basin Management is based on negotiation. This was also discussed in *Section 5.7 Application of Data to Conceptual Framework*.

6.3 VILLAGES AND THE ROLE OF PUBLIC PARTICIPATION IN IWRM

Poverty alleviation is a priority in the national policies of Lao PDR (see *Section 5.5.2 Activities)*. This confirms findings from Rahaman et al. (2004) and Hermans et al. (2006), who indicate that different priorities guide IWRM for developing countries. National policies defined the socio-economic characteristics of Village A and Village B

as targets for poverty alleviation, as demonstrated in *Section 5.5.3 National Views of Villages.* The poor are specifically labelled "remote mountainous ethnic groups" in national policies (see *Section 5.5.3 National Views of Villages).* Some of these ethnic groups have a history of being subject to biases that characterised them as upland swidden cultivators. Among these upland groups, Village A and Village B (see *Section 5.1.1.2 The Hmong*) were perceived to cause environmental degradation. (This will be discussed further in the next section.) Poverty alleviation also spatially characterised Village A and Village B. The Socio-Economic Atlas of Lao PDR cites physical conditions as the cause of socio-economic weakness in Lao PDR, a finding that supports the spatial targeting of poor populations. Therefore, poverty alleviation in Lao PDR is contextual, relating to policy and management. This is supported by the literature: Rahaman et al. (2004), Hermans et al. (2006), Jønch-Clausen (2004), Kallis et al. (2006a), and Banister and Scott (2008).

The Lao Government's use of spatial policies to target specific geographic regions matches conclusions in the literature about the effects spatial policies have on citizenship (Kabeer, 2005; Ong, 2006). The implementation of spatial policies was found to support unofficial policies of land allocations (Daviau and Romagny, 2003; Evrard and Goudineau, 2004; Baird and Shoemaker, 2005; Rigg, 2005; Tapp, 2005). And, as discussed in the previous section, those land allocations did not give Village A and Village B the ability to negotiate changes in water resource development decisions that affected village water interests. Instead, other types of participation were found in Village A and Village B that enabled them to control their water interests (see *Section 5.1.4 Public Involvement: Non-Participation as Participation*).

Biases from other actors surrounding Village A and Village B satisfy conditions set by HarmoniCOP (2005) to make the situation suitable for social learning. Although Village A and Village B could maintain some control over water resources through non-

participation, non-participation seemed to reinforce the biases surrounding upland ethnic groups, such as the Hmong, at different levels of government. Most district and provincial officials believed Hmong villagers did not promote the successful implementation of projects, as indicated in *Section 5.3.3 District Views of Villages* and *Section 5.4.3 Provincial Views of Villages*. Furthermore, other biases concerning the Hmong causing environmental degradation were found among other ethnic groups (see *Section 5.1.1.2 The Hmong*). The validity of the charge that the Hmong were causing environmental degradation is still being debated (see Walker, 2003; Chaplot, 2004; Evrard and Goudineau, 2004; Tapp, 2005). Furthermore, poverty alleviation in national policies that spatially targeted Village A and Village B revives questions surrounding a contemporary analysis of poverty alleviation in Lao PDR, as discussed in *Section 2.5.2 Expected Outcomes of Public Participation for IWRM in Developing Countries*.

As indicated in *Section 5.5.2 National Policy: International and Regional Development* and *Section 5.5.2.1 Participatory Poverty Assessment*, Jim Chamberlain (2001) suggests that a definition of poverty based upon resource scarcity is being applied to Lao PDR and that this definition is being used to direct development projects. One popular argument for resource scarcity is burgeoning populations (Chamberlain, 2001; Evrard and Gordineau, 2004; Rigg, 2005). Perceptions of the GAA staff and district staff emulated the popular argument for resource scarcity and populations because they observed there were "too many children" in Village A and Village B (see *Section 5.2.2.4 Cause and Effect*). Yet, as demonstrated in *Section 5.2.2.3 Collection of Socio-Economic and Cultural Data*, a decrease in the overall population of the five sub-villages that included Village A and Village B contradicted the perceptions of "too many children" reported by GAA staff from their PRAs, with the population declining from 722 in 2002-2003 to 681 people in 2006. Thus, the

solutions, including water resource development, prescribed by national policy and implemented by the GAA and local authorities to Village A and Village B highlighted maladapted solutions for the villages based upon premises that address resource scarcity when that scarcity exists artificially.

The policies used by different levels of government and implementation of rural development projects for poverty alleviation highlight potential areas of conflict that social learning could resolve through public participation. Together, ethnic biases against Village A and Village B, and the aforementioned maladapted solutions, cause friction between Village A and Village B with different levels of government. Social learning could help ease that friction by developing a consensus among government authorities, the GAA, and the villages in finding implementable and technically sound solutions.

6.4 ACCURACY OF ACTIVITIES TO ILLUSTRATE PUBLIC PARTICIPATION IN IWRM

The results in this study are consistent with the findings of the literature discussed in Chapter 2, that participation in international development is dissimilar from public participation in Western contexts such as the EU WFD (see Cooke and Kothari, 2001; Kumar, 2002; Francis and Roberts, 2003; Ribot, 2004; Chhotray, 2004; Kabeer, 2005; Corbett and Lane, 2005). Participatory activities by the GAA and district authorities appeared to meet levels of participation suggested in Chapter 5, resulting in high rankings of public involvement. However, participation from PRAs with Village A, Village B, and three other villages seemed dissimilar to the language of citizen power under Co-Decision-making in *Table 1.* The language of citizen power in *Table 1* suggests PRAs should build the political capacity of villages to enable them to make consciously critical decisions and demand rights to enhance the accountability of local authorities.

Participation from Village A and Village B and three other villages during the PRAs seemed to be partial. The highest recorded number of participants in attendance at the preliminary PRAs was 47 out of a potential attendance of 147 heads of households. Furthermore, the ability of participants to discuss issues with GAA staff was severely limited due to language barriers, and interviews with participants at the PRAs illustrated that few understood what the PRAs were. In addition, participatory activities seemed to be ineffectual because land allocations that affected water resource development decisions had already been confirmed a year previously (see *Section 5.2.2 Activities)*. Therefore, the measurement of public involvement in Village A and Village B, according to the conceptual framework, could, at best, be a measurement of the types of activities that were happening; the conceptual framework could not accurately show the genuine level of participation from Village A and Village B.

The conceptual framework was derived from literature from a largely Western origin, with deliberative democratic roots in which democracy implied citizenship and citizen power (Arnstein, 1971; Collentine et al., 2002; Mostert, 2003; Kabeer, 2005). The conceptual framework depicted a lack of participatory activities at different levels of authority. However, the conceptual framework could not explain why participation was not happening or uncover the barriers to and opportunities for participatory activities in a complex arena of water resource politics. Furthermore, public participation in Lao PDR demonstrated a need to understand the issues of a diverse public interacting with complex water issues, as suggested by Warner et al. (2006). Thus, the study confirms the need for a stakeholder analysis (see *Section 2.2.2: IWRM: Interdisciplinary Water Research and Methods)* to elucidate water actors, water interests, and power in water resource politics that will not be elucidated by an analysis of participatory procedures or methods (Kallis et al., 2006a; Banister and Scott, 2008).

6.5 CONCLUSION

Political ecology explained how low levels of participation by Village A and Village B in the decisions of the WRCC, LMNC, and MRC mirrored their ability to implement IWRM. Water resource developments were happening in Lao PDR without the oversight, regulation, or control of IWRM institutions. The national Government was found to be capable of controlling capital, and using different levels of authority and ministries to fulfill national policies through permits which allowed INGOs and foreign direct investments to fund hydropower and infrastructure. Despite the broad administrative coverage of national policies that extended to provinces and districts, the implementation of national policies seemed decentralised at a provincial to village level. The success of provincial and district efforts seems to rest upon the cooperation of the villages themselves, but also on the role of international actors such as the GAA. The GAA was able to negotiate water resource developments and acted as a conduit for seconded district staff to initiate participatory activities with villages. Moreover, the GAA provided technical assistance and capital to build government services. Village A and Village B were also found to be able to protect their water interests, and being able to do so gave them control over their livelihoods.

CHAPTER 7: CONCLUSION

7.0 INTRODUCTION

The study investigated how villages could participate in IWRM within the political context of an international basin. The specific reference to villages indicated several considerations discussed in *Chapter 1 Introduction* and *Chapter 2 Public Participation in IWRM* that formulated the secondary questions addressing the case study in Lao PDR. Those considerations were two fold. First, the role of politics in water resources has increased attention to public participation in IWRM, especially with the EU WFD. And, IWRM in developing countries is employed differently because the challenges they face are contextual (Jønch-Clausen, 2004; Rahaman et al., 2004; Kallis et al., 2006b; Banister and Scott, 2008). The second consideration was in order to understand how villages participate in IWRM an appropriate framework for analysis was needed, in this case political ecology. From these considerations, the secondary questions examined what institutions existed in Lao PDR to facilitate public participation, the role of public participation in Lao PDR, the activities of different institutions, and the barriers to and limitations of those activities.

Chapter 2 Public Participation in IWRM reviewed the emergence of a water-sharing paradigm (UNESCO, 2006) that recognises the political nature of water (Allan, 2003; Warner et al., 2006; WWC, 2006; McDonnell, 2008; Banister and Scott, 2008). Consequently, this water-sharing paradigm has increased the institutional stature of public participation in IWRM (Kallis et al., 2006b). Interdisciplinary water research is needed (Falkenmark et al., 2004; Lankford et al., 2004; Kallis et al., 2006a; Kallis et al., 2006b) to better understand the contexts in which IWRM is being used (Jønch-Clausen, 2004; Rahaman et al., 2004; Kallis et al., 2006a; Kallis et al., 2006b; Banister and Scott, 2008). Moreover, attention to context has illuminated different uses of IWRM in developing countries to achieve internationally agreed goals such as poverty

alleviation, public participation, and gender equality (Rahaman et al., 2004; Poolman and Van de Giesen, 2006). To understand political processes of IWRM, the research had to use appropriate frameworks of analysis and methods (Jeffrey and Gearey, 2006; McDonnell, 2008; Banister and Scott, 2008) to explain IWRM decisions in contemporary water resource politics (Allan, 2003; WWC, 2006; UNESCO, 2006; Walker, A., 2006; McDonnell, 2008; Banister and Scott, 2008).

This exploratory case study investigated public participation in IWRM for a developing country, Lao PDR, using a multi-level stakeholder analysis (Kallis et al., 2006a; Poolman and Van de Giesen, 2006; Heyd and Neef, 2006; Banister and Scott, 2008). This exploratory case study used a critical Third World political ecology to explain public participation in IWRM and water resource politics by looking at water actors, their interests and policies, and power to develop water resources in relation to their specific geographies. By focusing water resource politics, the study also looks at areas for opportunities for more effective and genuine participation to reach socio-economic, ecological, and political equity. And, in order to understand those opportunities, the secondary questions surveyed existing institutions that made up IWRM, their ability to facilitate public participation, the role of public participation in Lao PDR, and the opportunities and limitations of participatory activities.

The study surveyed IWRM institutions in Lao PDR responsible for public participation activities. As discussed in *Section 4.6 Selection of International Non-Governmental Organisations and Villages,* upon arrival in Lao PDR, participatory activities directly engaging villages by the international river basin organisation (the MRC) were not being used. As a result, other actors and levels of government responsible for the development of water resources were examined that included existing IWRM institutions: the LMNC, a national MRC counterpart, and the WRCC, a nationally driven department.

IWRM institutions in Lao PDR were reliant upon the capacity of national ministries and their corresponding provincial and district departments. Those institutions were found to be responsible for water resource developments at a village level, consisting of mass media organisations like the Lao Women's Union, and several ministries such as the Ministry of Agriculture and Forestry and Ministry of Public Health (see *Table 14* National Institutions Associated with IWRM). Meanwhile, the limited capacity of those ministries and their corresponding departments made them depend upon international agencies, such as the GAA, backed by international financial institutions to implement water resource developments at a village level. Thus, in maintaining the focus of the study of villages in the Mekong Basin, the international basin, villages used for the case study were under a participatory rural development project by the GAA located in the Mekong Basin.

To elucidate the role of public participation in IWRM, or, in this case nationally driven policies to develop water resources, water interests of each level of government were examined. The Lao Government was the most capable actor to distribute financial and human capital through different levels of authority to achieve national priorities of poverty alleviation. Government actions showed power, such as directing international development agencies to specific areas, regional developments in hydropower and infrastructure such as the GMS Project, and land allocations. All those actions essentially led the development of water resources without the oversight, control, or regulation of an IWRM plan or institution. Thus, the Lao Government's policy to alleviate poverty and promote economic growth (see Lao, 2006) enabled the development of water resources at a village level without an IWRM framework.

The Lao Government's approach to poverty alleviation targets poor populations (Lao, 2008) using an area-based approach that had physical limitations (Rigg, 2005). District and provincial authorities lacked the power to independently develop natural

resources like water, thus international development agencies like the GAA were directed by the Lao Government into specific areas that matched national policies (i.e. 2001 Lao Revolutionary Party Socio-Economic Strategy for Poverty Reduction, the National Growth and Poverty Eradication Strategy 2003 (NGPES), and the Sixth National Socio-Economic Development Plan 2006-2010 (NSEDP).

Subsequently, the Lao Government's use of spatial targeting to alleviate poverty supported unofficial policies of land allocation known to have adverse impacts on villages (Daviau and Romagny, 2003; Evrard and Goudineau, 2004; Baird and Shoemaker, 2005; Rigg, 2005; Tapp, 2005). Land allocations did not give Village A and Village B the ability to negotiate changes in water resource development decisions because land allocations pre-determined types of water resource development to happen. Hence, Village A and Village B were unable to assert control over their water interests with participatory activities because of where they were located, in the mountains, and who they were, as Hmong, that rendered them as citizens of Lao PDR with a low degree of citizen power (Kabeer, 2005; Ong, 2006).

Village A and Village B were irrelevant to the MRC and LMNC despite their location in the Mekong River Basin. Poverty alleviation in Lao PDR lies outside the power or jurisdiction of the MRC and LMNC. On the surface, no participatory activities were found concerning IWRM. However, findings from Village A and Village B revealed complex issues surrounding water resource decisions that were unanticipated and unexplained by the Conceptual Framework. Issues surrounding land allocations made up issues surrounding water resource development, and therefore water politics, as described in *Chapter 2* and demonstrated in *Chapter 5*. Land allocations came from older policies like the 1998 Focal Site Strategy to decrease swidden agriculture, eradicate opium, and resettle swidden populations (Daviau and Romagny, 2003; Evrard and Goudineau, 2004; Baird and Shoemaker, 2005; Rigg, 2005; Tapp, 2005).

Therefore, unless the MRC and LMNC engage these complex issues surrounding land allocations and water resource development, their claim to poverty alleviation lacks the political weight to make necessary reforms needed for genuine public participation in IWRM.

The activities of different levels of government that included the GAA and MRC illustrated opportunities and barriers, particularly in the methods used to measure the level of participation and degree of citizen power in participatory activities. As demonstrated, the conceptual framework used to analyze participatory activities at different levels of government proved inadequate to discuss water interests, actors, and power. Those activities demonstrated a picture of distributive governance (GWP, 2003a) for Lao PDR in implementing public participation in IWRM, indicating that water resource developments from provincial to village levels of authority were decentralized while still influenced by national policy. Critical Third World political ecology explained the low levels of participation in activities and decentralized decisions in distributive governance. Critical Third World political ecology explained the role of power in water resource development among different actors at different levels of authority and their mandates.

The methods used to gauge participation, the PRAs, were critically examined, leading to findings of other types of participation not recognised by the literature. Although conventional PRA activities seemed to be superficial, Village A and Village B were still able to negotiate control over their water interests. Furthermore, the GAA's role seemed to enable negotiations between Village A and Village B with local authorities that seemed to match an environment for social learning described by the HarmoniCOP (2005).

Overall, the study uncovered a complex political landscape in water resource politics. More research is needed to substantiate claims surrounding water resource

politics and public participation using Western references such as those used in the conceptual framework (see Arnstein, 1971; Mostert, 2003; Cornwall, 2004) are appropriate for Lao PDR. As demonstrated, the use of the Conceptual Framework alone was limited in understanding other forms of public participation like non-participation and the political landscape within which water resource decisions were operating. Furthermore, the research opened an area of study, which I referred to as political ecology, that helped identify a need to find alternative participatory activities that could make IWRM operate contextually.

7.1 RECOMMENDATIONS

Since the 1995 Agreement, the MRC has made little progress to develop and implement public participation policies. Internally hired consultants like the 1998 TDRI Report and Dr. Helen Rosenbaum (2002) have made recommendations and they have highlighted the challenges the MRC faces. External academic scholars have also written about the weak governance of the MRC in the Mekong Basin as a whole (see *Section 5.6.6 External Studies of Public Participation in the MRC)*. And, as demonstrated in the study, the opportunities of public participation in water resource developments are possible; however, the ability to implement public participation policies in Lao PDR require political legitimacy and knowledge about land allocationsupon land allocations.

For the MRC to yield 'tangible results' for the alleviation of poverty, the politics surrounding water resource development need to be understood, particularly for poverty alleviation in Lao PDR. Poverty alleviation is a national issue in Lao PDR that defines power relations among different levels of government. Furthermore, poverty alleviation is specific to physical geographies such as the North of Lao PDR, which characterise the socio-economic situation of remote mountainous villages. Moreover, the application of national poverty alleviation policies to remote mountainous villages

implicitly use land allocations that are known to have negative impacts as already mentioned. The MRC is not involved in national issues surrounding poverty alleviation or issues surrounding land allocations. Therefore, the MRC needs to rethink its institutional approach to public participation in the Mekong Basin and understand villages like Village A and Village B who are involved in water resource decisions.

Recommendations for this study assume Lao PDR is desirous to implement IWRM both regionally and nationally, and political reforms to enable IWRM such as public participation are being sought. The recommendations for this study build upon the independent institutional review mentioned in section *5.5.5 Barriers and Opportunities*. The Independent Review (MRC, 2007a), titled *Independent Organisational, Financial, and Institutional Review of the Mekong River Commission Secretariat and the National Mekong River Committees Final Report*, offers several recommendations if the MRC is to play a significant role in the sustainable development of the Mekong River Basin. The recommendations mainly apply at a regional and national level of government. Of those recommendations, two in particular can further public participation in the MRC: one is for the Basin Development Planning Department (BDP) in the MRC to play a greater role in stakeholder engagement, and the second is for the MRC needs to clarify the role of the MRC as a regional institution and National Mekong Committees (NMCs)

- **At a regional level, the BDP needs to build strategic partnerships with agencies involved in the development of the Mekong Basin.**

The Independent Review (MRC, 2007a) cites the role of the BDP as being crucial to build strategic partnerships with a diverse set of stakeholders. These stakeholders exist beyond regional trade partnerships such as the Association of South East Asian Nations (ASEAN) or the Greater Mekong Strategy Initiative by the ADB. Other international agencies such as international non-governmental organisations and

national research institutes are also actively involved with villages and closer to them. As it stands, the BDP has no means to understand local issues at a village level. And, simply relying upon national and sub-national government authorities may not ensure the integrity or voice of villagers and marginalized groups. The BDP is most likely unable to implement extensive on-the-ground participatory activities with villages to understand local issues surrounding the lifetime of water resource developments or IWRM decisions. Furthermore, the BDP lacks the capacity and the resources to implement these participatory activities where villages are acknowledged as citizens. Therefore, the BDP should seek strategic partnerships with INGOs and national research institutes.

As indicated in the study, local issues and ideas of citizenship differ between countries. In adding to the recommendations of the Independent Review (2007), considerations for strategic partnerships should include a contextual analysis. More specifically, a contextual analysis of strategic partnerships would consider socio-economic characteristics like policies for poverty alleviation, political institutions, cultural characteristics, historical tensions between different stakeholders, and role of physical geography.

In the case of Lao PDR, as mentioned, local NGOs do not exist. Instead, INGOs had seconded government staff working for them. Nonetheless, international agencies like the GAA are working at the village level and using participatory approaches. There are many international aid agencies working on-the-ground with villages as indicated in the Directory of NGOs for Lao PDR. In addition, there are international and national experts with knowledge of specific geographies in Lao PDR from national institutes such as the National Agriculture and Forestry Research Institute or the National University of Lao PDR. These agencies have yet to be approached or engaged by the BDP or MRC. Furthermore, these agencies and organisations enable the BDP to have

access to information about local issues at a village level, understand participatory decision-making in natural resources such as land allocations, and establish relationships with sub-national authorities.

One caveat to the strategic partnerships the BDP could make will be what the BDP can offer to international development agencies and national research institutes. The BDP will have to offer more than its expertise and knowledge, and understand their interests in collaborating with the MRC.

The BDP can expand strategic partnerships with international agencies aside from aid with financial capital and further research. The MRC also needs to extend its role in research. More specifically, evidence based interdisciplinary water research that has integrity, being critical and ethical, in the presention of information to decision-makers. Independent panels could be formed. These panels could comprise of government departments, national unions, universities, international experts, and villagers to investigate specific avenues the MRC can further public participation. These panels could investigate issues surrounding public participation and foster social learning. Thus, these panels could help find implementable, pragmatic, and technically sound solutions. For example, these panels could investigate best practices for initiating participation with villages and sustaining that participation with local government authorities to maintain water resource projects after international agencies build them.

- **At a national level, the regional and national roles of the MRC and National Mekong Committees (NMCs) need to be clarified.**

The overall findings of the Independent Review (MRC, 2007a) suggest that the NMCs, such as the LMNC, do not have a high profile in member countries so planning initiatives in the Mekong Basin are insignificant. The Independent Review suggests the MRC should be a regulatory institution, and that the NMCs lack political legitimacy.

Adding to the recommendation from the Independent Review, political legitimacy for the MRC and LMNC could be validated if both institutions had jurisdiction at a national to sub-national level in water resource developments. As discussed in *Chapter 5,* the LMNC relies upon line agencies to implement IWRM because they have no jurisdiction at a sub-national level. Furthermore, the MRC and LMNC have no jurisdiction to implement projects at a sub-national level. Therefore, in the case of Lao PDR, the LMNC needs jurisdictional authority beyond the main stem of the Mekong River to enable them to understand issues surrounding water resource developments that happen on the branches and tributaries draining into the Mekong River. The extension of jurisdictional authority would enable the MRC and NMCs to be involved in water resource development at a national to sub-national level; consequently, that political legitimacy would enable them be involved in issues that make up water resource politics.

- **At the local level, international agencies need to be aware of their position in enabling negotiations between villages, national policies, and district and provincial authorities.**

The GAA was able to provide a space for villages and local authorities (district and provincial levels of government) to negotiate the implementation of national policies. As indicated by Baird and Shoemaker (2005), most INGOs, civil society, and other international development agencies are aware of their role in aiding national policies by building capital and hiring seconded government staff. The international development community can negotiate the implementation of national policies by maintaining their normative principles their organisations follow at a local level. Having seconded government staff work under the normative principles of international development agencies may facilitate in social learning with villages as government staff try to accommodate different working principles. In addition, government staff's

capacity to understand could be enhanced through workshops that may help district and provincial biases working with villages. Nonetheless, the risk of encouraging this space is also prone to issues surrounding embedded authorities (Ribot, 2004; Francis and Roberts, 2003; Corbett and Lane, 2005).

- **At a village level, women need to be involved in the same participatory rural appraisals men participate if benefits in water resource developments are to be realised.**

If the principles of gender equity in the international development community are to be fulfilled, where women are the most likely to benefit and support international development and at a local level, then women should be able to participate in the same PRAs as men, regardless to who is the facilitator. The awareness of gender among the GAA staff was weak because participatory activities that involved women dealt with health care and family planning. Participatory activities that extend furthered were seen as needing the help of a Lao Women's Union representative. Depending upon the hierarchical relationships of the village and ethnicity, the role of women in the household and their relationship to men may differ. In this case, for the Hmong, I found that men could engage in participatory activities that involved women.

For example, during my second field visit, one of my research assistant was the only person who spoke Hmong, resulting in the GAA asking for his help in translating questions and answering questions about contraceptives for family planning. The women in the village were not shy about asking questions of an intimate nature. Rather, they were intrigued, and excited to get answers from a man about questions regarding marital relationships in Hmong families, resulting in an animated and lively discussion. From this example, the GAA staff observed a type of PRA they were not familiar with, and they seemed genuinely interested to know more about how to replicate the scenario. PRAs by the GAA in my experience were not limited because of

the lack of creativity, motivation, or energy from the staff, but the ability for villagers to make decisions and the tools which the GAA were given to facilitate these decisions were limited.

I found many GAA staff were eager to learn how to improve their methods, but they were frustrated the barriers in language (Hmong to Lao) that made their work difficult. I suggested using pictures from photos to explain to Hmong villagers what the GAA could do for them that could be useful for other international development agencies. For organisations in the international community who conduct similar work to the GAA, I would also recommend workshops that tackle ideas of gender and work with concepts of reversing gender roles to implement PRAs.

7.2 LIMITATIONS FOR THE STUDY

The study can be described as an interdisciplinary study in the social sciences that fits in the fields of geography, political science, and international development. This study could be in the areas of public policy or public administration in dealing with public participation. However, this thesis was not meant to be a policy paper. Furthermore, as indicated, water resource politics and power are addressed in the thesis as opposed to policies. Although public participation in IWRM could fall into the areas of natural resource management as suggested by Merrey et al. (2005), a full investigation of the applicability of natural resource management to IWRM was not explored.

The thesis focused on public participation in IWRM as a political process as opposed to a science-based decision-making model. For several authors (Jewitt, 2002; Falkenmark, 2003; Wescoat and White, 2003; Calder, 2005), IWRM is based upon scientific methodologies focused at a catchment level that encompass the processes in which aquatic and terrestrial ecosystems function, including the interaction of those

organisms with people (Slocombe, 2004; Convention on Biological Diversity Website, 2006). Therefore, the examination of IWRM as a political process leading to questions regarding politics surrounding water resources seemed logical, whereas IWRM as a science-based decision-making model could have led to questions looking at the role of science in IWRM decisions.

As mentioned, IWRM as a political process specifically referred to the GWP definition (2000) and the GWP Tool Box Website (2008) because the MRC and Lao Government were using the GWP definition to implement IWRM. The political process in this study was used as a general term to implement reforms necessary to make IWRM happen according to the Dublin Principles. To narrow the political processes for public participation, the ways that institutions facilitated public participation and the roles of stakeholders were discussed. However, political processes in public participation, such as legislation enabling water rights, creation of IWRM as a regulatory body, or enforcement legislation concerning participatory decision-making, were unexplored in this study. The objectives of the study were to understand the institutional structure of IWRM in Lao PDR, the role of public participation, and the limitations and barriers to participation.

The study did not delve further into participatory decision-making, necessary to make political and institutional reforms in IWRM. Instead, I focused upon public participation as a part of participatory decision-making. The literature review revealed gaps in the operation of public participation in developing countries and limitations to using public participation as a means to reform institutional structures similar to the EU WFD case that which were later confirmed in the findings of the case study. (Also see *4.4.2 Limitations in Participant Observation and Participatory Rural Appraisals*).

7.4 NEW AREAS OF RESEARCH

Several areas for further research were identified. First, the examination of public participation in IWRM for Lao PDR showed how different levels of government were responsible for public participation. The legitimacy of international and regional claims to be accountable for public participation deserves more attention. As demonstrated in the findings of the study, the construction and implementation of government services such as infrastructure, health, education, and socio-economic livelihoods were being fulfilled by the GAA. Due to the length of time projects have, and the tendency for projects to extend pass project timelines, the role of the government in sustaining the outcomes of development projects, which are services they are supposed to support, confirms that citizenship remains profoundly linked to national governments (see Gaventa, 2004; Hickey and Mohan, 2005; Kabeer, 2005; Ong, 2006). The use of spatial policies by the Lao Government demonstrated how a national government is the most appropriate actor in IWRM. Moreover, extensions of citizenship into environmental decisions such as IWRM at a village level further support the role of government in water governance (Collentine et al., 2002; GWP, 2003a; Baber and Bartlett, 2005; Eckersley and Joas, 2005; Kabeer, 2005; MRC, 2007a). Therefore, areas of study related to international development would benefit from a critical and constructive re-examination of citizenship, participation, governance, and the international community.

The second area is the investigation of methods and framework of analysis used to assess participation beyond the supply and demand of water (Walker, 2003; Hermans et al., 2005; McDonnell, 2008). A complex story such as water interests and contemporary water resource politics validates the need for new methods and analytical frameworks called for by Gearey and Jeffrey (2006), Warner et al., (2006), McDonnell (2008), and Scott and Banister (2008). The story involves water interests in the development of water resources and the stakeholders who are not only capable in

using policy, but who also have enough capital to implement development. Furthermore, water interests involve other water-related interests. As demonstrated in *Chapter 5 Case Study: Remote Mountainous Villages in Lao PDR*, the water interests of Village A and Village B were tied to allocations of land that were also related to spatial policies for poverty alleviation. Thus, research which can better explain contemporary water resource politics may be able to identify which stakeholders are driving development agendas and why, including how are those stakeholders accountable for the risk they incur to people who their decisions effect.

The third area is the examination of local water governance structures and how those structures work with international actors. As indicated in the study, the role of the GAA enabled negotiations between different levels of government. The findings of the case study warrant further investigation into the negotiations between villages and expatriates as well as villages with seconded government staff that may be a kind of social learning. Even though social learning as a term did not appear in the collection of data, the processes of negotiation suggest that something significant is happening. Therefore, the investigation into local water governance could also lead to a greater understanding social learning in existing governance structures.

APPENDIX: METHODOLOGY

SEMI-STRUCTURED INTERVIEW QUESTIONS:

A) Theme: IWRM
   a. What is your experience of IWRM
   b. How would you describe IWRM for Lao PDR?
   c. What kinds of difficulties do you face?
   d. Why are you using IWRM?

B) Theme: Public Participation
   a. How do you understand public participation in Lao PDR?
   b. Are there any activities you are aware of?
      i. What kinds of activities?
      ii. Who represents villages?
   c. Who is responsible for public participation activities?
   d. How does public participation work in Lao PDR?
   e. What are the difficulties of implementing public participation?
   f. Are there any other issues surrounding participation?

C) Theme: Development
   a. What kind of water resource development activities happen at the village scale?
   b. How does development and IWRM work together?
   c. Who is most responsible for water resource development projects?
   d. What are the barriers to public participation development activities?
   e. What works in development and public participation activities?
   f. What issues are related to public participation that may effects their outcomes?

D) Theme: International agencies
   a. What is the role of the international community in IWRM?
   b. What is the role of the international community in water resource development?
   c. What do you think about INGOs representing villages?
   d. What do you think about Lao governments representing the public?

CASE STUDY PROTOCOL

Overview of Case Study Project:

I. Objectives

To observe GAA in their participatory methods with villages in natural resource management decisions, looking at how water is used in the village. Assist in participatory rural appraisals for data collection.

II. Case Study Issues

A. Issues surrounding case study:

   a. Upland rain-fed swidden is a sensitive issue, as well as the ethnicity of villages. Villages are also remote, lacking road access and requiring a ½ day's travel.

B. Explain to villages that this study is working with **not** for the GAA; this must be clearly stated to participants in the study.

   a. Protocol concerning anonymity [did not achieve this] and confidentiality will be strictly followed.

   b. Each time data are collected, must obtain consent, and assure the participants control over the information they contribute to the study.

III. Topic being investigated

A. Field visits will be gathering a variety of information,
   a. Information from research assistant's observations,
   b. On-going discussions with the assistants and GAA staff
   c. Participation in organising participatory rural appraisals, mapping, and interviews.
   d. Observations from research assistants and GAA about villages

B. Examine:
   a. how they deal with villagers in using participatory planning.
   b. Attention to length of work terms, how they interact,
   c. what methods are used, guidelines that are followed.

IV. Field procedures

A. Presentation of credentials

For the most part, research assistants are expected to have some familiarity with upland-swidden agriculture, as well as command a strong level of English. Notes are to be taken by the assistants in regards to their interpretation of the villages, but an unguided style of note taking.

B. Access to sites
    a. All access to sites is through the GAA in accordance to their Memorandum of Understanding. Permissions have been obtained. The furthest village in this trip is Village A and Village B, the main area of study, followed by an access project village that receives the most traffic of people going to-and-from project villages known as REF Village.
    b. Little data exist other than that which GAA generate, partly because of their age, and partly because of the capacity of the District Government.
C. General Information: Issues in the area and politically sensitive subject material
    a. Resettlement
    b. Poverty Alleviation
    c. Participation
    d. International Development
D. Procedural reminders
    a. Consent
    b. Translation: literal and figurative
        i. Simple, short, and easy to understand sentences.
        ii. Asking “do” questions versus “what and why”
    c. Use of photos and information for the study
    d. Role with GAA: Collaboration with GAA and independent
    e. Being critical
E. Case study question
    a. Go over primary research question and objectives of research
    b. Specific questions for field site
    c. Look at how villages participate with the GAA
        i. Understand what participation for villagers is
        ii. Understand what participation for GAA is
    d. Examine priorities of villages
F. Guide for Report

a. Field Reports to be submitted shortly after field research Format for data
b. Presentation of other documentation
c. Bibliography, if needed

INFORMATION LETTER: RESEARCH ASSISTANTS AND FORMS

Date

Dear ***(guide or translator)***

Attention to water practices at a local (village) scale has raised many questions about how decisions over water work at different political scales. This study will be looking at the water strategies of the Tai Lue in the Mekong River basin, and compare these strategies to different levels of the decision making processes of the Mekong River Commission. The project is being conducted as a part of my Masters thesis through the Department of Environment and Resource Studies at the University of Waterloo under the supervision of Dr. Paul Kay.

Participation in this study is voluntary. It will involve your participation in the study through a journal, written preferably in a word processing format in the time arranged with the researcher, and to share your insights in the study. You may decline to write the journal or participate if you so wish. Furthermore, you may decide to withdraw from this study at any time without any negative consequences by advising the researcher, and your decision to withdraw will not affect your position as a guide or translator. With your permission, the interview will be recorded into an MP3 format via a USB device to facilitate collection of information, and stored on an external hard-drive that will be encrypted. With your permission, I will use your information in quotations of journal entries and interviews from your journal maybe used in my thesis or future publications. Shortly after the interview has been completed, I will send you a copy of the interview to give you an opportunity to confirm the accuracy of our conversation and to add or clarify any points that you wish.

All information you provide is considered completely confidential. Your name will not appear in any thesis or report resulting from this study, however, with your permission unattributed quotations may be used. Data collected during this study will be encrypted and retained for *2 years*. Data collected will be kept upon a separate external hard-drive at the EU Asia-Link Program Office and on server at the University of Waterloo. Data collected from you will be encrypted and de-identified before being sent to the European Union Asia-Link Office. Only researchers associated with this project will have access. There are no known or anticipated risks to you as a participant in this study. Should you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please do not hesitate to contact me at 020-5280932 in Vientiane, Lao or by email at j6ko@fes.uwaterloo.ca. You can also contact my supervisor, Professor Dr. Paul Kay at (1) 519-888-4567 ext. 5796 or email pkay@fes.uwaterloo.ca.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. Minimal risks to participants are anticipated. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes of this office at (1) 519-888-4567 Ext. 6005.

This research is partially sponsored by the European Union Asia-Link Programme in coordination with the University of Siegen and National University of Laos. I hope that the results of my study will be of benefit to those organizations directly involved in the study, other commissions and organizations using an integrated water management strategy or international basin organizations, as well as to the broader research community. Upon completion of this study, it will also be made accessible to the National University of Lao in their course work for environmental engineering. I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Julia Ko

Asia-Link Office
Thai- Lao Friendship Road
Vientiane Lao PDR
Phone: 00856-21-353430 Mobile: 00856-020-5280932
Fax: 00856-21-314045
http://www.asialink-laos.de/index.html

CONSENT FORM FOR ASSISTANTS

I have read the information presented in the information letter about a study being conducted by Julia Ko of the Department of Environment and Resource Studies at the University of Waterloo. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that I have the option of allowing interviews with me to be digitally recorded to ensure an accurate recording of my responses. Furthermore, I understand I have the option of writing a journal for Julia Ko, and both digital recordings as well as entries from the journal maybe anonymously quoted in her thesis or publications.

I am also aware that excerpts from the interview may be included in the thesis and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact the Director, Office of Research Ethics at (1) 519-888-4567 ext. 6005.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐YES ☐NO

I agree to have my interview recorded into an MP3 format using a USB key device, understanding that the interview will be encrypted.

☐YES ☐NO

I agree to write a journal for Julia Ko.

☐YES ☐NO

I agree to the use of anonymous quotations in any thesis or publication that comes of this research.

☐YES ☐NO

Participant Name: _____ (Please print)

Participant Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

CONFIDENTIALITY AGREEMENT FORM FOR ASSISTANTS AND THIRD-PARTIES

I agree to assist Julia Ko in a study being conducted under the Department of Environment and Resource the supervision of Professor Paul Kay. I have made this decision based on the information I have read in the Information letter. In addition, I understand that my involvement will maybe apart of this study, and therefore the terms for confidentiality of this study also apply to myself.

I understand that as an interpreter / transcriber / research assistant (circle one) for a study being conducted by Julia Ko of the Department of Environment and Resource Studies, University of Waterloo under the supervision of Professor Paul Kay, I am privy to confidential information.

I am aware that all information given by participants and the identity of participants must remain confidential, and I agree to keep this information confidential. Furthermore, I will not disclose any information with regards to participants identity or location or the conversations in this study to anyone but the researcher, Julia Ko.

I also understand that this project has been reviewed by and has received ethics clearance through the Office of Research Ethics at the University of Waterloo and that I may contact this office if I have any concerns or comments resulting my involvement in this study.

I agree to keep the identities, conversations, and information of participants in this study confidential.

YES NO (Please circle your choice)

I also agree to participate as a ***name of position*** *See Information Letter and Consent for Participation: Assistants*

YES NO (Please circle your choice)

Assistant's Name: _____(Please print)

Assistant's Signature: _____

Witness' Name:_____

Witness' Signature: _____

Date: _____

Please indicate below whether you would prefer me to call you, to write to you or to contact you.

My preference is that you contact me by: PHONE MAIL AGENCY

(Please circle your preference)

Contact information:

SAMPLE INFORMATION LETTER: PARTICIPANTS

DATE

Dear name,

Currently, I am conducting a study on water resource management in the Mekong Basin in a project titled Public Participation in Integrated Water Resource Management: Villages in Lao PDR and the Mekong Basin. This research is for my Master's degree in the Department of Environmental Studies at the University of Waterloo, Canada, under the supervision of Professor Dr. Paul Kay. I would like to invite you to participate in this study. Should you decide to take part in this study, your involvement and more information about the study are detailed in this letter.

This study will focus upon comparing data collected from villages situated in the Mekong Basin to decision-making institutions involved at different levels of government up to the Mekong River Commission. Important decisions made over water involve many sectors, political jurisdictions, and organizations such as the one you are currently involved. Therefore, I would like to include your organization as one of several organizations to be involved in my study, because I believe you are best suited to speak about issues concerning the coordination, cohesion, and collaboration of water management strategies at different scales.

Participation in this study is voluntary. Your involvement may take two to three hours in length to take place in a mutually agreed upon location. You may decline to answer any of the interview questions if you so wish. Furthermore, you may decide to withdraw from this study at any time without any negative consequences by advising the researcher. With your permission, the interview will be recorded into an MP3 format via a USB device to facilitate collection of information. Shortly after the interview has been completed, I will send you a copy of the interview to give you an opportunity to confirm the accuracy of our conversation and to add or clarify any points that you wish.

All information you provide is considered completely confidential. Your name will not appear in any thesis or report resulting from this study, however, with your permission anonymous quotations may be used. Data collected during this study will be encrypted and retained for 2 years. Electronic data in this study will be encrypted, and stored on an external hard-drive, as well as secured in the European Union's Asia-Link Office, while paper documentation will also be kept at the Asia-Link Office. Data collected from you will be encrypted and de-identified before being sent to the European Union

Asia-Link Office. Another copy of the data will also be sent to my supervisor, Dr. Paul Kay at the University of Waterloo, Canada. Only researchers associated with this project will have access. There are no known or anticipated risks to you as a participant in this study.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes of this office at (1) 519-888-4567 Ext. 6005. Should you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please do not hesitate to contact me at (number will be available upon landing in Vientiane, Lao) or by email at j6ko@fes.uwaterloo.ca. You can also contact my supervisor, Professor Dr. Paul Kay at (1) 519-888-4567 Ext. 5796 or email pkay@fes.uwaterloo.ca.
This research is partially sponsored by the European Union Asia-Link Programme in coordination with the University of Siegen and National University of Laos. I hope that the results of my study will be of benefit to those organizations directly involved in the study, other commissions and organizations using an integrated water management strategy or international basin organizations, as well as to the broader research community. Upon completion of this study, it will also be made accessible to the National University of Lao in their course for environmental engineering. I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Julia Ko
Asia-Link Office
Thai- Lao Friendship Road
Vientiane Lao PDR
Phone: 00856-21-353430 Mobile: 00856-020-5280932
Fax: 00856-21-314045
http://www.asialink-laos.de/index.html

CONSENT FORM FOR LETTER OF INFORMATION

I have read the information presented in the information letter about a study being conducted by Julia Ko of the Department of Environment and Resource Studies at the University of Waterloo. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that I have the option of allowing my interview to be tape recorded to ensure an accurate recording of my responses.

I am also aware that excerpts from the interview may be included in the thesis and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact the Director, Office of Research Ethics at (1) 519-888-4567 Ext. 6005.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐YES ☐NO

I agree to have my interview recorded into an MP3 format using a USB key device, understanding that the interview will be encrypted.

☐YES ☐NO

I agree to the use of anonymous quotations in any thesis or publication that comes of this research.

☐YES ☐NO

Participant Name: _____ (Please print)

Participant Signature: _____

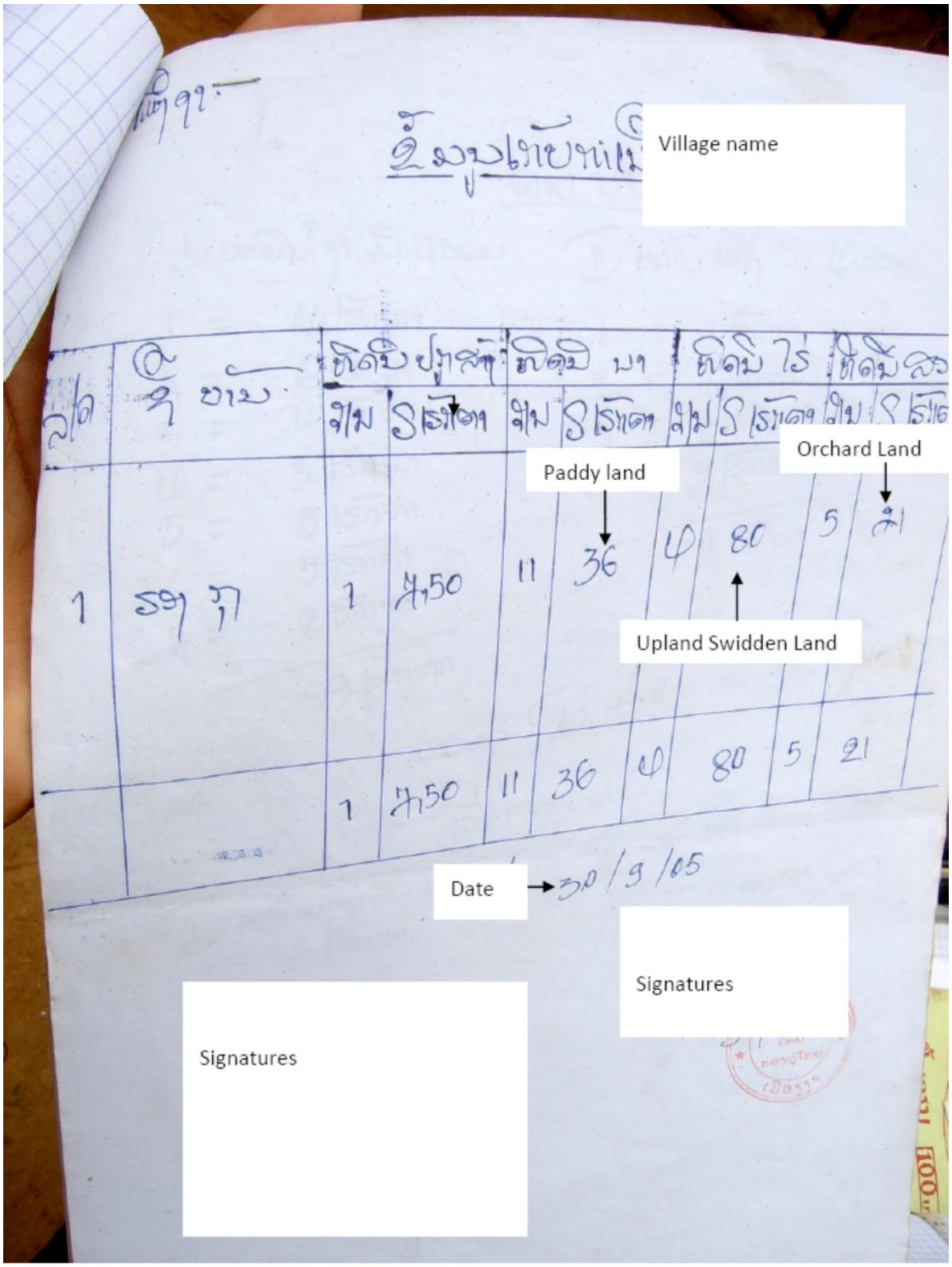
Witness Name: _____ (Please print)

Witness Signature: _____

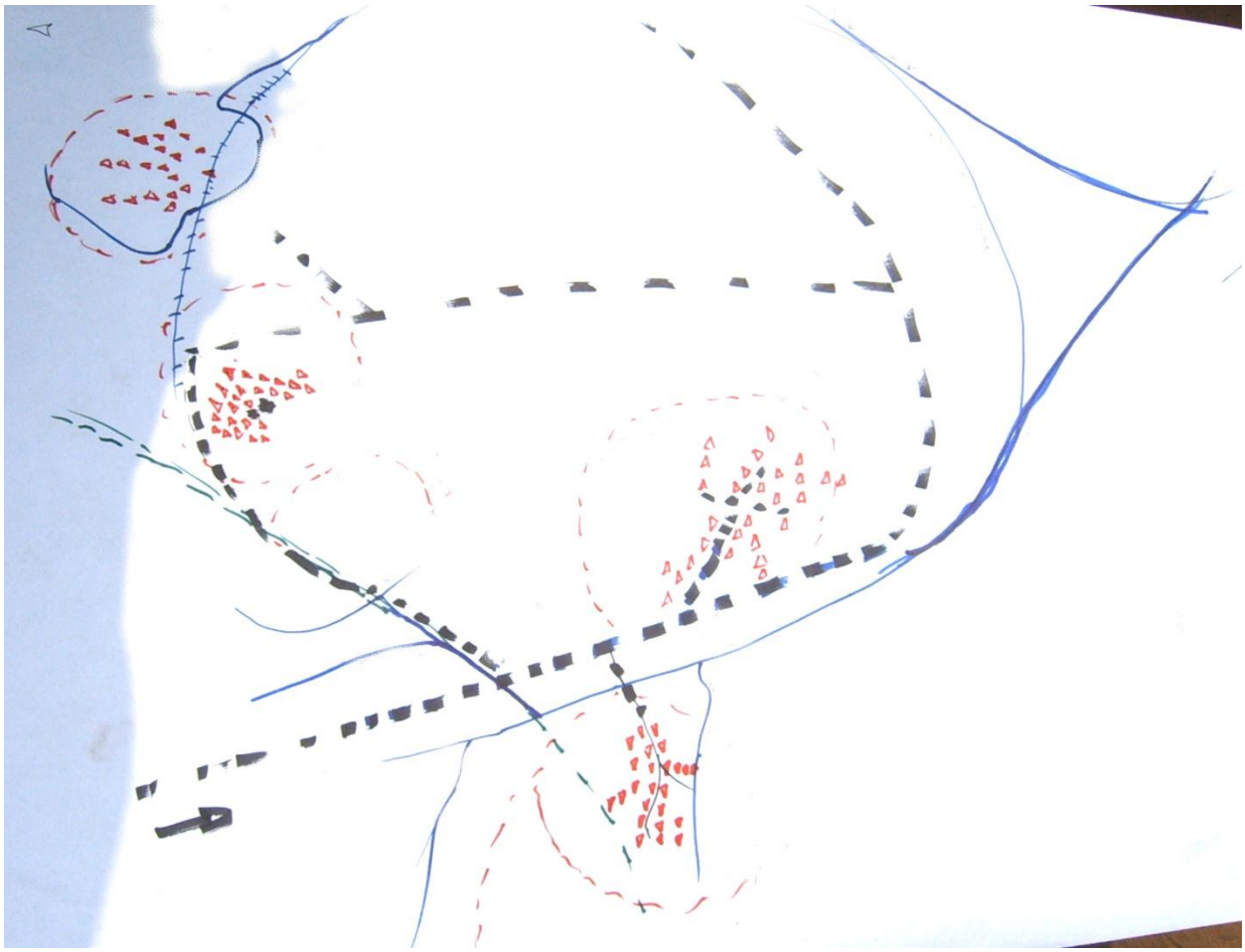
Date: _____

APPENDIX: MAP OF EXISTING AND PROPOSED DAMS IN LAOS

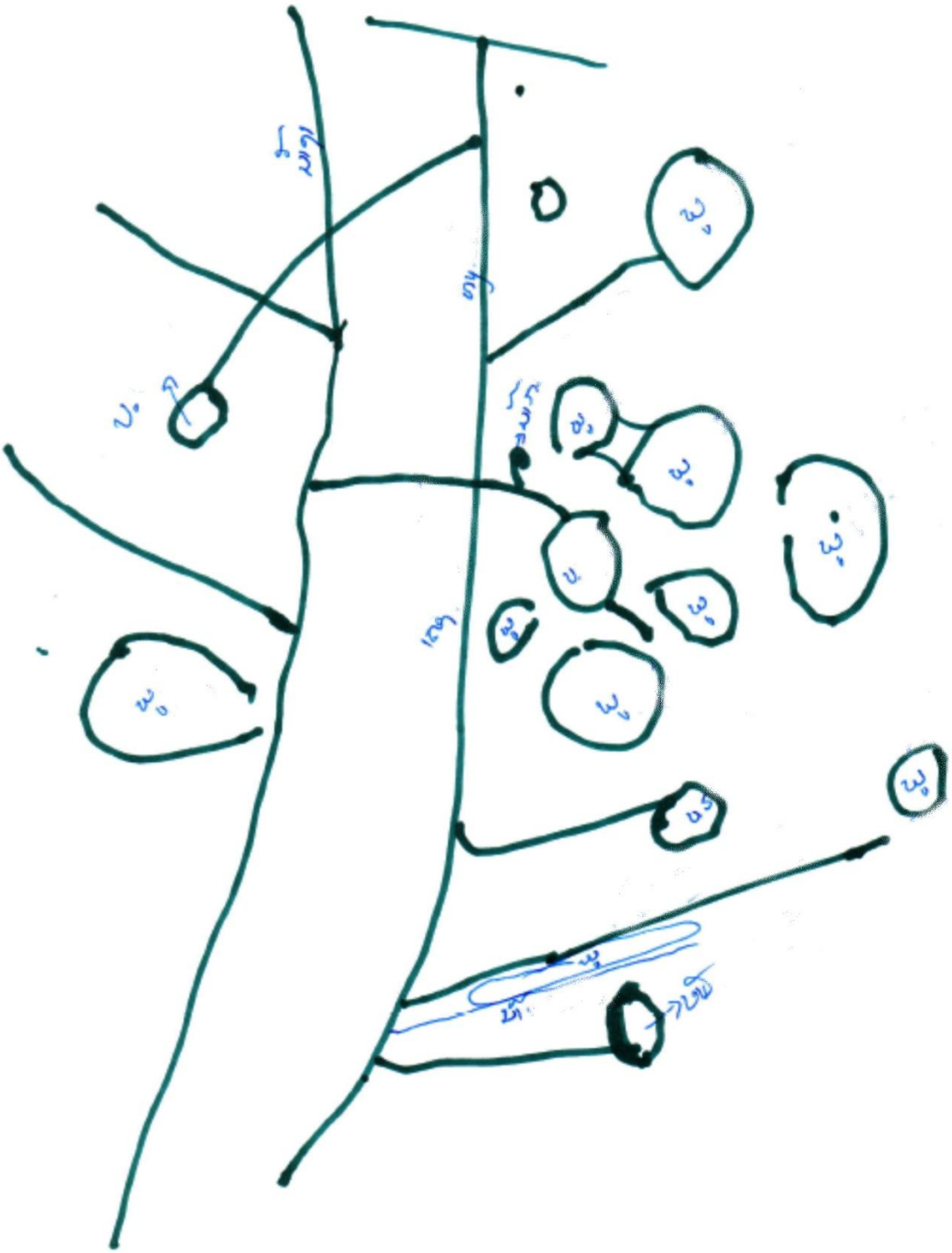
APPENDIX: LAND



APPENDIX: MEN IN GERMAN AGRO ACTION PARTICIPATORY RURAL APPRAISAL



APPENDIX: MAP WITH WOMEN



BIBLIOGRAPHY

Acreman, Mike. 2001. Ethical aspects of water and ecosystems. *Water Policy* 3, (3): 257-65.

Adger, W. N., Katrina Brown, Jenny Fairbrass, Andrew Jordan, Jouni Paavola, Sergio Rosendo, and Gill Seyfang. 2003. Governance for sustainability: Towards a `thick' analysis of environmental decision making. *Environment and Planning A* 35, (6): 1095-110.

Agrawal, Arun, and Clark C. Gibson, eds. 2001. *Communities and the environment: Ethnicity, gender, and the state in community-based conservation*. New Jersey: Rutgers University Press.

Akpabio, Emmanuel M. 2007. Assessing integrated water resources management in Nigeria: Insights and lessons from irrigation projects in the cross river basin. *Water Policy* 9, (2) (9 February 2006).

Allan, Tony. April 2003. *IWRM/IWRMAM: A new sanctioned discourse?* Occassional Paper 50 SOAS Water Issues Study Group, http://www.soas.ac.uk.proxy.lib.uwaterloo.ca/research/our_research/projects/waterissues/papers/38393.pdf (accessed September 20, 2008.).

Arnstein, Sherry R. 1971. A ladder of citizen participation. *Journal of Royal Town Planning Institute* (April 1971): 1-6.

Asian Development Bank. Key indicators for Lao PDR. 2007. Available from http://www.adb.org/Documents/Books/Key_indicators/2006/pdf/LAO.pdf (accessed October, 2007.).

———. 2006. *ADB country strategy paper 2007-2011 lao people's democratic republic.* Vientiane, Lao PDR: Asian Development Bank, (September 2006), http://www.adb.org/documents/csps/lao/2006/default.asp (accessed October 14, 2006.).

———. 2004. *TA 3641 – LAO: Capacity building of the Lao Women's union.* Vientiane, Lao PDR: Asian Development Bank, 32311, Available from http://www.adb.org/Documents/TACRs/LAO/tacr-lao-3641.pdf (accessed October 25, 2005.).

Baber, Watler F., and Robert V. Bartlett. 2005. *Deliberative environmental politics: democracy and ecological rationality*. Cambridge: MIT Press.

Badenoch, Nathan. 1999. *Watershed management and upland development in Lao PDR: A synthesis of policy issues*. Washington: World Resource Institute.

Badenoch, Nathan, and Mairi Dupar. 2001. Chapter 8 regional forces, decentralisation and local responses: Institutions for natural resource management in the uplands of mainland southeast asia. In *Institutions, livelihoods, and the environment: Change and response in mainland Southeast Asia.*, ed. Andrea (compiler) Straub. Copenhagen: Nordic Institute for Asian Studies.

Baird, Ian G., and Bruce Shoemaker. 2005. *Aiding or abetting? International resettlement and international aid agencies in the lao PDR.* Toronto: Probe International, http://www.probeinternational.org/index.php?q=mekong-utility-watch/news-and-opinion/aiding-or-abetting-internal-resettlement-and-international-aid (accessed December 18, 2006.).

Banister, Jeff M. and Christopher A. Scott. 2008. The dilemma of water management 'Regionalization' in Mexico under centralized resource allocation. *International Journal of Water Resources Development* 24, (1): 61-74.

Bakker, Karen. 1999. The politics of hydropower: Developing the mekong. *Political Geography* 18, (2): 209-32.

Bandaragoda, D. J. 2005. *Stakeholder participation in developing institutions for integrated water resources management: Lessons from Asia*. Vol. Working Paper 96. Columbo, Sir Lanka: International Water Management Institute, http://www.iwmi.cgiar.org /pubs/working/WOR96.pdf (accessed November 20, 2007.).

Beierle, Thomas, and Jerry Cayford. 2002. *Democracy in practice: Public participation in environmental decisions*. Washington, D.C.: Resources for the Future.

Bergh, Sylvia. 2004. Democratic decentralisation and local participation: A review of recent research. *Development in Practice* 14, (6) (October 2004): 780-790.

Berkes, Fikret. 1999. *Sacred ecology: Traditional ecological knowledge and resource management*. Philadelphia: Taylor and Francis.

Biermann, Frank. 2006. Chapter 9 global governance and the environment. In *Palgrave advances in international environmental politics.*, eds. Michele M. Betsill, Kathyrn Hocstetler and Dimitris Stevis. London: Palgrave.

Biswas, Asit K. 2008. Integrated water resource management: Is it working? *International Journal of Water Resource Development* 24, (1) (01 March 2008): 5-22.

———. 2004. Integrated water resources management: A reassessment. *Water International* 29, (2): 248-56.

Blaikie, Piers, and Harold Brookfield, eds. 1987. *Land degradation and society*. New York: Methuen.

Blanco, Javier. 2008. Integrated water resource management in Colombia: Paralysis by analysis? *International Journal of Water Resources Development* 24, (1): 91-101.

Blatter, Joachim, and Helen Ingram, eds. 2001. *Reflections on water: New approaches to transboundary conflicts and cooperation*. Cambridge: MIT Press.

Blatter, Joachim, Helen Ingram, and Suzanne Lorton Levesque. 2001. Chapter 2 expanding perspectives on transboundary water. In *Reflections on water: New approaches to transboundary conflicts and cooperation.*, eds. Joachim Blatter, Helen Ingram. Cambridge: MIT Press.

Boelee, Eline, Hammou Laamrani, and Van der Hoek, Wim. 2000. Multiple uses for irrigation water in dry regions of africa and south asia. Paper presented at International Conference on "Water and Health--Ouaga 2000: Health nutritional impacts of water development projects in Africa", Ouagadougou, Burkina Faso, http://www.iwmi.cgiar.org.proxy.lib.uwaterloo.ca/multipleuses/files/MUS-WEB/Project-Docs/multipleuse_Eline.pdf (accessed March 26, 2005.).

Bogdewic, Stephen P. 1999. Participant observation. In *Doing qualitative research.*, eds. Benjamin F. Crabtree, William L. Miller. Second ed. Thousand Oaks, California: Sage Publications.

Boné-Pueyo, Alfredo. 2007. Model for social participation in the formulation of water policies. *International Journal of Water Resources Development* 23, (1): 21-39.

Bounthong, Bouahom, John Raintree, and Linkhan Douangsavanh. 2003. Upland agriculture and forestry research for improving livelihoods in Lao PDR. Paper presented at Alternative Approaches to Enhancing Small-Scale Livelihoods and Natural Resources Management in Marginal Areas - Experience in Monsoon Asia -, Tokyo, Japan, http://www.unu.edu /env/plec/marginal/proceedings/BounthongCH17.pdf (accessed 20 April 2006.).

Braga, B. P. F., and J. G. Lotufo. 2008. Integrated river basin plan in practice: The São Francisco river basin. *International Journal of Water Resources Development* 24, (1): 37-60.

Brannstrom, Christian, James Clarke, and Mariana Newport. 2004. Civil society participation in the decentralisation of brasil's water resources: Assessing participation in three states. *Singapore Journal of Tropical Geography* 25, (3) (November 2004): 304-321

Brooks, David B. 2002. *Water: Local level management*. Ottawa: International Development Research Centre.

Brown, Gillian. 2007. Personal communication. Topic: Relocation. April, 2007.

Browning-Aiken, Anne. 2005. Challenges to implementing transboundary planning: A political ecology perspective on recent policy changes, regime management, and institutional practises in the U.S. and Mexico. In World Water Council [database online]. Available from http://www.worldwatercouncil.org/index.php?id=1212&L=3&print=1 (accessed November 03, 2008.).

Bruns, Bryan Randolph, and Ruth S. Meinzen-Dick, eds. 2000. *Negotiating water rights*. London: ITDG, International Food Policy Research Institute.

Bryant, Judy. 2005. Cooperation works. *Asian Development Bank Review* 37, (3) (June 2005), http://www.adb.org/Documents/Periodicals/ADB_Review/2005/vol37-3/cooperation-works.asp (accessed March 12, 2006.).

Bryant, Raymond L., and Sinéad Bailey. 1997. *Third world political ecology*. London: Routledge.

Budds, Jessica. 2004. *Power, nature and neoliberalism: The political ecology of water in chile*. *Singapore Journal of Tropical Geography* 25, (3): 322-342.

Bulkeley, Harriet. 2005. Reconfiguring environmental governance: Towards a politics of scales and networks. *Political Geography* 24, (8) (November, 2005): 875-902.

Butterworth, John and Patrick Moriarty. 2003. The productive use of domestic water supplies: How water supplies can play a wider role in livelihood improvement and poverty reduction. In IRC International Water and Sanitation Centre [database online]. Available from http://www.musgroup.net/content/download/310/2805/file/livelihoods%20TOP.pdf (accessed September 12, 2007.).

Calder, Ian R. 2005. Blue revolution: Integrated land and water resource management. Second ed. London: Earthscan.

Caporaso, James, and David P. Levine. 1992. *Theories of political economy*. New York: Cambridge University Press.

Chamberlain, Jim, ed. 2001. *Participatory poverty assessment*, eds. Asian Development Bank, State Planning Committee, Government of Lao and National Statistics Centre, Government of Lao. Vientiane: Asian Development Bank.

Chambers, Robert. 1994. The origins and practice of participatory rural appraisals. *World Development* 22, (No. 7): 953-69.

Chaplot, Vincent. 2004. How shifting cultivation limits runoff, sediment, and carbon losses on sloping land. *Juth Pakai: New Thought, Perspectives on Lao Development*(3): 6-16, http://www.undplao.org/newsroom/factsheets/juthpakai/JP3%20English%20online.pdf (accessed May 15, 2006.).

Chenoweth, Jonathan L., Sarah A. Ewing, and Juliet F. Bird. 2002. Procedures for ensuring community involvement in multijurisdictional river basins: A comparison of the murray-darling and Mekong River basins. *Environmental Management* 29, (4) (April, 2002): 497-509.

Chomchai, Prachoom. 2005. Chapter 10 public participation and governance: A Mekong River Basin perspective. In *Enhancing participation and governance in water resources management: Conventional approaches and information technology.*, eds. Libor Jansky, Juha I. Uitto. New York: United Nations University.

Christie, Clive J. 1998. *Southeast Asia in the Twentieth century: A reader*. New York, London: I.B. Tauris Publishers.

Chhotray, Vasudha. 2004. The negation of politics in participatory development projects, Kurnool, Andrha Pradesh. *Development and Change* 35, (2): 327-352.

Cleaver, Frances. 1999. Paradoxes of participation: Questioning participatory approaches to development. *Journal of International Development* 11, (4): 597-612.

Collentine, Dennis, Åsa Forsman, Victor Galaz, Sofia Kallner Bastviken, and Annika Ståhl-Delbanco. 2002. CATCH: Decision support for stakeholders in catchment areas. *Water Policy* 4, (5) (2002): 447-63.

Committee for Planning and Cooperation. 2004. *The household of Lao PDR: Social and economic indicators lao expenditure and consumption survey 2002/03 LECS 3.*

Conca, Ken. 2006. *Governing water: Contentious transnational politics and global institution building*. Cambridge: MIT Press.

Convention on Biodiversity. Description. 2006 [accessed 10/31 2008]. Available from http://www.cbd.int/ecosystem/description.shtml (accessed May 15, 2007.).

Cooke, Bill. 2004. Chapter 3, Rules of thumb for participatory change agents. In *Participation: From tyranny to transformation exploring new approaches to participation in development.*, eds. Sam Hickey, Giles Mohan. London: Zed Books.

Cooke, Bill, and Uma Kothari, eds. 2001. *Participation: The new tyranny?*. London: Zed Books.

Corbett, Tony and Marcus Lane. 2005. The tyranny of localism: Indigenous participation in community-based environmental management. *Journal of Environmental Policy and Planning* 7, (2) (June 2005): 141-159.

Cornwall, Andrea. 2004. Spaces for transformation? Reflections on issues of power and difference in participation in development. In *Participation: From tyranny to transformation? Exploring new approaches to participation in development.*, eds. Sam Hickey, Giles Mohan. London: Zed Books.

Cornwall, Andrea. 2003. Whose voices? Whose choices? Reflections on gender and participatory development. *World Development* 31, (8) (August, 2003): 1325-42.

Cosgrove, William J., and Frank R. Rijsberman. 2000. *World water vision: Making water everybody's business.* London, UK: Earthscan, http://www.worldwatercouncil.org/index.php?id=961 (accessed March 14, 2005.).

Cox, Kevin R. 1998. Spaces of dependence, spaces of engagement and the politics of scale, or: Looking for local politics. *Political Geography* 17, (1) (January, 1998): 1-23.

Creighton, James L. 2005. What water managers need to know about public participation: One US practitioner's perspective. *Water Policy* 7, (3) (May 2005): 269-278.

Davis, Richard, and Rafik Hirji, eds. 2003. *Environmental flow assessment - NOTE C.2 environmental flows: Case studies.* World Bank, http://web.worldbank.org/servlets/ECR?contentMDK=20407228&sitePK=336487 (accessed February 20, 2005.).

Daviau, Steeve and Laurent Romagny. 2003. Synthesis of Reports on Resettlement in Long District, Luang Nam Tha Province, Lao PDR. Vientiane, Action Contre La Faim, June
2003.

Delli Priscoli, Jerry. 2004. What is public participation in water resources management and why is it important? *Water International* 29, (No. 2): 221-7.

Dieu, Nguyen Thi. 1999. *The Mekong river and the struggle for Indochina: Water, war and peace*. London, Westport: Praeger.

Directory of Non Governmental Organisations for Lao PDR. 2008. Directory of non governmental organisations for Lao PDR. Available from http://www.directoryofngos.org.

Dore, John, and Yu Xiaogang. 2004. *Yunnan hydropower expansion: Update on China's energy industry reforms and the Nu, Lancang, and Jinsha dams.* Bangkok, Thailand and Kunming, China: Chiang Mai University and Green Watershed, http://www.irn.org/pdf/lancang/YunnanHydropower.pdf (accessed February 20, 2005.).

Dubash, Navroz. 2001. *A watershed in global governance? : An independent assessment of the world commission on dams*. Washington, D.C.: World Resource Institute.

Dungumaro, Esther W., and Ndalahwa F. Madulu. 2003. Public participation in integrated water resources management: The case of Tanzania. *Physics and Chemistry of the Earth, Parts A/B/C,* 28, (20-27): 1009-14.

Eckerberg, Katarina, and Marko Joas. 2004. Multi-level environmental governance: A concept under stress? *Local Environment* 9, (5) (October, 2004): 405-412.

Elhance, Arun. 1999. *Hydropolitics in the Third World: Conflict and cooperation in international river basins*. Washington, D.C.: United States Institute of Peace Press.

Escobar, Arturo. 2001. Culture sits in places: Reflections on globalism and subaltern strategies of localization. *Political Geography* 20, (2) (February, 2001): 139-74.

Evans, Grant. 2000. Ethnic change in the northern highlands of Laos. In *Laos: Culture and society.*, ed. Grant Evans. Pasir Panjang, Singapore: Institute of Southeast Asian Studies.

Evrard, Olivier, and Yves Goudineau. 2004. Planned resettlement, unexpected migrations and cultural trauma in Laos. *Development and Change* 35, (5) (November 2004): 937-62.

Falkenmark, Malin. 2003. *Water management and ecosystems: Living with change*. Novum, Sweden: Global Water Partnership.

Falkenmark, Malin, Lars Gottschalk, Jan Lundqvist, and Patricia Wouters. 2004. Towards integrated catchment management: Increasing the dialogue between scientists, policy-makers and stakeholders. *International Journal of Water Resource Development* 20, (3) (September 2004): 297-309.

Finger, Matthais, Ludivine Tamiotti, and Jeremy Allouche, eds. 2006. *The Multi-governance of water: Four case studies*. New York: State University of New York Press.

Føllesdal, Andreas. 1998. Survey article: Subsidiarity. *Journal of Political Philosophy* 6, (2): 190-218.

Food and Agricultural Organisation. 2004. Integrated water resource management for food security in Africa. Paper presented at Twenty-Third Regional Conference for Africa, Johannesburg, South Africa, http://www.fao.org/docrep/MEETING/007/J1645e/J1645e00.HTM (accessed January 20, 2007.).

Food and Agricultural Organisation, and International Fund for Agricultural Development. 2006. Chapter 7: Water for food, agriculture, and rural livelihoods. In *The 2nd united nations world water development report: "water, a shared responsibility".*, 245-272. Paris, New York: UNESCO; Berghahn Books, http://www.unesco.org/water/wwap/wwdr/wwdr2/pdf/wwdr2_ch_7.pdf .

Förch, Gerd, Simon Onywere, Ruger Winnegge, and Chris Shisanya. 2005. *Results of the DAAD alumni summer school on topics of integrated watershed*. Siegen, Germany: University of Siegen, http://bk-sv.fb10.uni-siegen.de/web/gawn/seminars/Results_of_summerschool_2005_in_siegen.pdf (accessed May 15, 2005.).

Forsyth, Tim. 2003. *Critical political ecology: The politics of environmental science*. London: Routledge.

Fox, Colleen, and Chris Sneddon. 2006. Rethinking transboundary waters: A critical hydropolitics of the Mekong basin. *Political Geography* 25, (2) (February, 2006): 181-202.

Francis, Jennifer, and Sybille Jahn. 2001. *Gender implications*. Paper presented at Integrating Gender Perspectives: Realising New Options for Improved Water Management, Bonn, Germany, http://www.water-2001.de/co_doc/gender2.pdf.

Francis, Paul, and James Roberts. 2003. Balancing rural poverty reduction and citizen participation: The contradictions of Uganda's decentralization program. *World Development* 31, (2)(February 2003): 325 -337.

Fugl, Jens, and Torkil Jønch-Clausen. 2001. Firming up the conceptual basis of integrated water resource management. *International Journal Water Resources Development* 17, (4):501-510.

Gafur, Abdul, Jensen, Jens Raunsø Borggaard, Ole K., and Leif Petersen. 2003. Runoff and losses of soil and nutrients from small watersheds under shifting cultivation (jhum) in the chittagong hill tracts of bangladesh. *Journal of Hydrology* 274, (1-4) (April, 2003): 30-46.

Gauthier, Erick. 2004. *Des montagnes du Laos à la costière de nimes: Les hmong*. Montpellier: RIRESC Reserche Social FLER.

Gaventa, John. 2004. Towards participatory governance: Assessing the transformative possibilities. In *Participation: From tyranny to transformation?*, eds. Sam Hickey, Giles Mohan, 25-41. London: Zed Books.

Gayer, József. 1999. International conference on participatory processes in water management (PPWM): Satellite conference to UNESCO's world conference on science, Budapest, hungary, 28-20 june 1999. *Water International* 24: 277-8.

Gezon, Lisa L., and Susan Paulson. 2005. Chapter 1 Place, power, difference: Multiscale research at the dawn of the twenty-first century. In *Political ecology across spaces, scales, and social groups.*, eds. Susan Paulson, Lisa L. Gezon. New Jersey: Rutgers University Press.

Gibbs, David, and Andrew E. G. Jonas. 2000. Governance and regulation in local environmental policy: The utility of a regime approach. *Geoforum* 31, (3) (August, 2000): 299-313,

Gibson, Bob, Selma Hassan, Susan Holtz, James Tansey, and Graham Whitelaw. 2005. *Sustainability assessment: Criteria and processes*. London: Earthscan.

Gilchrist, Valerie J., and Robert L. Williams. 1999. Key informant interviews. In *Doing qualitative research.*, eds. Benjamin F. Crabtree, William L. Miller. Second ed. Thousand Oaks, California: Sage Publications.

Giordano, Meredith A., and Aaron T. Wolf. 2003. Sharing waters: Post-rio international water management. *Natural Resource Forum* 27: 163-71.

Gleick, Peter. 1999. *The world's water: The biennial report on freshwater resources.* Washington, D.C.: Island Press.

———. 1998. The human right to water. *Water Policy* 1:

Global Environmental Flows Network. eFlowNet. 2007. Available from http://www.eflownet.org /viewinfo.cfm?linkcategoryid=4&linkid=21&siteid=1&FuseAction=display (accessed October 20, 2008.).

Global Water Partnership. 2007. Global water partnership tool box: Integrated water resource management. in Global Water Partnership [database online]. Stockholm, Sweden. Available from http://www.gwptoolbox.org/ (accessed December 10, 2007.).

———. 2003a. Effective water governance: Learning from the dialogues. Kyoto, Japan. (accessed December 10, 2007.).

———. 2003b. *Poverty and IWRM*. TEC. Background Papers No.8 ed. Novum, Sweden: Global Water Partnership, http://www.gwpforum.org/gwp/library/TEC%208.pdf (accessed December 10, 2007.).

———. 2000. *Integrated water resource management.* Stockholm: Global Water Partnership, TAC Background Paper No. 4, http://www.gwpforum.org/gwp/library/TACNO4.PDF(accessed December 10, 2007.).

———. Dublin principles. in Global Water Partnership [database online]. Stolkholm, Sweden, 1992 (accessed March 15, 2005.).

Goetz J., & M. LeCompte. 1984*. Ethnography and qualitative design in educational research*. Orlando, Fl: Academic Press. In Bogdewic, Stephen P. 1999. Participant observation. In *Doing qualitative research.*, eds. Benjamin F. Crabtree, William L. Miller. Second ed. Thousand Oaks, California: Sage Publications.

Goodman, Michael K. 2004. Reading fair trade: Political ecological imaginary and the moral economy of fair trade foods. *Political Geography* 23, (7) (September, 2004): 891-915.

Gordon, Line, and Carl Folke. 2000. Ecohydrological landscape management for human well-being. *Water International* 2: 178-84.

Green, Colin. 2003. *Handbook of water economics: Principles and practice.* Sussex, England: Wiley.

Greenberg, James, and Thomas K. Park. 1994. Political ecology. *Journal of Political Ecology* 1, http://jpe.library.arizona.edu/volume_1/FOREWARD.PDF (March 14, 2005.).

Guba, Egon G., and Yvonna S. Lincoln. 2004. Chapter 1 competing paradigms in qualitative research: Theories and issues. In *Approaches to qualitative research: A reader on theory and practice.*, eds. Sharlene Nagy Hesse-Biber, Patricia Leavy. New York: Oxford University Press.

Harmonising Collaborative Planning (HarmoniCOP). 2005. *Learning together to manage together: Improving participation in water management*. Osnabrück, Germany:

University of Osnabrück, Institute of Environmental Systems Research, http://www.harmonicop.info/handbook.php.

Hart, Gillian. 2001. Developing critiques in the 1990s: Cul de sac and promising paths. *Progress in Human Geography* 25, (4).

Haughton, James. 2008. *JKH*. DRAFT Dissertation ed. Austrailia National University: .

Headington, Lisa, Rebecca Theobald, and James L. Wescoat. 2007. Water and poverty in the United States. *Geoforum* 38: 801–14.

Hemmanti, Minu. 2002. *Multi-stakeholder processes for governance and sustainability: Beyond deadlock and conflict*. London, U.K.: Earthscan.

Hermans, Leon M., Gerardo E. van Halsema, and Henry F. Mahoo. 2006. Building a mosaic of values to support local water resources management. *Water Policy* 8, (5) (1 July 2005): 415–434.

Hewlett, J. D. 1982. *Principles of forest hydrology*. Athens, Georgia: University of Georgia Press.

Heyd, Helene, and Andreas Neef. 2006. Public participation in water management in Northern Thai highlands. *Water Policy* 8, (5) (27 July 2005).

Hickey, Sam, and Giles Mohan. 2005. Relocating participation within a radical politics of development. *Development and Change* 36, (2): 237–262.

Hirsch, Philip, and Andrew Wyatt. 2004. Negotiating local livelihoods: Scales of conflict in the Se San river basin. *Asia Pacific Viewpoint* 45, (1) (April 2004): 51–68.

Hodgdon, Benjamin D. 2008. *Kyoto Journal* 46: 58–65. Online article available from http://kyotojournal.org/kjcurrent/69/laos%20Ap08.pdf (accessed September 20, 2007.).

Holden, John D. 2001. Hawthorne effects and research into professional practice. *Journal of Evaluation in Clinical Practice* 7, (1): 65-70.

Hong, Lawrence K., and Robert W. Duff. 2002. Modulated participant-observation: Managing the dilemma of distance in field research. *Field Methods* 14, (2): 190-6.

Hori, Horoshi. 2000. *The Mekong: Environment and development*. Tokyo, New York: United Nations University Press.

Ingram, Helen, John M. Whiteley, and Richard Warren Perry. 2008. The importance of equity and the limits of efficiency in water resources. In *Water, place & equity.*, eds. John M. Whiteley, Helen Ingram and Richard Warren Perry, 1-32. Cambridge, Massachusetts: MIT Press.

International Conference on Freshwater. 2001. Water-key to sustainable development: Bonn keys. Paper presented at International Conference on Freshwater, Bonn, Germany.

———. 2001. Water-key to sustainable development: Recommendations for action. Bonn, Germany, Available from http://www.water-2001.de /outcome/BonnRecommendations/Bonn_Recommendations.pdf (accessed March 15, 2005.).

International Fund for Agricultural Development. 2001. Chapter 2 the rural poor. In *Rural poverty report 2001: The challenge for ending rural poverty.*International Fund for Agricultural Development, http://www.ifad.org/poverty/ (accessed January 26, 2006.).

International Rivers. Maps showing dams planned along the Lancang (Mekong) river. 2009 [accessed 03/16 2009]. Available from http://www.internationalrivers.org/en/china/lancang-mekong-river/map-showing-dams-planned-along-lancang-mekong-river?size=_original.

———. Key existing and proposed dams in Laos. 2008 [accessed March / 03 2009]. Available from http://internationalrivers.org/files/LaoMap092408.JPG.

International Water Agency and United Nations Environmental Program. 2002. *Industry as a partner for sustainable development: Water Management*, IWA/UNEP, London, UK (from Jeffrey and Gearey, 2006).

International Year of Sanitation. International year of sanitation 2008. Avaliable from http://esa.un.org/iys/health.shtml (accessed January 10, 2009.).

Jaspers, Frank G. W. 2002. Institutional arrangements for integrated river basin management. *Water Policy* 5, (December 2002): 77-90.

Jeffrey, P., and M. Gearey. 2006. Integrated water resources management: Lost on the road from ambition to realisation? *Water Science and Technology* 53, (1):1-8.

Jerve, Alf Morten. 2001. Laos. In *Choices for the poor: Lessons from national poverty strategies.*, eds. Alejandro Grinspun, González de la Rocha, Mercedes, Jaroslaw Górniak, Alf Morten Jerve, Julian May, S. R. Osmani, Pierre Hassan Sannon, Julia Harrington, Catherine Porter and Sanjay Reddy, 277-288. New York: United Nations Development Program.

Jewitt, Graham. 2002. Can integrated water resources management sustain the provision of ecosystem goods and services? *Physics and Chemistry of the Earth, Parts A/B/C* 27, (11-22) (2002): 887-95.

Johnson, Nancy, Helle Munk Ravnborg, Olaf Westermann, and Kirsten Probst. 2002. User participation in watershed management and research. *Water Policy* 3, (6) (2002): 507-20.

Johnston, Barbara. 2003. The political ecology of water: An introduction. *Capitalism, Nature, Socialism* 14, (3): 73-90.

Jønch-Clausen, Torkil. 2004. *"...Integrated water resources management (IWRM) and water efficiency plans by 2005" Why, what and how?* Sweden: Global Water Partnership, TEC Background Paper No. 10, http://www.gwpforum.org/gwp/library/TEC%2010.pdf (accessed February 15, 2005.).

Jones, Katherine T. 1998. Scale as epistemology. *Political Geography* 17, (1) (January, 1998): 25-8.

Jonker, L. 2002. Integrated water resources management: Theory, practice, cases. *Physics and Chemistry of the Earth, Parts A/B/C* 27: 719-20.

Judd, D. R. 1998. The case of the missing scales: A commentary on cox. *Political Geography* 17, (1) (January, 1998): 29-34.

Kabeer, Naila. 2005. Chapter one introduction--the search for inclusive citizenship: Meaning and expressions in an interconnected world. In *Inclusive citizenship.*, ed. Naila Kabeer. London: Zed Books.

Kallis, Giorgos, Michael Kiparsky, Anita Milman, and Isha Ray. 2006a. Glossing over the complexity of water. *Science* 314, (December 2006): 1387.

Kallis, Giorgos, Nuno Videira, Paula Antunes, Ângela Guimarães Pereira, Clive L. Spash, Harry Coccossis, Serafin Corral Quintana. 2006b. Participatory methods for water resources planning. *Journal of Environment and Planning C: Government and Policy* 24, (1 May 2005): 215-234.

Keen, Steven. 2001. Debunking economics: The naked emperor of the social sciences. In *DRAFT dissertation 05 February 2008.* Ed. James Haughton. Found in DRAFT Dissertation. Ed. Vol. Pluto Press.

Kirkby, J., P. O' Keefe, and C. Howorth. 2001. Introduction: Rethinking environment and development in africa and asia. *Land Degradation & Development* 12, (3) (May and June 2001): 195-203.

Kliot, N., D. Shmueli, and U. Shamir. 2001. Institutions for management of transboundary water resources: Their nature, characteristics and shortcomings. *Water Policy* 3, (3) (2001): 229-55.

Kumar, Somesh. 2002. *Methods for community participation: A complete guide for practitioners*. London: Information Technology Development Group.

Laderchi, Caterina Ruggeri. 2001. *Working paper number 62 participatory methods in the analysis of poverty: A critical review*. Queen Elizabeth House--University of Oxford ed.IDEAs, http://ideas.repec.org/p/qeh/qehwps/qehwps62.html.

Lamoree, Ben. 2004. Comments by Ben Lamoree on water forum contribution integrated water resource management: A reassessment. *Water International* 29, (3): 399-400.

Lane, Marcus. 2005. Public participation in planning: An intellectual history. *Austrailian Geographer* 36, (3) (November 2005): 283-299.

Lankford, Bruce, Barbara van Koppen, Tom Franks, and Henry Mahoo. 2004. Entrenched views or insufficient science? *Agricultural Water Management* 69, (2) (September 15, 2004): 135-53.

Lao National Mekong River Committee. 2004. *Lao National Mekong River Committee, basin development plan: National sector overview.* Vientiane, Lao PDR: Lao National Mekong Committee.

Lao PDR Government. 2008. Lao PDR Government Department of Statistics, Lao National Mekong Committee, Centre for Development and Environment, and Swiss Agency for Development and Cooperation. *Socio-economic Atlas of Lao PDR: An analysis based on the 2005 population and housing census*, eds. Peter Messerli, Andreas Heinimann, Michael Epprecht, Phonesaly Souksavath, Thiraka Chanthalanouvong and Nicholas Minot. Bern, Switzerland; Vientiane, Lao PDR: Swiss National Centre of Competence in Research (NCCR) North-South and Geographica Bernensia.

———.2006. *National Socio-Economic Development Plan (2006-2010)*. Trans. Committee for Planning and Investment. Vientiane: http://www.rtm.org.la/documents/The%20Sixth%20Five%20Year%20NSEDP.doc (accessed October 20, 2006.).

———. 2005. National Statistics Centre. Census. *Statistical Yearbook 2005*. Vientiane, Lao PDR: National Statistics Centre.

———. 2004. Committee for Planning and Cooperation, and Asian Development Bank. *Northern region development strategy executive summary draft final report.* Vientiane, Lao PDR: Asian Development Bank.

———. 2003. *National growth and poverty eradication strategy*. Online Copy. Available from : http://www.undplao.org/newsroom/ngpes.php (accessed September 15, 2006).

Latour, Bruno . 2004a. *Politics of nature: How to bring the sciences into democracy*. Trans. Catherine Porter. Cambridge, Massachusetts: Harvard University Press.

Latour, Bruno . 2004b. Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* 30, (2): 225-48.

Le Billon, Philippe. 2001. The political ecology of war: Natural resources and armed conflicts. *Political Geography* 20, (5) (June, 2001): 561-84.

Lee, Gary Yia. 2005. The shaping of traditions: Agriculture and Hmong society. *Hmong Studies Journal* 6, http://hmongstudies.org/LeeHSJ6.pdf (accessed October 20, 2006.).

Lestrelin, G., and M. Giordano. 2007. Upland development policy, livelihood change and land degradation: Interactions from a Laotian village. *Land Degradation & Development* 18, (1) (January & February 2007): 55-76.

Li, Tania Murray. 2001. Chapter 6 boundary work: Community, market, and state reconsidered. In *Communities and the environment: Ethnicity, gender, and the*

state in community-based conservation., eds. Arun Agrawal, Clark C. Gibson. New Jersey: Rutgers University Press.

Loader, R., and L. Amartya. 1999. Participatory rural appraisal: Extending the research methods base. *Agricultural Systems* 62, (2) (November, 1999): 73-85.

Loucks, Daniel P. 2000. Sustainable water resources management. *Water International* 25, (1): 3-10.

Lundqvist, Lennart J. 2006. Integrating Swedish water resource management: A multi-level governance trilemma. *Local Environment* 9, (5): 413-424.

Lyttleton, Chris, Paul Cohen, Houmphanh Rattanavong, Bouakham Thongkhamhane, and Souriyanh Sisaengrat. 2004. *Watermelons, bars, trucks: Dangerous intersections in northwest Lao PDR--an enthographic study of social change and health vulnerability along the road through Muang Sing and Muang Long.* Sydney: Institute of Cultural Research for Laos and Macquarie University, http://www.oxfam.org.au/campaigns/development_banks/docs/Watermelon_Bars_and_Trucks.pdf (accessed October 20, 2006.).

McAllister, Mary Louise. 2004. *Governing ourselves? The politics of Canadian communities*. Vancouver, British Columbia: University of British Columbia.

McCormack, Gavan. 2001. Water margins: Competing paradigms in china. *Critical Asian Studies* 33, (1): 5-30.

McDonnell, Rachael A. 2008. Challenges for integrated water resources management: How do we provide the knowledge to support truly integrated thinking? *International Journal of Water Resources Development* 24, (1): 131-143.

McLaverty, Peter. 2002. *Public participation and innovations in community governance*. Aldershot, England: Ashgate.

Mehtonen, Katri. 2008. Do the downstream countries oppose the upstream dams? In *Modern myths of the mekong- A critical review of water and development*

concepts, principles and policies., eds. Olli Varis, Marko Keskinen and Olli Varis, 161-173. Finland: Water & Development Publications - Helsinki University of Technology.

Meinzen-Dick, Ruth S., and Margreet Zwarteveen. 1998. Gendered participation in water management: Issues and illustrations from water users' associations in south asia. *Agriculture and Human Values* 15, .

Mekong River Commission. 2007a. *Independent organisational, financial, and institutional review of the Mekong River Commission secretariat and the National Mekong River Committees final report.* Vientiane, Lao PDR: Mekong River Commission, www.mrcmekong.org/download/free_download/Financial_and_Institutional_Review.pdf (accessed January 20, 2008.).

———. 2007b. Statement of contributions received, expenditures incurred, and fund balances by donors. (31 December 2007), http://www.mrcmekong.org/download/finance/Statement_of_Contribution_Received_Donor2007.pdf (accessed January 20, 2008.).

———. 2006. *Strategic plan 2006 – 2010: Meeting the needs, keeping the balance*. Vientiane, Lao PDR: Mekong River Commission, http://www.mrcmekong.org/download/free_download/Strategic-plan-2006-2010.pdf (accessed September 20, 2007.).

———. 2005. *Overview of the hydrology of the Mekong Basin.* Vientiane, Lao PDR: Mekong River Commission, http://www.mrcmekong.org/download/free_download/Hydrology_report_05.pdf (accessed May 25, 2006.).

——— . 2003a. *Framework for stakeholder participation in the formulation of the basin development plan.* Vientiane: Mekong River Commission, Working Paper #1.

——— .2003b. MRC Secretariat Basin Development Planning (BDP) Unit. *Basin development plan draft BDP working paper 4 Sub-area Forum no.2: Approach and process for stakeholder participation.* Phnom Penh, Cambodia: Mekong River Commission.

———. 2001. *Strategic plan 2001 to 2005*. Phon Phen, Cambodia: Mekong River Commission, http://www.mrcmekong.org/download/free_download/StrategicPlan20012005.zip (accessed May 25, 2006.).

———. 1999. *Public participation in the context of the MRC*, http://www.mrcmekong.org/pdf/Public%20Participation%20the%20context%20of%20the%20Mrc.pdf (accessed February 15, 2005.).

———. 1995. *1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin*, [Online Resolution]. www.mrcmekong.org/pdf/95%20Agreement.pdf (accessed February 20, 2005.).

Mercer, Claire. 2003. Performing partnership: Civil society and the illusions of good governance in Tanzania. *Political Geography* 22, (7) (September, 2003): 741-63.

Merrey, D. J., P. Drechsel, F. W. T. Penning deVries, and H. Sally. 2005. Integrating "livelihoods" into integrated water resources management: Taking the integration paradigm to its logical next step for developing countries. *Regional Environmental Change* 5, (4) (December 2005): 197-204.

Milich, Lenard, and Robert G. Varady. 1999. Openness, sustainability, and public participation: New designs for transboundary river basin institutions. *Journal of Environment and Development* 8, (3): 256-306.

Millennium Ecosystems Assessment. 2005. *Chapter 7 freshwater ecosystem services*. New York: Island Press. http://www.millenniumassessment.org/documents/document.312.aspx.pdf (accessed March 20, 2005.).

Miller, Barbara, and Richard Reidinger, eds. 1998. *Comprehensive river basin management: The tennessee valley authority*. World Bank Documents and Reports: World Bank, http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000094946_99030406412055 (accessed October 20, 2007.).

Miller, Fiona, and Philip Hirsch. 2003. *Civil society and internationalized river basin management.* Working Paper Series, Working Paper No. 7, http://www.mekong.es.usyd.edu.au/publications/working_papers/wp7.pdf (accessed September 20, 2007.).

Mitchell, Bruce. 2004. Comments by Bruce Mitchell on water forum contribution "Integrated water resources management: A re-assessment by asit.K. biswas. *Water International* 29, (3) (September 2004): 398-9.

———. 1990. *Integrated water management: International experiences and perspectives*. London: Belhaven Press.

Mohan, Giles, and Sam Hickey. 2004. Relocating participation within a radical politics of development: Critical modernism and citizenship. In *Participation: From tyranny to transformation? Exploring new approaches to participation in development.*, eds. Sam Hickey, Giles Mohan, 59-75. London: Zed Books.

Montoya-Hidalgo, José. 2007. Instruments of public participation in aragon water policy: The aragon water commission. *International Journal of Water Resources Development* 23, (1): 41-50.

Mostert, Erik, ed. 2003. *Public participation and the European Water Framework Directive: A framework for analysis.* Delft: Delft University of Technology, Available from www.harmonicop.uni-osnabrueck.de/_files/_down/HarmoniCOPinception.pdf (accessed October 20, 2006.).

Muller, Mike. 2002. How IWRM will contribute to achieving the MDGs. http://www.gwpforum.org/gwp/library/Policy_brief_4_MDGs.pdf (accessed May 15, 2007.).

Nee, Meas. 1997. How can you know what is right for the village. *Watershed People's Forum on Ecology* 2, (3) (June 1997), http://www.terraper.org/pic_water/Watershed%202(3).pdf (accessed October 20, 2006.).

Neurmann, Roderick P. 2005. *Making political ecology*. London: Hodder Education.

Newig, Jens and Gül Özerol. 2008. Evaluating the success of public participation in water resources management: Five key constituents. *Water Policy* 10, (6): 635-655.

Newman, Janet, Helen Sullivan, and Andrew Knops. 2004. Public participation and collaborative governance. *Journal of Social Policy* 33, (2): 203-223.

Nguyen, Quang M. 2003. *Hydrologic effects of china's upper Mekong dams on the lower Mekong river.* Hanoi, Vietnam: MekongRiver.org, http://www.mekongriver.org/publish/qghydrochdam.htm (accessed March 20, 2005.).

Oakley, Peter. et al. 1991. *Projects with People—The practice of participation in rural development:* Geneva: International Labour Office.

O'Connor, Martin, ed. 1994. *Is Capitalism sustainable? Political economy and the politics of ecology*. New York: Guilford Press.

Ong, Aihwa. 2006. *Neoliberalism as exception: Mutations in citizenship and sovereignty*. Durham and London: Duke University Press.

Osborne, Milton. 2000. The strategic significance of the Mekong. *Contemporary Southeast Asia Journal: A Journal of International Strategic Affairs* 22, (426): 429-444.

Pahl-Wostl, Claudia. 2002. Participative and stakeholder-based policy design, evaluation and modeling processes. *Integrated Assessment* 3, (1): 3-14.

Palys, Ted. 2003. *Research decisions: Quantitative and qualitative perspectives*. Scarborough, Canada: Nelson Thomson Ltd.

Pangare, Vasudha, Ganesh Pangare, Viraj Shah, B. R. Neupane, and P. Somasekhar Rao. 2006. *Global perspectives on integrated water resource management*. New Delhi: Academic Foundation.

Patton, Michael Quinn. 1990. *Qualitative evaluation and research methods*. Newbury Park, California: Sage Publications.

Peet, Richard, and Michael Watts. 2004. *Liberation ecologies: Environment, development and social movements*. New York, London: Routledge.

Pham, Chi Do. 2004. Economic reforms in a transition country: The recurring experience of Laos. *Juth Pakai: New Thought, Perspectives on Lao Development* (3): 6-16.

Phanvilay, Khamla, Noukone Onevattana, and Soutsada Chanthasiri. 2004. *RRA report on the profile of Nam ou watershed, Phongsaly province: Watershed profile.* Regional Environmental Technical Assistance 5771 Poverty Reduction & Environmental Management in Remote Greater Mekong Subregion Watersheds Project (Phase I), http://www.mekonginfo.org.proxy.lib.uwaterloo.ca/mrc_en/doclib.nsf/0/4A832C8E1F532109C72568380017AA7F/$FILE/FULLTEXT.html#part3 (accessed October 20, 2006.).

Pholsena, Sommano, and Daovong Phonekeo. 2004. Lao hydropower potential and policy in the GMS context. Paper presented at United Nations Symposium on Hydropower and Sustainable Development, Beijing, China.

Pigram, John J. 2000. Towards upstream-downstream hydrosolidarity: Australia's Murray-Darling river basin. *Water International* 25, (2): 222-226.

Poolman, Martine, and Van de Giesen, Nick. 2006. Participation: Rhetoric and reality. the importance of understanding stakeholders based on a case study in upper east ghana. *International Journal of Water Resource Development* 22, (4) (December 2006): 561 - 573.

Poulsen, Anders. 2003. Floods are vital for fisheries. *Catch and Culture.*

Pretty, Jules, and Hugh Ward. 2001. Social capital and environment. *World Development* 29, (2): 209-227.

Raco, Mike, and John Flint. 2001. Communities, places and institutional relations: Assessing the role of area-based community representation in local governance. *Political Geography* 20, (5) (June, 2001): 585-612.

Rahaman, Muhammad Mizanur, Olli Varis, and Tommi Kajander. 2004. EU water framework vs. integrated water resource management: The seven mismatches. *International Journal of Water Resource Development* 20, (4): 565 - 575.

Rasmussen, Erik Stavnsager, Per Østergaard, and Suzanne C. Beckmann. 2006. *Essentials of social science research methodology* . Odense: University of Southern Denmark.

Resurreccion, Bernadette P. 2006. Rules, roles and rights: Gender, participation and community fisheries management in Cambodia's Tonle Sap Region. *International Journal of Water Resource Development* 22, (3): 433-447.

Revenga, Carmen, Janet Nackoney, Eriko Hoshino, Yumiko Kura, and Jon Maidens. 2003. Water resources eAtlas: Watersheds of the world CD. in IUCN, IWMI, Rasmar Convention Bureau and WRI [database online]. Washington, D.C. (accessed October 20, 2006.).

Ribot, Jesse C. 2004. *Waiting for democracy: The politics of choice in natural resource decentralization*. Washington: World Resource Institute.

Rigg, Jonathan. 2005. *Living with transition in Laos: Market integration in Southeast Asia*. New York: Routledge.

Robbins, Paul. 2004. *Political ecology: A critical introduction*. Oxford: Blackwell Publishing Ltd/Inc.

———. 2003. Political ecology in political geography. *Political Geography* 22, (6) (August, 2003): 641-5.

Robertson, Roland. 1995. Glocalization: Time-space and homogeneity-heterogeneity. In *Global modernities.*, eds. Mike Featherstone, Scott Lash and Roland Robertson. London: Sage.

Romagny, Laurent. 2005. Resettlement: An alternative for upland development? Paper presented at Property Reduction and Shifting Cultivation Stabilization in the Uplands of Lao PDR: Technologies, Approaches and Methods for Improving Upland Livelihood, Luang Prabang, Lao PDR.

Rosenbaum, Helen. 2002. *The Mekong River Commission Steps Towards a Public Participation Strategy*. Report. Mekong River Commission: Phnom Penh.

Rowlands, Jo. 2003. Beyond the comfort zone: Some issues, questions, and challenges in thinking about development approaches and methods. In *Development methods and approaches: Critical reflections.*, ed. Deborah Eade. Oxford, UK: Oxfam.

Sadoff, Claudia W., and David Grey. 2002. Beyond the river: The benefits of cooperation on international rivers. *Water Policy* 4, (5) (2002): 389-403.

Sahil, Kamal, ed. 1998. *African theatre for development: Art for self-determination*. Bristol, UK: Intellect Ltd.

Sayer, Andrew. 1999. Long live postdisciplinary studies! Sociology and the curse of disciplinary parochialism/imperialism. Paper presented at Presented at the British Sociological Association Conference, Lancaster, Britain, http://www.comp.lancs.ac.uk/sociology/papers/Sayer-Long-Live PostdisciplinaryStudies.pdf (accessed January 20, 2006.).

Schumann, Gunda, Pheuiphanh Ngaosrivathana, Bouakham Soulivanh, Somboun Kenpraseuth, Khamdeng Onmanivong, and Khamthanh Vongphansipraseu. 2006. *Study on state land leases and concessions in Lao PDR land policy study no. 4 under LLTP II.* Vientiane, Lao PDR: Lao-German Land Policy Development Project, 04.

Selman, Paul. 2004. Community participation in the planning and management of cultural landscapes. *Journal of Environmental Planning and Management* 47, (3) (May 2004): 365-392.

Seppälä, Osmo T. 2002. Effective water and sanitation policy reform implementation: Need for systemic approach and stakeholder participation. *Water Policy* 4, (4) (2002): 367-88.

Sharma, Prem N., ed. 1997. *Participatory processes for integrated watershed management*. Kathmandu, Nepal: Participatory Watershed Management Training in Asia Program.

Shiva, Vandana. 1993. *Monocultures of the mind*. London: Zed Books.

Slater, David. 1993. The geopolitical imagination and the enframing of development theory. *Transactions of the Institute of British Geographers* 18, (4) (June 9, 1993): 419-43.

Slocombe, Scott. 2004. Chapter 15 Applying an Ecosystem Approach. In *Resource and environmental management: Addressing and uncertainty*, ed. Bruce Mitchell. Third ed. Toronto: Oxford University Press.

Smith, Michael Peter. 1998. Looking for the global spaces in local politics. *Political Geography* 17, (1) (January, 1998): 35-40.

Sokhem, Pech, and Kengo Sunada. 2008. Modern upstream myth: Is a sharing and caring Mekong region possible? In *Modern myths of the mekong: A critical review of water and development concepts, principles and policies.*, eds. Matti Kummu, Marko Keskinen and Olli Varis, 145-148. Finland: Water & Development Publications - Helsinki University of Technology.

———. 2006. The governance of the Tonle Sap Lake, Cambodia: Integration of local, national and international levels. *International Journal of Water Resource Development* 22, (3) (1 Sepetember 2006): 399-416.

Swyngedouw, Eric. 2000. Authoritarian governance, power, and the politics of rescaling. *Environment and Planning D: Society and Space* 18, (1) (9 May 1999): 63-76.

Takasaki, Yoshito, Bradford L. Barham, and Oliver T. Coomes. 2000. Rapid rural appraisal in humid tropical forests: An asset possession-based approach and validation methods for wealth assessment among forest peasant households. *World Development* 28, (11) (November, 2000): 1961-77.

Tapp, Nicholas. 2005. *Sovereignty and rebellion: The white Hmong of northern Thailand*. 2005th ed. Bangkok: White Lotus.

Tarlington, Nicholas, ed. 1999. *The Cambridge history of Southeast Asia*. Vol. Volume Four From World War II to the present. Cambridge: Cambridge University Press.

Thailand Development Research Institute (TDRI). 1998. *Towards Public Participation in Mekong River Basin Development.* Report 65. (September 1998) TDRI: Bangkok.

Thomas, Alan. 2003. NGOs' role in limiting national sovereignty over environmental resources of global significance: The 1990 campaign against the Southern

Okavango integrated water development project. *Journal of International Development* 15, (2) (March 2003): 215-29.

Turton, Anthony, Craig Schultz, Hannes Buckle, Mapule Kgomongoe, Tinyiko Malungani, and Mikael Drackner. 2006. Gold, scorched earth and water: The hydropolitics of Johannesburg. *International Journal of Water Resources Development* 22, (2): 313-335.

UNESCO. 2006. Chapter 11: Sharing water. In *The 2nd United Nations world water development report: "Water, a shared responsibility".* Vol. Section: Management Responses and Stewardship, 371-399. Paris and New York: UNESCO, Berghahn Books, http://www.unesco.org/water/wwap/wwdr/wwdr2/table_contents.shtml (accessed December 20, 2008.).

United Nations. Millennium development goals. in United Nations [Webpage online]. 2008
[accessed January 15 2009]. Available from http://www.un.org/millenniumgoals/.

———. 2006. *The 2nd United Nations World Water Development Report: "Water, a shared responsibility".* Paris and New York: UNESCO, Berghahn Books, http://www.unesco.org/water/wwap/wwdr/wwdr2/ (accessed December 20, 2008.).

———. 2002. *Development assistance framework (UNDAF) 2002-2006: The Lao people's democratic republic.* Vientiane, Lao PDR: United Nations, http://www.unlao.org/UN%20documents/Final%20Approved%20UNDAF%20Lao%20PDR%202002-2006.pdf.

———. 1992. *Agenda 21*. Online Document. http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm (accessed February 20, 2005.).

United Nations Development Programme. 2005. http://www.undplao.org/.

United Nations Development Programme, and International Fund for Agricultural Development. 2006. Chapter 2: The challenges of water governance. In *The 2nd United Nations world water development report: "water, a shared responsibility".* 45-84. Paris, New York: UNESCO; Berghann Books, http://www.unesco.org/water/wwap/wwdr/wwdr2/pdf/wwdr2_ch_2.pdf (accessed December 20, 2008.).

United Nations Lao People's Democratic Republic. UNDP Lao PDR. [Website]. 2009 Available from: http://www.undplao.org/ (accessed October 10, 2006.).

United Nations Population Fund. Other actors in population and reproductive health in Lao PDR. 2004. Available from http://lao.unfpa.org/othact.htm (accessed January 27, 2009.).

van Zalinge, Nicolaas, Deap Loeung, Ngor Pengbun, Juha Sarkkula, and Jorma Koponen. 2003. Mekong flood levels and Tonle Sap fish catches. Paper presented at Second International Symposium on the Management of Large Rivers for Fisheries, Phnom Penh.

Vander Zanden, Jos. 2006. *Analysis of civil society in Lao PDR.* Vientiane, Lao PDR: DED (Deutsche Entwicklungsdienst). Online report.

Varis, Olli, Matti Kummu, and Marko Keskinen. 2006. Editorial. *Water Resources Development* 22, (3) (September 2006): 395.

Vayda, Andrew P., and Bradley B. Walkers. 1999. Commentary: Against political ecology. *Human Ecology* 27, (1): 2539- 2543.

Vitranen, Maarit. 2006. Foreign direct investment and hydropower in Lao PDR: The theun-hinboun hydropower project. *Corporate Social Responsibility and Environmental Management* 13, (4) (25 October 2006): 183 – 193.

Vogler, John. 2005. Chapter 11 in Defense of International Environmental Cooperation. In *The state and the global ecological crisis.* Eds. Robyn Eckersley, John Barry. Cambridge: MIT Press.

Walker, Andrew. 2003. Agricultural transformation and the politics of hydrology in northern Thailand. *Development and Change* 34, (5): 3-35.

———. 2001. Introduction: Simplification and the ambivalence of community. *The Asian Pacific Journal of Anthropology* 2, (2) (September 2001): 1-20.

———. 1999. *Legend of the golden boat: Regulation, trade and traders in the borderlands of Laos, Thailand, China, and Burma*. Honolulu: University of Hawaii Press.

Walker, Peter A. 2006. Political ecology: Where is the policy? *Progress in Human Geography* 30, (3) (June 2006): 382-395.

———. 2005. Political ecology: Where is the ecology? *Progress in Human Geography* 29, (1) (February 2005): 73-82.

Warner, Jeroen. 2006. More sustainable participation? Multi-stakeholder platforms for integrated catchment management. *International Journal of Water Resources Development* 22, (1) (March 2006): 15-35.

Warner, Jeroen, P. S. Bindraban, and H. Van Keulen. 2006. Introduction: Water for food and ecosystems: How to cut which pie? *Water Resources Development* 22, (1) (March 2006): 3-13.

Weithman, Paul. 2005. Deliberative character. *Journal of Political Philosophy* 13, (3): 262-283.

Welch, Richard. 2002. Legitimacy of rural local government in the new governance environment. *Journal of Rural Studies* 18, (4) (October, 2002): 443-59.

Wescoat, James L., and Gilbert F. White. 2003. *Water for life: Water management and environmental policy*. Cambridge: Cambridge University Press.

White, Gilbert F. 1962. *Economic and social aspects of lower Mekong development; a report by Gilbert F. White [and others] to the committee for co-ordination of investigations of the lower Mekong basin.* Bangkok: 1962

World Bank. 2006. *World development indicators*, http://go.worldbank.org/RVW6YTLQH0.

———. 2004. *Water resource sector strategy: Strategic directions for World Bank engagement.* Washington, D.C.: World Bank, 28114.

World Bank Vientiane Office. 2006. *Lao PDR economic monitor.*

World Commission on Dams. 2000. *Dams and development: A new framework for decision-making.* London and Sterling, VA: Earthscan, http://www.dams.org/docs/report/wcdreport.pdf (February 20, 2005.).

World Health Organisation. Water, health and human rights. 2002. [Date Accessed Dec. 2008]. Available from http://www.who.int/water_sanitation_health/humanrights/en/index.html.

World Resource Institute. 2003. Water resource eAtlas: Watersheds of Asia and Oceania. in Water Resource Institute [database online]. Washington, D.C. [accessed October/15 2005]. Available from http://earthtrends.wri.org/maps_spatial/watersheds/index.php.

World Water Council. 2006. *4th World Water Forum Synthesis.* Mexico: Comicion Nacional Agua. Available from http://watercouncil.org/fileadmin/wwc/World_Water_Forum/WWF4/synthesis_sept06.pdf (accessed October 20, 2007.).

———. 2000. *World water vision commission report. A water secure world: Vision for water, life, and environment.* Paris: World Water Council,

http://www.worldwatercouncil/fileadmin/wwc/Library/Publications_and_reports/Visions/CommissionReport.pdf.

World Wildlife Fund. 2006. *Integrated water resources management and food security for the kafue basin.* http://www.panda.org/about_wwf/where_we_work/africa/where/zambia/projects/index.cfm?uProjectID=ZM0042.

Yin, Robert K. 2003. *Case study research: Design and methods*. Third ed. London: Sage Publications.

Zimmerer, Karl S., and Thomas J. Bassett. 2003. *Political ecology: An integrative approach to geography and environment development studies*. London: Guilford Press.