

การใช้กรอบวิเคราะห์ด้านความมั่นคงของมนุษย์ในการประเมินผลกระทบการสร้างเขื่อน  
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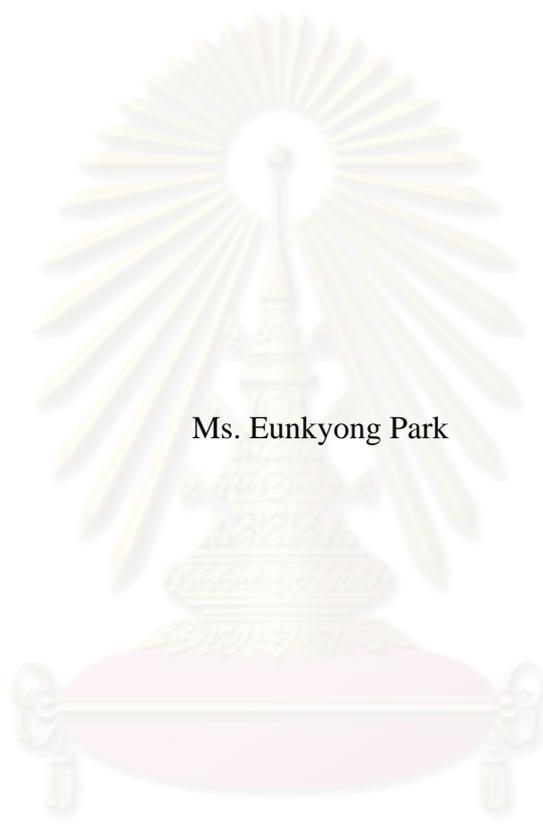


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ศูนย์วิทยพัทยากร  
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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต  
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APPLICATION OF THE HUMAN SECURITY FRAMEWORK  
TO THE IMPACT ASSESSMENT OF  
SAMBOR DAM PROJECT IN CAMBODIA



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A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts Program in International Development Studies

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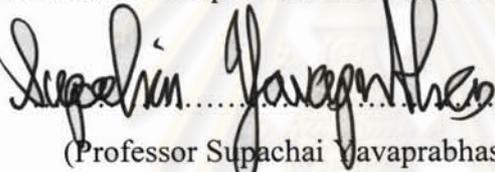
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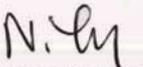
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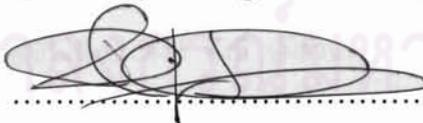
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อินของ ปาร์ก:การใช้กรอบวิเคราะห์ด้านความมั่นคงของมนุษย์ในการประเมินผลกระทบการสร้างเขื่อน  
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แม้ว่ามีการกล่าวถึงกรอบแนวคิดความมั่นคงของมนุษย์ในระยะหลายปีที่ผ่านมา แต่ความพยายาม  
ในการนำกรอบแนวคิดนี้มาใช้ในโครงการพัฒนาที่เกิดขึ้นจริงยังไม่แพร่หลายนัก ทั้งนี้ แม้ว่าการประเมินผล  
กระทบด้านความมั่นคงของมนุษย์ (Human Security Impact Assessment-HSIA) ได้กลายเป็นเครื่องมือใหม่  
ในการวัดผลประโยชน์ที่จะได้รับจากโครงการพัฒนาทั้งหลายในแนวทางแบบบูรณาการโดยใช้กรอบคิดความ  
มั่นคงของมนุษย์ แต่การประเมินผลกระทบด้านความมั่นคงของมนุษย์ยังไม่ได้มีการนำไปใช้อย่างกว้างขวางใน  
ปัจจุบัน และยังไม่มีมีการนำไปใช้ประเมินโครงการเขื่อน หรืออันที่จริงแล้วยังไม่เคยมีการวิเคราะห์ผลกระทบ  
โครงการเขื่อนขนาดใหญ่โดยใช้กรอบความมั่นคงมนุษย์มาก่อนในการศึกษาวิจัยนี้ไม่ได้มุ่งทำการประเมินผล  
กระทบด้านความมั่นคงของมนุษย์ แต่เป็นความพยายามทดสอบว่าการใช้การประเมินผลกระทบด้านความ  
มั่นคงของมนุษย์มีความเป็นไปได้และเป็นประโยชน์ในโครงการเขื่อนดังกล่าวหรือไม่ ในการประเมินผลกระทบ  
ด้านความมั่นคงของมนุษย์ให้ประสบผลสำเร็จและเกิดประโยชน์นั้น จะประกอบด้วยสิ่งจำเป็นหลักสามด้าน:  
ความสามารถในการระบุสถานการณ์ความมั่นคงมนุษย์ในปัจจุบันของชุมชนเป้าหมาย; ความสามารถในการ  
คาดการณ์ผลกระทบที่เป็นไปได้ในโครงการพัฒนาในประเด็นความมั่นคงของมนุษย์ในชุมชน; และการรับรอง  
สนับสนุนให้ผู้มีส่วนได้ส่วนเสียใช้การประเมินผลกระทบด้านความมั่นคงของมนุษย์

กลุ่มเป้าหมายในการวิจัย คือชุมชนสี่ชุมชนในจังหวัดซัมบอร์ ประเทศกัมพูชา ซึ่งเก็บข้อมูลโดยการ  
สัมภาษณ์เพื่อหาระดับสถานะความมั่นคงของมนุษย์ ผู้ให้สัมภาษณ์คือผู้มีส่วนได้ส่วนเสียนอกชุมชน อาทิ  
องค์กรพัฒนาเอกชน หน่วยงานภาครัฐ และองค์กรระหว่างประเทศ เพื่อวัดระดับความเข้าใจและการรับรู้ต่อ  
ชุมชนซัมบอร์และโครงการเขื่อน นอกจากนี้ เพื่อคาดการณ์ว่าการประเมินผลกระทบด้านความมั่นคงของมนุษย์  
มีความเป็นไปได้ที่จะนำมาใช้ในโครงการเขื่อนตามที่กล่าวมา งานวิจัยนี้แสดงให้เห็นว่ามีความเป็นไปได้และ  
เป็นประโยชน์ในการนำการประเมินผลกระทบด้านความมั่นคงของมนุษย์ มาใช้ในโครงการเขื่อนซัมบอร์ เพราะ  
สามารถช่วยให้ผู้มีส่วนได้ส่วนเสียเห็นถึงผลกระทบรอบด้านมากขึ้น เพื่อนำไปสู่การออกแบบโครงการที่ดีกว่า  
อันเป็นการลดผลลัพธ์ที่ไม่พึงประสงค์ ทั้งนี้ ผู้มีส่วนได้ส่วนเสียจะมีข้อมูลและความเข้าใจที่เพียงพอ เมื่อมีการ  
สังเคราะห์ร่วมกันในการนำการประเมินสถานการณ์ความมั่นคงมนุษย์มาใช้ในพื้นที่ศึกษา และมองเห็นความ  
เปลี่ยนแปลงที่เกิดขึ้นล่วงหน้าจากโครงการที่มีต่อความมั่นคงมนุษย์ เมื่อโครงการแล้วเสร็จ อย่างไรก็ตามในการ  
นำการประเมินผลกระทบด้านความมั่นคงของมนุษย์มาใช้ให้เกิดผลสำเร็จนั้น ต้องมีการหยิบยกข้อจำกัดและ  
อุปสรรคมาพิจารณา รวมถึงการขาดแคลนทรัพยากรและแรงจูงใจในการแบ่งปันข้อมูลร่วมกัน

สาขาวิชา การพัฒนาระหว่างประเทศ  
ปีการศึกษา 2553

ลายมือชื่อผู้เขียน.....  
ลายมือชื่อที่ปรึกษาวิทยานิพนธ์..... C. Meddell

## 5181025524: MAJOR: INTERNATIONAL DEVELOPMENT STUDIES  
KEYWORDS: HUMAN SECURITY IMPACT ASSESSMENT/SAMBOR/  
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EUNKYONG PARK: APPLICATION OF THE HUMAN SECURITY  
FRAMEWORK TO THE IMPACT ASSESSMENT OF SAMBOR DAM  
PROJECT IN CAMBODIA: THESIS PRINCIPAL ADVISOR: CARL  
MIDDLETON, Ph.D., 171 pp.

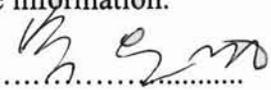
Although the Human Security (HS) framework has been proposed for quite some years now, attempts to apply the framework to actual developmental projects haven't been widespread. The concept of a Human Security Impact Assessment (HSIA) is emerging as a new tool to determine the costs and benefits of development projects in a multi-disciplinary way using the Human Security framework, although the HSIA has not been used extensively to date and has never been used to evaluate a dam project. In fact, the range of costs and benefits of large dams have never been analyzed using the Human Security framework.

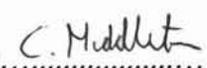
This study does not attempt to *do* a HSIA, but it is an attempt to test whether it is feasible to use the HSIA tool for a proposed dam project, and also asks whether it would be useful to do so. For a successful and useful HSIA, the study considers that there are three mandatory pre-requisites to be met, namely: being able to determine the current human security situation of the target community; being able to predict the potential impacts of the development project on the community's human security; and the endorsement and support of stakeholders to undertake a HSIA

4 villages in Sambor, Kratie province in Cambodia were interviewed to measure the current HS status. Also, the external stakeholders such as NGOs, Governmental agencies and International organizations were interviewed to find out their current understanding and perception on Sambor community and the proposed Sambor dam, and to anticipate whether a HSIA would be possibly conducted for the Sambor dam project.

This study demonstrates that it is possible and would be useful to undertake a HSIA for the Sambor dam project because it will help stakeholders to see the impacts in a more holistic way and to design better projects with a decreased possibility of unfavorable consequences. There certainly is enough information and knowledge existing from the all stakeholders if they are synthesized together to undertake an assessment of the current human security situation in the Sambor area and to anticipate the changes to human security if the proposed Sambor dam is built. However, for a successful HSIA, the current limitations and barriers should be addressed including lack of resources and lack motivation to share information.

Field of Study: International  
Development Studies  
Academic year 2010

Student's signature: 

Advisor's signature: 

## ACKNOWLEDGEMENTS

During my first travel to South East Asia in 1998, I spent one beautiful day with three little Cambodian boys in the Angkor Wat. The experience made me to think about the future of the children in developing countries and to consider working in a developmental field. Accordingly, I feel grateful and happy to have this opportunity to learn more about the lives of Cambodians.

I have learnt a great deal from the experiences that I've had for this thesis. Thus, I would like to express my appreciation to the people who helped me during the process.

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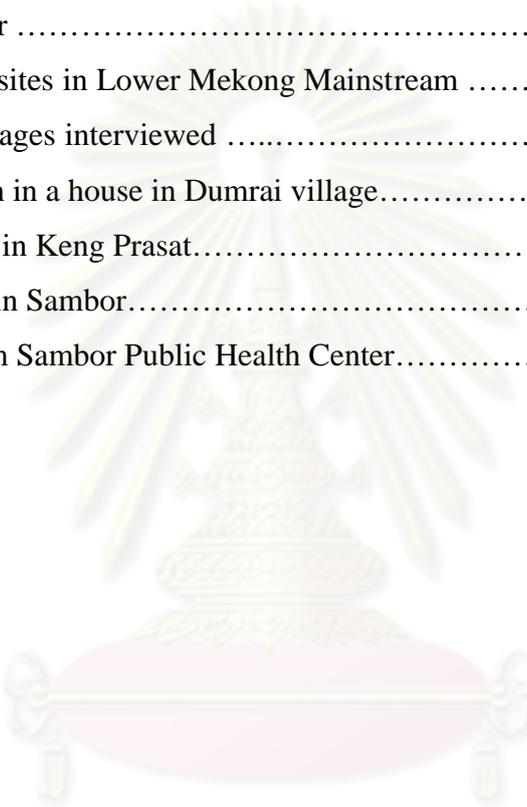
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 ศูนย์วิทยุทรัพยากร  
 จุฬาลงกรณ์มหาวิทยาลัย

## LIST OF ABBREVIATIONS

<b>ADHOC</b>	Cambodian Human Rights and Development Association
<b>AFH</b>	Action for Health
<b>AIFP</b>	Agriculture, Irrigation, and Forestry Program
<b>AIT</b>	Asia Institute of Technology
<b>BSDA</b>	Buddhism and Society Development Association
<b>CBO</b>	The concept of community based tourism
<b>CBT</b>	Community Based Tourism
<b>CED</b>	Cambodia Economic Development
<b>CEFAC</b>	Commune Education For All Community
<b>CRDT</b>	Cambodia Community Rural Development Team
<b>CSG</b>	China Southern Power Grid Company
<b>DMP</b>	Drought Management Program
<b>DOTS</b>	Direct Observation Treatment Short-course
<b>EIA</b>	Environmental Impact Assessment
<b>ESCUP</b>	Education Support Community Urban Project
<b>FACT</b>	Fisheries Action Coalition Team
<b>FMMP</b>	Flood Management and Mitigation Program
<b>FP</b>	Fisheries Program
<b>GB</b>	Great Britain
<b>GPA</b>	Grade Point Average
<b>HSIA</b>	Human Security Impact Assessment
<b>IBECP</b>	Improve Basic Education in Cambodia Project
<b>IUCN</b>	International Union for the Conservation of Nature
<b>JC</b>	Joint Committee
<b>KAPE</b>	Kampuchaea Action for Primary Education
<b>KOICA</b>	A South Korean governmental Aid agency
<b>MDTP</b>	Mekong Discovery Trail Project
<b>MIME</b>	Ministry of Industry, Mines and Energy
<b>MOU</b>	Memorandum of Understanding

<b>MRC</b>	Mekong River Commission
<b>MRD</b>	Ministry of Rural Development
<b>NGO</b>	Non Governmental Organization
<b>NSDP</b>	National strategy development plan
<b>OSP</b>	Office of Secretariat in Phnom Penn
<b>OSV</b>	Office of Secretariat in Vientiane
<b>P-FHAD</b>	Partners For Health And Development
<b>PFD</b>	Partner For Development
<b>SEA</b>	Strategic Environmental Assessment
<b>SFL</b>	School For life
<b>SNV</b>	Stichting Nederlandse Vrijwilligers
<b>TB</b>	Tuberculosis
<b>VCCT</b>	Voluntary Confidential Counseling Test
<b>WAP</b>	Wetland Alliance Program
<b>WWF</b>	World Wildlife Fund for Nature



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## CHAPTER I

### INTRODUCTION

Located on the mainstream Mekong between the southern border of Laos and Tonle Sap Lake in Cambodia, the Sambor district in Kratie province, Cambodia is an important area for fisheries, endangered Irrawaddy dolphin and many other biodiversity, and is a path for migratory fishes which is a critical source of food both in Sambor and in other part of the country. The Cambodian government has a plan to build a hydropower dam in Sambor district in pursuing more electricity for the nation's economic growth.

Although the Human Security (HS) framework has been proposed for quite some years now, attempts to apply the framework to actual developmental projects haven't been widespread. The concept of a Human Security Impact Assessment (HSIA) is emerging as a new tool to determine the costs and benefits of development projects in a multi-disciplinary way using the Human Security framework, although the HSIA has not been used extensively to date and has never been used to evaluate a dam project. In fact, the range of costs and benefits of large dams have never been analyzed using the Human Security framework.

This study is an attempt to test whether it is feasible to use the HSIA tool for a proposed dam project, and, if so, whether it would be useful to do so. This study does not attempt to *do* a HSIA, which is beyond the time and other resources available. In other words, this study tries to answer the question, "With the information currently available from the local community and external stakeholders, is it possible and would it be useful to undertake a Human Security Impact Assessment for the proposed Sambor Dam project, Kratie Province, Cambodia?" For a successful and useful HSIA, the study considers that there are three mandatory pre-requisites to be met, namely: being able to determine the current human security situation of the target community; being able to predict the potential impacts of the development project on the community's human security; and the endorsement and support of stakeholders to undertake a HSIA (section 1.5.3). Therefore, the study seeks to explore whether the

potential exists to fulfill each of these three mandatory requirements and therefore whether it would be possible (with significantly more human and other resources) to undertake a HSIA.

The thesis is composed of seven chapters. Chapter 1 describes the design of the research, and chapter 2 reviews the previous literatures on HS, HSIA and hydropower dams. To determine if it is possible to apply the HS framework itself, the current HS status in the target area is examined in chapter 3, and in chapter 4 the external stakeholders work in the Sambor area is described and their understanding on the potential impacts of the Sambor dam summarized. Then, in chapter 5, those anticipated impacts by the external stakeholders examined in chapter 4 will be analyzed with the HS framework to see the potential changes in each security aspect and to measure the availability and the gap of the existing knowledge.

Using the information and the analysis in chapters 3 to 5, chapter 6 evaluates each of the pre-requisites that are necessary to undertake a successful HSIA (mentioned above) in the case of the Sambor Dam project (see Figure 1.1), and identifies the current barriers to undertaking a successful HSIA in Sambor, as well as offering recommendations for next steps. Chapter 7 offers a response to the research question and some conclusions of the study.

### **1.1 Statement of the Problem**

The Human Security framework has gained a lot of attention since its birth in 1994 (Gasper, 2005). Globalization has made a huge impact on peoples' mindset, such that security nowadays cannot be taken to just mean 'national security' as traditionally defined by International Relations studies as between countries and with a military focus. Instead, security must increasingly be refocused towards the 'individual' and the 'community,' as emphasized by the Human Security paradigm.

Whilst interest in the Human Security Framework has been growing, an agreed understanding of the concept has yet to be found. Nor has the concept become

fully endorsed by groups such as academics, civil society or governments, or widely applied in practice. Since Human Security tries to look at incidents or developmental programs in a more holistic and multi-disciplinary way, it is not surprising that more time is required to attain consensus on a precise definition of the framework – if it is possible at all. However, a lack of consensus on the definition shouldn't prevent practitioners from attempting to apply the concept in practice to gather experience, even in a pilot-project form.

As development is considered to equal economic growth in most places, the logic of a nation's economic growth in many cases is given priority over recognition of individual's well-being and rights. Many developmental projects have been conducted throughout the world both in developing and developed countries intended to further economic growth. In this context, the human security framework potentially has a significant role to play today for both individuals and community to safeguard local interests in cases where macro-economic development threatens to override them in the name of national interest. Whilst in theory there should not be any objection to the argument that individuals' rights and security must be secured, unfortunately in practice there hasn't been much effort to test whether the human security framework can be used as a useful tool to implement and evaluate developmental programs.

Since 2006, the Mekong countries, namely Vietnam, Laos, Cambodia and Thailand, have become increasingly enthusiastic about building hydropower dams on the lower Mekong River's mainstream, and eleven are presently proposed (Lee and Scurrah, 2009). The Sambor hydropower dam, located in Kratie Province, Cambodia is one of these dams and in this thesis will be used as a case study.

In Cambodia, national economic growth is the top priority of the government. In the context of securing electricity supply, taking advantage of the country's abundant water resources to generate hydroelectricity has been promoted by the government following the reasoning that urbanization and industrialization require

more domestic electricity, and surplus hydropower can be exported to Thailand and Vietnam to earn foreign currency (International Rivers and RCC, 2008). Yet, hydropower also has hidden potential costs to the environment and the people affected. As such, proposals to build the Sambor Dam project have proven controversial.

To date, impact assessments for proposed dam constructions on the Mekong River's mainstream haven't considered the full range of potential costs and benefits of the projects by utilizing a framework that is more holistic and multi-dimensional. For example, most emphasis has been placed on fishery and resettlement issues, while many other issues are left untouched, such as threats to personal, political, and health security (ICEM, 2010). In this regard, the Human Security framework can help broaden the scope of impact assessment from a more holistic perspective, and help identify the range of changes to peoples' lives, impacts to the environment, and the opportunities and costs if the dam were to be built.

There are many factors to be considered other than economic benefits when making decisions on development projects. The Human Security framework raises a number of these issues, which can be categorized as: economic, food, health, environmental, personal, community and political security. Although academically a lot of effort has been used to develop the Human Security framework, the majority of external stakeholders, such as non-government organizations and government agencies, are unaware of the framework. In the case of the Sambor project, for example, external stakeholders tend to focus on their specific sector of expertise, such as conservation projects or community development, but have a lot of information available on that sector.

Furthermore, until now there have only been a few attempts to test whether the existing concept of Human Security is an appropriate methodology and a useful tool to measure potential impacts on people and environment at a project-level (see section 2.2.4). As such, whilst a Human Security Impact Assessment (HSIA) could be a useful tool that uses a wider lens to evaluate development programs, an authoritative

methodology on how to conduct HSIA is yet to emerge. The UN Office for the Coordination of Humanitarian Affairs has however recently launched a handbook on using HSIA at a program level, which represents a first attempt at operationalizing HSIA (UNOCHA, 2009).

Therefore, recognizing that there hasn't been a try yet to figure out whether the HS framework itself and the Human Security Impact Assessment tool recently developed are useful to measure the potential costs and benefits of a developmental project, this research focuses on determining whether sufficient information and interest exists amongst stakeholders to apply the HSIA tool. It does not try to comprehensively undertake a HSIA, or fully quantify the impacts of the Sambor Dam using a HS framework.

In other words, titled as "Application of the Human Security Framework to the Impact Assessment of the Sambor Dam Project in Cambodia," this study aims to test whether the Human Security concept has the potential to be used as a framework for decision-making on whether the Sambor dam project should proceed, by taking into account the multiple-dimensions of costs and benefits of the project from a Human Security perspective.

## **1.2 Research Questions**

### **Main question**

With the information currently available from the local community and external stakeholders<sup>1</sup>, is it possible and would it be useful to undertake a Human Security Impact Assessment (HSIA) for the proposed Sambor Dam project, Kratie Province, Cambodia?

### **Sub-questions**

- What is current human security situation for the communities potentially

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<sup>1</sup> I define "External Stakeholders" as local and national government agencies, non-government organizations (NGOs), and international organizations. Internal Stakeholders are the community themselves whose Human Security is directly affected by the proposed Sambor Dam project.

affected by the Sambor Dam project?

- What information do external stakeholders currently have about the Sambor area and the potential impacts of the dam?
- To what extent is the human security of communities potentially affected by the Sambor Dam threatened by the project? What information needed to undertake a HSIA is available and what information is missing?

### **1.3 Objectives**

To fulfill the research question, the objectives of this study are;

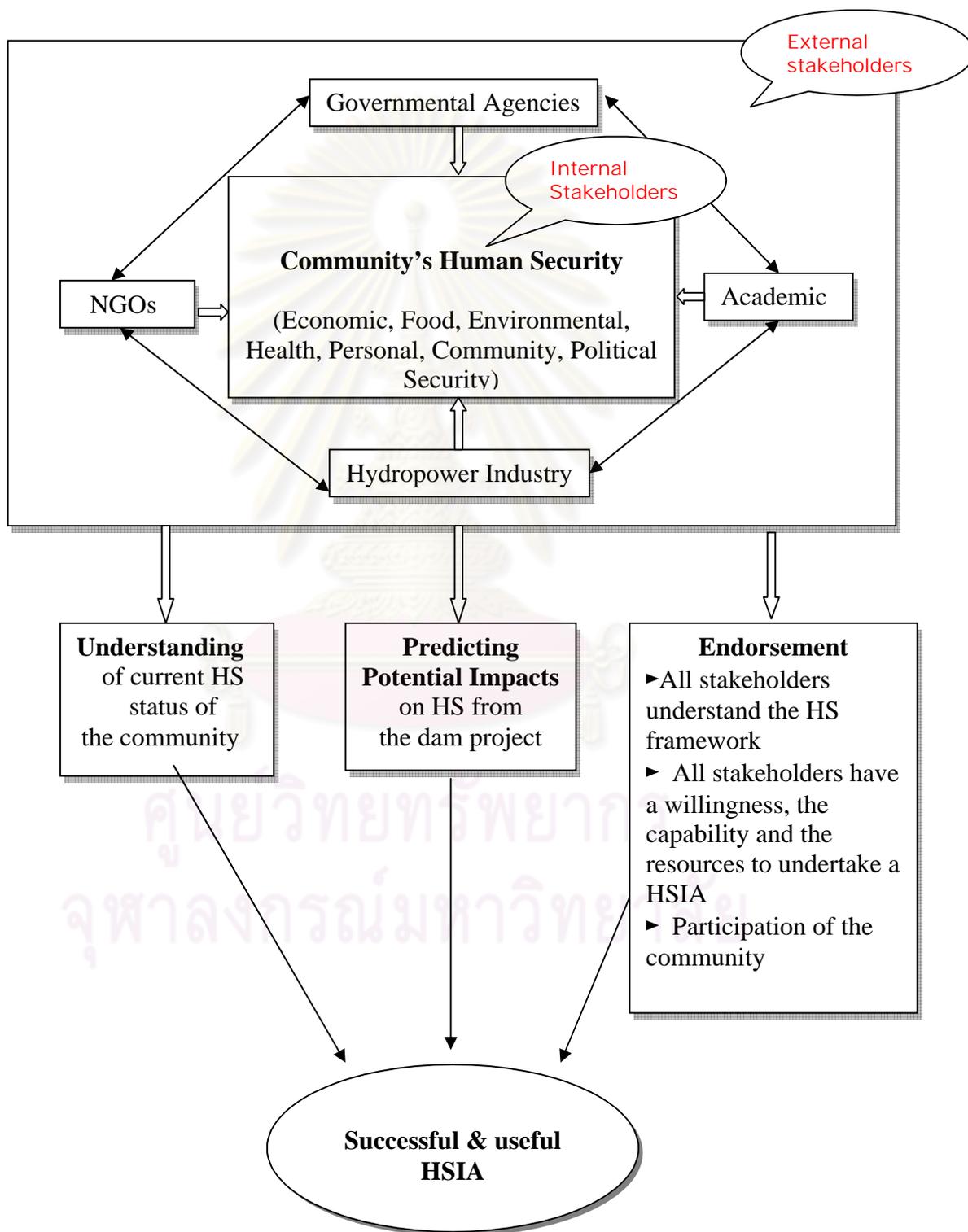
- To measure the current Human Security situation of communities living in the Sambor area.
- To determine external stakeholders' knowledge of the Sambor area and their predictions for the impacts of the dam, and to evaluate the completeness of this knowledge from a human security framework perspective.
- To predict how human security is threatened or reinforced by the Sambor Dam, and to determine whether, with the information available, it is possible to undertake a HSIA.

### **1.4 Hypothesis**

The proposed Sambor Dam project will affect the human security of local communities, as well as those further away. It is possible to understand the local community's current human security condition and the potential impacts of the dam on their human security by combining field-based research in the community with the existing knowledge of external stakeholders. A Human Security Impact Assessment (HSIA) will prove a useful tool to measure these potential impacts and evaluate if the project is a good development option. Yet, in order to successfully undertake a HSIA, there must be sufficient *endorsement* by stakeholders, meaning that all stakeholders must understand the human security framework, have a willingness to use it, and also have the capacity in terms of expertise, human resources and financial resources.

## 1.5 Conceptual Framework

<Figure 1.1: Diagram of Successful HSIA>



### 1.5.1 Communities' Human Security

The Human Security framework will be applied as the theoretical framework to evaluate the security of current living conditions of the potentially affected local community, and the costs and benefits of the proposed Sambor Dam from. It covers seven areas of security, namely: Economic; Food; Health; Environmental; Personal; Community (Identity); and Political security.

I take the definition and indicators of each security as:

- **Economic Security** is "the condition of having a stable income or other resources (non-monetary, social safety net) to support a standard of living now and in the foreseeable future." It is measured by household income (level of income, access to social safety nets, reliability of incomes, sufficiency of incomes, standard of living) and employment (share of employed/unemployed, risk of joblessness, protection against unemployment).
- **Food security** exists when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1996). Availability and supply of food, access to basic food, quality of nutrition, share of household budget for food and access to food during natural/man-made disasters will be used as indicators.
- **Health security** is secured when people are "protected from poor nutrition or an unsafe environment that might cause diseases or unfavorable health conditions"(UNDP, 1994). Access to safe water, living in a safe environment, risk from exposure to illegal drugs, access to housing (shelter from natural elements), accessibility to healthcare systems (physical & economic), quality of medical care, prevention of HIV/AIDS and basic awareness and knowledge on healthy lifestyles are the main measurements.
- **Environmental Security** requires "a healthy environment for ensuring one's physical well-being from environmental threats"(UNDP, 1994). Assessment of presence of pollution of water and air, prevention of deforestation, land

conservation and desertification, concern on environmental problems, ability to solve environmental problems, protection from toxic and hazardous wastes and natural hazard mitigation will be taken into consideration.

- **Personal security** demands "prevention from physical violence" (UNDP, 1994) and can be measured by fear of violence, prevention of accidents, level of crime, efficiency of institutions, prevention of harassment and gender violence and prevention of domestic violence and child abuse.
- **Community security** means "protection from unfavorable traditional practices such as discrimination against women or indigenous groups and ethnic violence or conflicts," (UNDP, 1994). Fear of multiregional conflicts, fear of internal conflicts, conservation of traditional/ethnic cultures, languages and values, abolishment of ethnic discrimination and protection of indigenous people are the indicators.
- **Political security** is "protection of the individuals' basic human rights by the society in which they live" (UNDP, 1994). The indicators that will be measured are protection against state repression, abolishment of political detention, imprisonment, systematic torture, ill treatment and disappearance.

### 1.5.2 Actors involved and their interaction

I divide the stakeholders of the Sambor dam project into two categories: internal and external. The communities living in the Sambor area are considered to be internal stakeholders, and the main external stakeholders of the Sambor dam project can be divided into five groups; 1) Government agencies, 2) the dam developer (China Southern Power Grid Company), 3) non-government organizations (NGOs), 4) Academia and 5) International Organizations. These external actors interact with the community through projects, initiatives and other means to either reinforce or undermine the communities' human security; however, it doesn't mean that these external stakeholders currently conceptualize their work according to the human security framework itself.

- **Governmental agencies** mainly work for promoting national interests and ensuring the wellbeing of the population. The work of Government agencies

covers some aspects of Human Security, such as Environment, Economic, Political and Food security.

- The **Hydropower industry** focuses more on the benefits that will strengthen economic security at the national level through electricity generation, although the large Foreign Direct Investment of a dam construction also represents an economic boost for the country. Since the Sambor dam's proponent is a private sector company, its primary goal is to pursue profit through the project.
- **NGOs** play a critical role in protecting securities mainly at the community level. The security covered vary according to their field of working; conservational NGOs put emphasis on environmental and food security, developmental NGOs on economic, health and food securities, and human rights NGOs on personal and political security.
- **Academic scholars** try to balance often contradictory positions, including between the security of the nation and the security of individuals. Yet, their analysis and theories can be hard to be adopted in practice.
- **International organizations** work for some areas of human security related to their organizational mission. For example, the UNEP works for environmental security and the FAO covers food security. Although International organizations don't have the power to change a government's policy directly, they certainly have symbolic and representative image of global society, and are sometimes be in a better position than NGOs to draw public and governments' attention to key issues that could include the need to promote Human Security.

### 1.5.3 Undertaking a Human Security Impact Assessment (HSIA)

Although the Human Security framework has been proposed for over a decade now, attempts to apply the framework to actual developmental projects haven't been widespread. A first attempt at this initiative has been made by the Human Security Unit of the UN Office for the Coordination of Humanitarian Affairs (UNOCHA). The Unit recently published a handbook titled "Human Security in Theory and Practice: Application of Human Security Concept and the United Nations Trust Fund for

Human Security” (UNOCHA, 2009). The handbook attempts to provide guidance for development practitioners to help understand the human security framework, and to develop, implement and evaluate programs using it.

For a successful and useful HSIA, taking consideration of the UNOCHA’s handbook, there are three mandatory requirements to be met:

- **Understanding the current Human Security situation of the target community:** With appropriate information about the target community a holistic picture of the community’s current Human Security situation can be drawn. This information is available by undertaking research in the community and from external stakeholders’ analysis (see appendix A).
- **Predicting the potential impacts of a particular development intervention on the community's Human Security (in this study’s case, a hydropower dam project):** Information collected from external stakeholders and a review of the literature from previous experience can help anticipate potential impacts (cost and benefits) of the dam project using the Human Security framework.
- **“Endorsement” by stakeholders:** Although being able to understanding the current human security situation of the local communities and to anticipate the potential impacts can be a good foundation for a useful HSIA, endorsement by external stakeholders (ES) and the participation of the community is a vital element that completes the whole picture. ‘Endorsement’ requires ES’s **knowledge** of the Human Security framework, a **willingness** to adopt the framework, the **human capacity and resources** to implement it. Local community participation requires sufficient public space and trust between internal and external stakeholders.

## 1.6 Research Methodology

This research is based on qualitative research conducted by two means; 1) documentary research and 2) field-based research.

Documentary research reviews existing studies including papers, journals, reports, web-based materials and stakeholders' key reports. The stakeholders' key reports include the MRC's Strategic Environmental Assessment (ICEM, 2000), and the NGO Forum on Cambodia's Baseline Study on Sambor.

Field Research was conducted in two periods in Sambor district, Kratie town and Phnom Penn in Cambodia: the third week of January 2010 for pre-observation, and from the second week to the fourth week of July, 2010 for fieldwork. The fieldwork covered community-based research and external stakeholders' interviews. Community-based research aimed at understanding the communities' current human security situation. External stakeholders' interviews were to estimate the stakeholders' knowledge and anticipation on the potential impact of the Dam, as well as their understanding about the human security situation in the Sambor area.

Two Khmer native interpreters accompanied the author during the interviews in Sambor and Kratie to overcome language barriers: 1) Phat Chan-Dara, a 20 year old male university student at the Royal University of Phnom Penn majoring Environmental science who is also an intern at FACT in Phnom Penn, and 2) Khieu Nipun, a former provincial governmental official and a former NGO worker in Kratie in his 40's. Both interpreters translated Khmer to English for the researcher and vice versa for the interviewees.<sup>2</sup> The interviews in Phnom Penn were all conducted in English between the interviewees and the interviewer.

- **Community-based research**

Community-based research was conducted in Sambor district, Kratie province in Cambodia, by pre-observation (January 2010) and community interviews (July 2010);

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<sup>2</sup> Phat Chan-Dara interpreted during the interviews in Samphin, Dumrai and Koh Som villages as well as one external stakeholder interview with Oxfam Australia's Sambor office from July 11<sup>th</sup> to 15<sup>th</sup>. Khieu Nipun helped during the interviews in Koh Som and Keng Prasat villages as well as most of the external stakeholders interviews conducted in Kratie from July 17<sup>th</sup> to 23<sup>rd</sup>, except WWF, CRDT and CED. The interviews with WWF and CRDT were conducted in English directly with the interviewees, and the staff of CED helped interpretation during the interview with CED's director.

- ***Pre-observation*** was undertaken from January 10 to 12, 2010 in the Sambor area by participating in the baseline study conducted as a joint project between as the Rivers Coalition on Cambodia, the NGO forum on Cambodia, and Oxfam Australia. I joined as an observer for 3 days to gain a general overview of the area and to witness the living condition of the communities. This pre-observation helped design the main field research, including selection of target communities and questionnaire development and methodology for the interviews for the actual community interviews in July 2010.
- ***Community interviews*** was undertaken from July 11 to 22 and were conducted in four villages in Sambor District; Samphin, Dumrai, Koh Som and Keng Prasat. Samphin and Dumrai are located upstream of the proposed dam site, and Koh Som and Keng Prasat are situated downstream (see figure 3.4). Village selection was made through consultation with staff from Oxfam Australia's Sambor office that has been implementing various projects in Sambor district for over a decade and therefore has a deep knowledge and understanding on the area.

The community interviews were conducted in three forms: key informant interviews, focus group discussions, and individual household interviews. Snowball sampling was used to identify key informants. In general, focus group discussions were set up by village leaders, and consisted of people of various age, living condition, gender, and occupation that were as representative as possible of the specific village context and were selected mostly by the key informants in the village. One focus group discussion in Keng Prasat, however, was conducted specifically with Muslim community interviewees to get a general idea on conditions and perspectives of the ethnic minority community. Individuals were selected randomly by visiting houses in the target villages.

A total of 100 villagers were interviewed in 55 interviews in 4 villages (table 1.1). A questionnaire was prepared in advance and used as a tool to gather qualitative

data during the interviews (appendix A). Questions were developed to measurement each human security, which were based on a methodology collated from various sources by the Global Development Research Center (GDRC, n.d: online).

<Table 1.1: Community Interview Profile>

Name of village	# of household	population	Key informants		Group discussion		individuals		Total	
			# of people	# of interview	# of people	# of interview	# of people	# of interview	# of people	# of interview
Samphin	215	1217	5	1	9	1	10	10	24	12
Dumrai	64	344	3	1	10	1	10	10	23	12
Koh som	169	771	5	1	7	1	10	10	22	12
Keng Prasat	517	2213	1	1	14	2	16	16	31	19
<b>Total</b>	<b>965</b>	<b>4545</b>	<b>14</b>	<b>4</b>	<b>40</b>	<b>5</b>	<b>46</b>	<b>46</b>	<b>100</b>	<b>55</b>

\* Each interviewee is from a different household.

<Table 1.2: Gender composition in Community Interviews>

Name of village	Key informants		Group discussion		individuals		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Samphin	4	1	0	9	4	6	8	16
Dumrai	2	1	1	9	5	5	8	15
Koh som	3	2	5	2	4	6	12	10
Keng Prasat	1	0	10	4	10	6	21	10
<b>Total</b>	<b>10</b>	<b>13</b>	<b>16</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>49</b>	<b>51</b>

- **External Stakeholders' Interviews**

External Stakeholders working on issue related to human security in the Sambor area were divided into 5 categories: NGOs, Governmental agencies, International organizations, industry and scholars. To understand external stakeholders' perception on the Sambor area and on the potential impacts of the Sambor dam project, two methods were used: individual interviews and a review of the literatures, such as articles and reports, written by the external stakeholders.

All individual interviews were conducted from July 15 to July 28, 2010 with a prepared questionnaire (See appendix B), except three external stakeholders (NGO Forum on Cambodia, Stimson Institute and China Southern Power Grid company – see below). The interviews were taken largely in 3 places; Sambor District, Kratie Town, and Phnom Penh in Cambodia. All the interviews were undertaken in person, plus, email and telephone were also used when there was an additional question missed during the face-to-face interviews.

The interview with NGO Forum on Cambodia was conducted in September, 2010 with the same questionnaire used for other individual interviews. The questionnaire was delivered by email to the researcher. The Stimson Institute and China Southern Power Grid company were unavailable for a personal interview, thus literature produced by them, websites and information from other external stakeholders were used (see Table 1.3 for detail).

The interviews were guided by a semi-structured questionnaire that focused on determining the interviewee's level of understanding about the Sambor area and Sambor dam project, as well as their perception about the potential impacts of the dam, and their interaction with other external stakeholders and the communities. They were also asked about their awareness of the human security framework.

Beside the individual interviews, literature produced by the relevant external stakeholders was reviewed as a method in this study to understand the role and knowledge of the external stakeholders, especially international organizations and scholars who were unable to be contacted, as well as for validating individual interviews.

The Table 1.3 summarizes the list of external stakeholders considered in this study (see Chapter 4).

&lt;Table 1.3: List of External Stakeholder Interviews&gt;

Type	Name of Organization	Interview Place (Method)	# of people interviewed
Government agencies	Department of Industry, Mines and Energy	Kratie (individual)	1
	Department of Agriculture	Kratie (individual)	1
	Department of Fishery	Kratie (individual)	1
	Department of Environment	Kratie (individual)	1
	Department of Health	Kratie (individual)	1
	Office of Education	Sambor (individual)	1
	Sambor district Police	Sambor (individual)	1
	Office of Women's Affair	Sambor (individual)	1
	Department of Water Resources	Kratie (individual)	2
	Department of Tourism	Kratie (individual)	1
	Ministry of Rural Development	Phnom Penn (individual)	1
NGO	Oxfam Australia	Sambor /Phnom Penn (individual)	2
	CRDT	Kratie (individual)	1
	CED	Kratie (individual)	1
	WWF	Kratie (individual)	1
	ADHOC	Kratie (individual)	1
	PFD	Kratie (individual)	1
	Oxfam GB	Kratie (individual)	1
	Cambodian Red Cross	Kratie (individual)	1
	Action for Health	Kratie (individual)	1
	PFHAD	Phnom Penn (individual)	1
	KAPE	Phnom Penn (individual)	1
	IUCN	Phnom Penn (individual)	1
	FACT (Fisheries Action Coalition team)	Phnom Penn (individual)	1
	NGO Forum on Cambodia	Email	1
Academic	Stimson Institute	(Literature)	none
Int'l Org	The Mekong River Discovery Tail Project (MDTP)	Phnom Penn (individual)	3
	MRC	Phnom Penn (individual and literature)	1
Industry	China Southern Power Grid Company	Literature from website, and information from other external stakeholders	None

### **1.7 Research Scope and Limitation**

Guided by the Human Security framework, this research aims to gather as much information as possible on the present human security situation and potential impacts to the communities by the proposed Sambor dam project, and to focus on testing whether a HSIA can be possibly conducted with the current information available and if it would be a useful. The scope of this research is not intended to undertake an actual Human Security Impact Assessment, which would require significantly more time and resources. Rather, the potential impacts are mapped out to indicate the potential changes in the human security situation of the affected communities, and the capability and interest of external stakeholders were investigated to determine the potential to conduct a full HSIA in the Sambor area.

The biggest challenge was time constraints. Gathering existing information and knowledge from the community and the external stakeholders for sufficient understanding from a holistic perspective of all aspects of human security in the study area, as well as the analysis and writing, within the given period were challenging.

### **1.8 Ethical issues**

#### *Risk*

The research is not expected to cause any potential threat or danger to the subjects of the research. There is no risk above the everyday norm that the subjects were exposed to in terms of adverse or dangerous environment.

The two main methods of the research were interviews and document research. Document research was only conducted with existing reports and documents which are publically available. For community interviews, questionnaires written in non-sensitive language were used with the interviewees, and the information collected from the interviews are quoted without personal information disclosing identification of the subjects. For some questions that contain possibly sensitive issues like gender violence, the questions didn't request the subjects to talk about any traumatic experiences in detail, as the purpose of this research is not to find out their

experiences in detail, but only to grasp the holistic security situations in the target community. In addition, due to the political sensitivity of the proposed Sambor dam, the researcher did not ask directly about the dam itself during the interviews with the communities unless the subjects first brought up the topic, and exercised due caution in interviewing external stakeholders.

### *Deception & Consent*

The researcher did not deceive the subjects and the information collected in any case or situation. To respect the rights of the subjects, the researcher confirmed that the subjects voluntarily consent to participate in the interviews. The purpose of the research was clearly delivered to the subjects before the interviews, and the subjects also acknowledged that they were part of the research. The subjects whose name and name of the working title to be disclosed will be understood about more detail of the research.

### *Privacy*

Confidentiality was offered to the subjects to respect their privacy in the beginning of an interview. Personal information is disclosed as minimally as possible, even when a subject didn't ask to keep their name to be anonymous.

### *Vulnerability*

The researcher was careful with vulnerability of the subjects. If any individual or group was anticipated or claimed to be vulnerable, the subjects was not included in the research.

### *Collectives*

For community interviews, at all times, the researcher was introduced first to the leader/ head of the community, where the research was explained and permission was received to conduct interviews with the members of the community. For external stakeholders' interviews, the researcher asked that the head of the organization of a subject was aware of the interview and consents to the subjects to be interviewed.

### **1.9 Significance of the study**

Development equals to economic growth at most times and in most places; however, there certainly are things that can't be measured readily by numbers. Although this issue is not at all new to many actors in the development field, efforts to include the non-monetary measures of development to various project impact assessments are rarely visible.

Therefore, this study will contribute to determine whether the human security framework can be applicable and furthermore 'useful and worthwhile' to assess the potential impacts of a proposed hydropower dam project with the current understanding and information available from various stakeholders. It will explore the use of a new HSIA methodology to evaluate the potential costs and benefits of a development project, with the intention to help the human security concept be understood better by practitioners and applied in a more practical way on actual projects and programs.

In addition, this study is significant in that it is, to my knowledge, the first attempt to evaluate and to analyze the possible impacts of hydropower dam projects using the human security framework. It extends this concept to also examine whether a HSIA could be successfully applied with the information currently available to a dam project, and within the current capabilities of external stakeholders. In this sense, most importantly, this attempt can be a good reference for both developmental practitioners and decision markers in seeking a new development tool to evaluate costs and benefits in more holistic and comprehensive level.

## CHAPTER II

### LITERATURE REVIEW

In this chapter, the Human Security framework, the impacts of dam in general, the plans for dams on the Mekong River's mainstream, and the current status of "Human Security Impact Assessments" are briefly reviewed.

#### 2.1 Human Security

##### 2.1.1 Definition of human security

Mahbub ul Haq, the Pakistani development leader, developed the term 'Human Security' first in the United Nations Development Program's (UNDP) 1994 Human Development Report (HDR). Building on the 'Human Development' concept, he argued that:

*For too long, the concept of security has been shaped by the potential for conflict between states. For too long, security has been equated with threats to a country's borders. For too long, nations have sought arms to protect their security. For most people today, a feeling of insecurity arises more from worries about daily life than from the dread of a cataclysmic world event. Job security, income security, health security, environmental security, security from crime, these are the emerging concerns of human security all over the world. (UNDP, 1994:3)*

There are four essential characteristics of human security: 1) *human security is a universal concern*; 2) *The components of human security are interdependent*; 3) *Human security is easier to ensure through early prevention than later intervention*; and 4) *Human security is people-centered* (UNDP, 1994:22-23). While the Human Development paradigm added more 'humanity' to existing development concepts by suggesting that basic needs such as education and health issues be considered in addition to economic wellbeing, Human Security is a more 'human-centered' concept. It gives more focus to the 'individual' rather than 'national' security and argues that

the concept of 'security' should be broadened from physical security to include personal security. What makes the Human Security concept fundamentally different from Human Development is that it focuses on basic human needs *and* stability. As it is defined in "Human Security Now" by the Commission on Human Security in 2003, Human Security aims "*to protect the vital core of all human lives in ways that enhance human freedoms and human fulfillment.*" (Gasper, 2005:223-242)

The two major components of human security are 'freedom from fear' and 'freedom from want.' Those values have been recognized since the beginning of UN in the 1940s, but the first - freedom from fear - was paid more attention to than 'freedom from want.' The UNDP's Human Development report in 1994 argued the importance of emphasizing equally both concepts and for the transition from a narrow concept of national security to an 'all-encompassing' human security.

Gasper (2005) attempts to consolidate the various definitions and interpretations of Human security that are given by various organizations, scholars and developmental practitioners. Gasper suggests that the dimensions of the human security concept are:

- (1) *To complement the human development concept by a concern with the stability of whatever goods are highlighted within human development;*
- (2) *To broaden the scope of the security studies concept of security, beyond state and military security; and/or to change the focus, to a concern with the (physical) security of persons; and*
- (3) *To narrow down scope as compared with the human development concept, by concentrating on the basics (types and levels of goods required) for securing humanity.*

Gasper (2008: 13) explains the role of human security in his working paper titled 'The Idea of Human Security.' Here, Human Security (1) *provides a shared language, that highlights and proclaims a new perspective in investigation;* (2) *guides*

*evaluations, through its emphasis on certain priority performance criteria; (3) guides positive analyses, through its emphases on which outcomes are important to explain and which determinants are legitimate to include; (4) it similarly focuses attention in policy design, by directing attention to a particular range of outcomes as being important to influence and a particular range of means as being relevant to consider, and (5) motivates action in certain directions, through the types of value which it highlights and the range of types of experience to which it leads us to attend.*

Paris (2001:87-89) concludes that although there are various definitions of Human Security the welfare of ordinary people is emphasized in most definitions. Paris notes that some of the most active proponents of Human Security are the Canadian and Norwegian governments, which have played a major role in establishing a 'Human Security Network' of states and NGOs. The concept is also increasingly widely used by academics.

Paris (2001:87-89) identifies two major problems with the Human Security concept. First, the concept doesn't have a clear definition; the existing definitions are too broad and vague. In other words, alike 'sustainable development', Paris argues that the Human Security concept itself is very agreeable to all, but only a small number of people are clear of the exact meaning. Furthermore, because Human Security potentially implicates almost every security that one can think of, from physical security to psychological well-being, the Human Security framework may not be well equipped to provide proper guidance for policy makers in prioritizing within decision-making process, as well as for academics in deciding area of research.

Second, the definition of Human Security seems to be deliberately designed as 'slippery' to meet the interests of various parties. For the purpose of suiting the diverse perspectives and interests of those seeking to raise concerns in traditional security issues, as well as meeting the goals of international development actors such as states, development agencies and NGOs, the ambiguity of Human Security therefore could be seen as a 'catchword' often without clear substance. In other words,

whilst the human security concept can serve as a campaign slogan to boost concerns and public opinion, this amorphousness can also hinder the role of the concept to identify definite and trusted directions in policymaking and academic research.

### **2.1.2 Attempts to narrow the definition**

Several scholars have attempted to narrow the definition of Human Security in order to make it more concrete and therefore usable. In their Human Security concept, King and Murray (2000) state that they include only the ‘essential’ elements that are “important enough for human beings to fight over or to put their lives or property at great risk” and identify poverty, health, education, political freedom and democracy as the five key indicators of ‘one’s well-being’ (King and Murray, 2000:8).

Bajpai (2000) suggests to construct a ‘human security audit’ including measures of “*direct and indirect threats to individual bodily safety and freedom, and of different societies’ capacity to deal with these threats, namely, the fostering of norms, institutions, and....representativeness in decision-making structures.*”

### **2.1.3 Challenges to the Human Security Framework**

Despite all of the international attention to the concept of ‘Human Security’, as noted above, it hasn’t been absorbed into mainstream development practice or academia yet. Tadjbakhsh (2005) analyzed seven challenges to the concept in a conference called “Human Security: 60 Minutes to Convince” hosted by UNESCO in Paris in 2005 by asking the following:

#### *1) Will There be Consensus on Definitions?*

The biggest challenge is that there is no single agreed definition of what ‘Human Security’ is. Diverse scope and interpretations makes it more difficult when it comes to ‘cooperation.’

#### *2) The rise of “National Security”*

The rise of national security is another issue. As the world became more fearful of ‘terror’ since the 9-11 case, military expenditure has increased in

many countries around the world. Politics also has shifted from a 'bottom-up approach' to 'top-down' approach, potentially weakening the attraction of a 'people-centered' concept of development as advocated for in the Human Security framework.

3) *Who is Responsible?*

In many cases, the implementer of Human Security is uncertain. There is no consensus on who is responsible and who's going to be in charge of taking actions to maintain human security. Ensuring traditional security has been regarded as the job of states, yet human security emphasizes more the empowerment of people and the agent to achieve this empowerment remains unclear; is it civil society? NGOs? the communities themselves?

4) *The Challenge of Priorities and Trade-Offs*

When many threats exist at the same time, which threat should be regarded as a priority is not clear, and when there is no prioritization of which threats precede others, it makes it difficult for policy-makers to make decisions. However, human security struggles to provide guidance on hierarchies of priorities, in part because human security postulates that '*all threats are interdependent*'

5) *The Real Challenge of Inter-Sectorality*

It is not only important to include education, health, media, poverty and sciences in designing programs as part of a 'holistic' package, but also pay attention to the inter-sectoral relationship among those aspects.

6) *The Challenge of Understanding Conflicts*

Although Human security is regarded as an appropriate concept for both conflict and post-conflict situations, a deeper understanding of local context, such as causes of conflict, dynamics and motivations of actors, and the impacts of conflicts is still required.

7) *The Art of Not Doing Harm*

There are more developmental interventions that generate more negative impacts than positive ones. Human Security is about doing no harm, so the framework should be used to measure whether aid and interventions are for on

the betterment of people's lives. Interventions should be designed, targeted, implemented, monitored and coordinated in order to minimize dependency.

## **2.2 The Costs and Benefits of Large Dams**

To test whether the Human Security framework is useful or not, this study has chosen a hydropower dam in Cambodia as an experimental example. Thus, here the impacts of large dams are described in a general sense. The potential impacts of the Sambor dam in Cambodia will be identified and analyzed according to each aspect of Human Security in Chapter 4 and 5.

Large dams, recognized as '*the largest single structure built by humanity*', have been considered as: symbols of human conquering nature; providers of electric power, water and irrigated food; tamers of floods; greener of the deserts; and guarantors of national independence. Most importantly, they have been argued to be viewed by some as a symbol of human progress (McCully, 1996:1). There are more than 47,000 large dams in the world, which are defined as dams that are more than 15 meters in height (IRN, 2006:3). Whilst dams have brought some benefits, there certainly are also negative consequences generated during their construction and operation to both the environment and the life of people.

### **2.2.1 Benefits**

The benefits of large dams are generally categorized public water supply, hydropower, flood control and irrigation. It is often the case that while most of these positive benefits go to urban areas (where the potential impacts of the dam are largely not felt), the people living near the dam site, who are generally rural communities, can be marginalized, and are often ethnic minorities, pay most of the costs generated by a dam bearing risks on many aspects of their lives.

#### ***Public water supply***

In this case, the primary rationale of constructing a dam is that there is not enough water to satisfy the demands both quantity- and quality-wise for a particular

area. Aquifers have been the main source of water supply in the past; however, due to over-use and slow recharging speed, the need to develop alternative source of water supply has surfaced. Urban areas in particular, where water demands are higher, rely heavily on water stored in reservoirs during periods of rainfall (ICOLD, 1999:3-4).

### ***Hydropower***

In developing and developed countries, to use energy sources that are clean, cost-efficient, dependable and renewable are advantageous. Hydropower proponents argue that hydropower is cheap and can be developed in a sustainable way. It is estimated that less than 20% of the world's potential hydropower capacity development has been harnessed so far. Most places with the potential to be developed are in developing countries in Asia, South America and Africa (ICOLD, 1999:4-5).

### ***Flood control***

Flood control is an important purpose of many dams both existing and planned. Dams are used to control floods by regulating the level of the river on which they are located. They can store flood waters in the reservoir to reduce the peak of the flood water flows, and then release the flood water later slowly to avoid consequences such as life loss, social disruption, damage to property, and other economic losses (WCD, 2000:58-59).

### ***Irrigation***

Dams are also built to supply water in a stable and planned way to the agricultural sector, which is the world's largest freshwater consumer. It is a common rationale for governments favoring the construction of dams, because a stable supply of water will lead to ensure the nation's food security which will also derive an increase in employment and total production, as well as potentially poverty alleviation (WCD, 2000:137).

### **2.2.2 Costs**

Although there certainly are benefits of dams, like coins have two sides, dams also create costs that can require some peoples' sacrifice at the same time. The most distinctive problems that might be caused by dams are below:

#### ***Terrestrial ecosystem and biodiversity***

Dams' inundation of land beneath reservoirs affects terrestrial ecosystems and biodiversity; species of plants, forest and animals decrease and can even become endangered (Berkamp, G. et al 2000). Reservoir flooding also affects the upstream river catchment and can change landscapes that lead to habitat loss, elimination of flora and fauna and land degradation, as well as altering hydrologic function. In addition, vegetative land loss in and around the reservoir not only increases sedimentation, storm flow and annual water yield, but also decreases water quality (WCD, 2000:75).

#### ***Downstream riverline ecosystem and biodiversity***

Dams also affect downstream ecosystems and biodiversity. Since storage dams are designed to alter the natural distribution and timing of river flow, various characteristics of rivers that maintain aquatic ecosystems of the rivers are challenged including: the flow function; the sediment quantity; and the character and composition of materials making up the bed and banks of the channel. Flow regimes are the key element for downstream ecosystem. Whether plants and animals in downstream can survive or not depend on timing, duration and frequency of flood. River bank gardens near the dam site are also threatened. (WCD, 2000:77-78)

#### ***Emission of greenhouse gases***

Another ecosystem impact of dams is the emission of greenhouse gases (GHG) generated by reservoirs. The gross emissions from reservoirs make up around 4% of the global warming potential of GHG emissions (Lima, 2007). In other words, the conventional belief that hydropower dams only have positive impacts on reduction in emissions of carbon dioxide, nitrous oxides and sulphuric oxides is not completely

true (Bosi, 2000:12).

### ***Water quality***

When a dam obstructs the natural flow of river and stores water in a reservoir, the chemical, thermal and physical character of the stored water are likely to be changed. This change affects water located in the reservoir and water released to the downstream river as well. Impacts to water quality depends on retention time of the reservoir; while water in small headpond behind a run-of-the-river dam may be relatively unaffected, the quality of water stored for a long time behind a large dam might change so significantly as to have a fatal impact on most species in the reservoir as well as in the river for a long way down from the dam (McCully, 1996:36-37).

### ***Blockage of migratory fish & fisheries***

Dams also physically block the movement of migratory fishes up and downstream. As a result, the number and population of species decreases as their paths are blocked. This leads to impact on wild-capture fisheries as well. As sediment and nutrients are also blocked, the natural flood regime is eliminated and freshwater flows are altered by dams, that also has negative impacts on fisheries receive (WCD, 2000:82-85). Although there are some fish species that benefit from dam construction, overall the vast majority of fish species suffer a reduction of biomass and the river experiences a reduction in species diversity.

Impacts on species of fishes and fisheries also affect the food security of people whose main source of nutrients comes from wild-capture fisheries. For example, nearly 60 million people living in the lower Mekong Basin eat fish from the Mekong River as an important source of animal protein, especially for people living next to the river (International Rivers, 2009).

### ***Displacement (resettlement) of people***

Besides the environmental impacts, dams also have consequences on people's

life. The impacts of dams are critical because millions of people depend on rivers in many aspects of their lives, including economically and culturally. Many big developmental projects inevitably require some forms of displacement of people who reside both near and far from the project area. Displacement often refers to a situation where people are physically forced to move out of their residential area due to inundation of reservoirs or to construction of infrastructure. It can also refer to livelihood displacement (or deprivation). Since inundation of land and alteration of riverine ecosystem also affect resources and productive activities, communities which depend on land and natural resources may lose their access to traditional means of livelihood such as agricultural activities, fishing, and non-timber forest product and fuel-wood gathering (WCD, 2000:102-103). Whether these livelihoods can be recovered depends on the availability of livelihood alternatives and the commitment of the project developers to support livelihood recovery.

### ***Indigenous people***

Dams also have critical impact on culture, livelihoods, and the lives of indigenous and tribal people. Factors such as social discrimination, cultural discord and economic and political marginalization make these groups of people more likely to be excluded from sharing benefits. In many countries, developmental projects, including dam construction, are proposed to be built in area where minorities and tribal people live (WCD, 2000:110-111).

### ***Health concern***

Dams create health problems for local and downstream communities. Those communities often already suffer challenges to securing sufficient nutrition and accessing health services, and these pre-existing conditions make the people more vulnerable to adverse impact on their health due to environmental change and social disruption resulting from constructing dams (WHO, 1999:6).

In addition, reservoirs in tropical area create various vector-borne diseases such as Schistosomiasis, Rift Valley Fever, Malaria and Japanese encephalitis.

Accumulation of mercury in reservoir fish is another problem. Although mercury is naturally harmless in many soils, it can be transformed to methyl-mercury which is a toxin for central nerve system by bacteria fed with rotten biomass in reservoirs, and be threatening human health (WCD, 2000:118)

### **2.3 Analysis of Impacts of Hydropower dams using the HS framework**

Section 2.2 identifies the main costs and benefits associated with hydropower development. To date, however, the human security framework has not been applied to categorize and understand these costs and benefits to an affected community as a result of dam development. This section, therefore, attempts to summarize the key costs and benefits to human security that can be expected to occur as a result of dam construction in general (table 2.1). Further details are provided in the following sections.

A dam is generally planned and built in order to get one or more of four main benefits; 1) hydropower, 2) irrigation, 3) water supply and 4) flood control. In the mean time, the costs can be largely expected on two aspects: environment and social impacts. The impacts on environment include 1) impacts of reservoirs on terrestrial ecosystems and biodiversity, 2) emission of greenhouse gases by large dams and reservoirs, 3) impacts of altered downstream flows on aquatic ecosystems & biodiversity, 4) impacts of altering natural flood cycle on downstream floodplains and 5) impacts of dams on fisheries in upstream, reservoir and downstream. A hydropower dam also cause social impacts including through 1) resettlement, 2) impacts to indigenous people, 3) loss of downstream livelihoods, 4) gender disparity, 5) loss of cultural heritage, and 6) impacts to human health.

Considering these costs and benefits that are generally expected by a hydropower dam, the following section summarizes how each impact will affect the dimensions of human security.

&lt;Table 2.1: Costs and Benefits of hydropower dams on Human Security&gt;

	<b>Costs</b>	<b>Benefits</b>
<b>Economic security</b>	<ul style="list-style-type: none"> <li>▪ Resettlement of people, resulting in loss of access to natural resources, land, livelihood and income</li> <li>▪ Livelihood change in downstream communities, due to dam's impacts on river resources</li> </ul>	<ul style="list-style-type: none"> <li>▪ Electricity</li> <li>▪ Employment during construction</li> <li>▪ Irrigation</li> </ul>
<b>Food Security</b>	<ul style="list-style-type: none"> <li>▪ Resettlement</li> <li>▪ Blockage of migratory fish &amp; fisheries (reduced supply of food)</li> <li>▪ Impacts to riverine ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>▪ Irrigation for supply of food</li> </ul>
<b>Health security</b>	<ul style="list-style-type: none"> <li>▪ Undernourishment and malnutrition due to resettlement</li> <li>▪ Impacts on health condition, for example the increased presence of vector-borne diseases such as malaria</li> </ul>	<ul style="list-style-type: none"> <li>▪ Public water supply for access to safe water</li> <li>▪ Irrigation for better nutrition</li> </ul>
<b>Environmental security</b>	<ul style="list-style-type: none"> <li>▪ Impacts of physical transformation of river</li> <li>▪ Impacts on riverine, terrestrial, floodplain and downstream ecosystem and biodiversity</li> <li>▪ Emission of greenhouse gases</li> <li>▪ Water quality decrease</li> <li>▪ Blockage of migratory fish &amp; fisheries</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flood control for natural hazard mitigation</li> </ul>
<b>Personal security</b>	<ul style="list-style-type: none"> <li>▪ Widening gender disparity</li> <li>▪ Threat of physical violence if opposing project</li> </ul>	Unknown
<b>Community security</b>	<ul style="list-style-type: none"> <li>▪ Indigenous people in protection of indigenous, abolishment of discrimination and conservation of traditional/ethnic culture</li> <li>▪ impacts on the resettled and downstream communities</li> </ul>	Unknown
<b>Political security</b>	<ul style="list-style-type: none"> <li>▪ Individuals rights can be threatened</li> </ul>	Unknown

### 2.3.1 Economic Security by Hydropower dams

Hydropower and irrigation strengthen economic security, while resettlement of potentially affected communities threatens economic security.

#### 2.3.1.1 Costs

The inundation of land and impacts on ecosystems and biodiversity by dam construction affects communities both upstream and downstream of the project.

Resettlement might be one of the biggest costs for upstream communities located in the reservoir inundation area that can be expected from a hydropower dam. If a dam is built, regardless of the size of the dam, the people living in the construction site or in the area where a reservoir will be created and that will be submerged under the water, have to leave their residence. According to the WCD<sup>3</sup> Knowledge Base, often physical displacement is forcefully or involuntarily conducted, and has even caused deaths in some cases. Over the past fifty years, tens of millions of people around the world have been displaced by dam construction. (WCD, 2000:102-103).

The degree and extent of the impacts of resettlement can vary depending on the size of a dam, the potentially affected area and the population living in the area, as well as the commitment of the dam developer to responsible processes and fair compensation. Impacts after resettlement to a new place does, however, influence many aspect of the peoples' livelihood. Most of all, economic security is, without doubt, most likely to be threatened. Resettlement often causes loss of livelihood, employment and income sources such as land, common property such as forests, ground and surface water, and fisheries, and it results in a decrease in living standards either temporarily or permanently. These risks and uncertainty can put resettled communities at a great risk of marginalization (WCD, 2000:103).

A dam also affects downstream communities. Impacts on downstream livelihoods are more likely to be noticeable after construction is complete, when changes to river flow occur, alongside impacts to the river's floodplains, ecosystems and biodiversity. For those communities who depend for their source of income on these natural resources, such as land, forest and river, a hydropower dam can reduce income (WCD 2000:103). In addition, these disruptions to the local economies of downstream communities may boost the uncertainty and vulnerability of livelihoods, inducing the impoverished populations to migration to other areas, particularly to urban areas seeking a greater economic security (WCD, 2000:112).

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<sup>3</sup> World Commission on Dams

### **2.3.1.2 Benefits**

One of the most important benefits of a hydropower dam is the 'hydropower' itself. An increased supply of energy benefits those connected to power distribution networks, especially the people in urban areas. It is found that welfare has been significantly improved by small inputs of energy in many countries with limited energy services (WCD, 2000:101).

Dam also creates jobs, particularly temporary positions during the construction period, and can broaden the employment opportunities for local people. In the long run, an increased supply of stabilize water and electricity supports industry, agriculture and urban areas, and promotes boosting new enterprises that expand employment opportunities. For example, the Tarbela hydropower dam in Pakistan created 4,000 permanent jobs along with an increased opportunity for secondary jobs in agro-industry and irrigation. (WCD, 2000:101, 121).

## **2.3.2 Food Security by Hydropower dams**

### **2.3.2.1 Costs**

As a dam can physically block fish passage and therefore disrupt the movement of aquatic organisms and migratory fish species from upstream to downstream or vice versa, dams can causes changes in the composition and productivity of migratory species, as well as result in the loss of species in a river. These consequences not only increase threats to environment and health security, as well as economic security of the people whose income source is depended upon fishery, but also threatens the food security of the communities both near the dam site and along the affected river, as well as potentially the whole population of a country (WCD, 2000:82).

### **2.3.2.2 Benefits**

As irrigation for the agricultural sector is a major user of fresh water, dams that can provide water for irrigation can be used to increase productivity in agriculture. In this sense, food security can also be strengthened (WCD, 2000:100).

### **2.3.3 Health Security by Hydropower dams**

#### **2.3.3.1 Costs**

Changes in the environment and social disruption caused by dams are more likely to decrease the health security of affected communities both downstream of the dam and those that are resettled. During the resettlement process, for example, communities may be highly at risk of being exposed to unfavorable health condition due to reduced access to safe drinking water and health services, as well as exposure to new physical and social environments. Downstream communities are also more likely to be exposed to diseases, for example when fish bioaccumulate mercury in the reservoir. Also, reservoir tends to be degraded, sometimes seriously, so drinking or bathing in such water may cause adverse impacts on health condition of the downstream population (WCD, 2000:118). As reservoirs are relatively still water, vector borne diseases such as malaria are also more prevalent.

#### **2.3.3.2 Benefits**

As mentioned in 2.3.2.2 if designed so, reservoirs can contribute to a supply of water for agricultural irrigation, and more irrigation can lead to an increase in agricultural productivity which benefits peoples' food security. In this regard, strengthened food security also fortifies health security. Furthermore, an increased public supply of water can strengthen peoples' health, as it increases access to safe and clean water (WCD, 2000:100).

### **2.3.4 Environmental Security by Hydropower dams**

Hydropower dams have a vast impact on environmental compositions and characteristics, and the impacts on environment also alter the environmental security of human beings. While benefiting from the flood control functions of a dam, it also creates adverse impacts on ecosystems and biodiversity in a river, as well as in the areas affected by a dam's reservoir and upstream. Dam threatens ecosystems and biodiversity in riverine, terrestrial, floodplain and downstream areas, increases emission of greenhouse gases, degrades the quality of water and land, and blocks migratory fish and aquatic organisms.

#### **2.3.4.1 Costs**

Blockage of migratory fish passages by a dam, according to a survey by WCD, is the most significant impacts on ecosystems that cause critical impacts to migratory species. Different river environments are needed by migratory fish species during their life cycle phases, such as growth, sexual maturation and reproduction, and disruption to their natural movements by a dam consequently causes loss of species. For example, anadromous fishes like salmon die when their migratory routes are blocked (WCD, 2000:82).

Dams also degrade terrestrial ecosystems and biodiversity, as the construction of dams and subsequent inundation in a reservoir creates hazards for the lives of terrestrial plants, forests and animals. A reservoir can also lead to the clearance of catchment areas upstream, which can result in both direct impacts on loss of habitat, flora and fauna, and on degradation of land, and also collateral effects on reservoirs due to changing hydrologic functions. In addition, vegetative cover loss, sedimentation, stormflow and annual water yield may increase, while quality of water decreases, and also seasonal timing of water yield may be shifted all of which have impacts on ecosystems and the people that depend on them for their livelihoods (WCD, 2000:75).

Aquatic ecosystems and biodiversity in downstream areas may also face threats from a dam, as the dam will change the distribution and timing of natural water flows. Those alterations of water flow challenges the resilience of aquatic ecosystems and biodiversity, as natural flow regimes such as timing, duration and frequency of flood are often critical to the survival of downstream animals and plants. Storing water in a reservoir also modifies water quality, for example water temperature and chemistry (WCD, 2000:77-78).

Large dams may control floodwaters, and generally reduce flows during the period of natural flooding, and increase flows during dry seasons, changing the natural flood cycle of the river system. This can diminish natural ecosystem

productivity in riparian areas, floodplains and deltas. (WCD, 2000: 83).

Another environmental threat is the emission of greenhouse gases from reservoirs, as rotting vegetation and carbon inflows from the catchment area emits greenhouse gases (WCD, 2000:75).

#### **2.3.4.2 Benefits**

One of the main rationales for a dam construction is that the dam can regulate river levels and downstream flooding. As a dam stores volume of flood water and can control the timing of releases, it can help eliminate downstream flooding, which means mitigating natural hazard for downstream communities (ICOLD, 1999:4).

### **2.3.5 Personal Security by Hydropower dams**

#### **2.3.5.1 Costs**

Instability and disruption in a community or a region can exacerbate dynamics of gender relationships, and often it widens gender disparities in a community, especially for access and control of economic and natural resources. Although many developmental organizations and countries have adopted policies to deal with gender issues, issues of gender disparity have often not been included in actual planning and implementation. A dam project also often imposes the gender bias of developers; for example, women suffer more than men from disruption of their livelihoods resulted by forced displacement from the natural resources, such as land, water and forest, as women take an important role in collecting and processing these resources (WCD, 2000:114-115). In addition, as threats to other securities increased such as threats to lose income, job and food, the possibility of being exposed to violence such as crime, rape and discrimination which are the personal security increases,

#### **2.3.5.2 Benefits**

The benefits of hydropower dams in fortifying personal security are little studied.

### **2.3.6 Community Security by Hydropower dams**

#### **2.3.6.1 Costs**

Impacts on indigenous groups and ethnic minorities can be serious, and livelihood, culture, and spiritual existence can all be adversely affected. These people are more likely to be exposed to vulnerability and may be more easily marginalized when there are negative changes made inside or outside of the communities, regardless of form of the change. When a dam creates many consequences on peoples' life and environment, indigenous and tribal communities might suffer from discrimination, economic and political inequity as well as exclusion from sharing benefits. In fact, many dam schemes have been proposed where ethnic minorities or indigenous people live in order not to provoke confrontation with the ethnic majority population (WCD, 2000:110). In this regard, the cultures, values and ethnic traditions of ethnic minority groups may be more likely to be threatened by the political marginalization and vulnerability of the communities.

#### **2.3.6.2 Benefits**

There is no evidence that hydropower dams strengthen community security.

### **2.3.7 Political Security by Hydropower dams**

#### **2.3.7.1 Costs**

Although there is no direct cost generated by a dam in political security, a dam can indirectly affect political security by heightening the chances of basic human right abuses of the affected population.

#### **2.3.7.2 Benefits**

The potential benefits of hydropower dams on political security remain unresearched.

## **2.4 Plans for large dams on the mainstream of the Mekong River**

This section describes the Mekong River in general, and offers a brief history of plans for large dams on the River.

### **2.4.1 Mekong River**

The Mekong River runs through and around the national boundaries of six countries, China, Burma, Lao PDR, Cambodia, Thailand and Vietnam, which share 16%, 2%, 35%, 18%, 18%, 11% of the total annual water flow of the river basin respectively. The headwater of the river starts in Tibet and the river empties into South China Sea. The total length of the mainstream Mekong is about 4,800km and the total area is about 795,000 square km (Korea Water Resources Corporation, 2006:5-6).

The Mekong River is considered the “Mother River” in the region, and its natural resources are of central importance to the lives of millions of people whose livelihoods who depend on the river for food and water, as well as for their household income. For example, in Cambodia, the fish catch is between 289,000 to 431,000 tons per year, which is the highest in the region (Peterson and Middleton, 2010: 7). Furthermore, between 65 to 75% of peoples’ animal protein consumption is derived from fish, and 65 kilograms of freshwater fishes are consumed averagely by a Cambodian per a year (Ahmed *et al.*, 1998). Thus, fish is not only a critical source of income generation, but also a vital source for food in Cambodia.

### **2.4.2 Brief history of governing hydropower dams in Mainstream Mekong**

The developmental plans of the mainstream Mekong was begun in the 1950’s. The initiative was a study on technical problems of the river flood control proposed in the 7<sup>th</sup> session of the United Nations Economic Commission for Asia and the Far East (ECAFE). A year later, the Flood Control Bureau of ECAFE released a working paper of the proposed study, and also a broader vision for water resources development in the Basin (Molle, 2009:4-5). It was at this time that the first proposal for dams on the Mekong River’s mainstream emerged.

The first basin development plan, the Indicative Basin Plan (IBP), was published by the Mekong Committee, formed of the governments of Thailand, Cambodia, Laos and Southern Vietnam, in 1970. It was comprehensive plan with a

list of 180 potential projects on the Mekong River's tributaries and mainstream, and regarded hydroelectric power as a key to promote industrialization in the region. However, political instability in the region led to the temporary disbanding of the Mekong Committee in 1975 (Molle, 2009:6).

In spite of adverse difficulties caused by changes in government and politics in the region, an Interim Mekong Committee did not give its vision for mainstream dam development and published a revised Indicative Basin Plan in 1987. It was more focused on the developmental possibilities of each country in the region, and proposed eight mainstream dams as what it considered the best option for a regional long-term developmental strategy. (Molle, 2009:8-9).

As the role of the countries in the Mekong region as communist satellite states faded after the collapse of the Soviet Union in 1991 and the region's political and economic dynamics shifted since the mid 1980's, the Mekong countries began to enter a period of economic transition. Market-oriented economic reforms were undertaken in Laos and Vietnam. In Cambodia, democratic elections were held from 1993 and transitions to market economy were started to be made. Thailand also joined the new economic transition to a regional market-oriented economy; the Prime Minister Chatichai Choonhavan called it "from Battlefields to marketplaces" and shifted government policy to promote regional trade and investment, and expressed the hope of reestablishment of the Mekong Committee (Molle, 2009:10-11).

International aid agencies and international financial institutions returned to the region with hydropower dam projects as a top priority. Meanwhile, the four previous member countries (Thailand, Laos, Cambodia and Vietnam) of the Mekong Committee signed the "Mekong Agreement" in 1995 to ensure sustainable use and governance of the water and resources in the Lower Mekong Basin, under the new name of the Mekong River Commission (MRC). Its mandate is to promote "*Cooperation in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Basin*" although this is a

weakened mandate comparing to that of the original Mekong Committee (Lee and Scurrah, 2009:9-11).

### **2.4.3 MRC's involvement in Mekong mainstream dam**

Eleven “run-of-river” hydropower dams on the Mekong River’s mainstream were proposed in a study published by the Mekong Secretariat in 1994, a few months before the Mekong Agreement was signed. However, these plans were suspended due to the decrease in electricity demand of Thailand after the Asian financial crisis in 1997. The MRC subsequently favored an interpretation of “sustainable development” that emphasized environmental protection, such that in 2000 the Chief Executive Officer of MRC Secretariat in 2000 and MRC’s “State of the Basin” report in 2003 both stated that plans to build dams on the lower mainstream Mekong were not being considered (Lee and Scurrah, 2009:7-14).

Since 2006, however, hydropower dam plans for the Mekong River’s mainstream were revived.<sup>4</sup> Up until now, 11 dams on the mainstream Mekong have been proposed, and they are presently at the pre-feasibility and feasibility stages of planning. Several factors contributed to the reemergence of these plans. First, the fluctuating price of gas and oil made hydropower more attractive and competitive. Second, new developers and private sector financiers including from within the region became strong proponents of the projects. Third, dams now built in China on the upper Mekong (Lancang) River mainstream will increase the average dry season river flow by 30 to 50% in northern Laos and Thailand, appearing to make some of the lower Mekong mainstream dams there more economic (Hang, 2008). Fourth, it is predicted by governments that the electricity demand will increase significantly in the future, especially in Thailand and Vietnam. Fifth, Laos and Cambodia have been showing strong interest in exporting hydroelectricity to earn foreign currency which they believe will be good in terms of their economic development (Lee and Scurrah, 2009:7). However, as noted above, these projects will also incur significant

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<sup>4</sup> MRC officially is a ‘basin planner’ only informing decision-making processes to its member countries, while ‘private developers’ promote the dam plans.

environmental and social costs (see section 5.2)

## **2.5 Human Security Impact Assessment**

### **2.5.1 Attempts to apply human security concept in evaluation**

Although it might not be a widespread phenomenon to apply human security in evaluation of developmental projects or policies at the moment, not many would argue against the importance of doing so. Below are a couple of examples of evaluating program and policies from a human security perspective.

Yu (2008) made an attempt to apply the concept in her master's thesis titled "Human Security Approach to Migrant Workers and Migration Policies in Korea" in 2008. She adopted 'protection and empowerment', the definition of human security by the Commission of Human Security, as the definition in her study, and tried to develop guidelines to analyze social policies and applying it to migrant workers and national policies on migration in South Korea. Based on previous studies, she analyzed human security from three aspects: economical; legal; and social. She also adopted Amartya Sen's 'capability' approach as her framework, and discussed the connection and differences among human rights, human security and human development. As a case study, she analyzed the development of Korean policies on migrant workers and concluded that the policies were more focused on 'protection' rather than 'empowerment'. Finally, she argued that more integrated policies and approaches should be made in order to fulfill 'empowerment.'

Another paper on human security assessment titled 'The effects of land tenure change on sustainability: human security and environmental change in southern African savannas' researched how sustainability has been diminished by the changes on land tenure using a human security perspective (Clover and Eriksen, 2008). It tried to answer the following questions: *1) how has colonial land tenure and distribution affected people's options and capacity to end, mitigate or adapt to risks to their human, environmental and social rights, and what have been the related effects on land uses and degradation? 2) to what extent have post-independence land reforms*

*addressed threats to human security and political causes of land degradation?* Clover and Eriksen concluded that inequity in the distribution of land and resources, insecure rights, and marginalization of livelihood system all undermined human security in the region, as well as to lead to direct conflict.

### **2.5.2 Impact assessments of planned dam projects**

There are already a variety of impact assessments typically conducted on proposed dam projects, including Environmental Impact Assessments (EIA), Social Impact Assessments (SIA), Health Impact Assessments (HIA) and Strategic Environmental Assessments (SEA). Although each type of assessment has valuable points, each type of study covers only a specific and narrow aspect of the human security concept, and doesn't specifically apply the Human Security framework. In short, none of these assessments have a broad enough methodology to evaluate the multi-aspects of a projects costs and benefits from a human security perspective.

### **2.5.3 Previous work on impact assessment of dams from the HS perspective**

Whilst the human security perspective has attracted a lot of attention, it can still not be considered a widely accepted framework to assess developmental projects and policies at present. Efforts made to apply the human security concept to assessing dam projects are even harder to find, other than those that evaluate food and environmental threats.

One example of how the impacts of dams are evaluated from the human security perspective is a study titled "The Impacts of Development-induced Displacement on Human Security: A study of Dam Finance" (Caspery, 2007). In this study Caspery describes how displacement caused by dam projects affects human security. Identifying that dam construction mainly impacts the livelihood of people displaced to make way for the project as well as the livelihoods of people already living in areas where displaced people are resettled, he analyzed the direct and indirect forms of violence that threaten human security, and identifies current knowledge gaps on resettlement issues. Caspery also describes how financial

(development) institutions have reacted on these issues. Still, it is hard to say that this work provides valid analysis on the impacts of dams from a human security perspective, since his framework doesn't consider specifically the individual aspects of human security and their relationship, but rather uses human security as a general concept, and the human security framework in fact looks into multi-dimensional changes and impacts.

#### **2.5.4 Human Security Impact Assessment (HSIA)**

The Human Security Unit of the UN Office for the Coordination of Humanitarian Affairs published a handbook "Human Security in Theory and Practice: Application of Human Security Concept and the United Nations Trust Fund for Human Security" in 2009 (UNOCHA, 2009). It aims to provide guidance for practitioners who want to apply a human security perspective to their work and provides an overview of both the concept and operational impact of human security, as well as useful tools and strategies to develop, implement and evaluate projects.

The UNOCHA methodology, however, focuses, on the application of the human security framework at the policy and program level, and emphasizes more designing programs to strengthen human security rather than evaluating the impacts to human security of pre-proposed individual projects. In this context, the report states that the goals of a Human Security Impact Assessment (HSIA) are:

- 1) *To improve the program and ensure that it alleviates the identified human insecurities while at the same time avoiding negatives outcomes.*
- 2) *To ensure that individuals and teams think carefully about the likely impact of their work on people and take actions to improve strategies, policies, projects and program, where appropriate.*
- 3) *To assess the external environment and the changing nature of risks rather than the typical focus on the output-input equation used in program management.*

The report proposes three stages to design, implement and evaluate a human

security program, reproduced in table 2.2:

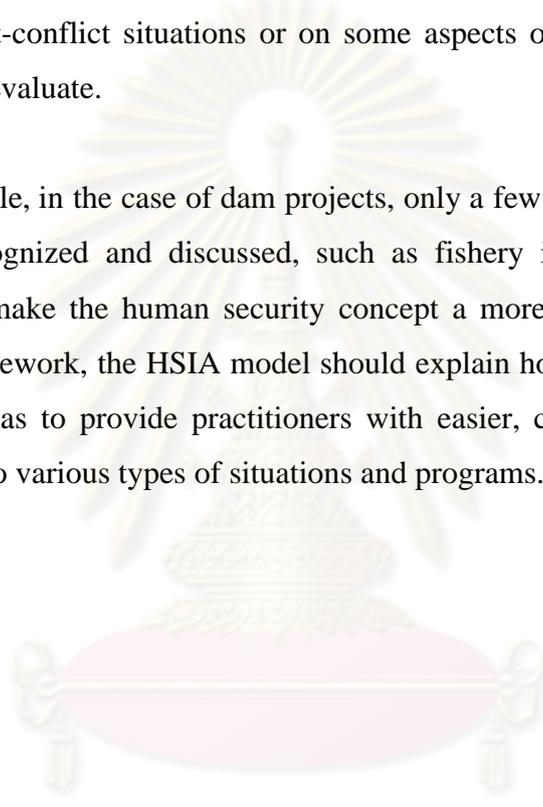
<Table 2.2: Three stages for HS program>

Phase	Goals and Tasks
<b>Phase 1: Analysis, Mapping and Planning</b>	<ul style="list-style-type: none"> <li>▪ Establish participatory processes and collectively identify the needs / vulnerabilities and the capacities of the affected community(ies).</li> <li>▪ Map insecurities based on actual vulnerabilities and capacities with less focus on what is feasible and more emphasis on what is actually needed.</li> <li>▪ Establish priorities through needs/vulnerabilities and capacity analysis in consultation with the affected community(ies).</li> <li>▪ Identify the root causes of insecurities and their inter-linkages.</li> <li>▪ Cluster insecurities based on comprehensive and multi-sectoral mapping and be vigilant of externalities.</li> <li>▪ Establish strategies/responses that incorporate empowerment and protection measures.</li> <li>▪ Outline short, medium, and long-term strategies/outcomes even if they will not be implemented in the particular programme. (Outlining strategies at different stages with the community is an important foundation for sustainability.)</li> <li>▪ Establish multi-actor planning to ensure coherence on goals and the allocation of responsibilities and tasks.</li> </ul>
<b>Phase 2: Implementation</b>	<ul style="list-style-type: none"> <li>▪ Implementation in collaboration with local partners, ensuring that actions do not unintentionally undermine any other human security component/principles and respect the local norms and practices of the affected community(ies).</li> <li>▪ Implementation that considers the changing dynamics of risks and threats and is flexible to adjust to such changes as necessary for the protection and empowerment of the affected community(ies).</li> <li>▪ Capacity building of the affected community(ies) and local institutions.</li> <li>▪ Monitoring as part of the programme and the basis for learning and adaptation.</li> </ul>
<b>Phase 3: Impact Assessment</b>	<ul style="list-style-type: none"> <li>▪ Are we doing the right thing as opposed to whether or not we are doing things right?</li> <li>▪ Does the programme alleviate identified human insecurities while at the same time avoiding negative externalities?</li> <li>▪ Deriving lessons learned from failures and successes and improving the programme.</li> </ul>

(Table from UNOCHA, 2009:13)

This model is significant as being one of the first published initiatives in the field of HSIA for designing and evaluating developmental projects from the human security perspective at a practical level. Yet, there is still a need for further and more detailed work to provide clearer methods and standards of HSIA, and to critically evaluate its potential as a development tool. In other words, this HSIA model has yet to be extended and tested on various types of development projects and programs other than in post-conflict situations or on some aspects of what traditional impact assessments also evaluate.

For example, in the case of dam projects, only a few threats to human security are typically recognized and discussed, such as fishery impacts and resettlement issues. Thus, to make the human security concept a more attractive, plausible and conventional framework, the HSIA model should explain how to measure threats and their impacts, so as to provide practitioners with easier, clearer and more detailed models that fit into various types of situations and programs.

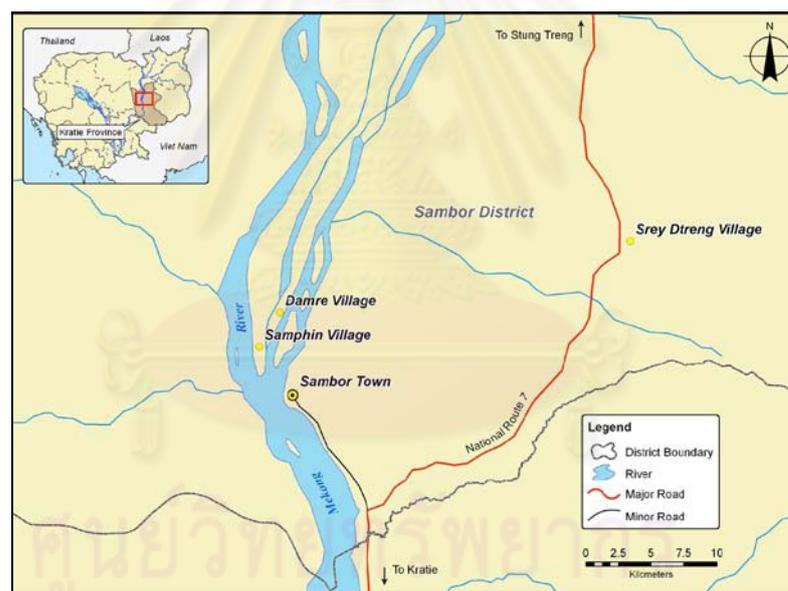


ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



The name ‘Sambor’ means ‘plenty’ in Khmer with a nuance of abundance that implies more than enough for the needs of the people. Sambor district is located in Kratie province that shares boundaries with Stung Treng province to the north, Kampong Thom province to the west, Mondulkiri province to the east and Kampong Cham province to the south (see Figure 3.1). The Mekong River flows through the district from the north to south, and most villages are situated along the river bank or on islands. The recently constructed Highway No.7 is built parallel to the river, and connects Phnom Penn to Strung Treng province before entering Laos. The area used to be heavily forested, but logging has caused extensive deforestation in the district (Cornford and La, 2010:5).

<Figure 3.2: Map of Sambor>



(Source: Oxfam Australia)

Situated about 36 km north of Kratie town, Sambor is the largest district in Kratie province and is famous for its school of Irrawaddy dolphins that are a popular tourist attraction (see Figure 3.2). Sambor District has a population of about 55,000 people in 10 communes and 52 villages, and 30% of them are minorities of Phnong, Koy, Mil, Kraol, and Thoun groups (NIS, 2009). Among those minorities, some are integrated into Khmer culture, language and religion; For example, the Koys now

consider themselves as Khmer-Koy, not Koy and are now rice-farmers holding Buddhism beliefs (Cornford and La, 2010:5). In the mean time, some other ethnic groups still maintain their own traditions; for example, Khnong practices slash-and-burn farming in forested areas and believe in Animalism (Cornford and La, 2010:5).

More than 80% of the villagers in Sambor area are engaged in agriculture, predominantly rice-farming as the primary activity for both household consumption and income generation. Fishing, vegetable growing, livestock raising, wood collecting and animal hunting are conducted as well as secondary activities. Most of the rice produced in the region is paddy rice, and the rice field watering is heavily dependent on rainwater since there is very limited irrigation infrastructure. The average daily income in the district is about US\$ 1 per day, and the population's health and education status are still low due to the unfavorable geographic location and low population density (Cornford and La, 2010:5).

### 3.1.2 The Sambor Dam Project

<Figure 3.3: Proposed dam sites in Lower Mekong Mainstream>



(TERRA, n,d: online)

&lt;Table 3.1: Sambor Dam Project Profile&gt;

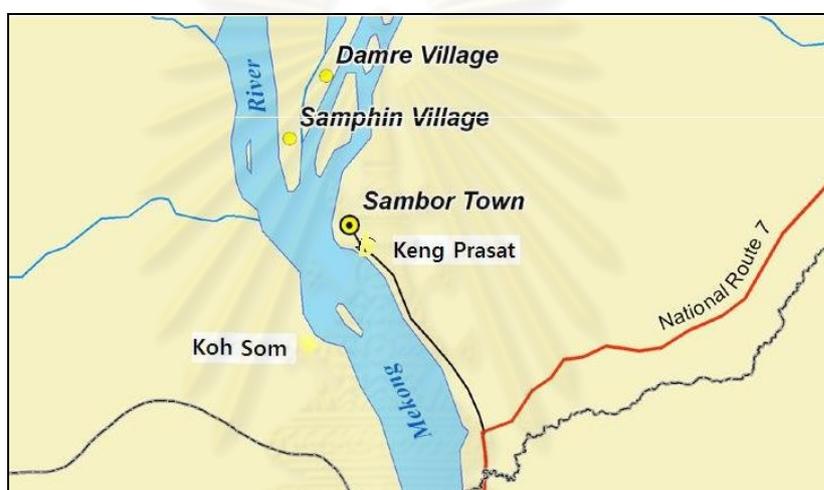
Project Overview Description	Design specification*	MRC database figures (2009)**
Name of dam	Sambor, Cambodia	
<b>Dam statistics</b>		
Height	56 m	35 m
Length	18,002 m	30,664 m
Installed capacity	2,600 MW	3,300 MW
Average annual energy	11,740 GWh <sup>-1</sup>	14,780 GWh-1
<b>Purpose</b>		
Propose market for electricity	30% domestic; 70% export	-
Multipurpose uses considered	Power, flood control & navigation	-
<b>Reservoir</b>		
Area inundated at FSL	620 km <sup>2</sup>	-
Expected daily fluctuation in level of reservoir	Power generation continuously, therefore small daily variations	
<b>Impacts</b>		
Total area of agricultural land inundated (irrigated area, rain fed agriculture, slash & burn and main crops type)	3,369 ha	
Total area of forest	13,143 ha	
Number of people to be resettled	19,034	5,120
Infrastructure inundated in reservoir (house area, paved road, government buildings, hospitals, schools, temples, etc)	24, 351 sq m <sup>2</sup>	
<b>Cost</b>		
Estimated cost of the dam	4,947 M\$	
Transmission line	312.9 M\$	

\*Data from China Southern Power Grid company; \*\* Data from CNMC, 2009, quoted in Estoria 2010

In October 2006, the China Southern Power Grid Company proposed to build a 3,300 megawatt hydropower dam in Sambor district on the mainstream of the Mekong River (TERRA, 2007). The company initiated a pre-feasibility study and Environmental Impact Assessment (EIA) that are yet to be released to the public (Estoria, 2010:22). The Sambor dam project is one of the 11 hydropower dams proposed to be built on the lower Mekong mainstream, and the Sambor Dam is the lowest dam in the cascade. Table 3.1 provides more details about the proposed dam.

### 3.1.3 Villages interviewed

During the field research, four villages were visited to evaluate the current human security situation. Two villages, Samphin and Dumrai, are located in the upstream of the proposed Sambor dam, while two others, Koh Som and Keng Prasat are in the downstream. If the proposed Sambor dam is built, the population in the upstream villages such as Samphin and Dumrai will be most likely to be resettled (see Figure 3.4).



<Figure 3.4: Map of the villages interviewed><sup>5</sup>

#### 3.1.3.1 Samphin village

Samphin Village is located in Kampong Cham Commune at the end of Koh Regniew, which is an island situated in the middle of the Mekong River. Koh Regniew is the area's largest island and is 43 kilometers long with 4 villages located on it (Cornford and La, 2010: 5). If the Sambor dam is built, the downstream end of Koh Regniew Island will be connected somehow to the dam's wall. The village was established during the 1910's or 1920's. It has a population of 1,217 people that consists of 714 women and 503 men. There are 255 households and 157 hectares of land. The majority villagers are Khmer and there are a small number of indigenous groups, such as Phnong, Koy and Kraol. Almost all villagers are Buddhists.<sup>6</sup>

<sup>5</sup> Edited from Figure 3

<sup>6</sup> Data from focus group discussion on July 11, 2010

Most households are engaged in rice farming. Fishing, livestock raising and vegetable cultivation are also undertaken as secondary activities. Some villagers have migrated to outside of the village for better income, while the rest of the family members remain in the village; 7 villagers have migrated to Malaysia, and 3 or 4 villagers to Phnom Penn.

Taking advantage of the village's location, an eco-tourism project called the "Community Based Tourism (CBT)" project has been implemented in the village for two years. The project is designed to attract tourists who come to the Sambor area for dolphin watching and wish to experience firsthand a local lifestyle. It aims to create additional income for the villagers and is coordinated by a local NGO called Cambodian Rural Development Team (CRDT). 45 households are participating in the project, which are divided into several groups such as food, transportation, guide, handicraft and home-stay. The villagers expect the project to become more successful in the future as the number of tourists is increasing.<sup>7</sup> At the same time, there is some concern about the decreasing number of dolphins in the river and how that will affect the number of tourists visiting the village.

There is no health center in the village, although the villagers are concerned would like one to be built. Although there is an uncertified nurse who treats patients with traditional medicine, people often have to cross the river to see a doctor. Thus, the villagers, especially in the case of an emergency, feel very vulnerable.

### ***3.1.3.2 Dumrai village***

Dumrai village is located further than Samphin village from Sambor town. Dumrai is one of the 8 villages in Bounchar Commune. Among these eight villages, three villages are formally registered and five villages remain as 'informal villages' because the number of population isn't enough to satisfy the national standard to be recognized as a formal 'village'. All five 'informal' villages are a variety of ethnic

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<sup>7</sup> There were 12 visitors in a week at the time of the interviews (July 2010)

minority households, and the three ‘formal’ villages are Koy ethnic group.<sup>8</sup>

<Figure 3.5: Typical kitchen in a house in Dumrai village>



Because the distance between the villages is far, it is difficult for them to visit and to communicate with each other. Within the village itself, houses are not close to each other. Generally, neighboring house cannot be seen from one another. Compared to Samphin village, in Dumrai the size of the population is smaller and the living condition, in general, is worse in terms of house quality and assets.

In the past, there was only forest in the area and no one lived there. Whilst Dumrai was established in 1980, the presence of Khmer Rouge soldiers in the area meant that the villagers had to evacuate Dumrai in order to seek a safer place. After the election in 1993, half of the previous residents returned to the village.

In Dumrai, there are 64 families with a population of 344 (160 men and 184 women) living in 86 hectares. There is also an informal village called Dumrai that is associated with the ‘formal’ Dumrai; for example, when there a new government

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<sup>8</sup> They call themselves as “Khmer Koy”

policy or information from outside, the chief of the formal Dumrai village will inform the chief of the informal Dumrai village. However, in practice the 'formal' Dumrai villagers see the informal Dumrai village as a different village and the two villages held separate village meetings. However, if the informal and formal Dumrai villages are combined together there are 1155 people from 220 families.

Basically, in Dumrai village, all households are engaged in rice-farming along with fishing, raising livestock and growing vegetables. There are several other income generation activities such as selling groceries, ice and rice wine; however, these are generally subsidiary businesses. Since most of the houses are located along the river, fishing is also a secondary activity for household consumption and cash income; however, the number and quantity of fishing depends on season. During the farming season, people cannot go fishing often because they are busy in the paddy fields; the villagers said that they would go fishing more often after harvesting rice.

All the activities, like rice-farming, fishing and growing vegetables, are mostly for household consumption, and most household do not regularly sell the products in a market. Rather, they sell the surplus, whether it's rice, fish, livestock, when they need cash, for example for medical treatment or for buying more food.

The biggest concern of the villagers is the education of their children. They long for a high school to be built in the village. Although there is a junior high school (grades 7 to 9) in a neighboring village, according to the Dumrai villagers, it is geographically too remote to send their children to and the only option that the villagers have currently is to send their children to the high school in Sambor town. However, the expense to go to and from Sambor would cost them at least 10,000 Riel per day and the parents are concerned about the safety of their children while riding the boat; even if the children stayed in Sambor, it would cost extra board and lodging. Yet, the villagers recognize the importance of education in order to give their children more opportunity and a secure job. Therefore, they have both made appeals to the local government and requested a high school in national meetings. The local

government refused to build a high school due to lack of teachers and budget for school supplies, such as books. However, a high school was promised in a meeting in Phnom Penh by a government official, although it hasn't been kept.

### ***3.1.3.3 Koh Som village***

Koh Som village is located in Sambor Commune, and is 7km south and across the river from Sambor town. The length of the village is 4.7km. The total population is 771 people, including 394 women and 377 men in 169 household. The villagers are all ethnic Khmer. Koh Som is neighbored by Yev village to the north and Ta Ngoun village to the south, and there are no tensions between the villages. During the rainy season, the bridge connecting Koh Som and Ta Ngoun village often gets swamped making visits difficult.

Koh means 'island' and Som means 'beautiful and suitable.' The village was first established in 1979 and was originally situated on an island in the middle of the river close to where the current village is located. However, the villagers felt that the size of the island was too small and so moved to the current location in 1981 seeking more land, which at the time was forested. 18 families are still farming in the old Koh Som area while living in the new Koh Som; they come and go to the island everyday only during the rice-farming season.

Most households are engaged in rice-farming. Some villagers are running small businesses such as selling groceries, food and handmade baskets. Growing vegetables and fruits is also a major secondary activity. There is one primary school in the village with 3 classrooms and 2 teachers. The school is only for grade 1 to 5. Students in grade 6 should go to the school in the adjoining village. For high school education, the high school in Sambor town is the only option. There is no police station and no health center, except one traditional practitioner. Alike Samphin villagers, Koh Som people also place a 'health center' as their top wish for government support.

The villagers regard the living condition of the village as worse than other villages in the Sambor district, because the village was ranked as ‘poor’ in a national survey conducted a couple of years ago. Average income for the poor households is 100,000 Riel per month (US\$25), and for the medium households is 200,000 Riel per months (US\$50). Oxfam Australia is the only NGO working in the village. The village has been one of the target villages of Oxfam Australia since 1996. Currently, the NGO is implementing some projects to improve livelihood.

#### **3.1.3.4 Keng Prasat**

Keng Prasat village adjoins to Sambor town. Although this village is also situated along the river like other villages, there’s no need to cross the river because it is right next to Sambor town, which centers all other villages in the district. Keng Prasat means ‘corner of Temple<sup>9</sup>’. The total population is 2,213 with 1,218 females and 995 males. The number of households is 517. The majority of the villagers have been living in the village for generations, and there is only small number of new comers. The most villagers are ethnic Khmer, while about 30 households Muslim and around 10 households are Vietnamese. There is no serious ethnic tension among villagers.

Compared to other villages on the islands or on the other side of the Mekong River where most people are engaged in agriculture, the occupations are much more varied in Keng Prasat. Although 65% of the population is farmers, the rest of the population is not engaged at all in agriculture; for example, there are people working as laborers, office workers, business owners, drivers and carpenters due to the proximity of Sambor town. The villager leader estimated that the average household income is 2,000 Riel per a day; however, those who are not in agriculture and have a job would earn much more. Thus, the income gap between rich and poor is likely to be bigger than many other villages in the district where nearly all people are somewhat engaged in agriculture.

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<sup>9</sup> The famous 100 pillar temple is in Sambor town which is right next to the Keng Prasat village

<Figure 3.6: Local business in Keng Prasat>



In fact, in terms of infrastructure, Keng Prasat is similar to other villages; there is no health center, high school, sanitation system or irrigation system. However, as Keng Prasat is located right next to Sambor town, the central town in the district, and there is no such clear border that distinguishes Keng Prasat and Sambor town, it makes a difference in the quality of living of the people. Keng Prasat villagers can access services in Sambor town easily; for example, they can go to the market daily and to the health center (without crossing the river, which saves transportation costs) as well as a high school and police station.

Nevertheless, despite the fact that the villagers in Keng Prasat do gain some benefits from its location, they are also at a disadvantage in some ways. For example, the NGOs working in the other three villages and that are critical to improving living standards largely do not work, or have much work in this village. Only Oxfam Australia, whose office is located there, run a couple of programs in the village such as credit program and rice bank; however, Keng Prasat is excluded in many other projects implemented in other villages.

In fact, the villagers seem to feel more connection with local government offices than NGOs, because it is not a target village. For example, some villagers said, “I wouldn’t go and ask NGOs for any help, because they have their own plan and work.” And some also argued, “NGOs only serve rich people, they don’t care for the poor. So I would rather go to the government offices, if I have to in case of an emergency.”

<Table 3.2: General profile of the villages>

	<i>Samphin</i>	<i>Dumrai</i>	<i>Koh Som</i>	<i>Keng Prasat</i>
<b>Main livelihood</b>	Rice farming	Rice farming	Rice farming	Rice farming
<b>Ethnic group</b>	Khmer, Phnong, Koy, Kraol.	Koy	Khmer	Khmer, Vietnamese, Muslim
<b>Health center</b>	No	No	No	No (easy access to Sambor center)
<b>Police Station</b>	Small post	No	No	No (but close to Sambor)
<b>School</b>	Primary	Primary	Primary (1 to 5 <sup>th</sup> grade)	No (share with Sambor town)
<b>Sanitation system</b>	No	No	No	No
<b>Market</b>	No	No	No	No (close to Sambor market)

### 3.2 Current Human Security in the villages

This section provides a picture of the livelihood of the people in Sambor from a Human Security perspective based on all the interviews (key informant, focus group discussion and individual) in four villages, with some information validated by external stakeholders. The definition of each security and its indicators defined in section 1.5.1 are used. In each security section, a table with some of the interview questions and responses is provided for a reference; however, the tables show the data from only individual interviews and do not capture fully the security situation in the area.

#### 3.2.1 Economic Security

##### *Standard of living*

Although economic security means secured income at most times, in an agricultural society, especially in developing countries like in the villages interviewed, monetary income alone isn't always equal to economic security. In most cases, economic security is strongly connected to food security in rural area.

Because most of the villages in the district are in somewhat remote and isolated areas and do not have easy access to the Sambor town, which is slightly more developed and has a more modern lifestyle, the life in the villages is generally much simpler. The villagers' life cycle focuses on the basic things for human life; clothing, shelter and mostly food. Thus, most villagers, except some with office jobs, fishers or private business owners in Keng Prasat, live partly outside of the cash economy, and only convert commodities into cash when needed.

Rice is a major part of their diet, and the majority villagers are engaged in rice farming which means self-sufficient in terms of food. Shortages of food, as well as diversity of diet, can be filled with fish from the river and vegetables grown on their own land. Thus, areas where food is secured often show better economic security; once people have enough food to feed their family, then people can sell the surplus, which mean financial income to the family.

### ***Share of employed/unemployed***

Another interesting point is that once food is secured, people are less likely to look for other options like another job. Most villagers are self-employed, for example as farmers, fishers and small business owners, thus people are not motivated to find stable jobs. They tend to try and make a better income with what they already have, for example their own land, other than looking for a better option. In other words, looking for a job also means quitting farming at the same time. Therefore, the opportunity cost is too great in the sense that they would give up the whole year's food production while a job is found, and there is no guarantee to find a job that is better paid than farming. There is also the risk of moving to other villages while job seeking as it takes extra cost for lodging.

&lt;Table 3.3: Economic Security profile of the villages&gt;

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat (16)</i>
Main household occupation*	Rice farming = 9 Small enterprise= 1	Rice farming = 10	Rice farming = 9 Boat builder =2	Rice farming = 1 Small enterprise= 9 Office job = 3 Self-employed= 3 Laborer = 1
Secondary occupations	1Fishing 2Temporary Labor 3Vegetable growing	1Livestock raising 2 Fishing 3Vegetable growing	1 Fishing 2Livestock raising 3Temporary Labor	1Livestock raising 2Vegetable growing 3Fishing/ Farming
Do you have land?	Yes =9 No =1	Yes =8	Yes =9 No=1 (lend to others)	Yes =3
Range of income**	Average Max2-300USDollar Min 150,000 Riel	Average Max 800,000 Riel Min 100,000 Riel	Average Max 240,000 Riel Min 100,000Riel	Average Max 200 US Dollar Min 100,000 Riel
How often do you borrow money	Rarely 6 No 1	Rarely 7	Rarely 7 No 1	Rarely 5 No 1
Is your monthly income from cash and non-cash sources enough to meet your basic needs?	Yes= 4 No= 3	Yes = 5 Depends = 1 No = 2	Yes = 1 Depends = 1 No = 3	Yes =7 No = 2
Do you think your current sources of income are stable?	Yes = 2 No = 5	No = 9	Yes = 1 No = 2 No income = 1	Yes = 3 No = 6 No income = 1
Do you think that your income will increase or decrease over time?	Will decrease = 3	Will increase (wish) = 3 Hope to be stable = 2 Will be same = 1 Will decrease = 1	Will decrease =2	Will increase = 1 Will be same = 1 Will decrease = 3
Do you consider yourself very poor?	Average =8 Poor = 2	Average = 6 Poor = 4	Average = 1 Poor = 3 Very poor = 1	Above average = 1 Average = 4 Very poor = 1

\*Main household occupation doesn't match up with the total number of the interviewees, because there are some households that responded to have two main occupations, for example, a wife runs small business and a husband is a farmer, and both incomes are important for the household.

\*\*Range of income is likely not accurate, since many interviewees answered that they don't know exactly. Income also varies depending on the season, and the villagers tend to earn cash when needed, rather than regularly.

- Tables 3.3 to 3.9 summarize **only** the individual interviews in each of the villages visited (10 interviewees each in Samphin, Dumrai and Koh Som, and 16 interviewees in Keng Prasat). These tables should help the reader to grasp the individual interviews. However, these tables do not capture the statistics from other interviews, such as key informants and focus group discussion as well as with external stakeholders. As such, the statistics in tables 3.3 to 3.9 do not necessarily match up with the analysis explained in the accompanying text, and should not be treated as representative figures for the village as a whole.
- See Appendix A for the questionnaires.

The main occupation of the majority households is farming. Most of the households have their own land and house, whether it is small or big. The villagers cultivate mainly rice. The harvested rice is spent firstly for the household's consumption, and if there's still leftover, and then they would sell it for cash income. However, since the productivity of land has decreased due to drought and poor maintenance of the land<sup>10</sup>, the amount of rice harvested is decreasing year by year. In turn, this means a greater possibility of reduced income that will threaten economic security as well as food security, because when cash is needed villagers sell the rice to get cash meaning that the family might have to eat less than required.

Besides rice-farming, growing vegetables, raising livestock, logging and fishing is widely exercised as additional activities both for food and income generation. These activities also are, in general, to gain food, and selling these products would happen only when there's more than enough or when cash is needed. Thus, except in special cases when some households are not engaged at all in agriculture, for example the minority communities like Vietnamese and Muslim in Keng Prasat, in general in Sambor district the majority of households are not doing any of these additional activities as the main household occupation.

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<sup>10</sup> The villagers interviewed argued that the productivity of land has decreased because they couldn't afford chemical fertilizer and pesticides. Most of the households use natural fertilizer, which is not harmful to the quality of land in the long run.

***Risk of joblessness and protection against unemployment & Access to social safety nets***

Since the majority households are self-employed, such as farmers, fishers, carpenters, boat-drivers, taxi-drivers and small business owners, the risk of joblessness is not high. Even for those who work in offices, such as teachers, government officials and health center workers, the risk of losing a job don't seem to be high because of the shortage of people with proper qualifications in the area.

However, those who are currently unemployed and don't have their own land to farm have a hard time to find a job. Since the majority of the villagers haven't finished high school, the possibility of getting regular employment is low. Also, since there is no agency or place that people can look for availability of a job opening, the villagers heavily depend on the information from village leaders or friends. Some declared that they had to travel to other towns or other province in order to seek laboring work, for example on construction sites.

The villagers are well aware of these facts and that there are not many job openings in the area and most people have no proper educational background and are illiterate. This often makes them passive in job-searching.

***Level of income***

Level of income varies from household to household. The majority of households are engaged in agriculture as their main source of income, as well as food for their own consumption. Farmers earn between 100,000 to 300,000 Riel per month, but this income is diverse between families depending on, for example, the season, the size of the land, the frequency of fishing, the number of livestock and most importantly, the frequency and amount of product sold in the market. Most households said that their income is highest in the dry season when the rice is harvested, and lowest in the rainy season when it is the planting season and they need to buy pesticides, seeds and so on. Meanwhile, in Keng Prasat, where more

diversified occupations exist, the income gap is much bigger. For households that do not engage in agriculture, the income varies according to occupation but tends to be more stable from month to month compared to farmers.

### ***Reliability of incomes***

In general, the households in agriculture are less dependent on monetary income, because they have other sources of food for their survival (mostly rice, fish and livestock), and can always sell those in a market when cash is needed. On the other hand, the households in other fields of work, such as small enterprises, office workers and carpenters, are more dependent on monetary income as they often have no other source of getting food. The majority of villagers in Samphin, Dumrai and Koh Som are farmers, and there is not much other choice of occupation, while Keng Prasat has a wider pool of occupations. Thus, the villagers in Keng Prasat have more tendencies to rely on monetary income than those in the other three villages.

### ***Sufficiency of incomes***

The majority of villagers said that their current income is enough for their basic survival. But in terms of other amenities of life, they found it is often not sufficient. Most fear the uncertainty of life, for example, a health problem from disease or accident, because there is no health insurance system. Meanwhile, the households without own land and regular jobs, mostly in Keng Prasat, responded that the level of income is not at all stable and insufficient even for survival.

## **3.2.2 Food Security**

### ***Access to basic food & Availability and supply of food***

As mentioned in section 3.2.1 on economic security, the majority of the population owns their land and is engaged somehow in agriculture and fishing mostly for the household consumption. Especially in Samphin, Dumrai and Koh Som, food is secured in that sense. For the villagers in Keng Prasat, 65% have access to food since they are farmers. The rest buy food on a daily basis in the Sambor market.

&lt;Table 3.4: Food Security profile of the villages\*&gt;

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat(16)</i>
Do you have enough food to eat all year around?	Yes = 8 No = 2	Yes = 7 No = 3	Yes = 3 No = 5	Yes = 6 No = 3
Is it enough food to stay healthy?	Yes = 9 No = 1	Yes = 8 No = 1	Yes = 6	Yes = 1
Do you have access to food when there is a natural disaster?	Yes = 3 No = 1	Yes = 5 No = 1	Yes = 1 No = 3	Yes = 3 No = 5

\* Where the number of responses does not equal the total number of interviews for the village the respondents did not answer the question, for example saying that they haven't thought about it.

### ***Share of household budget for food & Quality of nutrition***

The diet of the villagers depends heavily on rice. Since much rice is needed, the villagers either use most of their land for growing rice or use most of their cash to buy rice, and tend to be reluctant to grow or buy other food stuffs like meat, vegetables and fruit. Fish also are a main source of nutrition, but the villagers said that they fish less than in the past because the amount of fish that can be caught has decreased because of the reduced quantity of fish in the river and that the villagers are banned from using modern equipment and can only use traditional methods (for the purpose of protecting dolphins in the Mekong River).

### ***Access to food during natural/man-made disasters***

Most villagers responded that they have some access to food during natural/man-made disasters, because they mostly grow rice for themselves. However, for those who are not engaged in agriculture, the possibility of access to food becomes less in the case of disaster, unless they have enough cash savings.

## **3.2.3 Health Security**

### ***Access to safe water***

There are two main sources of water: rainfall and the Mekong River. Although rain is used as a source of water, it is not sufficient enough all year round, so it is used as an additional source mostly in the rainy season. Thus, the Mekong River is undoubtedly an essential source of water for peoples' daily life, such as drinking, cooking, bathing, laundry and farming. Therefore the quality and quantity of the

Mekong River's water has a tremendous importance in many aspects of the villagers' life, such as environment, food, economic and health.

As the population grows and starts to use chemical products such as soap, detergent and shampoo while there is no proper sanitation system, the quality of the river water has been decreased. These days, it is witnessed that the river seems not as clear as before. According to interviewees, after government research revealed that the river water contained harmful bacteria, NGOs and local government offices have started to promote people to boil or filter the river for drinking and cooking, and NGOs like Oxfam Australia distribute water filters. Nowadays, all households either boil or filter the river for drinking and cooking purposes. All people interviewed believe that if the river or rain is boiled or filtered, it is safe and clean enough.

<Table 3.5: Health Security profile of the villages>

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat (16)</i>
Where do you get your water from*	River = 9	River = 8	River = 5	River = 7 Buy river water = 6 Reservoir = 1
Is your home sufficient to protect you from the weather?	Yes = 6 No = 3	Yes = 1 No = 4	Yes = 2 No = 2	Yes = 4 No = 2
If you are sick, where do you go to? **	Village practitioner = 4 Sambor = 8	Sambor = 7	Village practitioner = 6 Sambor = 6	Sambor = 11 No = 1 Kratie = 1
Are you able to collect information about how to live a healthy lifestyle	Yes = 5 No = 1	Yes = 6 No = 1	Yes = 4 No = 2	No = 2
Are you aware of HIV-AIDs?	Yes = 5 Partly = 2 No = 2	Yes = 1 Partly = 2 No = 5	Yes = 4 No = 5	Yes = 6 Partly = 2 No = 2

\*Water source also from rain when available

\*\* In some cases, the interviewees said that they may go to more than one place for treatment

***Living in a safe environment,***

The environment in the villages is basically unpolluted; the air is clean and fresh air, and there are no serious environmental hazards. However, as the population is growing and modern lifestyles are being adopted, the quality of the natural resources like the river, land and forest are decreasing. Also, the lack of sanitation system in the villages often affect adversely to the health of the villagers. Thus, NGOs and governments provide some education and training courses on how to maintain healthy lifestyles for raising people's awareness about hygiene. For example, before the villagers in Dumrai would defecate on empty land, so human waste would infiltrate into the river or in land, and would also cause contagious diseases, but now there are 20 toilets in the village constructed by Oxfam Australia in order to prevent water pollution and diseases.

***Exposure to illegal drugs,***

One interviewee in Keng Prasat said that some drugs are brought from outside by timber smugglers and are given to local workers. And there is one ex-addict in Keng Prasat, although he was allegedly exposed to illegal drugs when he was working in Thailand many years ago. Overall, the villagers are generally aware of what an illegal drug is; however, there seems no evidence that it is sold and used in the villages. Most of the people interviewed didn't know where to get them even if they wanted to.

***Access to housing (shelter from natural elements),***

Although there is a discrepancy regarding the size and the materials used, most houses are built in a traditional style that looking like they are floating in the air. The house is built on pillars so that the space beneath is left empty for other purposes like raising livestock or placing a flat bench or hammock, and the living space is placed on the second floor connected with a ladder (see Figure 3.7). This style of house is allegedly built to avoid insects on the ground and to prevent the house from soaking up water, especially in the rainy season.

<Figure 3.7 Typical house in Sambor>



The floors of these traditional houses are designed to have small holes so that the used water or garbage can be easily thrown out through the holes to the ground. These holes are designed to make life more convenient, but there is also a disadvantage. They are also paths to insects, especially mosquitoes causing diseases like malaria and dengue fever which is a major health concern in the area. Some NGOs provide mosquito nets, but not all households have received them yet. Especially in villages like Keng Prasat, where NGOs' work often does not reach, there are many households that don't have mosquito nets. In general, poorer households can't afford to buy one, because they are usually short of food as well, and people buy food first before a mosquito net.

In all of the villages, there seems to be no homeless; whether it is sufficient or not, all people at least have their own place to sleep. However, the houses of poor households, especially the ones built with the leaves of trees, are vulnerable to the weather such as strong wind and rainstorms, since the house's materials are not solid enough; the houses often have big holes in a wall or ceiling either because the houses are incomplete or as they are unrepaired since previous damage. Some interviewees said that there are one or two cases per year where the whole ceiling of a house gets blown off by blasts of winds.

*Access to healthcare systems (physical & economic)*

There is one public health center in Sambor town accessible to the villagers. There is no certified doctor in the center, and there is 1 medical assistant and 15 nurses. The center provides its service with minimal cost and for minor diseases, often free of charge.

None of the four villages interviewed has a public health center in the villages. Except Keng Prasat, which is neighboring with Sambor town where the public health center is, the villagers have to cross the Mekong River for health treatment. The people who don't own a boat take a ferry from/to Sambor. Although the cost of ferry is not too high, the schedule is irregular, so in case of emergencies or during the night time it is hard for them to access to the health center. People with their own boat would use their boat; however, the cost of gasoline continues to increase,<sup>11</sup> so it can be a burden to poor families. Thus, the villagers, especially those who live far from Sambor town like Koh Som, tend to visit 'village practitioners.'

In addition, the Sambor health center can only treat minor symptoms and injuries, which means that patients need to travel to Kratie town in order to receive medical service for more serious diseases. Since there is no public bus from Sambor to Kratie, the transportation cost may be not affordable to some. Also it takes time to travel to Kratie, and in the farming season, it can be difficult for both patients and their families to make time to travel. Another travel option is by shared taxi or private mini bus; however, the schedules are irregular and there's no transportation available in the afternoon on the way back to Sambor. Therefore, if one has to go to Kratie or to come back to Sambor late in the afternoon or evening, then one should hire a whole taxi or stay in Kratie for the night which is expensive.

For more serious diseases, a patient has to travel to Phnom Penn, the capital

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<sup>11</sup> The gasoline costs 4,500 Riel per one liter (1 US dollar is about 4,000 Riel) in July, 2010. About 1-2 liters of gasoline is needed for one way to Sambor, depending on size and installed engine of a boat and the distance of a village. And in a rainy season, more gasoline is needed due to the flow of water gets faster.

city, which takes at least 6 to 7 hours by bus. For example, one of the interviewees responded that his daughter has thalassemia which needs a blood transfusion once every month. He said that he and his daughter have to travel to the national hospital in Phnom Penh it costs about US\$ 100 per trip including transportation and hospital expenses. His average income is US\$ 200 per month from his own mobile shop. Although he earns much more than the majority of other villagers, he still needs to spend half of the income on the medical treatment of his daughter. In other words, for the majority of the villagers in the district, there is no chance of getting proper medical care if inflicted with a serious disease, unless help is received from an NGO which is rare and not easily accessible<sup>12</sup>.

### ***Quality of medical care***

As the director of the Department of Health in Kratie province stated, it is extremely difficult to recruit qualified doctors, even medical assistant, because the salary is low<sup>13</sup> and qualified people tend not to be willing to live in a rural area. This lack of human resources not challenges the government to build more health centers in the rural areas, but also leads to another issue in terms of quality of the health care.

The most common complaint about the health center from the interviewees was that the service is slow and patients are treated without proper respect by the practitioners. One even complained, *“I don’t want to go to public health center, because I have to wait long time if I don’t pay extra money to the doctor, and the doctor usually doesn’t listen to what I say!”* Some people even complained that they have to bribe the medical assistant in order to get treated fast, and otherwise said that they have to wait a long time to see the assistant. Because there are limitations in state operated medical services, medical assistants in the public health center also run their own business in the town. Providing personal medical services by a practitioner working in a public health center is against a law; however, it an open secret in the

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<sup>12</sup> There is no public insurance system in Cambodia. Although there are some NGOs working on health issues, they mostly focus on major diseases in the country like tuberculosis.

<sup>13</sup> According to the director of the department of Health in Kratie, the salary of the medical practitioners in public health centers is up to about US\$100 per month.

area. Many villagers feel that the quality of medical service in the government run center is not as good as in the private health center which is run by the same practitioner. Also, because the medical assistant is also running private center, he often shows up late in the morning and leave his office to see patients from his own center, which makes the patients in the public center wait longer than necessary.

Other reasons why people more favor the private health center are that some villagers believe that the quality of service there is better in terms of medicine and treatment. Most people answered that they prefer the private center because they only get a few tablets in the public center when they expect more like injections, and the medicines in the private centers look much better. However, the medical assistant and the director of the Department of Health both contended that this common complaint is a misconception of the patients. The reason why, they said, the villagers prefer the medicine in private centers is that the tablets in private centers look nicer, for example, the tablets are in the form of capsules and are more colorful, while the tablets in the public center looks less attractive (see Figure 3.8). But both argued that in fact the quality of the medicine in the public center is much better than the private center.

<Figure 3.8 Medicines from Sambor Public Health Center>



For another complaint that the service is slow in the public center, both argued that it takes some time to get result for some tests like malaria, but people often get impatient and leave the center before getting the result, and go to a private center. They also pointed out that people get injected with Ringer's solution more readily in a private center, often as soon as they are admitted without any test, thus the patient feels that the service in the private center is better and quicker.

For those who have to cross the river for either public or private health centers, there is at least one medical practitioner, often called traditional doctor or nurse, in their village. However, these medical practitioners are not formally trained or certified. Instead, they often get short term training and education from NGOs and then practice the medical service to villagers. Thus, there is high risk of mal-use and overdose of medicines. In addition, if a practitioner diagnoses incorrectly, a patient's symptoms can worsen and develop complications.

#### ***Prevention of HIV/AIDS and basic awareness & Knowledge on healthy lifestyles***

Although the government only focuses on HIV education in schools, generally, the villagers are aware of HIV/AIDS, or at least know what it is even if they don't know how to prevent it, and are also aware of how to maintain healthy lifestyle from workshops by NGO or village leader groups. But there is discrepancy among the villages; the villages where an NGO is actively involved or has easier access to outside information such as Samphin and Keng Prasat are more aware of HIV/AIDS and its prevention. However, there is also a knowledge gap among people as well. For example, even if a person lives in a village where an NGO is actively working, unless actively involved with the social activities of the NGO or of the village leaders, the person is least likely to be aware of information on HIV/AIDS and healthy lifestyle.

### **3.2.4 Environmental Security**

#### ***Assessment on pollution of water and air***

As mentioned in 'access to safe water' section in Health Security, the villagers get water from either the river or rainfall. Although there is some concern about the

decrease in water quality, people don't feel that the river has been polluted to the extent of being unusable. The river is being used in many aspects of daily life, and is generally boiled or filtered for drinking and cooking purposes. Since the district is in a rural area and has no industrial complexes nearby the villages, villagers in general think that the air is not polluted.

<Table 3.6: Environmental Security profile of the villages>

	<i>Samphin</i>	<i>Dumrai</i>	<i>Koh Som</i>	<i>Keng Prasat</i>
Natural resources available to the community*	River, Fish, Land, Forest	River, Fish, Land, Forest	River, Fish, Land, Forest	River, Fish, Land
Over the past 5 years, has the quality of forest increased or decreased**	Decreased = 2	Decreased = 3	Decreased = 2	Decreased = 2 No forest = 3
Over the past 5 years, has the quality of land increased or decreased**	Decreased = 5	Decreased = 6 Same = 1	Decreased = 5 Same = 1	Decreased = 3

\* Combined summary from all interviews

\*\* Where the number of responses does not equal the total number of interviews for the village the respondents did not answer the question, for example saying that they haven't thought about it.

### ***Prevention of deforestation***

NGOs and local government offices are promoting not to cut down trees and provide some alternative energy programs; however, it doesn't seem like the villagers realistically have good alternative choice but to cut trees for collecting wood for fuel due to financial reasons. For those living on islands and the other side of the river, especially for poor households, the cost to buy gas for cooking is not affordable, since the households don't earn cash income regularly. There are also people using slash-and-burn methods in order to grow rice. Generally these people don't have their own land, so slash-and-burn farming is the only option that they have for survival of their family. Thus, if it is strictly banned, the number of families will fall into a situation of extreme poverty.

### ***Land conservation and desertification***

Climate change affects the land condition in the villages. The villagers

claimed that the quality of land has been decreased, mostly because of the drought. For example, one said “*it is generally the time that rice-planting should had been finished, and I don’t know why there is not much rain this year, so it hasn’t been finished yet. The productivity might be less than usual this year.*” Desertification of the rice field is the main concern of the villagers. They also pointed out that the productivity of their land has decreased. Interestingly, most villagers interviewed said that the quality of their rice-field is worsening because they can’t afford to use chemical fertilizer and pesticides and use only traditional fertilizer made of animal manure and other sources from nature. Meanwhile, the local authorities and the Department of Agriculture are promoting the use of traditional fertilizers in order to maintain the quality of rice-field.

#### ***Concerns about environmental problems***

While about half of the villagers interviewed responded that they have not witnessed dramatic changes in the environment, the rest of the respondents are concerned about changes in the quality of the river and rice-fields; for example, smaller and less fish in the river, lower river levels and lower rice production. Most people said that the number of fish has been decreased because the population has grown, and people use fishing equipment with modern technology which enables them to catch more fish. Also, they think that natural disaster, like drought, is the reason why the quality of land is worsening. Although people are aware of these changes in natural resources and can somewhat name the reason why, most of the villagers don’t know for sure whether they regard the changes to be serious or not, and have not thought about why. Instead, they take the changes as inevitable and non-improvable.

#### ***Ability to solve environmental problems***

In case of natural disasters and environmental changes, many have responded that they have seen changes; for examples, less rain, drought, rainstorm, less fish and water in the river, and less forest. However, most people take these changes as unavoidable changes caused by nature, and haven’t made any attempts to find out the

root causes. Basically, the villagers have strong mindset that their well-being and security should be managed by themselves, and they generally don't regard relevant local government agencies or NGOs as entities that can solve their problems. Many answered that they won't ask the government or NGOs for any help unless they have a prior personal relationship with the government official or NGO. Instead, the village leaders are the first person who the villagers would discuss their personal problems with. Thus, the role of village leaders is in general much bigger than that of those in a town; the ability and vision of village leaders do indeed affect the villagers' possibility of opportunities, for example job-searching and income generation and for access to new information from outside.

#### ***Protection from toxic and hazardous wastes and natural hazard mitigation***

The environment, like the river water and land, has a tremendous importance in the daily life of the villagers, and pollution of the environment can be fatal to their securities such as economic, health and environmental. Since the population is growing in a limited space and there is no proper sanitation system, as well as the usage of chemical fertilizers and pesticides, other chemical products like detergent and shampoo, and the disposal of daily waste, human waste, used water and food leftovers into land and river can generate significant problems in the long run. Although NGOs and local governments implement some programs regarding the issue, like natural resources management and alternative energy management, to raise the awareness of the people and to provide alternative options for minimizing damage to the environment, there needs to be more efforts made to change peoples' mindset. The villagers don't seem to realize that their actions can cause pollution and the consequences will affect their life and increase insecurity.

### **3.2.5 Personal Security**

#### ***Fear of violence***

Fear of violence, for example from torture, war and ethnic tension are not found. Although the villagers responded that they had to evacuate their village in seeking for safer places during the modern conflicts and wars in the Khmer Rouge

time, at present they don't fear any of the violence caused from political instability. In addition, although there are some ethnic minorities in the villages and people tend to live together with the same ethnic group of people, there seems no such serious tension between ethnic groups or neighboring villages. For example, some even declared themselves as 'Khmer' or 'Khmer-Koy', instead of 'Koy'. In general, whether one is Khmer or minority many believe that the minorities now became one of them, since the minorities have been living in the villages for a long time. There is no strict distinction or blatant discrimination against the ethnic minorities.

**<Table 3.7: Personal Security profile of the villages>**

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat(16)</i>
Do you ever fear physical violence?	No = 8	No =5	No = 7	No = 8
Do you ever hear about domestic violence in your village?	Yes = 6 No = 2	Yes = 8	Yes = 5 No = 1	Yes = 9 No = 4
Do you feel safe and protected from the police presence in your village?*	Yes = 9	Yes = 6 (if there's police)	Feel safe without police = 6 Don't feel safe without police= 1	Yes = 8

\* The total number did not match to the number of interviews, because people did not answer the question for example asking why shouldn't they trust the police or that they didn't know.

### ***Prevention of accidents***

Although there are more car accidents at the big junction near the boundary of the district adjoining with other district, there is a low rate of accidents occurring in the villages themselves. Since many of the villages are located in remote areas or on islands, the major modes of transportation of the villagers are bicycles, motorbikes and boats, rather than cars. In addition, the roads and the river are not busy, so there are not many cases of accidents. Even in Keng Prasat where more cars are found, there are not many car accidents since cars don't usually travel fast because the roads are quite bumpy. There are, also less cases of drowning than in the past as boats are now equipped with better engines and the size of a boat is bigger in general.

### ***Level of crime***

Both villagers and local police responded that the crime rate is decreasing in general. The most common crime found in the villages is livestock-theft. However, as the location of the villages are mostly in remote areas or on the islands, it makes it difficult for the thief to get out of the village without being found, and even if they do, it is hard to sell the stolen livestock in the market. There were some cases of stealing livestock in the villages in the past, but the cases are now very rare as the thief was easily caught by police and the villagers are all aware of how the thief had been punished afterwards.

In the mean times, crimes in Keng Prasat that is located on the mainland occur more often than the three other villages interviewed. Because the location makes access easier, and the size and the population of the village is bigger, there is a greater possibility for outsiders to come into the village without being recognized. Some villagers in Keng Prasat said that these crimes are more likely to happen with cooperation between some villagers with outsiders.

### ***Efficiency of institutions***

Since the villages in Sambor are scattered and often don't have police based within them, there are many complaints regarding to the police service. Many people interviewed said that they would feel safer if the police were stationed in their village, but regarding the efficiency of the police, some claimed "The police come late all the time! And they always come after a problem has been settled."

Interestingly, most people responded that they trust the police and would feel safe when the police are around; however, people also claim that the police are often not fair, especially to poor people. Many believe that the police act in favor of richer people and that they should bribe the police in order to be treated fairly. Thus in minor cases, people generally are ok with the service of police, but in more serious cases, for examples, in a dispute with somebody else, people think that bribing the police influences the final settlement. One male said, "My brother once got involved

with a quarrel with someone in another family, so we made a complaint to the police, but they never took any action. I am sure that the other family bribed the police! Also, when my boat was stolen, the police didn't arrest the thief. Other villager told me that the police didn't care. Even if there was a killer, if paid about US\$5,000 the killer would be released I believe!"

***Prevention of domestic violence and child abuse & harassment and gender violence***

The villagers responded that they received many training courses on domestic violence from NGOs and government officials and cases of domestic violence have decreased a lot compared to the past. However, cases still occur fairly often; mostly a drunken husband beats a wife. Although domestic violence is not as prevalent in many households any more, there are at least a few families in each village suffering from chronic violence. As a result of educations by NGOs and government, people seemed to be well aware of how to deal with a beating husband; first, the village chief will admonish the husband, and if it keeps happening the villagers will inform police. If the police are informed more than twice, the police will send him to a court. However, in reality, many beaten wives hesitate to inform police and some even beg not to send her husband to the court for cultural reason as well as economic reason that if the husband is sent to prison, there is no one who can do rice-farming. The NGO ADHOC that works on this issue also admitted this reality, and confessed that it is the most difficult challenge for them as well.

Meanwhile, the cases of child abuse are very rare. Sometimes parents cane their children; however, it is a cultural practice and done mostly to correct the bad behavior of their children, and not to the extent to physical abuse. However, more study is needed as to whether there are other forms of child abuse, like emotional abuse that is not often regarded as abuse but that certainly affects the psychological and personality development of a child, since many children drop out of school without a proper reason, and many families have many children without family planning and regard their children as savings for when the parents get old and can't work.

### 3.2.6 Community Security

#### *Fear of multiregional & internal conflicts*

Although Cambodians have suffered from wars and conflicts throughout modern history, it seems that peace has settled somehow. In Sambor, all villagers declared that there was no such conflict at both the regional and the internal level, whether it's religious, between ethnic groups or because of political differences.

<Table 3.8: Community Security profile of the villages>

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat(16)</i>
Do you have a strong sense of community in your village?	Yes = 9	Yes = 10	Yes = 8 No = 1	Yes = 11 No = 2
Is the culture, language and values in your village the same as in the past?	Yes = 5 Same = 2	Yes = 1 Same = 9	Yes = 2 Same = 6	Yes = 4 Same = 8
If changed, is it good or bad?*	Good = 3 Bad = 1	Good = 1 Same is good = 6	Good = 2 Same is good = 3	Good = 2 Same is good = 4 Bad = 1

\* Where the number of responses does not equal the total number of interviews for the village the respondents did not answer the question, for example saying that they haven't thought about it.

#### *Conservation of traditional/ethnic cultures, languages and values*

While the mainstream culture and values of the villages remain constant, the villagers testified that there are some changes. For example, many villagers said that no one spoke English before, but now people are willing to learn English more and mix some English words, the "internet" and "computer", in conversation. Although they said that it's a change in language, it seems more like a change in value in the sense that they are now more often exposed to outside culture and are more aware of the fact that English will somehow benefit their children's quality of life in terms of getting a better paid job or more opportunities. However, there are contrary opinions about the same issue. For example, regarding changes in women's clothing, one man said, "I see some changes in the way how a woman dresses, but I don't think it is a good change," and another man in his 60's with a wry face said, "these days, the youngsters are too fashionable." In the mean time, a man in his 30's said, "I prefer the

modern lifestyle including the way of dressing. I think it looks smart and better.”

In addition, there is also some cultural change. In the past, the villagers would share surplus, for examples, fish, fire wood and vegetables with their neighbors; however, now they sell it to the market in order to make cash. This change is caused by a change in values, because now villagers are more exposed to and aware of the importance of monetary possession as their life has been more complex than before and they have more opportunity to spend their cash, such as on education of their children, transportation, clothes and ingredients.

#### ***Abolishment of ethnic discrimination***

There is no reported ethnic discrimination in the villages. Most villages in Sambor are composed of homogenous ethnic groups, but even if there are some minorities in a village, for example there are ethnic Vietnamese and Muslims in Keng Prasat, they are considered as ‘village members’ as they often lived there for a long time or even generations. Asked whether they are Khmer or ethnic minority, the villagers in Keng Prasat mostly said that there was no discrimination against ethnic minorities; however, a 21 year-old Vietnamese female said, “Some old people tease me and say “you, Vietnamese!” when working in the street. I am very suffering from these remarks, but I cannot talk back, because I don’t want to make any trouble.”

#### ***Protection of indigenous people***

Since most of the villages are located in remote areas, when the villagers began to form their villages in Sambor, there were no people residing in the area, and therefore no existing communities had been displaced in the process.

### **3.2.7 Political Security**

As mentioned in ‘Fear of Violence’ in Personal Security (section 3.2.5), at present the villagers do not suffer from the consequences of previous political instability in their day to day lives. Political detention, imprisonment, systematic torture, ill treatment and disappearance, as well as state repression, are no longer

found. All the villagers interviewed responded that they vote freely according to their own personal preference, and believe that they can express their opinion freely in public. Also the majority of people trust the legal system of the country. However, many responded that they do not trust the people in the legal system and in the civil authorities; this is because the villagers believe that the civil servants favor richer people more often and that bribes are required when in trouble in order to get a favorable decision. All the villagers interviewed responded that they would be worried that they would not be treated fairly in court or by the police if they were to make trouble with a government official.

Some villagers, especially in Keng Prasat, do not trust the media fully, believing that the information can be forged in favor of and in preference of the central government; the people with more access to outside villages or with a higher level of education have the tendency not to trust media.

<Table 3.9: Political Security profile of the villages>

	<i>Samphin (10)</i>	<i>Dumrai (10)</i>	<i>Koh Som (10)</i>	<i>Keng Prasat (16)</i>
Do you feel able to speak your opinion freely?	Yes = 8	Yes = 8	Yes = 10	Yes = 15
Do you trust media?	Yes = 10	Yes = 7 50/50 = 1 Don't know = 1	Yes = 8 50/50 = 1 Don't know = 1	Yes = 4 50/50 = 10 No = 2
Do you trust the legal system to find a fair solution?	Yes = 7 No = 3	Yes = 9	Yes = 8 Don't know = 1	Yes = 6 50/50 = 2 No = 5 Don't know = 2
Do you feel able to vote freely in an election?	Yes = 8	Yes = 8	Yes = 10	Yes = 12
Do you worry that if you raise a problem with the authorities you will get into trouble?	Yes = 1 No = 2	Yes = 9 No = 1	Yes = 8	Yes = 10 No = 2

### 3.3 Summary of Human Security status of Sambor

The livelihood and human security condition of the four villages interviewed can help picture the general human security situation in the Sambor district. The current human security situation can be summarized as follows:

**Economic Security:** The main household occupation of the villages is rice-farming, while secondary activities alongside this include fishing, vegetable-growing and livestock-raising. There are also a small number of small business owners. There are some people who not farmers; while in Samphin, Dumrai and Koh Som villages the number is very small, in Keng Prasat village about 35% of the population is not farmers and here the occupation varies, including working as office workers, drivers, carpenters, small business owners, and casual laborers.

Thus, the cash income of the majority of households in the area is not stable. It is generally higher in the dry season for farmers, since they can sell rice and go fishing more often, as well as for fishers as there are more fish in the river in the dry season. At the same time, there is not much risk of job loss, since most of the households are self-employed in largely subsistence occupations. For those who are not self-employed and have no land, it is extremely hard to find a full-time job in the area.

**Food Security:** Since the majority of villagers are engaged in agriculture, and most of the production is used for household consumption, food security in Sambor is often equivalent to economic security. It can be said that food security in Sambor is secured in general. Most people responded that the quantity and quality of food is sufficient and that they have access to food when in disaster, because they grow their own rice and can fish any time. Some people responded that they don't have enough food from time to time; however, they also said that they make cash by selling crops that they grow at home or go fishing in the river in order to buy more of the food that they need.

**Health Security:** It is reasonable to say that almost the entire population in the villages use the Mekong River for their daily life such as drinking, bathing, laundry, cooking, and irrigation for their field because most villages in the district do not have a sanitation system and tap water at their homes. Even many households in villages like Sambor and Keng Prasat, which have tap water available, buy river water from small enterprises and have it delivered to their homes. Thus, almost all households responded that they either filter or boil river water for drinking and cooking purposes, and that the water is clean enough if boiled.

For medical treatment, people living near Sambor town, like in Keng Prasat, would go to either a private or public health center in Sambor town, and prefer private health centers in general. However, people living far from Sambor town, like in Samphin and Koh Som, will go to medical practitioners in their village for minor symptoms, and would only go to Sambor town for more serious illnesses. In villages where there is either no trusted or no trained medical practitioners, like Dumrai, villagers will always go to Sambor town for treatment despite the long distance.

**Environmental Security:** People tend to be concerned about and acknowledge changes in the environment that is relevant to their life. For example, people who do not go fishing often tend not to notice any changes in the river, but those that do fish notice the declining fish stocks. In general, the quality of natural resources such as the river, land, fish and forest (if there is any) are recognized as 'sufficient'; however, many have also noticed changes compared to the past. For example, the quality of land seemed to be worsening “due to drought”, and many areas of forest have faced deforestation due to illegal logging.

The villagers are also actors contributing to the decreasing quality of environment surrounding them, for instance, using chemical detergents for laundry, washing dishes and bathing, cutting wood from the forest for cooking, and fishing during the spawning season and using gear that catches juvenile and smaller fish in the river. However, realistically, they do not have many alternatives open to them

either but to use the natural resources as they have been doing before, while not realizing the long-term consequences of their behavior.

**Personal Security:** In general, there are not too many threats to personal security. Since the way of living has been kept relatively unchanged and there is not much infrastructure, accidents occur rarely, and cases of crime and physical violence are also rare. However, although it is decreasing, there are still a notable number of chronic cases of domestic violence in the villages. In addition, most people feel safe both with and without police residing in their village. But at the same time, many also claimed that they do not trust police, as there is a wide understanding among people that bribery is necessary to be treated fairly in serious cases.

**Community Security:** The majority of people continue to live where they have already lived for decades or since their birth, and therefore people have strong sense of belongingness to their communities. At present, there are no serious ethnic tensions or internal conflicts between and inside villages. Although there is still a clear differentiation between the role of men and that of women, there is no discrimination against women in the district. Changes in culture, language and values can be found, but in a very subtle way; it is reflected more in differences between generations, rather than changes within generations.

**Political Security:** There is no serious threat to political security found in Sambor; almost all people believe that they do have and can exercise freedom to speak in public as well as exercise the right to vote. In Cambodia, however, possible threats to political security do exist, although the awareness of people about these threats depends on access to outside information and their education level. For example, people in remote villages like Dumrai and Koh Som trust the media and legal system, while people in Keng Prasat more often doubt the accuracy of information in the media and the fairness of legal judgments because many have found that media can deliver bias ideas to the public, and the legal system can be subverted by powerful people. The fact that the majority of respondents would worry

if they fell into trouble with a high-ranking official and that they think that they would not be treated fairly unless they bribed the authorities reveals the current perception and level of trust of the general public in Sambor towards the authorities.

### **3.4 Reflections on measuring HS status in Sambor**

With existing resources and community participation, it was possible to grasp an idea of what the HS status in Sambor is like. However, there are several points that should be addressed as a reference to future studies and other projects that the HS framework will be applied to.

#### **3.4.1 Tendency of responses**

The biggest obstacle during the community interviews were that it was hard to get clear answers from the villagers; although the villagers seemed open and willing to talk to the interviewer who was a perfect stranger and a foreigner, some of the questions asked seemed very unfamiliar to them. Some of the interviewees said that they did have some experience of being interviewed by other researchers such as NGOs, but the questions were mostly much shorter and easy to answer with yes or no.

Since the HS framework itself is about grasping a holistic picture of an individual's life and understanding its qualitative context, the questionnaire was longer than typical questionnaires (in general, one individual interview took 30 minutes to 1 hour, and key informant and focus group discussions took longer), and there were more questions which were not on the questionnaire also asked according to the judgment of the interviewer to know 'why' and more details. In addition, most of the questions were about 'why' and the types of questions were something that couldn't be simply said as yes or no and that was often answered like 'it depends on the situation'.

Another obstacle was that since a respondent's speculation and analysis was needed to answer the questions asked, many seemed to be puzzled with a question itself, and never thought about the questions before. Thus, most of the time, the

interviewer found it very difficult to get immediate answers; it took a while to get an answer and many answers were not related to the particular question asked. Namely, the time of answer were often taking too long or the interviewee seemed not willing to answer to that particular question or seemed hadn't thought about the question before but did not want to say 'I don't know' or 'I haven't thought about it.' Furthermore, even if an interviewee responded to a question, the answer was, in many cases, something that had nothing to do with the question asked. When this happened, the interviewer thought that it was because the interviewee didn't want to say that he/she didn't know to save his/her face. In those cases, the interviewer did not press for an answer and skipped the question and moved on to next question.

#### **3.4.2 Lost in Interpretation**

Additionally, since the interviewer has a different background and is not very familiar of Cambodian culture and social functions, there are some points missed during some interviews and discovered later in the middle of the whole process. For example, the medical practitioner in the Sambor health center was interpreted as 'doctor' until the interviewer found that he is not a certified doctor. Furthermore, it was discovered in the middle of the interviews that he also has his own private health center, which is illegal. It might be because those things are quite common sense for the interpreter, so he must've thought it didn't have to be even mentioned, but it is not a common sense for the interviewer. Thus, some questions, for examples about quality of medical care and behavior of the medical practitioner in the health center, were added in the middle of the process in order to get more detail about these circumstances.

#### **3.4.3 Blind spots in current HS framework**

During the interviews in the community, the interviewer often felt that there were blind spots that the current HS framework couldn't catch, such as, the attitude and expectation towards one's life and one's quality of life. These things are important because every individual's value and the way of thinking is often shaped by the society that the individual belongs to, and societies have different values and

culture. Thus, without recognizing and understanding these differences, it is impossible to 'measure' or 'understand' an individual's life.

The chance of mis-measurement and misinterpretation can be critical to any stakeholders who plan a developmental project in the area. Since the beauty of HS framework is to help these implementer and decision-makers to come up with the best options for the population, if the villager's willingness and anticipation is not reflected well enough, any of the projects will be implemented with the critical flaw from the beginning.

Unlike the urban area in the country, the Sambor villagers seemed to take their current life for granted, and generally not willing to change. Although they are aware of the changes and moods generated from the economic growth outside of the district, especially the urban cities including Phnom Penn, the eagerness to adopt such changes hasn't been reached to the district, especially in the villages in remote or isolated area.

An example from a respondent in his 40's shows this well. He said that he did have the opportunity to work in an industrial company in his village last year and the income that he could earn was a rare opportunity (\$150 per month) in the area, but he quit after three month of working because the working hours were too long, he said, which was 10 hours a day. Despite this, he also added that he was having a hard time and there was not enough food to eat because his current income was not enough.

Another example is that one former government official quit his job after more than 20 years of working for the provincial government because he wanted more private time with his family and himself. However, based on the experience during the research, the working hours of the government officials are very flexible. For example, the official working hours was generally from 8am to noon and 1pm to 5pm; however, most come much later than 8 and leave even before 11:30am, and do not come back from lunch until 2pm and go home well before 5pm.

It can be plausible and reasonable to say these tendencies are because until the very recent years the country went through the political and social turmoil, and it's been only about one decade that Cambodians actually could have stable life without fearing from any kind of violence, and have time for planning their life accordingly. Thus, it is because there has been, in fact, no chance or opportunity, even if one tries to. And even if now they have such opportunity, the people haven't fully realized that they by themselves can actually make the differences, due to the limited access of outside information. Rather, they tend to be passive in the anticipation on their lives and in planning their lives as in the past.

#### **3.4.4 Villagers' exposure to one-sided information**

The way that responses were expressed was often similar, especially in the villages on island in remote area. I suspect that this is a result of the villagers relying heavily on the education or information provided by an NGO or village leaders, such as the village chief and leader of women's group. The villagers seemed, although they say that they want to improve the standard of living, to be very passive and count on village leaders or NGOs for new information or new way of life from outside. They seemed to somewhat 'follow' the leaders' opinion or decision, and were not aware or determined to change or to improve their life by themselves. For example, if said in a key informant interview that the biggest concern of the life is 'education', the individual interviews have the same response without many exception. Also, many responded that they would, in case of an emergency, disaster or any difficulties in their lives, consult and ask help for their village leaders, rather than government officials, police or NGOs. Thus, recognizing the influence of a village leader will be important in measuring HS in a village, and sometimes it will be necessary to take a step to prevent any possible influence from a village reader to potential interviewees that can be influence their responses before interviews are conducted.

## **CHAPTER IV**

### **EXTERNAL STAKEHOLDERS' VIEW ON HUMAN SECURITY IN SAMBOR**

This chapter maps out each external stakeholder's activities especially in the Sambor area using the Human Security framework, and identifies their perceptions on the potential costs and benefits of the Sambor dam.

#### **4.1 Overview on external stakeholders of the Sambor dam**

There are mainly five types of external stakeholders active in the Sambor area: NGOs; Governments; International Organizations; Industry; and Academic Institutes (see Table 1.2). Although none of these external stakeholders deal with all seven human securities, each stakeholder works in at least one of the seven human securities depending on the goal and focus of the organization. However, that is not to say that the stakeholder acknowledges or utilizes the human security framework itself.

The external stakeholders can also be sorted into mainly two categories: first, those organizations whose work is directly on or about the Sambor dam project, and secondly, those organizations that do not have a direct relationship with the proposed dam development but that do have an influence on the villagers' livelihood.

Although there are many types of NGOs, for example environmental, health, education, livelihood improvement and human rights, the NGOs can be largely divided into two types; first, the ones that are directly working with the villagers, for example, in livelihood development and health care support, and, second, those that do not have a direct connection with the local people themselves but the focus of their work is related to the human securities in Sambor area, like IUCN and International Rivers. All the relevant government external stakeholders have an office in Kratie town and some also in Sambor. International organizations and academic institutes generally work for a specific interest of the organization, like UNEP for the environment and the MRC for management of the Mekong River, while not having

particularly direct involvement with the Sambor communities. Finally, there is industry, which in the case of the Sambor dam project is China Southern Power Grid Company.

## **4.2 Work of external stakeholders**

This section intends to determine what information external stakeholders currently have about the Sambor area, what aspects of human security they are working on, and the cumulative understanding amongst the different organizations about the potential impacts of the dam.

### **4.2.1 NGOs**

#### ***4.2.1.1 Oxfam Australia***

Oxfam Australia is an international NGO that works mainly for the improvement of community livelihoods. Oxfam Australia in Cambodia has a country office in Phnom Penh. The Sambor sub-office was set up in 1994, and has run programs since 1997. Currently, the Sambor office is working in 22 villages in the district. There are 4 formal staffs one program manager, one assistant program manager, one finance assistant and administration manager, and one guard with, in addition one volunteer. Oxfam Australia works with 14 government counterparts in the Sambor office. The Oxfam Sambor office focuses on 'Integrated Development' aimed at improving food security, community education, gender empowerment, disaster management, primary health care and education through building schools, as well as eliminating illiteracy.

The organization's primary activities are to improve livelihoods using their integrated development strategy. It provides workshops on improving agricultural knowledge and technical skill, such as how to grow plants, how to feed livestock and how to maintain fish-farming. It also provides vaccines for livestock and a veterinarian who visit 20 villages to cure sick livestock. The main success so far includes the construction of 8 primary schools in 8 villages.

Table 4.1: Oxfam Australia		
Villages working in Sambor	Samphin, Dumrai, Koh Som, and 19 other villages in Sambor district	
Interviewee	Assistant project manager, Sambor office, 15 July 2010 Advocacy manager, Phnom Penh, 24 July 2010	
Information resources available	Themed books Major report “Preserving Plenty” about livelihoods in Sambor Detailed village-level livelihoods data for their project sites Website on their work in Sambor ( <a href="http://www.oxfam.org.au/explore/infrastructure-people-and-environment/save-the-mekong/the-struggle-of-the-people-of-sambor">http://www.oxfam.org.au/explore/infrastructure-people-and-environment/save-the-mekong/the-struggle-of-the-people-of-sambor</a> )	
Economic security	Yes	Through an “integrated development” program, supporting agriculture and small businesses, and organizing saving groups
Food security	Yes	Through an “integrated development” program, developing rice, chicken and cow banks.
Environmental security	Yes	Land improvement through agriculture projects
Health security	Yes	Training courses for nurses that provide primary health care; Sanitation and hygiene assistance
Personal security	Yes	Domestic violence education
Community security	Partly	Gender equity education
Political security	Partly	Human Rights education
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Resettlement</li> <li>• Impacts to fisheries &amp; food security</li> <li>• Impacts to fisheries &amp; biodiversity</li> <li>• Impacts to dolphins (endangered species)</li> <li>• Impacts to livelihood (culture)</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (Increased supply and decreased cost)</li> <li>• National economic development (power exports)</li> </ul>	
Awareness of HS framework	Yes (Advocacy manager), No (Assistant project manager)	

**Note:** Each table from 4.1 to 4.28 is based on interviews with the particular external stakeholder.

- The third item “Information resources available” means information resources available about the Sambor area or their project that can help inform an understanding about human security
- For the information on economic, food, environmental, health, personal, community and political securities, the external stakeholders were asked which area of securities that they are working on. Only those securities that were answered ‘yes’ or ‘partly’ are written in the table.
- Knowledge about the potential costs and benefits of the Sambor dam are asked as an open question
- For more detail of questions asked, see Appendix B

#### 4.2.1.2 CRDT (Cambodia Community Rural Development Team)

CRDT is a local NGO established in 2001 by a group of students in Maharishi Vedic University in Prey Veng province. Headquartered in Kratie town, there are two sub-offices in Stung Treng province and Mondulkiri province, and also two sub-offices in Kratie province; one in Samphin village and the other in Chlong village. There are a total of 29 staff and 6 volunteers<sup>14</sup>. The project teams reside in their target villages.

Interviewee /Interview date	Technical Operation Manager in Kratie office / July 19, 2010	
Villages working in Sambor	Samphin and 8 other villages	
Information resources available	Website available presenting projects and various reports ( <a href="http://www.crdt.org.kh">www.crdt.org.kh</a> ) Mekong river report on Sambor district	
Economic security	Yes	Projects on income generation
Food security	Yes	Agricultural technique development, promotion of natural pesticides & natural fertilizer
Environmental security	Yes	Environmental education, waste management
Health security	Yes	Rainwater storage, building toilet,
Personal security	No	Gender program will be shortly started
Political security	Partly	Education on raising voices in livelihood program
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Resettlement</li> <li>• Impact to fishery &amp; food security</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity ( increased supply)</li> <li>• National economic development</li> </ul>	
Awareness of HS framework	No	

CRDT's main areas of work are security and income generation, as well as water and sanitation issues. The major donors of the organization are WWF, Proactivim Foundation<sup>15</sup>, and Oxfam GB<sup>16</sup>. Donors for the Sambor programs are WWF for their livelihood development program, FPSC<sup>17</sup> for ecotourism and livelihood development program, WAP for environmental education, eco-tourism and waste management, and IPADE<sup>18</sup> for waste management program.

<sup>14</sup> 2 local and 4 foreign volunteers

<sup>15</sup> Swiss NGO

<sup>16</sup> Oxfam Great Britain

<sup>17</sup> Spanish NGO that has office in Phnom Penn

<sup>18</sup> Spanish NGO that has office in Kratie

CRDT's work in Sambor district began in 2006, as WWF, a major donor and partner, chose the area as a Irrawaddy dolphin preservation site. CRDT aims to improve the living standard of poor communities and conserve the environment, and focuses on environment education, eco-tourism and alternative livelihood development, such as assisting job-searching, chicken raising, fish-farming, rice improvement, vegetable growing, rainwater storage, and installing biodigesters. Currently, CRDT is working in 9 villages in the Sambor district with 900 participating families.

CRDT has stated successes in Sambor so far in improving conservation and local livelihoods. For instance, while villagers' time put in to fishing and forestry has decreased, their income has been increased by 20% in 2009.

#### ***4.2.1.3 CED (Cambodia Economic Development)***

CED is a local NGO established in 1997 by a group of volunteers and registered with the Ministry of Interior in 2000. Its vision is sustainable human development and natural resource management, protection of rights, and economic development of the rural poor in the North East provinces of Cambodia. It aims at 1) empowering the rural poor and indigenous communities about natural resource management, rights, laws and economic development, 2) building community-based organizations and supporting minorities for sustainable development and natural resource management and 3) cooperating with NGOs, the government and other institutes to strengthen the communities in order to have leadership, ownership and sustainability. The primary projects are involved with land use, natural resources management, community forestry and ethnic minority project.

The main office is in Kratie town and there is another office in Stung Treng Province. Before there was a field office in Sambor town, but this has been closed at present due to financial difficulties. There is a total of 23 staff, including 6 staff in the Kratie town office and there are 11 field staffs in Kratie province. CED works in a total of 60 villages in Kratie and Stung Treng. In Sambor, CED works in 34 villages

in 8 out of 10 communes with two main programs being implemented: livelihood program and natural resources management. While the works mainly focuses on indigenous people and livelihood improvement, such as community organizing, promoting small enterprises, coordinating self-help groups and supporting agriculture, projects vary depending on villages; for example, it focuses on education of children and women in Keng Prasat, and works on biodiversity and natural resources management in Samphin. For biodiversity, CED receive fund from AIT Thailand.

The core of CED's work is to organize communities and to strengthen and allocate natural resources for improving community capacity. To achieve these goals, CED finds it important to draw the attention of the government to these issues; it tries to show government officials the importance of natural resources like bamboo and rattan, and to build relationships with and inform the government through advocacy, believing that if the government is aware of the importance of natural resources it will reconsider giving permission to companies that destroy natural resources in the villages.

Interviewee /Interview date	Executive director at headquarter in Kratie / July 19, 2010	
Villages working in Sambor	34 villages in 8 communes including Keng Prasat and Samphin	
Information resources available	Website now under construction No information in English available to public	
Food security	Partly	Promoting agriculture, teaching how to make home garden
Environmental security	Yes	Advocacy - the importance of natural resources focusing on the Mekong river
Personal security	Partly	No program, but awareness raising
Community security	Yes	Training on conflict management (ethnic minority)
Political security	Yes	Raising awareness of rights and laws
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Resettlement</li> <li>• Impacts to fisheries &amp; biodiversity</li> <li>• Impacts to Tonle Sap Lake</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (cheaper)</li> <li>• National economic development (by tax from industry)</li> </ul>	
Awareness of HS framework	No	

#### 4.2.1.4 WWF (World Wild Fund for Nature)

WWF is an international NGO focusing on conservation activities, including communication with the government, research, and public awareness raising. It has identified the Greater Mekong region as one of the 14 high priority places for biodiversity conservation globally, stating that the Mekong River itself is a strong hold for the diversity of 850 fish species. Asides from the conservation value, for example of the Mekong Giant Cat fish, the river's fisheries are very productive and are important to the nutrition and household economy of people living along the river.

Table 4.4: WWF		
Interviewee / Interview date	Freshwater Conservation Manager in Kratie office / July 20, 2010	
Villages working in Sambor	Many including Samphin village (Programs in Sambor are implemented by local NGOs)	
Information resources available	Reports on alternative livelihood program by CRDT Outlines of food security study Biological surveys of the Mekong River between Kratie and Stung Treng towns, northeast Cambodia, 2006-2007 Website on dolphins in Kratie with downloadable newsletter, project information and reports. ( <a href="http://cambodia.panda.org/?referer=pandaorg">http://cambodia.panda.org/?referer=pandaorg</a> )	
Economic security	Yes	Focusing on alternative livelihood program
Food security	Yes	Better methods of growing rice for higher productivity
Environmental security	Yes	Waste management programs, bio-gas projects, promoting not to use chemical pesticides, community fisheries, sustainable use of rattan, conservation of biodiversity
Health security	Yes	Promoting using proper toilet
Political security	Yes	Programs on raising awareness of rights through CRDT/CED
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to fishery &amp; biodiversity</li> <li>• Impacts to fishery &amp; food security</li> <li>• Impacts to dolphins</li> <li>• Impacts to livelihood</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (cheaper)</li> </ul>	
Awareness of HS framework	No	

WWF in Kratie focuses on the conservation of the endangered Irrawaddy dolphin through research on identify the numbers and location of the population and to verify the causes of mortality by collecting dead animals and examining them. WWF Kratie is also working closely with the Department of Fishery, as well as the local NGO CRDT (section 4.2.1.2).

A WWF biodiversity conservation project is also about to be begin between Sambor and Stung Treng that is a strong hold for various species including the Irrawaddy dolphin, birds, fish, turtles and reptiles. The Kratie office is also working to develop community fisheries along the Mekong River with the Department of Fishery. Through its Wetland Alliance Project (WAP), it is working in areas between Kratie and the Laos border with other local organizations to help develop their organizational capacity..

#### 4.2.1.5 FACT (Fisheries Action Coalition Team)

Table 4.5: FACT		
Interviewee / Interview date	Technical Advisor in Phnom Penn office/ July 27, 2010	
Villages working in Sambor	Sambor, Vattanak, Kampong Cham and Beoung Char Communes	
Information resources available	Semester report 2009 Tonle Sap watch newsletter Monitoring reports on the activities of fishery FACT annual reports Website ( <a href="http://www.fact.org.kh">www.fact.org.kh</a> ) on programs and many reports downloadable	
Economic security	Yes	Promoting local livelihoods through advocacy
Food security	Yes	Promoting local livelihoods through advocacy
Environmental security	Yes	Promoting sustainable natural resource use through advocacy
Community security	Partly	Community strengthening program only in disaster management
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to fisheries &amp; biodiversity</li> <li>• Impacts to fisheries &amp; food/ nutrition security</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (increased supply for irrigation)</li> </ul>	
Awareness of HS framework	No	

The Fisheries Action Coalition Team (FACT) was first established in 2000 focusing on the issue of fisheries around the Tonle Sap Lake, and is a coalition of NGOs both local and International. The work has been expanded to 10 provinces in three regions - Tonle Sap lake, the Mekong River and Cambodia's coastal provinces - and at present, programs are being implemented emphasizing protecting human rights, sustainable livelihoods, education and awareness-raising. For the Mekong region program, Kratie province is a target province, and FACT is currently working in 4 communes of Sambor district: Sambor, Vattanak, Kampong Cham and Beoung Char

focusing on building NGO networks to form a Mekong Fisheries' network.

#### **4.2.1.6 NGO Forum on Cambodia**

The NGO Forum on Cambodia is an umbrella membership organization with 87 national and international members represented. It works to promote dialogue, advocacy and information sharing on sensitive issues affecting Cambodia's development. The NGO Forum on Cambodia is based in Phnom Penh. Its partners decide upon the activities and priorities of the organization through quarterly meeting. The NGO Forum has 36 staff, divide between three programs:

- *Environment*: Working on pesticides and sustainable agriculture, hydropower development and community rights, and other environmental issues, including coal-fired power stations and climate change
- *Land and Livelihoods*: Working on land issues, plantations, illegal logging, and indigenous community rights
- *Development*: Working on national budget monitoring and aid effectiveness

With regards to the Sambor Dam project, the NGO Forum on Cambodia's "hydropower and community rights" project focuses on this issue working through the Rivers Coalition of Cambodia (RCC) network. Within the RCC network, the NGO Forum on Cambodia's role mainly focuses on national-level advocacy, including monitoring government plans at the national and project level, collecting information about the project process (for example the Environmental Impact Assessment), trying to meet with China Southern Power Grid Company (unsuccessfully to date), raising concerns about the impacts the dam would cause to policy makers so that there's more informed decision-making, initiating research on baseline information in the area, and working with regional coalitions, for example the "Save the Mekong" coalition. The NGO Forum on Cambodia's local partners - CED, CDRT and Oxfam Australia - are members of the RCC and are directly working with the communities in the Sambor area. The NGO Forum on Cambodia's "land and livelihoods" project is also working in the Sambor area on plantation issues.

Table 4.6: NGO Forum on Cambodia		
Interviewee / date	Environment Program Advisor, 5 September 2010	
Villages working in Sambor	Not applicable – The NGO Forum on Cambodia works through local NGO partners	
Information resources available	<p>“Sambor Baseline Survey” report, to be published in September 2010</p> <p>“Chinese Involvement in Hydropower Development in Cambodia” report, published January 2008</p> <p>“Powering 21<sup>st</sup> Century Cambodia” report, published October 2009</p> <p>Position papers to the Royal Government of Cambodia submitted to the Cambodian Cooperation Development Forum (most recently in June 2010)</p> <p>Reports that highlight the impacts of hydropower dams, for example on the Sesan River in Northeastern Cambodia,</p> <p>Reports posted to website (www.ngoforum.org.kh)</p>	
Economic security	Yes	Advocating for sustainable fisheries, researching and understanding local livelihoods and the impacts of proposed development projects (Sambor dam, nearby plantations).
Food security	Yes	Advocating for sustainable fisheries
Environmental security	Yes	Advocating against the Sambor dam’s development, and other mainstream dams (and nearby economic land concessions)
Health security	Partly	Advocating for food security
Community security	Partly	In the research on Sambor have gender mainstreamed the report, and disaggregated the data according to gender. Promoting indigenous people rights nationally, and have worked with indigenous people in the Sambor area about plantations
Political security	Yes	Promoting protection of Human Rights. Right to access water for livelihoods. Working nationally through opening up democratic space and promote dialogue with government in a peaceful manner, and people’s right to participate in development
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts on fisheries &amp; biodiversity (blocking fish migration)</li> <li>• Impacts on fisheries &amp; food security</li> <li>• Impacts on Tonle Sap Lake</li> <li>• Resettlement (20,000 people)</li> <li>• Impacts on Environment (water quality, natural resources)</li> <li>• Impacts on dolphins</li> <li>• Impacts to livelihood (riverine communities and resettled, political instability, loss of existing development efforts)</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (increased supply )</li> <li>• National Economic Development (hydropower export)</li> </ul>	
Awareness of HS framework	A little	

#### **4.2.1.7 ADHOC (Cambodian Human Rights and Development Association)**

ADHOC is a local NGO that works for educating and promoting human rights to the public. The main activities are to receive complaints, and to investigate and to intervene in human rights violation cases. The common process of work is first to receive a complaint from a victim, second, to help the victim complete a document and third, to submit the document to the relevant government office. For a serious case, ADHOC intervenes by sending the victim to the hospital to get a doctor's certificate and then to file a suit in collaboration with the Department of Social Affairs. ADHOC considers that it is very important to collaborate and to work closely with other NGOs, the provincial court, and local governmental officials, especially in the Department of Women's Affairs, and with the police in order to share information and to work efficiently. However, there is no official collaboration with the government so far, but ADHOC believes that the government is also aware of the need to collaborate with NGOs like ADHOC. ADHOC receives funds from 15 international donors.

ADHOC does not have an office in the Sambor area, but ADHOC does work in two target villages, namely Sandan and Koh Knae, to promote human rights. The reason why ADHOC chose these two villages as targets is that there are many cases of human right violations and criminal cases, as well as land disputes. In August, 2010, one more target village in Okrieng Commune will be set up. Once a target village is set up, the NGO holds a meeting to select 5 to 7 key people in the community, and provides a training course for two days to provide working skills that enable them to engage with the local authorities. After the course, ADHOC staff has monthly meeting with the key people. The trained people act as informants for the village, so that when some violation occurs they inform ADHOC. Since ADHOC started its work in Sambor in 2005, the number of violation cases has decreased.<sup>19</sup>

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<sup>19</sup> In Cambodia, a law on domestic violence was passed in 2005 to prevent domestic violence and to protect victims. It clearly states the definition of domestic violence in the article 2. Child-abuse is also mentioned in the article 8. Although the law is very strict on paper and is clear on that if a violation occurs more than two times then article 36 should be applied as a criminal case against violators, in reality the process often doesn't follow the law.

The provincial director of ADHOC explained that illiteracy, poverty and the legal system are the main reasons why there are so many violation cases in Sambor, as well as in Cambodia more generally; many of the villagers are ethnic minorities and indigenous people, the living standards are worse than average and the authorities don't usually enforce the law. If ADHOC receives information about a domestic violence case for example, it would take the victim to the authorities and also ask the victim whether she wants to send her husband to the criminal court. However, ADHOC admits that they must be flexible since the root causes of these problems vary case by case, and they must respect the victim's will as well.

Interviewee / Interview date	Provincial Coordinator in Kratie / July 21, 2010	
Villages working in Sambor	Sandan & Koh Knae village	
Information resources available	The Human Rights situation report Website explaining human rights with downloadable situation reports ( <a href="http://www.adhoc-chra.org">www.adhoc-chra.org</a> )	
Personal security	Yes	Helping victims from domestic violence and rape cases
Community security	Yes	Intervention to minority people to protect their land and forest (land disputes)
Political security	Yes	Working on political discrimination/political violence
Knowledge about potential costs of the dam	▪Resettlement	
Knowledge about potential benefits of the dam	Not applicable <sup>20</sup>	
Awareness of HS framework	No	

#### **4.2.1.8 AFH (Action for Health)**

Action for Health is a local NGO operating in 18 districts in Cambodia, with its head office in Phnom Penn. The operational district in Kratie began working in August 2006. The main role of AFH is to implement the 'Equity Fund' that promotes a healthy life and provides medical treatment to poor families. The target population is families that hold a 'poor card' that is issued by the Ministry of Planning. A family's income, assets and expenditure on health are regarded in the selection process. There are 2,080 households at level 1, which is the poorest in Kratie province,

<sup>20</sup> She didn't seem to think about the dam issue much, and never thought about the impact of the dam on the human rights of the affected people.

and 1,987 households in level 2 in Sambor come to AFH in Kratie in order to receive medical treatment. AFH supports patients to a maximum of 4,000 Riel per a day for transportation and food of the patient, while medical treatment is provided free of charge. The number of patients per a day is around 20 to 25, and about 30% of the patients are from the Sambor district. The main causes of hospitalization are delivery of a child and malaria.

Table 4.8: AFH		
Interviewee / Interview date	Operational District Project Manager in Kratie / July 23, 2010	
Villages working in Sambor	'Equity Fund' recipients from all villages in Sambor district	
Information resources available	No information resource available to public except one booklet in Khmer language No website	
Health security	Yes	Providing medical service
Knowledge about potential costs of the dam		▪Impacts to livelihood
Knowledge about potential benefits of the dam		Not applicable
Awareness of HS framework		No

#### 4.2.1.9 P-FHAD (*Partners For Health And Development*)

P-FHAD is a local health NGO. It was established in 2002, and began to be operated since 2004. There are 4 offices in the country, and it focuses on only Tuberculosis (TB) with support from the Global Fund, its only donor. The annual budget for the organization is around US\$ 100,000, which is spent training health center staff, DOTS (Direct Observation Treatment Short-course) watchers, Community DOTS supervision, referring TB patient's blood for HIV Testing, Quarterly meetings, TB health education, monitoring and evaluation, and transportation of doctor<sup>21</sup>. Since P-FHAD works for Tuberculosis, the implementation of the work is conducted through health centers. P-FHAD has small number of staff, there are three to four staffs in its each office and around 500 to 1000 Tuberculosis patients detected each year in its target province.

<sup>21</sup> The medicines for patients are paid by the Ministry of Health.

Since the size of the Sambor district is big and the villages are remote, P-FHAD faces some difficulty in implementation of C-DOTS. The budget for the health center staff to deliver the TB drugs to TB patients per trip is a maximum of US\$4, making it hard to reach some patients in remote areas.

Table 4.9: P-FHAD	
Interviewee / Interview date	Executive director in Phnom Penn/ July 25, 2010
Villages working in Sambor	Exact number and name of the villages were not available, but 500 recipients in Kratie province
Information resources available	Quarterly report, April to June, 2010 Website under construction ( <a href="http://www.pfhadcamboia.org">http://www.pfhadcamboia.org</a> )
Health security	Yes   Supporting Tuberculosis patient for medical treatment
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to dolphins (he did dolphin study in 1991 in area from Laos to Kratie)</li> <li>• Impacts to fisheries and biodiversity (animals and birds)</li> <li>• Impact to environment (deforestation by flood)</li> <li>• Impacts to livelihood (tradition, culture, especially ethnic minorities)</li> <li>• Impacts to fisheries (by blocking fish migration)</li> </ul>
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (increased supply for agriculture, irrigation &amp; increasing living standard)</li> <li>• National economic development including Sambor (the dam can be used as a mean of transportation)</li> </ul>
Awareness of HS framework	No

#### 4.2.1.10 PFD (Partner For Development)

Partner for Development is an international NGO working mainly on health issues, as well as income generation. There are 4 offices in Cambodia; Kratie, Koh Kong and Stung Treng provinces as well as the headquarter office in Phnom Penn. A program called 'Bridge for Health' was the first program in Kratie office, and there are 5 Malaria program officers and 2 administrative officers.

In both Koh Kong and Kratie provinces, there are 23 health centers and 11 health posts. In Sambor district, three health centers (Sambor, Okrieng and Rorous communes) are the focal points of PFD's work, which is related to malaria only. Long

lasting insecticide nets, which last much longer than normal net<sup>22</sup>, are provided to almost all the villages funded by the Global Fund. PFD staff visit the area regularly and PFD also plays a role in health center management committee. The number of Malaria case has been decreased since 2002, and there have been changes in behavior of the villagers; for example, a survey conducted by the Ministry of Health found that more people now sleep under a mosquito net.

<b>Table 4.10: PFD</b>	
Interviewee / Interview date	Team Leader in Kratie office/ July 21, 2010
Villages working in Sambor	3 health centers in Sambor, Okrieng and Rorous covering almost all villages
Information resources available	Website on work in Kratie ( <a href="http://www.pfd.org/where-we-work/cambodia">http://www.pfd.org/where-we-work/cambodia</a> ) No information resources available
Health security	Yes      Only malaria prevention work
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to livelihood (in downstream villages of the dam)</li> <li>• Impacts to fisheries and food security</li> <li>• Impacts to environment (forest and land loss in upstream villages)</li> </ul>
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• National economic development (many benefits but benefits will be shared with many people in Cambodia)</li> </ul>
Awareness of HS framework	No

#### **4.2.1.11 KAPE ((*Kampuchaea Action for Primary Education*))**

KAPE is a local NGO focusing on education. There are 12 donors, including USAID, which support a 5 year program. There are 6 staff in Kratie. In Sambor, the work started since 2006, and at present three projects are being implemented; 1) ESCUP (Education Support Community Urban Project), 2) SFL (School For life) and 3) IBECP (Improve Basic Education in Cambodia Project). The concern on education in Sambor is that since Sambor is in remote area there are many school dropouts. Thus KAPE is focusing on reducing the number of dropout students. The main program provides scholarships to students selected from poor families. KAPE also rents houses in Sambor town for students who live in remote villages to stay in, and

<sup>22</sup> According to PFD, a normal net only last for 6 to 9 months, while 'long lasting insecticide net' lasts at least for 5 years.

one teacher lives with students in the house. Currently, 39 students, including 24 girls, are supported in high school in a total of 6 houses. The potential students are found by a partner NGO.

<b>Table 4.11: KAPE</b>		
Interviewee / Interview date	Provincial Coordinator in Phnom Penn / July 26, 2010	
Villages working in Sambor	Names not said/ 3 projects in Sambor mainly supporting education	
Information resources available	Website on programs and organizational detail with downloadable reports ( <a href="http://www.kapekh.org">http://www.kapekh.org</a> ) Gender and Education in Cambodia (report)	
Food security	Yes	School breakfast program
Health security	Yes	Supporting disabled children for medical service, Support local NGO (BSDA) in Kratie on health
Personal security	Yes	Educating commune counsel to prevent students from taking drug and alcohol drinks, and girls' education program
Community security	Yes	Focusing on minorities
Knowledge about potential impacts of the dam	Not applicable <sup>23</sup>	
Knowledge about potential benefits of the dam		
Awareness of HS framework	No	

KAPE also provides life skill programs, such as cooking, repair, hair-designing and fishing from grade 7 to 9 in high school in Sambor. The implementations of the life skill programs and the scholarship project are conducted in partnership between NGOs and governmental agencies, while KAPE provides technical supports like workshops. KAPE also provides extra salary to teachers to provide extra classes for failing students who score below GPA 5.0.

#### **4.2.1.12 IUCN (*International Union for the Conservation of Nature/ the World Conservation Union*)**

IUCN is an international union focusing on environmental issues. Relevant to the Sambor area, its main projects are 1) a Mekong Water Dialogue and 2) a Livelihood and Landscape Strategy Assessment. Established in 1992, it has been supporting the Cambodian government in development of an environment protect

<sup>23</sup> The respondent is not aware of Sambor Dam project

system. It undertook wetland assessments in Stung Treng in 2007, and plans to work in Sambor from 2011 to 2014; however, IUCN at present mainly supports policy development.

<b>Table 4.12: IUCN</b>		
Interviewee / Interview date	Senior Program Officer in Phnom Penn / July 26, 2010	
Villages working in Sambor	No work in Sambor now, but plan to start from 2011 to 2014	
Information resources available	Website available to public, but no information of Cambodia office is available online ( <a href="http://www.iucn.org">www.iucn.org</a> ) 'An assessment of the biodiversity conservation significance of the Mekong Ramsar site, Stung Treng, Cambodia' 'Integrating people in conservation planning'	
Food security	Partly	Strengthening food situation in livelihood program
Environmental security	Yes	Biodiversity study
Health security	Partly	Supporting health in livelihood program
Personal security	Yes	Women's saving's group in coastline area
Community security	Yes	
Political security	Yes	Supporting government's conflict resolving system
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>Impacts to fishery &amp; biodiversity (IUCN is not directly involved with Sambor dam project, but only some relation )</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>	
Awareness of HS framework	No	

#### 4.2.1.13 Oxfam GB

<b>Table 4.13: Oxfam GB</b>		
Interviewee / Interview date	Program officer in Kratie office / July 21, 2010	
Villages working in Sambor	For Sambor, Oxfam GB mostly support CRDT and CED	
Information resources available	Website available on works in Cambodia in general ( <a href="http://www.oxfam.org.uk/resources/countries/cambodia.html">http://www.oxfam.org.uk/resources/countries/cambodia.html</a> )	
Economic security	Yes	Promoting livelihood development
Food security	Partly	Promoting livelihood development
Environmental security	Yes	Promoting environmental conservation
Personal security	Partly	Disaster management program
Community security	Partly	Strengthening social networking
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>Impacts to livelihood</li> <li>Impacts to dolphins</li> <li>Impacts to environment</li> </ul>	
Knowledge about potential benefits of the dam	Not applicable	
Awareness of HS framework	No	

Headquartered in Phnom Penn, Oxfam GB is an international NGO focusing on livelihood development, and has three provincial offices. The Kratie office is implementing operations and funding partnerships with other local NGOs. The major activities are to promote better natural resource management and to strengthen community markets, such as for bamboo, wooden furniture and honey. It also has a humanitarian project for disaster management.

Although there is no office in Sambor, Oxfam GB supports local NGOs, including CED and CRDT to promote environmental issues and conservation works.

## **4.2.2 Governmental Agencies**

### ***4.2.2.1 Department of Environment***

Under the Ministry of Environment, the Department of Environment in Kratie works on environmental issues in the provincial level. The two main missions are to promote environmental education and natural resources management. For environmental education, it focuses on the benefits of having a good environment and how to protect it, as well as raising-awareness with the public, especially small enterprises to improve public health and to maintain biodiversity by monitoring waste management (when wastes are thrown into the river). On natural resources management, it focuses on land, soil and forestry management. The Department of Environment has a plan to expand its works on promoting public awareness on environment, but due to a shortage of budget at present only works in 1 commune, Rokakandal commune in Snoul district in Kratie province.

There is no office in Sambor district, but one staff is working in a district government office. Currently, the Department of Environment works closely with 5 villages. There are companies investing in Sambor, for example in agricultural plantations, which is promoted by the governments policy to promote foreign investment, According to the Department of Environment, therefore, villages along the river have the possibility to develop, while forest in wetland areas should be protected since it is necessary for breeding fish species. In cases where the

environment might be damaged by investment, the Department of Environment assesses an EIA (Environmental Impact Assessment) prepared by the company.

<b>Table 4.14: Department of Environment</b>	
Interviewee / Interview date	Director in Kratie office / July 20, 2010
Villages working in Sambor	All villages but closely with 5 villages in the district
Information resources available	Report on World Wetland Day in Sambor 2007 Website at Ministry level ( <a href="http://www.camnet.com.kh/moe">www.camnet.com.kh/moe</a> )
Economic security	Partly
Environmental security	Yes      Environmental education
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Resettlement</li> <li>• Impacts to fishery &amp; food security (loss of paddy field)</li> </ul>
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (Cheaper &amp; increased supply)</li> <li>• National economic development</li> </ul>
Awareness of HS framework	No

#### **4.2.2.2 Department of Industry, Mines and Energy**

<b>Table 4.15: Department of Industry, Mines and Energy</b>	
Interviewee / Interview date	Chief Officer of Industrial Affair in Kratie / July 20, 2010
Villages working in Sambor	All villages under the jurisdiction
Information resources available	No information resources in English Website in Ministry level, not provincial level ( <a href="http://www.mime.gov.kh">http://www.mime.gov.kh</a> )
Economic security	Yes      Improving living standard by 2015 targeting 80% has clean water
Food security	Yes      Monitoring hygiene in bakeries and rice mill
Environmental security	Yes      Monitoring factories' environmental pollution level
Health security	Yes      Monitoring clean water supply
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Resettlement</li> <li>• Impacts to fishery &amp; biodiversity</li> <li>• Impacts to dolphin</li> </ul>
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (Cheaper &amp; more supply, Improving people's living standard)</li> </ul>
Awareness of HS framework	No

The department of Industry, Mines and Energy has 6 sections and 2 entities under its provision, such as mine resources, industry affairs, energy, finance and administration. Its main activities are to maintain water clean, to manage mine resources and energy, and to develop proposals that are sent to the Ministry of

Industry, Mines and Energy (MIME) in Phnom Penn. It receives funds from the World Bank.

The Department and the Ministry of Industry, Mines and Energy is the government agency that holds the main responsibility in leading hydropower dam development in Cambodia. Currently MIME is prioritizing 1) *development of elements of a national transmission grid and the generation to support it*, 2) *support for a provincial towns electrification plan to rehabilitate supplies*, and 3) *development and implementation of a rural electrification plan that incorporates small hydropower and off-grid renewable energy* (King et al., 2007:2)

#### 4.2.2.3 Department of Fisheries

The Department of Fisheries primarily aims to develop community fisheries, aquaculture, and monitoring fishing with illegal equipment. The staff in charge of Sambor district is currently working in Kratie town, because the construction of the Sambor office is not completed yet. Its main work in Sambor is in collaboration with NGO partners like Oxfam Australia and CRDT in aquaculture and strengthening the community fishery organizations.

Table 4.16: Department of Fishery		
Interviewee / Interview date	Deputy Director in Fishery Administration in Kratie / July 20, 2010	
Villages working in Sambor	All villages under the jurisdiction	
Information resources available	No information resources available	
Economic security	Yes	Setting up community fisheries
Food security	Yes	Promoting fish-farming
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to fishery &amp; food security</li> <li>• Impacts to fishery &amp; biodiversity</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• National economic development</li> </ul>	
Awareness of HS framework	No	

The department first began working on fishing activities in Sambor in 2002 when fishing was monopolized by big companies without collaboration with NGOs. As Sambor is in conservation area that is important for breeding fish, the department

set up community fisheries. Since 2006, it started working with NGOs as the government provides technical support and NGOs provide financial support to encourage fish-farming in the area. There are 23 community fisheries set up to reduce illegal fishing activities. Members of the community fisheries are advised to follow certain rules and to use legal fishing equipments for sustainable use of the fishery resources.

#### 4.2.2.4 Department of Agriculture, Forestry and Fisheries

The Department of Agriculture, Forestry and Fisheries works on livestock, fish-farming, rice-farming and agricultural plantations. In Sambor area, its work is focused on agricultural development for livelihood improvement, funded by international donors. The Department of Agriculture works with NGOs like Oxfam Australia and CRDT as partners.

Interviewee / Interview date	Deputy Director in Kratie / July 20, 2010	
Villages working in Sambor	All villages in the jurisdiction	
Information resources available	No information resources available Website in Ministry level, not provincial level ( <a href="http://www.maff.gov.kh/en/">http://www.maff.gov.kh/en/</a> ) no reports downloadable from the website	
Economic security	Yes	Rural livelihood improvement project, promoting agriculture
Food security	Yes	Technical training on how to raise livestock
Personal security	Partly	Education on gender violence in agricultural program
Knowledge about potential costs of the dam	• Not applicable <sup>24</sup>	
Knowledge about potential benefits of the dam		
Awareness of HS framework	No	

For its rural livelihood improvement program, the department focuses on 5 communes, including Sambor, Vattanak and Kampong Cham communes. It focuses on growing vegetables and chicken raising by providing technical trainings, and forming community support groups named the “improving livelihood” group,

<sup>24</sup> He answered the main responsibility of a dam is central government. In case building a dam, the department will prepare for related issues like land preparation

“improving agricultural standard” group and the “vulnerable group” for the poorest households. The department provides trainings on how to improve the quality of land, promotes the usage of natural fertilizers, and also provides supports in case of a natural disaster.

#### **4.2.2.5 Department of Health**

The main objective of the Department of Health is to provide disease prevention and treatment to the population in Kratie Province. As one of the primary activities, a maternal child health program is being implemented by health center staff to provide nutrition both to mothers and their child, as well as immunization and vaccinations to the child, and to prevent transfusion of disease from mother to child. The Department of Health also focuses on transmitted diseases, such as HIV and Tuberculosis. In addition, it operates VCCT (Voluntary Confidential Counseling Test) for HIV patients. Once identified as HIV positive, patients are transferred to Kratie for medical treatment. The Department of Health also provides HIV education programs in schools, but not at the community level,<sup>25</sup> and has a partnership with local NGOs on the issue.

There is a total of 534 staff in the whole province. Although there is no office in the Sambor district, there is one health center in the district. The health center not only provides medical care, but also provides health education and vaccinations at the community level.

The director of the Department of Health believes that the quality of the health service might not be of the same standard as many developed countries, but the health centers do provide a better service than private health centers in the province. The reason why is that the department tries to get better trained staff in health centers with lower costs. In the mean time, the department is also aware of the fact that the medical practitioners in health centers do get bribe from patients, and encourages the general public to inform the department or NGOs in these cases. However, it also difficult to

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<sup>25</sup> HIV education in communities are conducted by NGOs like Oxfam Australia

recruit qualified staff for public health centers in the provinces, especially in Sambor, because the area is remote and rural, the salary is low<sup>26</sup>, and not many people want to live in the area. Thus, the director confessed that if the department strictly investigated the issue of bribing or of practitioners opening their own private center it make the situation worse.

<b>Table 4.18: Department of Health</b>		
Interviewee / Interview date	Director in Kratie / July 21, 2010	
Villages working in Sambor	All villages under the jurisdiction	
Information resources available	No information resources available Website in Ministry level, not provincial level: no information on Sambor, or no downloadable reports ( <a href="http://www.moh.gov.kh/?lang=en">http://www.moh.gov.kh/?lang=en</a> )	
Health security	Yes	Health centers, vaccination program
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to livelihood</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Electricity (increased supply)</li> <li>• National economic development</li> </ul>	
Awareness of HS framework	No	

#### 4.2.2.6 Department of Tourism

<b>Table 4.19: Department of Tourism</b>		
Interviewee / Interview date	Director in Kratie / July 23,2010	
Villages working in Sambor	All villages are under the jurisdiction	
Information resources available	Kratie: Tourist Guide of Kratie Province No study or research on impact on tourism of Sambor dam Website in Ministry level with information on Kratie ( <a href="http://www.mot.gov.kh/Destinations.aspx?CityID=26&amp;sm=73">http://www.mot.gov.kh/Destinations.aspx?CityID=26&amp;sm=73</a> )	
Economic security	Yes	Promoting handicraft for better income, improving tourism service
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Impacts to environment</li> <li>• Impacts to dolphins (tourism)</li> </ul>	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>	
Awareness of HS framework	No	

The Department of Tourism works to promote the tourism industry in Kratie province. There are several attractions such as Phnom Sambok and the Kampi

<sup>26</sup> 400,000 Riel per month (4,000 Riel is about one dollar)

Dolphin site, as well as the 100 pillar temple and Crocodile Island. The concept of community based tourism (CBO) has grown the great importance in the department, and the department is cooperating with the World Tourism Organization on CBO projects that make handcraft products for tourists as livelihood development programs. As tourism involves many things other than the tourist site itself, such as developing infrastructure like road, bridges and guest houses, the department also works in infrastructural development. The primary goals of the department are to improve tourism service in hotels and restaurants, to develop and improve tourist sites, and to organize communities' involvement in tourism. The department is also working closely with MDTP (Mekong Discovery Trail Project) (See section 4.2.3.1).

#### 4.2.2.7 Department of Water Resources and Metrology

Table 4.20: Department of Water Resources and Metrology		
Interviewee / Interview date	Director & Deputy Director in Kratie / July 23, 2010	
Villages working in Sambor	All villages under the jurisdiction	
Information resources available	Irrigation Data system in Sambor in Khmer language no website	
Economic security	Partly	Repairing irrigation system and collecting data on hydrology
Food security	Partly	Repairing irrigation system and collecting data on hydrology
Knowledge about potential costs of the dam	Not applicable <sup>27</sup>	
Knowledge about potential benefits of the dam		
Awareness of HS framework		

The Department of Water Resources mainly works in maintaining and building irrigation systems, and collecting data on hydrology and metrology in the province. At Sambor, the hydro station is out of service at the moment, so the department requested the central ministry for reconstruction. From the viewpoint of the department of Water Resources, the development process in Sambor is very low, since the majority population of Sambor is minority groups and the population density is low. Thus for the department, Sambor is not in the priority list for irrigation system development, because it sets a priority for villages with high population density, due to the limited budget. However, Sambor does have 18 irrigational systems built during the Khmer Rouge time that might be repaired instead of building new ones.

<sup>27</sup> The respondents said that the Sambor dam has no relevance to the work of the department.

#### ***4.2.2.8 District Office of Education***

The schools in Cambodia can be divided into mainly 2 levels; primary schools from grade 1 to 6, and high schools from grade 7 to 12. The high schools also have two levels; junior high school for grade 7 to 9, and high school for grade 10 to 12. Only primary education is mandatory, and every village has a primary school, except some villages located close together when the populations are small.

The District Office of Education works to strengthen educational quality in the Sambor district. There are 8 staffs in the office, and the staff works to monitor and improve the teaching technique of 317 teachers in 41 primary schools, 8 secondary schools and 3 kindergartens in the district, focusing on minimizing the gap of quality of education.

The biggest concern and difficulty of the District Office of Education is recruitment of new teachers. Since the population of the district is growing, more schools need to be built and new teachers need to be hired. But since there are not enough graduates from the district, the office needs to recruit outsiders who are not easy to find. The policy of the Ministry of Education is to hire a teacher who completed a two year-teacher training school after graduating high school. However, since it is difficult to find someone who finished even high school in the district, the office has requested the Ministry to lower the standard so that people who finished grade 9 can enter the teacher training school. The result of the request hasn't been delivered yet.

The reason why there are not enough high school graduates is that the drop-out rate is high; an average of 8 to 10% of the students in high school drop-out. The rate is only estimated for students, who enrolled high school, yet many do not continue to study at high school after finishing primary school, and many also do not even finish primary school. Thus the total number of high school graduates is low<sup>28</sup>. The biggest reason is that the villages are situated in remote area, so the parents have

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<sup>28</sup> The district office said that the exact number of graduates is untraceable.

to pay transportation cost or additional living cost in Sambor town, since the high school is only in Sambor<sup>29</sup>, which means for the parents not only monetary expenses but also losing labor for their rice-growing activity.

Table 4.21: District office of Education	
Interviewee / Interview date	Deputy Director of Education, Youth & Sports in Sambor / July 22, 2010
Villages working in Sambor	All villages under the jurisdiction
Information resources available	No information resources available Website in Ministry level( <a href="http://www.moeys.gov.kh/">www.moeys.gov.kh/</a> )
Economic security	Partly Through promoting quality education, people can get better paid jobs in the long run
Knowledge about potential costs of the dam	Not applicable
Knowledge about potential benefits of the dam	
Awareness of HS framework	

#### 4.2.2.9 District office in Women's Affairs

There is one female staff in charge of Women's Affairs in the district governmental office in Sambor. The main goals are to improve gender equity and to give vocational training to women. The Women's Affair Committee, one of the three important committees in the office, has just been formed. Although the members have not been chosen yet, the policies are set up, for example that a woman must be the chairwoman, and the membership will be filled by women from communes in the district.

The NGOs working for women's issue in Sambor are Oxfam Australia and ADHOC. The office is collaborating with them but the problem is that it doesn't know the exact number of victims or incidents because most cases on women's issues are settled at the commune level, and generally information is sent to the NGOs or the Department of Women's Affair in Kratie without informing the district office.

<sup>29</sup> The government policy is one high school for one district, and one junior high school for one commune.

According to the Deputy Governor of the district, the status of women has been improved a lot in the district, for example, there are now female members in the commune council and government offices. According to the Deputy Governor, there is no discrimination against women over men in general, but the people in remote villages have been poorly educated, so the cases on women's issue are found more in remote villages. Although the number of cases on women's issues is decreasing, there are still cases occurring from time to time.<sup>30</sup> There is no special program to deal with domestic violence. Other than domestic violence, there are some rape cases as well, but these cases are considered to be very rare.

Interviewee / Interview date	Deputy governor in charge of women's affair in Sambor / July 22, 2010	
Villages working in Sambor	All villages in the jurisdiction	
Information resources available	No information resources available, the reports produced in the villages are directly to provincial department in Kratie No website	
Economic security	Yes	Improving rural living standard
Personal security	Yes	Preventing domestic violence
Community security	Yes	Intervention in case of women's rights violation (ethnic minority)
Political security	Yes	Encouraging women's political participation
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>	
Knowledge about potential benefits of the dam		
Awareness of HS framework	No (only heard of public and internal securities)	

#### **4.2.2.10 Ministry of Rural Development**

The three priorities of the MRD (Ministry of Rural Development) are 1) Water supply, 2) Sanitation and 3) Infrastructure. These three priorities are used as indicator to measure the success of a program in the ministry. The primary projects are determined after the NSDP<sup>31</sup> (National Strategy Development Plan) by the Royal Government of Cambodia. Using NSDP, all line-ministries put relevant data and break the divide the work according to the activities related to the respective

<sup>30</sup> A night before the interview, one woman was beaten up until becoming unconscious by her husband and was sent to a hospital in Sambor.

<sup>31</sup> The most recent plan is for fiscal year 2009-2013.

ministries. Since rural development is an integrated activity of many fields like agriculture, health and irrigation, MRD is focusing on a community level rather than a national level. According to the director of the Planning Department of MRD, although the national plan can be achieved by integrated cooperation of various ministries there is no conflict between relevant ministries because the central government designs the plan by sectors.

<b>Table 4.23: Ministry of Rural Development</b>		
Interviewee / Interview date	Director of Planning Department in Phnom Penn / July 28, 2010	
Villages working in Sambor	All villages under the jurisdiction	
Information resources available	Statistical Year Book 2006 by Ministry of Planning Website available with national projects detail and many reports (in Khmer language) ( <a href="http://www.mrd.gov.kh/index.php?lang=en">www.mrd.gov.kh/index.php?lang=en</a> )	
Economic security	Yes	Vocational training center in 4 provinces, micro finance projects
Food security	Yes	Food for work project, building irrigation system
Environmental security	Yes	Through rural infrastructural programs (i.e. water supply)
Health security	Yes	Rural water supply and sanitation (mostly infrastructure)
Community security	Yes	Ethnic development program, and mostly strengthening community by economic development programs
Knowledge about potential costs of the dam	Not applicable	
Knowledge about potential benefits of the dam	<ul style="list-style-type: none"> <li>National economic development <sup>32</sup></li> </ul>	
Awareness of HS framework	No	

#### **4.2.2.11 Cambodian Red Cross**

Cambodian Red Cross began its work in February, 1992 in the Sambor district. However, there is no formal staff in the area, but there are 63 volunteers networking for humanitarian activities in 6 communes. The volunteers monitor the living standard of people, and in case of a disaster, such as fire, rainstorm, loss of house and flood, they inform the Red Cross, which decides whether to provide support or not.

<sup>32</sup> The respondent changed subject when starting to talk about dams, saying the Ministry is nothing to do with dams and all decisions will be made in Central level.

Table 4.24: Cambodian Red Cross		
Interviewee / Interview date	Deputy Sirector in Kratie / July 23, 2010	
Villages working in Sambor	No program in Sambor/ only volunteers in 6 communes for emergency case	
Information resources available	Standard operating procedures for disaster response team (in Khmer language) Website in national level with downloadable year plans and annual reports ( <a href="http://www.redcross.org.kh/english/index.asp">http://www.redcross.org.kh/english/index.asp</a> )	
Food security	Partly	Emergency relief
Environmental security	Partly	Emergency relief in environmental disaster like flood and rainstorm
Health security	Partly	Emergency relief
Knowledge about potential costs of the dam	Not applicable	
Knowledge about potential benefits of the dam		
Awareness of HS framework	No	

### 4.2.3 International Organizations

#### 4.2.3.1 MDTP (Mekong Discovery Trail Project)

Table 4.25: MDTP		
Interviewee / Interview date	Director & 2 national ecotourism consultants / July 27, 2010	
Villages working in Sambor	MDRP only develop trail courses	
Information resources available	Website with information on trails ( <a href="http://www.mekongdiscoverytrail.com">http://www.mekongdiscoverytrail.com</a> )	
Economic security	Yes	Improving income through Community Based Tourism
Environmental security	Yes	Promoting ecotourism
Community security	Partly	Strengthening community through Community Based Tourism
Knowledge about potential costs of the dam	Not applicable <sup>33</sup>	
Knowledge about potential benefits of the dam	▪National economic development (Cambodia is very urgent agenda)	
Awareness of HS framework	No	

Established in 2007, the MDTP is a cooperative project of the Ministry of Tourism, UNDP and SNV<sup>34</sup>. Funded by UNDP, the Spanish Government and SNV, the projects are designed by international consultants, and the Ministry of Tourism implements the project called ‘Community Based Tourism.’ In the beginning, the name was ‘Mekong Dolphin Discovery Trail’, but it is now changed its name to the

<sup>33</sup> The respondent answered that he doesn’t know if the hydro dam will affect tourism, and dam construction is a national agenda, so relevant ministries will consider the impacts.

<sup>34</sup> A Dutch NGO.

“Mekong Discovery Trail” to focus not only on the dolphins, but other aspects too.

For phase 1, a Kratie master plan was developed, and during the phase 2 a community-based tourism implementation strategy was developed. In Phase 3, a quality infrastructure project to promote the Mekong River to international tourists was also prepared. The goals of the projects are 1) to alleviate poverty, and 2) to use tourism as a tool to contribute to the dolphin and natural resources conservation. MDTP expects that Community Based Tourism can contribute to the diversification of tourism products and empower the livelihood of poor communities. The main work of MDTP is to promote the project. Individual tourist contacts visit the project villages by themselves after getting information from the website or from the MDTP offices in either Kratie or Stung Treng.

#### **4.2.3.2 MRC (*Mekong River Commission*)**

The MRC is an inter-governmental organization for sustainable development and cooperation in the Mekong River Basin. It was established in 1995 when the four countries of Vietnam, Cambodia, Laos and Thailand signed the ‘Mekong Agreement’ and established its mandate *"to cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin"*. It also has two dialogue partners, Myanmar and China. It is funded by the four member countries and aid donors.

The Mekong Council, Joint Committee (JC) and Secretariat are the three components of the organization. The Mekong Council consists of one member from each country at a Ministry or Cabinet level, and an has annual meeting to make decisions and to provide guidance. The JC also consists of one member from each country and implement policies decided by the Council meeting and supervises the MRC Secretariats. There are two secretariats; the Office of Secretariat in Vientiane (OSV) in Laos and the Office of Secretariat in Phnom Penn (OSP) in Cambodia. In addition, there are national committees that act as local extensions of the MRC in each member countries. In Cambodia, there is Cambodia National Mekong

Committee with an office in Phnom Penn.

MRC's work covers economic, food and environment as well as some community security for disaster management. With regard to the Sambor hydropower dam, and others proposed for the Mainstream Mekong, the MRC conducted a Strategic Environmental Assessment (SEA), and a draft recently has been released to the public.

<b>Table 4.26: MRC</b>		
Interviewee / Interview date	Senior Librarian Assistant in Phnom Penn / July 27, 2010	
Villages working in Sambor	No village in particular	
Information resources available	SEA Impact Assessment report-Discussion draft Website with many downloadable reports ( <a href="http://www.mrcmekong.org">www.mrcmekong.org</a> )	
Economic security	Yes	Protecting income sources (fishery)
Food security	Yes	Promoting fisheries
Environmental security	Yes	Protecting biodiversity
Knowledge about potential costs of the dam	Not applicable <sup>35</sup>	
Knowledge about potential benefits of the dam		
Awareness of HS framework	No	

#### 4.2.4 Industry

##### 4.2.4.1 China Southern Power Grid Company (CSG)

China Southern Power Grid is a state-owned company and is the potential developer of the proposed Sambor Dam Project. Established in December 2002, CSG operates and construct power networks in 5 Southern Chinese provinces and has expanded its operation to abroad as well. It is ranked 156 among the global top 500 corporations by Fortune magazine in July, 2010 [Fortune, 2010: online].

CSG has been reportedly involved in many hydropower development projects in the region, including four proposed dams on the mainstream Salween River, a dam project on Shweli River and the Myitsone project in Myanmar, the Nam Tha 1 in Laos and the Stung Cheay Areng and the Sambor projects in Cambodia (International

<sup>35</sup> She was cautious not to tell something that she is not responsible for. However, for analysis in ch5, SEA report will be used for the position of MRC on the potential impact.

Rivers, China Southern Power Grid.: Online). It has finished the feasibility study on the proposed Sambor Dam, but the report is not available for public access, and the involvement of CSG in the actual Sambor dam construction hasn't been decided yet by the Government of Cambodia.

Table 4.27: CSG		
Interviewee / Interview date	No interview conducted (staff unavailable)	
Villages working in Sambor	The proposed Sambor dam project will be located in Sambor	
Information resources available	Website available in English but no information or reports are available ( <a href="http://eng.csg.cn">http://eng.csg.cn</a> )	
Economic security	Yes	Constructing a dam to supply hydropower
Knowledge about potential costs of the dam	Not applicable	
Knowledge about potential benefits of the dam		
Awareness of HS framework		

## 4.2.5 Academic

### 4.2.5.1 The Henry L. Stimson Center

Table 4.28: The Henry L. Stimson Center		
Interviewee / Interview date	Information gathered through report and website	
Villages working in Sambor	Not specifically working in Sambor	
Information resources available	Mekong tipping point: Hydropower dams, Human Security and Regional stability Research on Human Security Website available with access to downloadable reports ( <a href="http://www.stimson.org/home.cfm">http://www.stimson.org/home.cfm</a> )	
Economic security	Yes	Study on economic considerations of hydropower
Food security	Yes	Study on food security in Mekong tipping point
Environmental security	Yes	Study on climate change
Health security	Yes	Study on public health
Personal security	Yes	Study on nuclear weapon/ threat assessment on conflict
Community security	Yes	Study on culture
Political security	Yes	Building regional security, strengthening institutions for peace and security, policy analysis
Knowledge about potential costs of the dam	<ul style="list-style-type: none"> <li>Not applicable; no study on Sambor</li> </ul>	
Knowledge about potential benefits of the dam		
Awareness of HS framework	Yes	

The Henry L. Stimson Center (hereafter referred to as Stimson) is a non-profit

institute that was established in 1989 for enhancing international peace and security through analysis and outreach. It focuses on 1) *strengthening institutions for international peace and 2) security building regional security, and 3) reducing weapons of mass destruction and transnational threats* (Stimson, n.d.: online). The head office is in Washington D.C., USA, and has research programs in securities in many regions including South-East Asia.

#### **4.2.6 Analysis of state of knowledge of external stakeholders on human security**

Table 4.29 summarizes from above the human security aspects that each organization is working on. As can be seen from table 4.29, overall external stakeholders work in all seven human securities, and each individual external stakeholder works at least one aspect of human security. However, there is discrepancy between external stakeholders. For example, the work of NGOs tends to cover more human securities. Meanwhile, governmental organizations are mostly focusing on economic, food and health, while personal, community and political securities are often not covered.

Table 4.30 below maps out which organizations are aware of and “concerned” about impacts of the Sambor dam, if it is built. Most external stakeholders expect that resettlement and impacts to fisheries, in terms of food supply and loss of biodiversity, will be the biggest costs of the Sambor dam, while issues of impacts on Tonle Sap<sup>36</sup> (due to the blockage of migratory fisheries), the Irrawaddy dolphins in the Mekong River at Sambor, and people’s livelihood change in Sambor town and downstream of the project are mentioned less often.

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<sup>36</sup> Tonle Sap Lake is the “heart beat” of Cambodia. It’s rich fisheries are the source of much of Cambodia’s fish catch and therefore vital to Cambodia’s food security (Peterson and Middleton, 2010)

<Table 4.29: Organization's work on Human Security>		Economic	Food	Environment	Health	Personal	Community	Political
NGO	Oxfam Australia	Green	Green	Green	Green	Green	Yellow	Yellow
	CRDT	Green	Green	Green	Green	Red	Red	Yellow
	CED	Red	Yellow	Green	Red	Yellow	Green	Green
	WWF	Green	Green	Green	Green	Red	Red	Green
	FACT	Green	Green	Green	Red	Red	Yellow	Red
	NGO Forum on Cambodia	Green	Green	Green	Yellow	Yellow	Red	Green
	ADHOC	Red	Red	Red	Red	Green	Green	Green
	AFH	Red	Red	Red	Green	Red	Red	Red
	P-FHAD	Red	Red	Red	Green	Red	Red	Red
	PFD	Red	Red	Red	Green	Red	Red	Red
	KAPE	Red	Green	Red	Green	Green	Green	Red
	IUCN	Red	Yellow	Green	Yellow	Green	Green	Green
	Oxfam GB	Green	Yellow	Green	Red	Yellow	Yellow	Red
Governmental Agencies	Department of Environment	Yellow	Red	Green	Red	Red	Red	Red
	Department of Industry, Mines and Energy	Green	Green	Green	Green	Red	Red	Red
	Department of Fishery	Green	Green	Red	Red	Red	Red	Red
	Department of Agriculture, forestry and Fisheries	Green	Green	Red	Red	Yellow	Red	Red
	Department of Health	Red	Red	Red	Green	Red	Red	Red
	Department of Tourism	Green	Red	Red	Red	Red	Red	Red
	Department of Water Resources and Metrology	Yellow	Yellow	Red	Red	Red	Red	Red
	District office of Education	Yellow	Red	Red	Red	Red	Red	Red
	District office in Women's Affairs	Green	Red	Red	Red	Green	Green	Green
	Ministry of Rural Development	Green	Green	Green	Green	Red	Green	Red
	Cambodian Red Cross	Red	Yellow	Yellow	Yellow	Red	Red	Red
Int'l Org	MDTP	Green	Red	Green	Red	Red	Yellow	Red
	MRC	Green	Green	Green	Red	Red	Red	Red
Industry	CSG	Green	Red	Red	Red	Red	Red	Red
Academic	The Henry L. Stimson Center	Green	Green	Green	Green	Green	Green	Green

Table key	
Focus of work	Green
Partially working on this security	Yellow
Not working on this security	Red



<b>&lt;Table 4.31: Benefits of Sambor Dam identified by external stakeholders&gt;</b>		<b>Electricity (Increased supply &amp; decreased cost)</b>	<b>National economic development</b>
<b>NGO</b>	Oxfam Australia		
	CRDT		
	CED		
	WWF		
	FACT		
	NGO Forum on Cambodia		
	ADHOC		
	AFH		
	P-FHAD		
	PFD		
	KAPE		
	IUCN		
	Oxfam GB		
	<b>Governmental Agencies</b>	Department of Environment	
Department of Industry, Mines and Energy			
Department of Fishery			
Department of Agriculture, forestry and Fisheries			
Department of Health			
Department of Tourism			
Department of Water Resources and Metrology			
District office of Education			
District office in Women's Affairs			
Ministry of Rural Development			
Cambodian Red Cross			
<b>Int'l Org</b>	MDTP		
	MRC		
<b>Industry</b>	CSG		
<b>Academic</b>	The Henry L. Stimson Center		

Table key for Table 4.31	
<b>Mentioned about this benefit</b>	
<b>Did not mention about this benefit</b>	

The table 4.31 maps out which organizations are aware of and recognize benefits, if the Sambor dam were built. Unlike the expected costs of the Sambor dam, the scope of anticipated benefits from the dam is very limited. The majority responded either or both domestic electricity supply and national economic development, both of which are connected largely to economic security. The majority of the government agencies including some local NGO responded that national economic development should be prioritized, but that also these are central government level decisions.

Many external stakeholders demonstrated only a limited consideration towards the potential costs and benefits of the Sambor dam project. Responses like “I haven’t thought about the impact”, “My organization is not involved in the Sambor Dam project” and “the Government will be best at considering how to balance the impacts” were common, especially amongst the smaller local NGOs that work only on specific issues or in a local area, as well as the majority of government officials.

### **4.3 Conclusion**

It is found that all the aspects of the Human Security framework are covered when combining the work of the external stakeholders together. In general, however, the external stakeholders’ perception on the potential impacts of the dam is found to be limited to the forms of human security in which changes can be easily noticeable and measured, such as economic, health, food and environment. For human securities such as political, personal and community that contain more intangible aspects, the potential impacts from the project are often not recognized or are ignored.

**CHAPTER V**  
**THE POTENTIAL IMPACTS TO HUMAN SECURITY**  
**FROM THE SAMBOR DAM PROJECT AND**  
**EXTERNAL STAKEHOLDER PERCEPTION OF THESE IMPACTS**

This chapter will consider the changes that can be anticipated to occur to the human security of communities living in the Sambor area if the Sambor dam is built. It also considers the impacts that external stakeholders identify as important in chapter 4, analyzed using the human security framework. The chapter seeks to assess the availability of information needed to undertake a Human Security Impact Assessment (HSIA), and to identify the knowledge gaps categorized according to the Human Security framework.

The chapter argues that one of the key benefits of undertaking a HSIA is to identify from a holistic perspective the range of potential costs and benefits that are missed by individual external stakeholders, but that could be recognized and understood if information and analysis of the external stakeholders were to be combined together with a HSIA process.

This chapter first summarizes the costs and benefits of the Sambor dam categorized according to the human security framework. It then summarizes, based on the interviews with the external stakeholders, their perception of the costs and benefits of the Sambor dam to determine which anticipated changes to human security they have identified and which ones they haven't.

### **5.1 Sambor Dam on Human Security: Costs and Benefits<sup>37</sup>**

Human Security is context specific. Therefore, this section reflects on the analysis presented in section 2.3 and applies it to the likely costs and benefits to communities living in the Sambor area if the Sambor dam were to be built. The table

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<sup>37</sup> In this section, unless it is stated, the source of information and data is from the field work with interviews with both Sambor communities and external stakeholders as well as reports such as MRC's SEA report

5.1 reorganizes the potential impacts of the dam identified by the external stakeholders in Chapter 4 according to the HS framework (black color), and plus findings in the recent SEA report of MRC (Red color) (ICEM, 2010), one of the external stakeholder, is added.

### **5.1.1 Economic Security by Sambor dam**

Economic Security is related to all the potential impacts, both costs and benefits; for example, costs include resettlement of the potentially affected communities, decrease in fish and fisheries, impacts on biodiversity, impacts on Tonle Sap Lake and threats to existence of the Irrawaddy dolphin, which is critical to tourism industry, whilst benefits include a decrease in cost and increase in supply of electricity, national economic development and water supply regulation for irrigation.

#### **5.1.1.1 Costs**

Resettlement of potentially affected communities is one of the biggest challenges caused by the Sambor dam, and most likely affects every single aspect of all seven Human Securities of the lives of those affected. For those resettled, the changes can be dramatic and fatal. First of all, resettlement requires ‘moving’ to a new place. Economic Security mainly means secured income and employment. When resettled in a new village, there is no guarantee of income as well as new employment opportunity. Most villagers interviewed in Sambor said that their main assets were their houses and land, which cannot be brought to a new village, nor is there a guarantee that the same quality and size of land and house will be provided. Whilst livelihoods programs are increasingly offered by dam developers, there are very few fully successful examples in the Mekong region or globally.

Land is the most important element of people’s livelihood as well as food, as the majority population is involved in rice-farming in Sambor. A significant portion of income of a household is generated from the land, so if there is no land or the quality of the land provided is not as same as before, it means a decreased value in their income source.

&lt;Table 5.1: Potential Costs and Benefits of Sambor dam on Human Security &gt;

	Costs	Benefits
<b>Economic Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement for losing income source</li> <li>▪Loss of land, wetland and ecosystem like aquatic plants</li> <li>▪Loss of fishery for income source</li> <li>▪Impact on Tonle Sap Lake resulting in decreasing income &amp; job security</li> <li>▪Impact on biodiversity as a source of income</li> <li>▪Impact on dolphin &amp; natural resource base for decreasing tourism industry</li> <li>▪ Loss of riverbank garden production</li> <li>▪ Impact on floodplain fisheries &amp; agriculture by reduced nutrient in soil in floodplain</li> <li>▪ Attenuated livelihood by reducing availability of natural resource</li> </ul>	<ul style="list-style-type: none"> <li>▪Cheaper electricity as stimulating income source and job security</li> <li>▪Increased electricity supply for supporting industry &amp; communities</li> <li>▪National economic development</li> <li>▪Increased reservoir fisheries (aquaculture)</li> <li>▪Reservoir tourism</li> <li>▪Increased navigable condition (for freight transport)</li> <li>▪Increased market-access by trans-river bridges</li> <li>▪increased temporary job opportunity for locals during construction</li> <li>▪decreased risk of economic loss by flood mitigation &amp; control</li> </ul>
<b>Food Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement leading to lose of food sources</li> <li>▪Loss of fishery for food supply in general, including Sambor</li> <li>▪Impact on Tonle Sap Lake for food supply in the lake</li> <li>▪Impact on biodiversity as source of food</li> <li>▪Loss of riverbank garden production</li> <li>▪Reducing availability of natural resources</li> <li>▪Impact on floodplain fisheries &amp; agriculture by reduced nutrient in soil in floodplain</li> </ul>	<ul style="list-style-type: none"> <li>▪Both cheaper electricity &amp; Increased supply for increase in food supply (by increased irrigation)</li> <li>▪Increased reservoir fisheries (aquaculture)</li> <li>▪Reduced chance of loss of riverbank garden production by flood mitigation &amp; control</li> </ul>
<b>Health Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement causing decreasing health condition due to unfavorable environment</li> <li>▪Loss of fishery for nutrition &amp; health</li> <li>▪Impact on Tonle Sap Lake for nutrition &amp; health condition</li> <li>▪Impact on biodiversity as source of nutrition &amp; health</li> <li>▪Loss of riverbank garden production</li> <li>▪Loss of paddy production by inundated land</li> </ul>	<ul style="list-style-type: none"> <li>▪Reduced chance of diseases caused by flood (flood mitigation &amp; control)</li> </ul>

	<ul style="list-style-type: none"> <li>▪Impact on floodplain fisheries &amp; agriculture by reduced nutrient in soil in floodplain</li> <li>▪Impact on people's health and nutrition by decreased water quality</li> </ul>	
<b>Environmental Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement provoking degradation of natural resources and exposure to hazardous wastes</li> <li>▪Loss of fishery for biodiversity</li> <li>▪Impact on Tonle Sap Lake for biodiversity</li> <li>▪Impact on biodiversity, ecosystem and natural resources in general (by loss of land, wetland and changes in river)</li> <li>▪Impact on dolphin as endangered species</li> <li>▪Changes in hydrology (impact on deep pool function, floodplain, seasonal fluctuation in water level etc)</li> </ul>	<ul style="list-style-type: none"> <li>▪Reduced chance of natural resources loss by flood (flood mitigation &amp; control)</li> </ul>
<b>Personal Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement increasing vulnerability, for example gender violence and crime</li> <li>▪Increased vulnerability and cases of social disruption affecting personal security indirectly by factors that influence other securities (economic, food, health and environment) such as decreased availability of natural resources and loss of land</li> </ul>	No findings
<b>Community Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement increasing discrimination against ethnic minorities &amp; indigenous group, and threatening their traditional cultures and values</li> <li>▪Increased chance of collapse of community &amp; loss of cultural heritage/remains indirectly by factors that influence other securities (economic, food, health and environment) such as decreased availability of natural resources and loss of land</li> </ul>	No findings
<b>Political Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement threatening basic human rights of the affected communities</li> <li>▪Increased chance of abusing basic human rights indirectly by factors that influence other securities (economic, food, health and environment) such as decreased availability of natural resources and loss of land</li> </ul>	No findings

New employment opportunities as well are very unlikely to be found. The majority of people is farmers and has lived their life as self-employed, which means that they have never been employed by someone else for full time before. And most of the villagers do not have a high school diploma which means that there is not many opportunities except casual labor in other's field. Even if there is a chance to work in a factory or for a plantation company in the new area, working conditions is most likely to be the same or in most cases to be worse, because there will be many people who want employment. Most villagers in Sambor have lived as farmers for generations, and most importantly, most of them don't wish to change the way of life, since farming is what they do and what they know, as well as their way of supporting their families and raising children.

Meanwhile, loss of fish will also cause changes in all securities as well, especially economic and food security. As fish provide for a major part of the nutrition of the villagers in Sambor, a decrease in the number of fish decreases income as well as food. Even if a person is not regularly going fishing, it is common for villagers to do so at least a couple of times a week for food in the farming season; there are also many people go fishing everyday or some even for weeks in the river in non-farming season, which is far from their village searching for more fish stock. Fishing activities in the non-farming season is mostly practiced to sell, which is an opportunity for extra income generation.

Although most of the villagers, about 80% of the population, are rice-farmers, there are some groups of people who are fishers, mostly in Keng Prasat village, which are the ethnic Vietnamese and Muslim communities. These people in the two communities do not own any of land for rice-farming, and although there are several carpenters in the Vietnamese community, the main occupation is dominated by fishing activities. Therefore, a decrease in fish can leave hunger impact on those communities as well as the populations who they sell their fish to in the Sambor area. These two communities are situated along the river very near to the proposed dam site, but they will not be on the list for relocation because the communities are downstream.

In short, a decrease in the number of fish number will affect economic security, mostly income, of the Sambor communities. Among the communities, ethnic Vietnamese and Muslim communities in Keng Prasat will face the hugest challenge on both income and occupation. And in that sense, the issue of biodiversity can be anticipated to have the same impact as a decrease in fish; whilst fish are one of the richest biodiversities in the region, others aquatic species such as mollusk and crustacean are also an important component of the diet, which means that they are also economically important.

The situation in Tonle Sap Lake will not be very different from Sambor, which will be affected in many ways, especially loss of fish. The population living around the lake in 6 provinces will face massive impacts in their lives, especially for economic and food security. In fact, the consequences of impacts on Tonle Sap can be immeasurable for the whole population in Cambodia.

The Irrawaddy dolphins will also be affected in a negative way, even to the degree of extinction. The Irrawaddy dolphin is the focal attraction for tourism in the region. The number of households involved in tourism is increasing, and NGOs and government also plan to expand the target villages where community based tourism (CBO) is being operated to increase the number of households that get benefits from participating in tourism activities. Villagers in Samphin, where a CBO is set up and that is receiving an increasing number of tourists, as well as officials from the Department of Tourism in Kratie and Mekong Discovery Trail Project in Phnom Penn insist that the CBO projects are not only for dolphin watching but also to give tourists the opportunity to experience rural life in Cambodia. However, to be realistic, visiting the villages without the possibility of observing the dolphins will not be as much of an attraction from the tourists' point of view.

In other words, losing the dolphins means losing tourists in Sambor. Most people come to Cambodia for Angkor Wat and 'pass by' the region on their way to somewhere else, for examples to Laos, Vietnam and Thailand. They stop in Kratie

because of the dolphins. A rural experience can be had in any part of Cambodia, as well as in other countries like Laos and Vietnam. Therefore, if there are no dolphins at Sambor there will not be many tourists, which will lead to a decrease in income and new job opportunities for villagers and can endanger the existence of some projects, like MDTP.

#### **5.1.1.2 Benefits**

Although there are many disadvantages anticipated from the Sambor dam project, there will certainly be benefits, mostly in economic security of the people; more supply of electricity at a cheaper cost and national economic growth. There seems to be no objection to the claim that Cambodia needs more electricity. The majority population in rural areas, which is 80% of the total population, currently is living without access to grid electricity. Making it worse, the cost of electricity per kilowatt in Sambor bought from a private provider is at least double compared to the average cost in the country (NGO Forum on Cambodia 2009:1)..

At present, hydropower dams are considered as the only realistic option for electricity development in Cambodia by various external stakeholders, particularly the stakeholders in governmental agencies. Although there are objections to construct a dam in the area for various reasons, especially from NGOs, there appear to be limited alternatives for large electricity generation.

It is expected that an increased supply of electricity will help boost local industries, since the provincial government is eager to attract both local and international companies to the province. The lack of stable electricity supply has been pointed out as a main obstacle. More electricity means that not only a better quality of life for the people in Sambor, but also a growing possibility of increased job-market, which will bring stable and more income to the population. However, it is very likely that the benefit of this electricity in terms of economic growth will be more likely experienced in Phnom Penh, which has more associated industrial infrastructure.

The most frequent and solid rationale for the Sambor dam project is that it will help boost the economic growth of the nation. An increase in electricity supply is expected to ultimately contribute towards national economic development. Alike many other developing countries, economic growth is the ultimate and most urgent goal of Cambodia, especially to those in leadership positions, including the majority of government officials. The problem is the dam like many other in the mainstream Mekong will be built as a form of foreign direct investment, thus most of the benefits can possibly go to central governance and foreign capital as well as urban population which will be benefited by increased supply of electricity, while the costs will be most likely to go to the affected community.

### **5.1.2 Food Security by Sambor dam**

As economic security equals to food security in most of the households in Sambor, the aspects that affects the potential impacts in economic security are mostly linked to impacts in food security as well. Thus, resettlement, loss of fishery, impact on Tonle Sap Lake, and impact on biodiversity also affects food security as costs, while cheaper electricity and increased electricity supply can also strengthen food security at the same time.

#### **5.1.2.1 Costs**

As resettlement can also mean loss and changes of land, this can affect the accessibility to food at the same time. Because time is needed to plant and harvest rice, from the time of relocation to the time of harvest new rice, many can suffer from poor nutrition. Especially, if relocation is made during farming season and people are left without enough rice stock until next harvest period, the food security of the people will be threatened seriously.

Decrease in fish quantity and species, changes in Tonle Sap Lake and in biodiversity affect food security as well as economic security. As the Sambor communities heavily rely on rice and fish for daily meals, any decrease in fish and in biodiversity will severely affect the food security of the people. This also affects

people living near Tonle Sap Lake, as well as the other Cambodians living in urban areas. In fact, losing fish can possibly generate enormous consequences in food security for the whole population of Cambodia.

#### **5.1.2.2 Benefits**

Food security can be strengthened by an increase in electricity supply and decrease in electricity cost in Sambor. Since in general most villages has no access to grid electricity, using modern equipments in agriculture is very restricted. For instance, a motor with gasoline engine is often used to pump river water to paddy fields, but the cost of refueling the engine is often not affordable to the majority of villagers, so the villagers interviewed said that it is hard to plant and grow rice, especially in case of drought, and the production of rice is decreasing year by year which means less food to feed their family. Thus, if there is grid electricity available it will help strengthen food security in the district.

#### **5.1.3 Health Security by Sambor dam**

When considering the definition of Health Security as ensuring “*protection from poor nutrition or an unsafe environment that might cause diseases or unfavorable health conditions*”(UNDP, 1994), it can easily be anticipated that any changes in lifestyle and the surrounding environment can affect it.

##### **5.1.3.1 Costs**

Decreased accessibility to food of the resettled population might lead to malnutrition of the population, and malnutrition can make people more vulnerable to diseases. Also, since the relocation area hasn't been decided yet, it is uncertain that the relocated villagers will have a safe environment, including safe water and protection from natural hazards. Furthermore access to appropriate housing options and a healthcare system are also not guaranteed.

It is also very possible that the health security of the affected communities will be threatened by resettlement because infrastructure for peoples' basic life in the

resettlement area will be most likely insufficient at the time of relocation (while some government officials were sure that the central government of Cambodia will consider every aspect of peoples' livelihood and prepare adequately before resettlement).

Since fish are a major part of peoples' diet, a decrease in fish in the Mekong River will definitely affect nutrition status of the villagers in Sambor and in Tonle Sap Lake, which will eventually threaten the health security of the whole nation in the long run.

#### **5.1.3.2 Benefits**

Benefits of Sambor dam in Health security are not found.

#### **5.1.4 Environmental Security by Sambor dam**

Environmental Security will most likely decrease because of the Sambor dam, because of the estimated potential costs such as decrease in fish, biodiversity and dolphins. As 'dams' have been as a symbol of advancement that overcomes nature in modern societies, the impacts of dam might be destined to go against the environment.

#### **5.1.4.1 Costs**

Whether relocation will impact on the indicators that measure environmental security, such as accessibility to safe water and air, prevention of deforestation, and protection from toxic and hazardous waste, will depend on where the villagers will be relocated. Thus, if there is no proper compensation made for relocation, including house and land, it is most likely that the people's living and health condition as well as environmental security will get worsened off.

In addition, the environment will most likely be threatened during the process of constructing the dam. For example, villages and vegetation will be submerged under the water creating the possibility of water pollution, which can generate huge consequences on biodiversity in the river. Decrease in fish species along with other biodiversity, including the endangered dolphins, will be a critical factor for

environmental security as well. It will not only affect in a negative way the environment itself, but also these changes in the environment will worsen peoples' quality of life and become an obstacle in ensuring physical well-being of people.

#### **5.1.4.2 Benefits**

There is no finding on the benefits of the dam strengthening environmental security.

#### **5.1.5 Personal Security by Sambor dam**

Personal security is hard to measure with obvious evidence. Rather it is more related to the degree and extent of how one individual 'feels' about their own safety and security, and in what way their security is ensured by others.

##### **5.1.5.1 Costs**

The uncertainty that is mentioned several times in the previous sections also affect the people in a psychological way. In general, people fear of uncertainty in new unfamiliar surroundings. Relocation will change the dynamic of a community; several villages can move to a new area and are combined into one or villagers from one community can be divided into many places as well. In either case, it is quite natural that people fear of unfamiliar surroundings and of changes to their previous lifestyles. Thus, fear of violence, whether it is minor or major, will most likely grow in one's mind. In addition, threats of crime, accidents and street violence will increase, and those related to gender violence such as rape, domestic violence and child abuse will also be likely to be increase.

Decrease in fish, in some sense, can aggravate the threats to personal security, since people will be more exposed to vulnerability to crime by shortage of food and changes in community dynamics.

##### **5.1.5.2 Benefits**

Information about the benefits of Sambor dam from the personal security

perspective is not available.

### **5.1.6 Community Security by Sambor dam**

In the sense articulated in 5.1.5.1, community security might be threatened as well.

#### **5.1.6.1 Costs**

Since compositions of new villages after resettlement can vary and it is not likely that a whole village will be resettled together or that villages which are neighboring to each other would be resettled in the same neighboring places, the chances of conflict between villages and among villagers in a village will increase for many possible reasons, such as distribution and allocation of houses, lands and indemnity.

Furthermore, tradition, culture and values of a village are most likely to change as well in the process of accumulation or settlement in a new place with new village members, and it may affect sense of identity, and the belongingness to the community that they are in. The possibility of ethnic discrimination will also rise. At present, the same ethnic groups tend to live together or near to each other in most of the villages in Sambor, but if moved it will be hard to keep it this way (as they wish to).

#### **5.1.6.2 Benefits**

The benefits in community security are not available.

### **5.1.7 Political Security by Sambor dam**

Political security of the people in Sambor at present faces no severe threats; however, if resettlement occurs then political security will most likely be threatened.

#### **5.1.7.1 Costs**

If the resettlement plan of the government is not satisfactory enough, conflict

between the government and the community, as well as with some external stakeholders like NGOs, may occur. In the process of settling the conflict, it can be anticipated from previous experience that ill treatment, state repression and violation of basic human rights by government to the villagers can possibly occur.

#### **5.1.7.2 Benefits**

Benefits from Sambor dam on the political security of the affected population are not identifiable.

### **5.2 Analysis of costs and benefits from the Sambor Dam identified by External Stakeholders using the Human Security framework**

Most of the external stakeholders interviewed in this study were completely unaware of the human security framework. Whilst a couple of stakeholders, such as Oxfam Australia and Stimson Center, were familiar with the framework, they did not use it as the basis for undertaking their work.

This section seeks to summarize the extent to which external stakeholders recognize the costs and benefits to human security through the issues that they raise (see section 4.2.6, and table 4.30 and 4.31). In table 5.2, these issues are categorized according to the aspect of human security, and indicate the number of organizations that flagged this cost or benefit (in brackets). The intention of this analysis is to determine the perceived importance of the issue, which would be reflected in any “consultation process” about the Sambor Dam. Vice versa, this analysis also indicates which issues and forms of human security would not be identified as significant within a consultation process in the absence of a human security framework.

As it is analyzed in table 5.2, the anticipated potential impacts of the proposed Sambor dam project by various external stakeholders will affect the dynamics of how these are raised in a consultation process, and therefore how these are recognized, considered, and if necessary addressed. Overall, the benefits identified are anticipated to affect only economic and food securities, while costs threatens five aspects of

human security, economic, food, health, environmental and community security.

<Table 5.2: Potential Costs and Benefits of Sambor dam on Human Security as identified by external stakeholders>

	<b>Costs identified</b>	<b>Benefits identified</b>
<b>Economic security</b>	<ul style="list-style-type: none"> <li>▪Resettlement ( 7)</li> <li>▪Impacts to fishery &amp; biodiversity (10)</li> <li>▪Impacts to environment (deforestation, desertification.) (5)</li> <li>▪Impacts to dolphins (7)</li> <li>▪impacts to Tonle Sap Lake (2)</li> </ul>	<ul style="list-style-type: none"> <li>▪Electricity (increased supply, decreased cost, irrigation, living standard improvement) (10)</li> <li>▪National economic development (11)</li> </ul>
<b>Food Security</b>	<ul style="list-style-type: none"> <li>▪Resettlement (7)</li> <li>▪Impacts to fishery &amp; food security (9)</li> <li>▪Impacts to environment (5)</li> <li>▪Impacts to Tonle Sap Lake (2)</li> </ul>	<ul style="list-style-type: none"> <li>▪Electricity (irrigation) (10)</li> </ul>
<b>Health security</b>	<ul style="list-style-type: none"> <li>▪Resettlement (7)</li> <li>▪Impacts to fishery &amp; food security (9)</li> <li>▪Impacts to Tonle Sap Lake (2)</li> </ul>	No finding
<b>Environmental security</b>	<ul style="list-style-type: none"> <li>▪Impacts to fishery &amp; biodiversity (10)</li> <li>▪Impacts to environment (5)</li> <li>▪Impacts to dolphins (7)</li> <li>▪impacts to Tonle Sap Lake (2)</li> </ul>	No finding
<b>Personal security</b>	No finding	No finding
<b>Community security</b>	<ul style="list-style-type: none"> <li>▪Impacts to livelihood (8)</li> </ul>	No finding
<b>Political security</b>	No finding	No finding

### 5.3 Conclusion: Knowledge availability and knowledge gaps

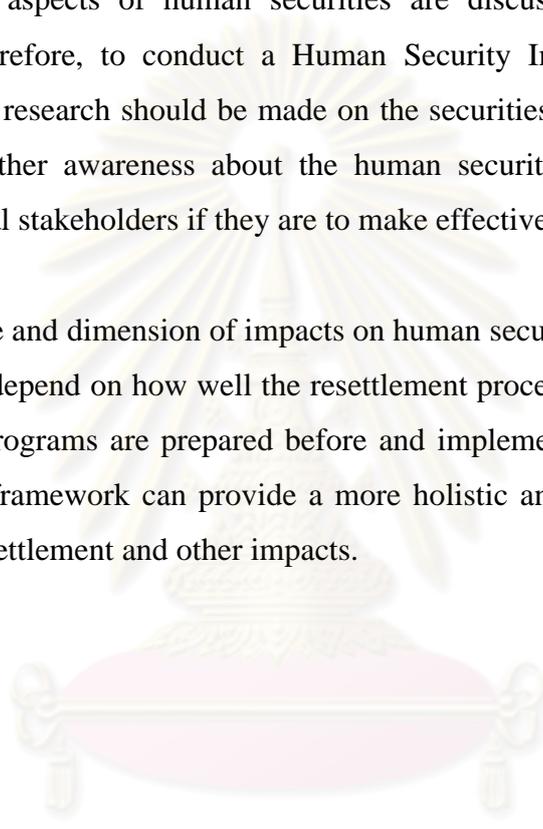
In this chapter, it is estimated that most of the impacts from the Sambor dam have a close connection to peoples' livelihood and are reflected in securities such as economic, food, health and environment. Those securities are often discussed by external stakeholders and the changes of those are easily distinguishable and noticeable compared to other securities, such as personal, community and political.

Most of NGOs working in the Sambor district run programs that are relevant to the first four securities, so, their concern and anticipation is more restricted to the securities. However, the last three securities, personal, community and political, are hard to measure, and are not discussed among stakeholders. Even amongst those

whose working area is closely related to those securities, it was clear that they generally do not speculate about the possible consequences of the Sambor dam.

In short, all the seven security aspects are covered by the works of external stakeholders; however, when it comes to anticipating costs and benefits of the Sambor dam, only some aspects of human securities are discussed among the external stakeholders. Therefore, to conduct a Human Security Impact Assessment, more consideration and research should be made on the securities that are not discussed at present. Plus, further awareness about the human security framework is required among the external stakeholders if they are to make effective use of it.

The degree and dimension of impacts on human security if the Sambor Dam is built will mostly depend on how well the resettlement process and other environment and livelihoods programs are prepared before and implemented. In that regard, the Human Security framework can provide a more holistic analysis of what should be considered for resettlement and other impacts.



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## CHAPTER VI

### DISCUSSION

In the previous chapters, the current human security situation of Sambor and the potential impacts of Sambor dam have been examined and analyzed with each Human Security aspect, based on information from the Sambor communities, external stakeholders, and the general literature about the impacts of dams, in order to determine what information and knowledge exists and what is missing about the communities current human security situation, the dam project itself, and the potential impacts of the dam and their magnitude from a human security perspective.

Based on this analysis, this chapter attempts to present what are the antecedent requirements to undertake a HSIA, what would be the possible scenarios to meet the antecedent requirements, and what are the current barriers for an HSIA to be conducted for the Sambor dam. I seek to answer the research question of this study, namely *“With the information currently available from the local community and external stakeholders, is it possible and would it be useful to undertake a Human Security Impact Assessment (HSIA) for the proposed Sambor Dam project, Kratie Province, Cambodia?.”*

#### **6.1 Assessing the potential for a HSIA at Sambor**

As identified in Section 1.5.3, there are three pre-requisites that should be met to conduct a HSIA successfully (See figure 1.1):

1. Understanding of current Human Security (HS) status of the community
2. Predicting the potential impacts on HS from the dam project
3. Endorsement by external stakeholders, meaning that:
  - All stakeholders understand the HS framework
  - All stakeholders have a willingness, the capability and the resources to undertake a HSIA
  - The participation of the community

In this section, the three pre-requisites will first be discussed in turn. In section 6.2 the current barriers to a HSIA at Sambor are explored, while the need for global examples of HSIA is discussed in sections 6.3 and 6.4.

### **6.1.1 Understanding of current HS status of the community**

As analyzed in Section 4.2.6, all the seven human security are covered by the work of the external stakeholders when the work of those stakeholders is combined together. However, the level of understanding on the HS status in Sambor varies depending on the external stakeholder. In most cases, the field of work that an external stakeholder works on affects the extent of understanding of the stakeholder. For example, if the main focus of work is health and the involvement of the stakeholder is minimal or very focused on one issue, such as providing medical service or connecting patients to a health center for proper treatment, then the level of understanding on human security of Sambor is most likely limited to 'health situation,' and often only in specific villages too, and it is least likely for the external to have broadened understanding on people's livelihood.

Additionally, there is discrepancy on how much work by external stakeholders is being invested in each human security aspect, in terms of intensity; some securities like economic, food and health are covered by more external stakeholders, while personal, community and political securities are covered by less number of stakeholders and mostly by subsidiary programs generated from main program which is often involved in economic, food, health and environment securities (see table 4.29).

At present, based on the experience from the field research interviewing both the communities and the external stakeholders for this study, investigating the HS situation in Sambor is possible with the current resources and information. But at the same time, it was difficult in the sense that the external stakeholders are not aware of the human security framework. Thus, there was no preparation as well as consensus within an organization or among the external stakeholders, and it increased the possibility of missing information. Therefore, it would make the work easier and more

reliable if the all external stakeholders met certain pre-requisites (see section 6.1.3 for detail), including an understanding of the HS framework and a willingness, capability and adequate resources to use it.

Among the pre-requisites, resources and capability of the external stakeholders need to be improved, as the current level of information is often found to be not relevant or detailed enough to grasp the idea of what the community's human security looks like, especially from local NGOs and provincial government. For example, it was hard to find English documents from the all external stakeholders, unless the funder of an NGO is international. And even if there is English document exists, often the information about the organization is only explained, rather than a detailed project document. Thus, the interviewer mostly had to rely on the personal interviews of each external stakeholder, and the thing is that there is no guarantee that the person's opinion and knowledge are reliable enough to be representative opinion and information of the organization.

Also, for the community interviews, it is highly possible that the people wouldn't want to talk as open as necessary, since an interviewer is a total stranger. Thus it can be speculated that an individual interviewee would be cautious to talk frankly especially for some sensitive or negative issues. In addition, it was also noticed that the current measurements to measure the degree of HS is vague and not clear, thus, the measurement should be more developed to avoid the possibility of being tainted to subjectivity of an individual researcher.

In short, currently it is possible to examine the HS status of the communities in Sambor, however, with fulfilled pre-requisites and more developed measurements, the study will be more reliable and successful.

### **6.1.2 Predicting the potential impacts on HS from the dam project**

The potential impacts of the Sambor dam were pointed out by the external stakeholders. The expected cost can be categorized into seven; Resettlement and

impacts on fisheries, biodiversity, dolphin, environment, livelihood, and Tonle Sap Lake, while the expected benefits are electricity and national economic growth (see table 4.30 and 4.31).

Similar to external stakeholders' understanding on human security situation in Sambor, each external stakeholder showed different level of anticipation on the potential impacts. However, the anticipated costs by the external stakeholders were somewhat limited to several consequences in general such as resettlement, fishery and livelihood impacts, comparing to the reported impacts by dams (see table 5.1 and 5.2).

Interestingly, the most responses on the expected impacts were pretty similar in terms of both costs and benefits from the project. Especially for benefits, it could be summarized that either the dam will be helpful to national economic development for it will enable the government to stop importing and to export hydropower, or will boost local economy and improve the standard of people's livelihood by obtaining access to more and cheaper electricity. If applied to human security framework, the potential benefits anticipated by the external stakeholders would be economic and health securities (see table 5.2), while expected benefits of a hydropower dam in general covers not only economic and health securities, but also food and environmental securities (see table 5.3).

It can be analyzed from this discrepancy that the perception of the external stakeholders of the Sambor dam project on the benefits of the dam is more focused on the limited supply of electricity in Cambodia at the moment and seeing hydropower dams as a good potential for Cambodia's national economic growth, and this well reflects the current priority and focus of Cambodian government in development. Based on the interviews with the external stakeholders especially from government agencies, it was clear that the government is prioritizing economic development in the national level, even if it should pay the cost of the local communities' sacrifices.

In short, although there are limited resources and limited awareness amongst

the external stakeholders, determining the potential costs and benefits of the Sambor dam project using the HS framework was possible, which is a must in order to conduct a HSIA.

Therefore, whether a HSIA will be successful or not will be decided on whether there is sufficient endorsement by the external stakeholders to enter into a HSIA process, since the endorsements will enhance the quality and efficiency of the HSIA process and results, and result in buy-in from all stakeholders and influence the final decision on whether the project proceeds or not. This is now discussed in the following section.

### **6.1.3 Endorsement by external stakeholders**

Along with understanding current HS status of the community as well as anticipating potential impacts of the Sambor dam, there is an important endorsement that must be met by all stakeholders. The endorsement can be divided into three points to undertake a successful HSIA; 1) all stakeholders should understand what is HS framework, 2) all stakeholders have a willingness, capability and resources, and 3) the community should participate. Without the support of the endorsement of all stakeholders, a successful HSIA cannot be conducted.

#### ***6.1.3.1 All stakeholders should understand the HS framework***

First of all, all stakeholders should be aware of the Human Security framework and be able to see the value of it. Otherwise, it will be hard to expect a successful result to come out from a HSIA, because none of the external stakeholders work in all the aspect of the framework, and the understanding and expertise of a stakeholder is often limited to their field of working. So to speak, without cooperation of all the stakeholders together, it is not possible to conduct such a successful HSIA that contains valid information and assessment.

In the case of Sambor, almost all stakeholders, except a few, are not aware of the Human Security framework. Governmental agencies and NGOs whose work is

closely related to the livelihood of the community, so have more access to the current status of the community are not aware of the framework, except one stakeholder who is positioned in Phnom Penn and have previous academic experience on examining livelihood and the potential threats of the dam.

#### ***6.1.3.2 All stakeholders have a willingness, capability and adequate resources***

Even if all stakeholders were sufficiently aware of the HS framework, and have agreed to its value in doing a HSIA in principle, there should be consensus among the stakeholders to participate in the HSIA process. Without the strong willingness to be part of a HSIA, it will be difficult to get quality information and specific expertise on the community regarding to each security. Also, a stakeholders' capability as well as adequate resources should be taken into account, otherwise, it will be also hard to see the HSIA to be actually implemented.

At the current stage, since there is no conventional understanding of the framework itself among the stakeholders of the Sambor dam project, it is hard to expect whether they would willing to participate in a HSIA. About capability and resources, local NGOs and governments are having hardship in resources both human and financial; since the rate of high school graduates is low, local NGOs have hard time to recruit someone with necessary level of education and skill. This also lead to the capability issue. In the mean while, governments also find it difficult to fill the posts in Sambor district, since qualified people usually do not want to live in rural area. However, with cooperation of central and provincial governments, NGOs in Phnom Penn, international organization and academic institutions, the lack of resources and capability might be possibly covered.

#### ***6.1.3.3 Participation of the potentially affected community***

The last endorsement needed is the participation of the community themselves. Since the Human Security framework is about investigating and analyzing various aspects of an individual's life in more comprehensive way, it is impossible to conduct a HSIA without participation of the community in order to get correct information.

From the experience of the field work in Sambor, in spite of the remote and somewhat isolated location, the villagers seemed open to outsiders and to be willing to talk about their life and concerns although there were limitations (see section 3.4.1). In many cases, however, people disclosed somewhat sensitive issues and spoke freely. Thus, the participation of the community will be the least likely to be an issue in conducting a HSIA in Sambor, if the purpose and intention of the study is properly introduced to them, and if it is made sure that objectivity will not be tainted by political issue. However, it is well known that in Cambodia decisions on major investment projects are highly political and the voice of the community only rarely appears to influence the decision outcome.

## **6.2 Current Barriers to HSIA in case of Sambor Dam, Cambodia**

This section will discuss which barrier currently exist in terms of possibility in order to conduct a successful HSIA based on knowledge from field research in Cambodia.

### **6.2.1 Lack of capacity and resources**

First of all, stakeholders do not generally have enough capacity and resources to conduct a HSIA by themselves. However, more likely is that they will be participants within a facilitated process. Since majority stakeholders are not aware of the HS framework, their work has never been evaluated according to the framework, which naturally brings question in the capability to conduct a HSIA.

Along with this limitation in experience, most external stakeholders lack resources. For example of NGOs, most of them, especially local ones, heavily rely on budget from donors and plan for projects according to donor's expectation, not to the NGO's vision and willingness. It might be ideal that NGOs plan what they do according to the needs and willingness of the target group, and then get fund for the project; however, realistically, not many NGOs, particularly local NGOs, have the capacity to do so due to financial limitations. Instead, NGOs would look for fund opportunity first, and if there is one fund that suits for NGO's working area, then

project is planned according to fit proposal criteria of a donor. And then if the project proposal by the NGO is chosen by the donor, the NGO will implement the plan.

Thus, working cycle moves around donor's funding period, expectation and criteria. For example, if given a 2-year project for community fishing network in one village, the work might have to be related to and restricted to that issue only, no matter the target village is in more need of something else. This affects the ability of an NGO to participate in a HSIA, in a way that it prevents them from getting motivated to find the need of the people they serve, and to attempt or try other thing. As a result, the financial dependency of NGOs in a broad way affects its willingness and ability to conduct a HSIA that the lack of experience and concern hinder them from providing necessary resources.

Furthermore, NGOs and also government agencies in rural area often have hard time recruiting people with adequate skills and experience as well as the educational background. With the adequate level of experience skills do not usually want to live in rural area, because the level of income as well as the living standard is not reaching to their expectations. Thus, lack of resources both financial and human is one of the biggest barriers that currently exist in Cambodian context particularly the rural area. That's also the reason why NGOs often do not acknowledge the necessity of information sharing with other stakeholders including other NGOs which will be described in the following section. It is important issue in a HSIA, because the role of the external stakeholders is vital and significant. Therefore, quality of human resources as well as accessibility of financial resources should be ensured when implementing a HSIA.

### **6.2.2 Lack of motivation and incentive to share information**

The lack of resources makes stakeholders to be reluctant to have motivation other than what they are currently involved in. This leads to prevent from exchanging information. At present, information does not constantly and actively flows from a stakeholder to a stakeholder. As it is seen in the previous chapters, there is enough

information available out there to conduct a HSIA, if the information is synthesized together. However, because it's not shared with other stakeholders, the chance to be used in drawing a holistic picture of human security situation in Sambor as well as of potential impact according to each human security seems limited.

It is true in some sense that there is information exchange among stakeholders, but it is often limited to those who have same area of working. For example, NGOs working on food security have a meeting and would share information with each other, but the thing is that the information is hard to get and often does not cross with other agencies that do not work in food security.

In Kratie, there is a network of NGOs called 'Kratie NGO network', and a meeting is held monthly. However, it seems that there is no attempt have been made to use it as "idea bank" or "focal point" that creates more productive ideas for common goals combining specialized knowledge of each NGO's. Rather, it seems like it is a more social event to build a social network with people working in NGOs in Kratie. Although some people said that they do discuss an urgent or importance issue in a meeting, one said that the issue of Sambor dam has never discussed in a meeting of Kratie NGO network. And one other external stakeholder said, "We only have two staff in Kratie office, so if an agenda is interesting to us, we would go, otherwise, we usually don't go to the meeting."

### **6.2.3 Tension between Government and NGOs**

Another barrier is that tension exists between Government and NGOs. It seems that both do not consider each other as 'partners' that works for the same objective. Although one external stakeholder said, "if we, NGOs keep raising voices, the government will change the position," generally, NGOs often accuse government, and government officials don't seem wanting to talk with NGOs especially for some sensitive issues like the Sambor dam project. One government said that he doesn't trust people from NGO and doesn't want to share any information on the Sambor dam, because he once talked with one from a NGO on the Sambor dam project and

found that the person from NGO distorted what the official originally said in a report of the NGO.

#### **6.2.4 Limited political space and Cambodia's centralized decision-making system**

The tension between external stakeholders especially Government and NGOs is certainly affected by limited political space in Cambodia. Similar to NGOs discussed earlier, governmental organizations mostly work only their given work, and hardly exchange information and expertise. Furthermore, the decision making system is quite hierarchical with top to bottom approach, so central government decides everything, and provincial and district offices implement what is given to do. Since there is no room for provincial and district offices to decide what to do, there is no need for them to share information with others. Their job is to do what they given to do, not to raise opinions. This restricts the motivation of government officials, and makes them regard themselves as implementer of government plans, rather than supporters of the population's needs. With this situation in government, it wouldn't be hard to imagine for NGOs to communicate with government.

There are always pros and cons in everything in the world, so this centralized decision making system does have advantages, such as decision making and implementation process can be shorter and faster, and decisions can be made at the national level with national priorities which is more efficient way in terms of national growth. Yet, it also has shortcomings, as the needs at the provincial or district level can fail to be recognized or can be easily ignored by the needs at the national level.

Thus, in case of the proposed Sambor dam, government officials, regardless of which department or ministry one works in, are generally aware of the dam project; however, majority government officials responded that it is a job of central government, and there is nothing that they can do in decision making, instead, the decision's made in a national level, and they must follow without question. In general, the government officials in provincial departments have strong trust in central government's decision making and take it as unquestionable.

Thus, the centralized decision-making system in Cambodia has generated consequences that limited interchange of works and information among external stakeholders, even between governmental offices in district and provincial level. For example, an official in district office of Women's Affairs said that cases occurred and reports in villages informed directly to donors or provincial offices without informing to the district office.

With these circumstances, it is not guaranteed that a HSIA could possibly be conducted successfully, because there is no free flow of information and expertise from a stakeholder to a stakeholder. This limited and stiff political system hinders active participation and good synergy effects generated from the interaction of stakeholders, which is a critical element for a HSIA to be estimated as successful.

### **6.3 The need for HSIA pilot projects as global good practice example**

As described in the previous sections in this chapter, a number of limitations exist to facilitate a successful HSIA at Sambor and in Cambodia. The implementation of a HSIA at Sambor would be more likely if there were already examples around the world of successful HSIA's to demonstrate the advantages of the approach. In other words, 'pilot projects' must be implemented in order to gain experience and to generate motivation of the external stakeholders.

Undertaking a HSIA will require a large effort from all stakeholders, including the affected community, NGOs, government agencies, international organizations, industry and academia. Without conviction and a straightforward reason why they should be involved in such a huge and complicated project which needs a lot of resources and often is way beyond the capability of one organization in terms of human, financial and expertise, none of the stakeholders will step forward into the actual implementation.

#### **6.3.1 Who should facilitate a HSIA process?**

If a HSIA was to be implemented, who should facilitate the process? The

answer is that whilst the relevant internal and external stakeholders should all take part in the HSIA process, they should not be the “facilitator” as they have an interest in the outcome that undermines their neutrality. In other words, there must be a neutral entity that facilitates and implements HSIA, because external stakeholders can contaminate the outcome of HSIA by putting their own perspective either deliberately or unintentionally. For example, a government can be cautious with some aspects of human security like political security; If the country presently has high level of political insecurity and shows tendency not to practice its authority and power over people in democratic way, the outcome of impacts in political security will be hardly reliable.

There are three entities that could be suitable as a ‘leading entity’ to facilitate a successful HSIA; 1) UN Human Security office, 2) An agreed international consultant, and 3) Academia/ University.

#### ***6.3.1.1 UN Human Security office***

The Human Security Unit of the UN office for the Coordination of Humanitarian Affairs (hereafter UN Human Security office) has a great potential in a sense to be a neutral mediator among various stakeholders. The biggest strength of UN Human Security office is, above all, that it has been involved with the Human Security framework more than any other stakeholders from the beginning of the birth of HS, and has been still working on improving the framework to be used in developmental projects. As mentioned in section 2.4.4, it has recently, in 2009, developed a tool for HSIA, and published a handbook named, “*Human Security in Theory and Practice: Application of Human Security Concept and the United Nations Trust Fund for Human Security*” to be a guidance for practitioners when applying the framework in impact assessment of developmental projects.

Besides, UN, in a general sense, might be the unique and only entity that can bring all types of stakeholders together and embrace them by being, or at least understood as, neutral with agreed authority. What is more is that it also has relatively

high capability of resources both at present as well as the possibility of obtaining them what it lacks comparatively easier than other stakeholders. UN Human Security office, accordingly, has the most possibility of taking the initiative.

### ***6.3.1.2 Agreed International Consultant***

Another possibility is ‘an agreed international consultant’ who is respected and considered neutral by all types of stakeholders. Someone with deep understanding in both Human Security and the target community or at least relevant region of a project to be assessed, will be most likely to be the perfect candidate. The only thing is that success will be entirely depending on the ability and ethical foundation of the independent individual consultant, those of which risks the sustainability and quality of HSIA.

### ***6.3.1.3 Academia/ University***

The final possibility is ‘academia/ university’. A respected academia can lead HSIA in a sense that it does or at least is expected to stand neutral in politics both in regional and global context, in general. However, alike ‘international consultant’, there is still a question of sustainability. Also, in many developing countries, particularly where lacks of political maturity and public awareness on democratic process in politics, especially in Asia, top-ranked public university often receives more respect than that of private if they are in same category in terms of educational quality; for example, the top ranked university where its work is respected by general public is often a public university. And in many places, being an academic in top ranked public university often means a good chance to advance to be a high ranking government official, especially from political science or international relations department, where development studies are often belonged to.

Thus, if target of HSIA is where has high vulnerability to a government that stands on hierarchical political mechanism, the objectivity of the academia should be guaranteed first. Although it hard to say as a group the academia lose reliability, when thinking of the group is composed of each individual, the possibility of not being

neutral still exists. So to speak, academia can be a potential if political stability in the county is ensured. In case where academia has good reputation in a politically stabilized country, it often lacks good administrative skills that are required for leading all stakeholders in a HSIA.

#### **6.4 The first step to a HSIA at Sambor**

Since stakeholders with various working background and agenda are working in the target area, and they do have their own information and knowledge regarding the field of their work, so, if all the information is shared among stakeholders, a good knowledge base can be set up as a centripetal base. It is well-worthwhile, because an initiative of sharing information and ordering knowledge according to Human Security framework is a must and first step to be done in order to promote implementation of a HSIA.

Although the existing networks has their own limitation at present as discussed in section 6.3.2, taking advantage of what is already there could be an efficient and effective step towards implementing a successful HSIA, and plus it helps making stakeholders feel more comfortable and involved. The external stakeholders of the Sambor dam are generally not aware of the HS framework and haven't been able to see the value of it; however, if the existing networks and the information available are used efficiently, there is a greater chance to promote the value of the HS framework, and then it will lead to raise the willingness of all stakeholder to initiate and participate in a HSIA.

## **CHAPTER VII**

### **CONCLUSION**

Throughout the previous chapters, the Human Security framework and its Impact Assessment have been discussed in various aspects. The current Human Security situation of Sambor communities using HS framework is analyzed in Chapter 3, and the work of the external stakeholders and their perception on the potential impact of the Sambor dam is investigated according to the HS framework in Chapter 4 and 5. From the analysis of the three chapters, the pre-requisites from the conceptual framework, the current limitations as well as recommendation for conducting a successful HSIA are discussed in Chapter 6. In this final chapter, a conclusion to the research question will be made.

#### **7.1 Comprehensive and holistic**

There might be two ways of looking at a painting in general; first, stepping back a little and looking at the whole range of it, and second, looking up close and personal to study some part by part specifically. For most people, the first one will be common way for most people, while some people who are, for example, to restore the painting might use the second way; however, even for those whose main purpose is to study it very closely would first look at the whole picture first to get the idea of what it is and what impression it give to audience.

The Human Security framework (HS) and Humans Security Impact Assessment (HSIA) might share the same idea. Namely, Human Security and HSIA is like, so to speak, a painting, especially Impressionist one. In a sense that there is not much meaning in studying a small part very carefully of an Impressionist's painting, instead, these kind of paintings are much more worthwhile to looking at it as one piece of work to feel what the painter's intention was, what he/she felt during painting the piece, and what kind of impression he/she wanted to give to people who look at the painting.

HSIA can help looking at people's securities and the impact of a project in a more holistic and comprehensive way. In doing so, we can learn about how people's lives are shaped and will be reshaped by a project in more reasonable and more close to reality way. Without a holistic picture that illustrates people's circumstances and life, it is hard to avoid the risks and may result in the wrong outcome. There is a famous old story that everyone who read this study would know. Several blind people had a chance to touch an elephant for the first time in their lives. After the elephant left, one blind that touched a leg said that elephant was looking like a pole; while the other who touched a tail argued that it looked like a huge snake. They both are right, but are wrong at the same time. This indeed illustrates the current forms of impact assessments for major developmental projects very well.

Let's suppose there is an impact assessment on food condition of a certain community which will be affected by a project that would clear the whole paddy field of the community. The result of the impact assessment might be true and right, in a sense that the loss of accessibility to food can cause huge impact on people's health. However, it would most likely to miss the point that it is not only loss of food that the community will get as the impact of the project. There might be more than single reason that cause impact on people's livelihood. Political and social status can be changed, people can be exposed to more crimes, not only food but also income can be decreased, and then the people might stop sending their children to schools which might risk future accessibility to job in the long run.

Thus, impacts don't always stop at the right and direct outcome, but also it does impact on people in a more broad scale and reshape livelihood such as social status and identity which are not often included in an impact assessment. Therefore, HSIA can benefit an impact assessment to be more accurate, and can help developmental practitioners and decision makers to consider all the possibilities of aspects of life and to design projects with better outcomes and less negative consequences.

## **7.2 Contents specific & Multi-sectoral**

However, HSIA shouldn't be used as a mean to degrade the importance of looking at the issue in a closer scale. Specialized and detailed studies, for example, environmental study by expertise on environment, should have to be followed by HSIA, since HSIA is not to replace existing study with smaller scope and more expertise, but it can help see the big picture, and the connections and interactions between the aspect of securities, which in turn will help specifically designed small scale impact assessment on a particular aspect. Therefore, it shouldn't be ignored that the professional expertise on a single dimension of securities is also important as well. In this sense, it can be summarized that the HSIA is like a generalist, while other specific impact assessments are specialists. Without help from specialist, generalists cannot be produced.

Also, since specialized information and knowledge from each sector is combined and analyzed together in HSIA, it can enable HSIA to develop multi-sectoral agendas which capture the comprehensive and multi-dimensional impacts on people's life, and to ensure coherence and coordination of policy from various fields which has never been dealt with together by allowing knowledge-sharing among the stakeholders.

## **7.3 Conclusion**

Reflecting on the research question, this study has demonstrated that it is possible and would be critically useful to undertake a HSIA for the Sambor dam project, because it will help stakeholders to see the impacts in a more holistic way and to design better projects with a decreased possibility of unfavorable consequences. There certainly is enough information and knowledge existing from the all stakeholders if they are synthesized together to undertake an assessment of the current human security situation in the Sambor area and to anticipate the changes to human security if the proposed Sambor dam is built.

However, for a successful HSIA, the concerns rose throughout the previous

chapters, especially section 3.4 and 4.2.6, section 5.2 and 5.3 and the discussions made in chapter 6 should be addressed to avoid the current limitations and barriers among the all stakeholders as well as others who want to apply HS into the evaluation of their work. In addition to the discussions, attempts to improve the HS framework and HSIA should be ensued and continued. The question now is how will a full HSIA process be initiated and, most importantly, ‘who’ will take the initiative?



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**APPENDICES**

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## APPENDIX A

Date & Time : Interview Place: Village name	Respondent: Household composition Gender & Age:
<b>General Questions</b>	
<ul style="list-style-type: none"> <li>• How many persons are in your Household? (Age, relationship, gender)</li> </ul>	
<b>Economic Security</b>	
<i>Main sources of income</i>	
<ul style="list-style-type: none"> <li>• What is the main occupation in your HH?</li> <li>• How much land do you have?</li> <li>• What are your three most valuable assets (tractor, boat...)</li> <li>• What are the main sources of income for your household (Main occupation, a regular job, temporary work)             <ul style="list-style-type: none"> <li>• What is your family's current level of cash income per month?</li> <li>• Where does income come from?</li> <li>• Who makes it?</li> <li>• Does your HH receive any remittances?</li> </ul> </li> <li>• If the cash income is not steady, what month of a year do you get the highest and the lowest cash income?</li> <li>• Where can you borrow money from when you need to? How often do you need to borrow money?</li> <li>• Do you sometimes work for income that isn't cash (e.g. for food, for clothes, for medicine...)</li> <li>• Do you sometimes pay for help not using cash?</li> <li>• What are the main things that you need to buy?</li> <li>• Is your monthly income from cash and non-cash sources enough to meet your basic needs (enough to eat, shelter, medicine, clothes...)?</li> <li>• How stable do you think that your current sources of income are? Do you think they will increase or decrease or stay the same in the future?</li> <li>• How much income do you think is enough for monthly expense?</li> </ul>	

*For paid employment*

- If you have a job, how long have you working for?
  - How stable do you think your job is?
  - Do you have permanent status in the working place?
  - If not, how often you should renew the contract?
- When you want to find a job, what would you do? Where or who would you look for?

*Social safety nets*

- When you don't have enough cash, what do you do for the shortage? What kind of support can you get?
- Do you consider yourself very poor, poor, average, above average or rich in your village? Why?

**Food Security**

- What would be your typical daily meal? Why? (economic reason or personal taste?)
- Do you and your family have enough food to eat everyday? All year round?
- Is it enough food not to be hungry? (Quantity)
- Is it enough food to eat to stay healthy? (Quality)
- Do you sometimes have to eat food that you don't like to eat? (Cultural preference)
- When you don't have enough food, why don't you have enough food?
  - (Access – The product isn't readily available/ market to far away/ economic...)

Month	Extremely hungry	Not enough to eat	Almost enough to eat	Enough to eat
January				
February				
March ...				

- Where do you get your food from?

	Buy (%)	Grow/ catch (%)
Rice		
Vegetables		
Chicken		
Fish		
Other		

- How much do you spend on food per a month?
- Do you have any access to food when there is a natural disaster? How?

#### *Health Security*

- Where do you get your drinking water from?
  - Do you have tap water near your home? If not, where do you get water? How close is it?
  - Do you think the water is clean enough?
- Do you have a sanitation system in your house?
  - What kind of sanitation facility do you have?
  - How far from your main building?
  - Where does the waste go? (into the Mekong?)
- Are there any sources of pollution near your house?
- Is your home sufficient to protect you from the weather?
- How is your health at the moment? How many times do you get sick? Seldom or very often in a month?
- If you are sick, where do you go (local doctor, traditional medicine, hospital)?
  - How far away is it?
  - Is it easy to get to?
  - Is the nearest medical facility affordable enough? If you can't afford the service, is there any other alternative treatment you can receive?

- Are the medical practitioners trained and experienced enough?
- Do you regularly check your health status? How often? Where?
- Have you got any information or education to maintain healthy lifestyle?
- Are you aware of HIV-AIDS? And how to prevent them?
- Are you exposed to illegal drugs? Can you get them easily if you wish to?

### **Environmental Security**

- What natural resources are in your community (river/ water, fish, forest/ non-timber forest product....)?
  - How do you use them?
  - Is the amount/ quality of the resource sufficient?
  - Are there any programs to protect this resource (by Government or NGOs)? Is it working or not? Why?
  - Was there more of this resource in the past or less?
    - Why is it changing
  - In the future, do you think that there will be more, the same, or less of this resource? How do you think the quality will change? Why?
- Is the air in your community polluted? If yes, why?
- Overall, is the quality of the land in the village sufficient to grow your crops?
  - Is the land quality getting better, worse or staying the same over the past 5 years? Why?
  - In five years time, do you think that the land quality will be getting better, worse or staying the same? Why?
  - Do you use fertilizer and pesticide to grow crops and vegetables? For how long? Chemical or natural?
- How do you use Mekong River? (drinking water, laundry, bathing, fishing, irrigation and transportation) [Ask this question if not covered by first question]
  - Can you list them according to the importance to you?
  - Among the ways that you use the river, is there anything that you used it for before but have now stopped? Why?

- How often do you face natural disasters such as drought and flood?
  - Do you make any preparations to prevent them or to minimize the damage?
  - Is there any support from outside of your village for prevention or repairing the damage?

### **Personal Security**

- Do you ever fear physical violence, for example from torture, war, ethnic tension?
  - If yes, why? by who? And how?
- Do you ever hear about cases of domestic violence in the community
  - If yes, what did you hear?
  - Are there any kinds of support system available for victims?
- Have you ever suffered from domestic violence yourself?
  - If yes, what happened?
- Do you ever hear about cases of child abuse in the community
  - If yes, what did you hear?
  - Are there any kinds of support system available for victims?
- Is there any discrimination against women or any group of people in the community?
  - What kind of discrimination? To whom? How?
  - Does the discrimination sometimes cause physical violence?
  - Is this a traditional discrimination or a new one?
  - Is there any program underway to change the situation? What? Has it seen any success?
- Are there many accidents in your village?
  - If yes, what kind? How often?
  - How many people died or injured last year?
  - Is the number increasing or decreasing for recent years?
  - Is there any program underway to change the situation? What? Has it seen any success?

- How many crimes occurred last year?
  - What kind of crimes?
  - How many people died or injured by the crimes last year and this year?
  - Is the number of crimes increasing or decreasing in recent years?
  - Is there any program underway to change the situation? What? Has it seen any success?
- Is there any police officer or station in your village?
  - Do you feel safe and protected?
  - Other than police, what do you seek for protection of your safety? (NGOs, village patrol)

### Community Security

- Fear of Regional/ Internal conflict

	Conflict with neighboring communities	Conflict with others inside the village
Do you fear of.....?		
What kind of conflicts?		
Who's involved?		
Is there any attempt to solve the conflict?		

- Does your community have multi-ethnic groups/ indigenous people?
  - If yes, which groups? How many of them?
  - Is there discrimination against these groups? How? Is it a serious problem?
  - Are there any programs underway to reduce discrimination? Is it working?
- Do you think there's a strong sense of community (togetherness) in your

village? Why?

- Is the culture, language and values in your village the same as in the past?
  - How has it changed?
- Do you think the lifestyle in your village will change in the future? How?
- Is this a good or bad thing? Why?

**Political Security**

- Do you feel able to speak your opinion and organize village meetings freely?
- Are children able to go to school if the parents want them to go?
- Do you trust what is reported in the media?
- If you have a problem, do you trust the legal system to find a fair solution?
- Do you feel able to vote freely in an election?
- Do you worry that if you raise a problem with the authorities you will get in trouble?

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Appendix B

### Questionnaire for External Stakeholders

Date & Time :	Name of Respondent:			
Interview Place	Agency :			
Contact Number& Email:	Position:			
<b>Current activities in the community and available information</b>				
<ul style="list-style-type: none"> <li>○ What is the mission, objectives and priorities of your organization? [Try and get a document detailing the organization</li> <li>○ Do you have an office in the area? Field office? Staff number</li> <li>○ What programs and activities does your organization do in the Sambor area? [Try and get a document about the programs]               <ul style="list-style-type: none"> <li>○ What are the program goals?</li> <li>○ How long have you been undertaking these activities?</li> <li>○ What have been the main successes to date (evaluation)? How do you measure this?</li> </ul> </li> <li>○ What information do you have available about [ask for reports if available]?:</li> </ul>				
Issue	Your understanding of the issue in the area	Your organization's program on the issue	Information available through your organization's work	Are other organizations working on this issue
The economic situation in the area				
Food security in the area				
Condition of the environment in the area				
Health situation in the area				
The threat or				

existence of physical violence in the community				
Conflict in the community or with neighboring communities				
Political freedom in the community				
<p><b>Understanding of the potential impacts of the Sambor Dam Project on the community</b></p> <ol style="list-style-type: none"> <li>1. What information do you have about the Sambor Dam project?</li> <li>2. What is your prediction of potential impacts of the project? <ol style="list-style-type: none"> <li>A. What are the three most significant likely impacts?</li> <li>B. How will these impacts affect the communities?</li> </ol> </li> <li>3. What is your prediction of potential benefits of the project?</li> <li>4. Is your organization concerned about the project? Are you doing any work to engage the project or prepare for its impacts?</li> </ol>				
<p><b>Human Security Impact Assessment</b></p> <ol style="list-style-type: none"> <li>1. Are you and your organization aware of Human Security framework? <ol style="list-style-type: none"> <li>A. If no – interview is finished!</li> <li>B. If yes then ....</li> </ol> </li> <li>2. What is your understanding of Human Security?</li> <li>3. Do you use the Human Security framework in your program? Do other organizations use the Human Security framework?</li> <li>4. Do you think that a “Human Security Impact Assessment” would be useful? Why? <ol style="list-style-type: none"> <li>A. Would your organization be willing to contribute towards a HSIA?</li> </ol> </li> </ol>				

## BIOGRAPHY

Eunkyong Park is the author of this thesis. She is a Korean and is currently enrolled in the graduate program of International Developmental Studies in Chulalongkorn University's Political Science Department. She has a Master's degree in International Education from New York University, USA and received a bachelor's degree in International Relations from Handong University, South Korea. Before coming to Thailand, she worked for organizations such as UNEP and Seoul YWCA in Seoul as a Program Coordinator.



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