

A black and white photograph of a woman sitting in a wooden structure, holding a baby. The woman is wearing a striped shirt and a necklace. The baby is wearing a light-colored outfit. The background shows the wooden structure of the building.

LAO PDR

Linking Climate Change and Sexual and Reproductive Health and Rights: Implication for Public Health Policy Approach

SCOPING STUDY

Building New Constituencies for Women's
Sexual and Reproductive Health and Rights (SRHR):
Climate Change and SRHR



A Scoping Study

Linking Climate Change and Sexual and Reproductive Health and Rights: Implication for Public Health Policy Approach in Lao PDR

© 2015

University of Health Sciences, Faculty of Postgraduate Studies
Asian-Pacific Resource and Research Centre for Women (ARROW)

Any part of this publication may be photocopied, reproduced, stored in a retrieval system of transmitted in any form by any means, or adapted to meet local needs, without prior permission, provided that it is for non-profit purposes and credit is given to ARROW. A copy of the reproduction/translation should be sent to ARROW.

ISBN:

Published by:

University of Health Sciences, Faculty of Postgraduate Studies

Samsenthai Road, Ban Kao Gnot, Sisattanak District, Vientiane Capital City

Tel: 856-21-240854

Fax: 856-21-240854

Email:

Website: uhs.edu.la; psd.edu.la

Asian-Pacific Resource and Research Centre for Women (ARROW)

1 & 2 Jalan Scott, Brickfields

50470 Kuala Lumpur, Malaysia

Tel: (603) 2273 9913/9914

Fax: (603) 2273 9916

Email: arrow@arrow.org.my

Website: www.arrow.org.my

Facebook: The Asian-Pacific Resource and Research Centre for Women (ARROW)

Twitter: @ARROW_Women

YouTube: youtube.com/user/ARROWomen

Production Team:

Writers: Manivone Thikey & Vanphanom Sychareun

Reviewers: Sunitha Bisan & Dewi Candraningrum

Copy Editor:

Layout:

Cover Photo Credit: Pictures courtesy of marginalise women in the Ta Oi village in Xekong Province.

CONTENTS

	Page
Cover Page	I
Contents	iii
List of Appendices	iv
List of Figures	iv
List of Acronyms	v
Acknowledgments	1
Executive Summary	2
1. Introduction	3
Objectives of this study	4
Methodology	5
Limitation of the study	6
2. Understanding the Interlinkages: Climate Change & SRHR	7
Review of Related Literature	7
Global Impact of Climate Change	7
Climate Change and Public Health Outcome in Lao PDR	8
Climate Change Affecting Women and Girls	8
Climate Change Affects SRHR of Women	9
Review of Policy of Climate Change and SRH Policies	10
Health Policies and Health Service Delivery	11
National Population Policy	12
Committee on the Elimination of Discrimination Against Women (CEDAW)	12
International Conference on Population and Development (ICPD)	13
Global Response to Climate Change	13
Participants' Socio-Demographic Characteristic	14
Understanding of impact of climate change and women reproductive health and rights	15
Impact of Climate Change of health outcome	15
Impact of Climate Change and food security	15
Impact of Climate Change on SRHR	16
Impact of Climate Change on SRH of Marginalised Women	18
Case Story	19
Addressing the impact of climate change to SRHR among marginalised women and general women	20
Conclusion	22
Recommendation & Advocacy	23
Recommendation for addressing policy Makers	23
Recommendation for future researches	25
References	26

End page	32
----------	----

LIST OF FIGURES

	Page
Figure 1: Theoretical Framework of the study Climate change and SRHR	6
Figure 2: Framework of the Interlinkage of Population, Health, Environment and Climate Change and SRHR in the Lao context	22

LIST OF APPENDIX

	Page
Interview Guide and Questionnaires	29
Table 1: Socio-demographic characteristic of the respondents in the in-depth interview	30
Table 2: Socio-demographic characteristic of the respondents in the Focus Group Discussion	31

LIST OF ACRONYMS

ANC	Antenatal Care
ADB	Asia Development Bank
ARROW	Asia Pacific Resource and Research Center for Women
BA	Bachelor of Administration
CCO	Climate Change Office
CEDAW	Committee on the Elimination of Discrimination against Women
CC	Climate Change
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GEF	Global Environment Facility
IEC	Information, Education and Communication
INC	Initial National Communication
IPCC	Intergovernmental Panel on Climate Change
Lao PDR	Lao People's Democratic Republic
LYU	Lao Youth Union
LWU	Lao's Women Union
GoL	Government of Lao PDR
MCH	Maternal and child health
MNCH Package	Maternal Newborn and child health Package
MOH	Ministry of Health
MoAF	Ministry of Agriculture and Forestry
MoNRE	Ministry of Natural Resources & Environment
MISP	Minimum Initial Services Package
MICS	Multiple Indicator Cluster Survey
NAPA	National Adaptation Programme of Action to Climate Change
NAMA	National Appropriate Mitigation Action
NSCC	National Strategy on Climate Change
NCAW	National Commission for the Advancement of Women
RHIYA	Reproductive Health Initiative for Young Adolescents in Asia
STIs	Sexual Transmitted Infectious
SEA	Southeast Asia
SRHR	Sexual and Reproductive Health and Rights
TOR	Term of Reference
UNICEF	United Nations Children's Fund
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations to Combat Desertification
UNCBD	United Nations Convention on Biological Diversity
WREA	Water Resource Environment Assessment
WFP	World Food Program

ACKNOWLEDGEMENTS

The authors would like to express our gratitude to ARROW for their technical, review, and financial support for the study of climate change and SRHR in Lao PDR. The authors would like to thank the University of Health Sciences for their support and permission to conduct this study. The authors are also grateful to the research team from the Faculty of Postgraduate Studies, University of Health Sciences for their contribution and assistance with interviewing the key informants. The authors would like to give special thank you to all research participants, key informants and stakeholders for their valuable time and participation in this study. We would like to pay our respect and gratitude to the village leaders, and marginalised women who participated in this study. Finally, we also place on record, our sense of gratitude to one and all, who have directly or indirectly, helped us to finalise the scoping study. This scoping study has been produced with the financial support from NORAD to ARROW.

EXECUTIVE SUMMARY

Women are the most vulnerable to climate change and its negative health consequences in developing countries. Women in particular, those who live in rural areas, continue to experience barriers in accessing appropriate sexual and reproductive health services during natural disasters. There is little knowledge and understanding about climate change and its gender dimensions in the Lao PDR. The complexity and linkage between climate change and sexual and reproductive health and rights is not well understood. The objectives of this study were to fill the gap of understanding the linkage between Climate Change and Women's Sexual Reproductive Health and Rights (SRHR), identify the gaps in the national policies on climate change with regards to gender and SRHR, and identify the national and local responses that employ rights-based and gender-sensitive agenda. Qualitative research methods were utilised to explore the awareness of the stakeholders including policy makers on the linkage of climate change on Women's SRHR and the perceptions of women particularly marginalised women on the impact of climate change and SRHR services. The study revealed that poor health care service delivery system and infrastructure increase burden of marginalised women and their access to healthcare service and Women's SRHR during extreme weather events. In addition, the stakeholders from different sectors and marginalised women lacked awareness of climate change and Women's SRHR. However, they were more aware of the effect of climate change on poverty, agriculture productions, and public health issues. Thus, there is a need to advocate for raising awareness and understanding of policy makers and the general public with regards to climate change and Women's SRHR. In addition, there's a need to advocate for Women's SRHR services to marginalised women prior, during and post-disaster.

INTRODUCTION

Lao People's Democratic Republic (Lao PDR) is a landlocked country that ranks 133 out of 179 least developed countries in the world (World Bank, 2014). The country has land area of 236,800 km² of which 80% are mountainous. Lao PDR is located in Southeast Asia (SEA) and shares borders with Vietnam, Cambodia, Thailand, Myanmar and China. Although the World Bank has upgraded Lao PDR to a lower middle income country, it is still ranked as one of the poorest countries in the SEA region (World Bank, 2014). The country has a population of 6.7 million of which 73% live in rural areas, depending on natural resources, and 80% of the population mainly work in low production agriculture (ADB, 2013). Although the government has been trying to eradicate poverty, the number of people living in poverty is still high with around 28% of total households estimated to be poor and living on less than one dollar and half per day (Pimhidzai, 2014).

Given 75% of Lao population work in the agricultural sector are already relatively poor, the impact of climate change on production is likely to have a significant effect on poverty vulnerability (ADB, 1999). According to the assessment report from the Ministry of Labor and Social Welfare (2012), ethnic minority groups including Hmong-Lu and Mien who live in the high mountainous and upland areas in the Northern part of Lao PDR have a poverty rate of almost 43%, and make up 39% of the poor in the country, while lowland areas only have a poverty rate of 20.4%. Further, the majority of these poorest populations live in the most disaster-prone areas where flood, drought, storm, landslide and earthquake have been occurring and damaging not only agriculture production but also destroyed life of people and animals. Areas that are particularly disaster prone include provinces in the northern-Xayaboury and Hauphan, central-Khammoun and the southern province of Xekong.

Climate change and global warming is also a major public health concern and while the country is not a major contributor to climate change, it is likely to be disproportionately affected (WREA, 2009). A recent study on climate change conducted by the Economic and Environment Program for Southeast Asia indicated that Lao PDR is one of the most vulnerable countries in the region due to its geographical location and its high dependence on climate-sensitive natural resources and low adaptive capacity (Yusuf & Francisco, 2009; Strategy of Climate Change of the Lao PDR, 2010).

Over the last 30 years, Lao PDR has experienced recurrent natural disasters, including floods, storms, droughts, and pests, in part, as a result of climate change. Analysis of data indicates that the country faces serious floods and droughts every one and a half years. In 2011, tropical storms Haima and Nock-Ten affected agriculture and infrastructure in northern and central provinces and most recently, in 2013, floods in June and September affected one central and four southern provinces (Climate Change Office, 2010). At other times, droughts and rodent infestations have severely damaged the rice crop. These natural disasters represent livelihood shocks that can lead to a rapid deterioration in the nutrition situation, especially in rural areas where most of the population live and work. Lao PDR has very high

chronic malnutrition rates: nearly every second child under the age of five in Lao PDR is stunted and every fifth rural child is severely stunted. These rates are even worse among ethnic groups living in remote areas (WFP, 2006).

The Multiple Indicator Cluster Survey (MICS) conducted by the Ministry of Health of the Lao PDR found the Sino-Tibetan group has highest levels of stunting (62%), followed by the Austro-Asiatic (56%) and Hmong-Mien (54%) groups living in the Northern and Central Highlands. The Lao-Tai, the predominant ethnic group, have the lowest prevalence. A study by UNICEF also found that the prevalence of underweight children (51.1%) and wasting (11.5%) is higher among children from ethnic minorities groups compared to children from the Lao ethnic group (8.3%) (UNICEF, 2006). Micronutrient deficiencies affect large parts of the population, with over 40 percent of children under five and 63 percent of children under two suffering from anemia, and almost 45 percent of children under five and 23 percent of women between 12 and 49 years of age affected by vitamin A deficiency (MOH, 2012). Further, the World Food Program (WFP) reported that a high proportion of anemia among women in Lao PDR is associated with iron deficiency due to insufficient intake of iron-rich foods such as meat and dark green vegetables. Among women in reproductive age (15 to 49 years), prevalence of mild to severe anemia was 36.2%, with a higher prevalence for women from urban areas (27.7%) than those from rural areas without road access (51.2%). It was also significantly higher among women with no education (46%) than women with secondary education (28.4%). The rate was also high among women from ethnic minority groups (61.8%) than Lao (30.8%) or Hmong- (29.5%) speaking households (WFP, 2006).

For this reason, the Government of Lao PDR (GoL) is concerned about the potentially severe consequences of the effects of climate change on economic development, human capacity, poverty reduction and environment sustainability (Climate Change Office, 2010). To prepare for unpredictable impacts of global warming and climate change, the GoL has a vision to address climate change as outlined in the following government statement:

“Secure a future where the Lao PDR is capable of mitigating and adapting to changing climatic conditions in a way that promotes sustainable economic development, reduces poverty, protects public health and safety, enhances the quality of Lao PDR’s natural environment, and advance the quality of life for all Lao people.” (Climate Change Office, 2010)

Objectives of the Study

This study focused only on climate change and public health policy related to the impact of climate change on SRHR of women, particularly, ethnic minority and marginalised people who live in disaster prone areas in Lao PDR. Although there is evidence to show the link between climate change, reduced crop production and the links to malnutrition and other health outcomes, little is known about how climate change directly or indirectly impacts on SRHR of women. The current study is part of a multi-country scoping study on sexual and reproductive health and rights of women related to impact of climate change. It is based on

a combination of literature reviews and semi-structured interviews with key informants and stakeholders. The study had the following specific objectives:

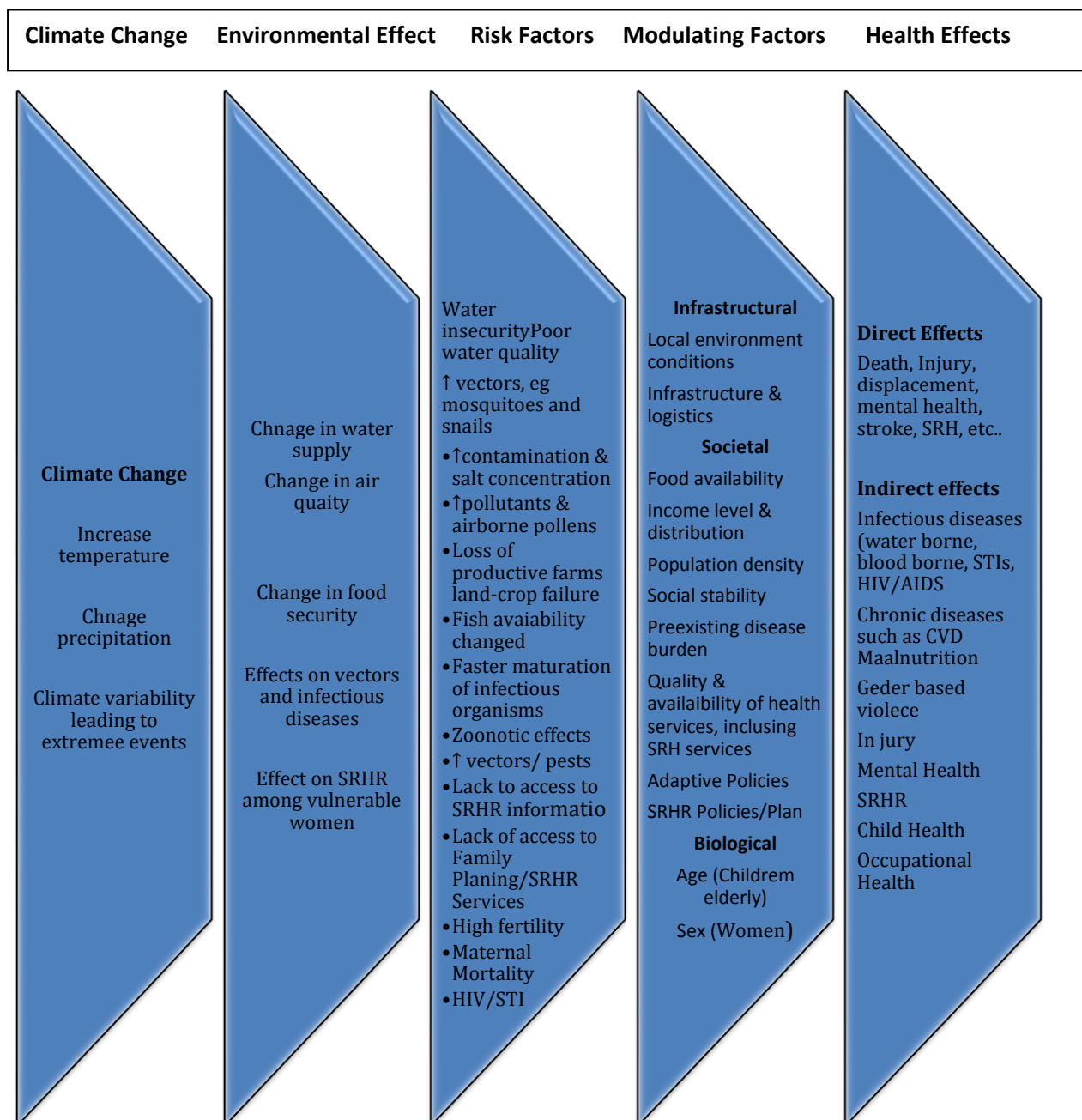
1. To explore the perceptions of stakeholders on the link of climate change and SRHR
2. To study the perceptions of marginalised women on impact of climate change and SRHR
3. To identify the existing policies related to impact of climate change and women's health specific to sexual and reproductive health and rights of minority and marginalised women
4. To advocate for SRHR services to marginalised women prior to, during, and after post-disaster

Methodology

The current study is an exploratory research on linking climate change and SRHR within the Lao context. The study utilised qualitative method with review of secondary data, existing literature, and in-depth interviews with marginalised women, stakeholders, and key informants from government, non-governmental organisations (NGOs) and academia, who shared their own views, priorities and concerns on climate change and health outcome. All interviews were conducted in Lao language. The study was approved by the National Ethical Committee of Research from the National Institute of Public Health, Ministry of Health of Lao PDR. The study was conducted in the Lao PDR from October 2014-Feb 2015. The findings reported in this study reflect their insights as well as those gathered through the in-depth interviews. Consultations will also remain an important part of the advocacy work in Laos in the future. The consultations for this scoping study are listed, grouped by policy makers and women from the villages.

The public health approach conceptualises health determinants, including modulating factors, as ranging from distal to proximal, or from infrastructural through social to individual behavioral and biological levels of risk (Fig. 1). This conceptual framework presents the effect of Climate Change on health, which works through environmental effect, risk factors and modulating factors. The environmental effect encompassed effect on water quality, air quality, food security, infectious diseases and SRHR. The risk factors included water security, food security, lack of SRHR information and services, maternal mortality, HIV/STIs. These modulating determinants may behave as confounding, effect-measure modifying or mediating variables in the relationship of principal interest between climate change risks and health outcomes. The climate change effect on health included direct and indirect dimensions. The more direct impacts on health include deaths, injuries, while the indirect effect is infectious diseases, women's health, SRHR and etc (WHO, 2011b).

Figure 1: Theoretical Framework of the study Climate change and women's SRHR¹



¹ Patz et al., 2000.

Participants include representatives from policy makers who are involved with climate change, health and women leaders from various ministries and government offices in Vientiane Capital, provincial and district. In Vientiane Capital, the researchers conducted in-depth interviews with participants from the Department of National Disaster Management and Climate Change Ministry of Natural Resources & Environment (MoNRE), Environmental and Occupational Health Management Division, Department of Hygiene and Health Promotion, Ministry of Health, National Disaster Management Office (NDMO), Ministry of Labor and Social Welfare, Lao's Women Union (LWU). At the provincial and district levels, the researchers conducted in-depth interview with participant from agricultural and forestry offices, district governor offices and health care staff at the health centers. In addition, ethnic minority and marginalised women and head of villages in Phongsaly, Samnoua, Oudomxay, Savannakhet, Xayaboury and Xekong provinces were interviewed by the researchers.

Limitations and Challenges for Scoping Study

The limitations of the scoping study relate to time limitations partly due to delays in obtaining ethical approval to conduct the study. Further, as is often the case when conducting field research in rural area, often there were delays in reaching participants and recruiting them into the study. However, the researchers have managed to interview a range of participants from different sectors. Another limitation related to the difficulty in finding the documents related to climate change in Lao PDR. There is a gap in documentation related to climate change policy, climate change and health outcomes. Further those documents that are available are not easily found on internet. Those unpublished government documents can be obtained from personal contact with taking several days to get them and thus some documents might have been missed.

UNDERSTANDING THE INTERLINKAGES

Review of Related Literatures

Global Impact of Climate Change

Climate change is the biggest global health threat of the 21st century with impacts that are already being experienced on a human level particularly human health (Costello et al. 2009). Climate change affects human health both directly and indirectly (Intergovernmental Panel on Climate Change, 2001a). It is recognised that women, children and elderly are particularly vulnerable to climate change. In particular, marginalised women and girls are more likely to experience the greatest impacts, and are in the greatest need of adaptation strategies in the face of shifts in weather patterns and resulting environmental phenomena (WHO, 2011a). While the health impact of climate change is still not fully

understood, an emerging body of scientific evidence and empirical data appears to indicate a strong association between climate change and human health (McMichael et al, 2008).

Women are the most vulnerable to climate change and its negative health consequences in developing countries (UNFCCC, 2007). Poor women, who constitute the majority of the poor in the Asia-Pacific region, are particularly vulnerable to climate sensitive health risks (Kazuyuki, 2012). At the same time, women and particularly those who are marginalised, have the least capacity or opportunity to prepare for the impacts of a changing climate or to participate in negotiations on its mitigation (WHO, 2010c). Pregnant women are particularly vulnerable to various infectious diseases, including malaria and hepatitis E. Fuel and water shortages increase women's workload that they are responsible for collection those materials from walking distance or in the forest (Berry, Bowen, Kjellstrom, 2010). Women are vulnerable and have less power than men in dealing with climate change event (WHO, 2005). It is estimated that the mortality risk of women is 14 times higher than that of men (Costello et al. 2009).

Study found that climate change affects human health by degrading the quality of air and water, food security, and shelter, all of which are indispensable to maintaining health. There are more than 10 million deaths across the world every year due to weather events and diseases that are highly sensitive to changing climate (WHO, 2011b). The diseases, which are highly sensitive to climate change and weather events, include urban air pollution, diarrhea, malnutrition and natural disasters combined (WHO, 2009b). During extreme weather event, children, pregnant women, the elderly and the chronically ill are more vulnerable to infectious diseases, malnutrition, heat-related illnesses, water insecurity, extreme events, effects of air pollution, and injury (Hess, Malilay, Parkinson, 2008). Deaths, injuries and disabilities were found to be direct consequences of extreme climatic events such as heat waves, floods, and storms. For example, a 2008 cyclone in Bangladesh killed 3,300 and affected over 8.5 million people (WHO, 2008a). Also in 2008, Cyclone Nargis killed 138,366 in Myanmar, resulting in the economic loss of nearly 30% of its GDP (Centre for Research on the Epidemiology of Disasters, 2009).

The impact of climate change can contribute to a decline of agricultural production and an increase in malnutrition in many poor and developing countries in the Asia-Pacific (FAO, 2006). A decline in agricultural production can also impact on women's decision-making including decisions about migrating to urban and big city for employment, family planning and sexual and reproductive health, and age of marriage. Women, particularly marginalised women who also have lower or no education also have less job opportunities outside of the agricultural sector but a decline in production may encourage them to seek work in urban areas. With limited options they may end up doing sex work, which will put them at risk of sexually transmitted diseases including HIV (Thikeo, Feng, Wintttik, Cerulli, 2015). It is critical therefore that women's ~~SRRH~~ are included in the National Climate Change Policy. Particularly given women, and especially those in rural areas, continue to experience barriers in accessing appropriate sexual and reproductive health services, it is important to ensure that women

have the ability to make effective decisions about their own childbearing and environmental sustainability.

Climate Change and Public Health Outcome in Lao PDR

The Environmental and Occupational Health Management Division, (Department of Hygiene and Health Promotion), Ministry of Health of Lao PDR has been working with the National Climate Change Committees to address public health and its relation to climate change and global warming and a Climate Change and Health Adaptation Strategy in Lao PDR has been prepared with support from the World Health Organization. The document includes a climate change and health vulnerability assessment study carried out in 2011, the draft of strategy itself, and a five-year action plan (2012-2016). Its objectives are to assess climate change impacts, improve disease monitoring systems and the control of infectious diseases, prepare and respond to food emergencies and to extreme weather events, strengthen health education and communication, and empower people to take actions to reduce individual and community vulnerability to climate change. When finalizing the draft strategy on climate change and health adaptation and five year action plan, please include women's SRHR because maternal and child health has been at the forefront of priorities for the National Public Health while policy and the strategy on climate change and health adaptation is still a draft.

Climate Change Affecting Women and Girls

Women particularly marginalised women are more vulnerable to the effects of climate change primarily as they constitute the majority of the poor and are more dependent for their livelihood on natural resources that are threatened by climate change (Woodward, Hales, & Weinstein, 1998). Furthermore, they face social, economic and political barriers that limit their coping capacity. In many remote parts of the country women are especially vulnerable because they are highly dependent on local natural resources for their livelihood. Women in rural areas who have to play major roles with the responsibility to secure water, food and fuel for cooking and heating face the greatest challenges. When coupled with unequal access to resources, to decision-making processes, and limited mobility places, marginalised women in rural and remote areas in a position where they are disproportionately affected by climate change. Therefore, it is important to identify gender-sensitive strategies to respond to the environmental and humanitarian crises caused by climate change (52nd session of the Commission on the Status of Women, 2008).

Further, access and roads in remote areas are typically poor and it can be difficult to travel to these villages during heavy rainfalls and villages might be cut off for several days during flooding. Therefore, women may have particularly limited access to SRHR during such weather events. Consequently, during a disaster women may not have access to the primary health care for reproductive health in a crisis and there will be increased health risks with pregnancy and childbirth. In addition to the risk of flooding, it is estimated that around

188,000 households in Lao PDR are at risk of food insecurity caused by drought. These vulnerable households are mostly located in Khammuane, Savannakhet, Saravane, Champasack, Xayaboury and Vientiane provinces Ministry of Labor and Social Welfare (2012). Drought can contribute not only to food insecurity but also seriously compromise the nutritional status of women and children. Pregnant women with malnutrition have high risk of having low birth weight baby with lifelong consequences, increased risk of miscarriage, and perinatal mortality. Further, during drought women may have to travel far away from their village to access care or search for natural food in the forest. This can also increase their risk for becoming victims of sexual violence and crime. For example, declining agricultural production and crop failure can exacerbate poverty and contribute to urban migration, increased domestic violence and might force marginalised women to marry at an early age or prostitution as only option to survive (UN, 2014; MRC, 2012).

Climate Change Affects SRHR of Women

During a disaster event and post disaster, emergency shelters are not always gender-disaggregated and family planning and the primary health care package for reproductive health in a crisis are not always available due to poor health care system and services delivery particularly in remote areas where majority of poor and marginalised people reside. In addition, emergency shelters are often not equipped for the primary health care needs of women and girls. During evacuation and rescue from the disaster areas women and girls might have not have access to sanitation and may experience difficulty with menstruation. In addition, security may be weak and increase women and girls' vulnerability to sexual violence and sexual transmitted diseases. Further, water logging can also lead to a high risk of people using contaminated water, which can lead to poor health outcomes. For example: skin infection, diarrhea, parasite infection, and vagina infection due to water borne disease (UN Women Watch, 2009, International Union for Conservative of Nature, 2009)

Psychological stress is likely to heighten among women and girls during and after disasters, particularly where families are displaced and have to live in emergency or transitional housing with limited access to basic human needs (WHO, 2008e). Overcrowding, lack of privacy and the collapse of regular routines and livelihood patterns can also contribute to anger, frustration and violence, with children and women most vulnerable . Women might even avoid using shelters in disasters for fear of being assaulted, thereby increasing their vulnerability to crime. There is little knowledge about climate change, its gender dimensions in the Lao PDR, and the complex link between climate change and SRHR is not well understood. WHO, 2011a To date, there has been limited assessment in the Lao PDR of the potential climate change impacts on the physical and social environment, particularly, to women's SRHR. To develop a national policy to address this issue, and to design interventions to address sexual and reproductive health of the Lao people, there needs be a study to support policy makers to address climate change issues and women's SRHR in Lao PDR.

Review of Climate Change and SRHR Policies

The study examined the current state of climate change adaptation and policy toward women's SRHR related to climate change in Lao PDR with the researchers looking specifically at:

- Institutions, their mandates and mechanisms, and climate-related health specific to women's SRHR and climate policies;
- Mechanisms and policies concerning climate change and public health specific to women's SRHR;
- Knowledge and understanding of community toward impact of climate change and health outcome.

The outcome of the review of government documents indicated that climate change as a policy issue is very new to Lao PDR. The national priority goal of Lao PDR is to move out from the list of least developed countries by 2020 while balancing the economy, society and the environment (Government of Lao PDR, 2004). While not specifically mentioning climate change, protecting the environment is one of the government's priorities and the government has established the National Committee for Climate Change in the Prime Minister's Office in 2008 to serve as the secretariat of the National Steering Committee on Climate Change (CCO). The CCO has been designated by the Prime Minister's Office to be "the national focal point" on climate change actions and initiatives, and coordinates a number of the national government's activities related to the United Nation Framework Convention on Climate Change (UNFCCC). The technical working group for climate change was established in 2009 with included representative from the various ministries as indicated below:

- Agriculture and Forestry (Ministry of Agriculture and Forestry)
- Water Resources (Ministry of Natural Resources and Environment)
- Energy (Ministry of Energy and Mines)
- Urban Infrastructure (Ministry of Public Works and Transport)
- Public Health (Ministry of Health)
- Economics (Ministry of Planning and Investment)
- Finance (Ministry of Finance)
- Industry (Ministry of Industry and Commerce)

The National Strategy on Climate Change (NSCC) was approved by the GoL in March 2010 which is a Framework Document that has identified seven priorities areas for Adaptation and Mitigation: 1) Agriculture and Food Security, 2) Forestry and Land Use Change, 3) Water Resources, 4) Energy and Transport, 5) Industry, 6) Urban Development, and 7) Public Health. Beyond being the focal point for climate change, the CCO has also been executing the project 'Capacity enhancement for coping with climate change' (2010-2013), supported by the Asian Development Bank and the Nordic Development Fund. The project is addressing capacity constraints by providing policy support to the CCO and the ministries responsible for each technical working group. The project aimed to raise public and policy-maker awareness of climate change and provide assistance in implementing pilot adaptation activities in water resources, agriculture and forestry sectors. The expected outcome of the project was to

improve the enabling environment to address climate change impacts, including integration of climate change strategies into selected sectoral policies and programmes, and enhanced ability to implement adaptation projects. Recently, the United Nations Development Programme (UNDP) and the Water Resources and Environment Administration (WREA) have launched following initiatives and programmes: Initial National Communication (INC) in collaboration with UNDP/GEF, 2000; National Adaptation Programme of Action to Climate Change (NAPA) in collaboration with UNDP/GEF May 2009; the National Capacity Needs Self-Assessment for Global Environment Management under the three Rio Conventions: UNFCCC, UNCCD and UNCBD in collaboration with UNDP/GEF May 2009; Second National Communication under preparation; Reduction of Emission from Deforestation and Degradation (REDD) Readiness Preparation Planning (R-PP) and Framework-Dept of Forestry under implementation. These programmes were instituted in order to strengthen the implementation of the UN Framework Convention on Climate Change, the UN Convention on Biological Diversity, and the UN Convention to Combat Desertification. The CCO is preparing to develop the National Appropriate Mitigation Action (NAMA) (The Climate Change Office of the Department of Environment and Social Impact Assessment of Water Resource and Environment Administration, 2010).

Health Policies and Health Service Delivery

The Ministry of Health (MOH) has initiated several programs on SRH including the National Five years Plan (2011-2015), National Population Policy, National Reproductive Health Policy, Maternal Newborn and Child Health package (MNCH package), National Safe motherhood program, Skilled birth attendant development plan, Nutrition policy, Breastfeeding program, STIs/HIV/AIDS, and the Reproductive Health Initiative for Young Adolescents in Asia (RHIYA). The MOH targets for improvements in selected maternal health indicators under its current VIIth National Five Year Health Plan (2011-2015) include the reduction of maternal mortality rates to 260 maternal deaths/100,000 live births. It also aims to increase the proportion of births attended by skilled health personnel targeted at 50 per cent; Contraceptive prevalence rate targeted at 55 per cent; antenatal care rate targeted at 69 percent and - Contraceptive prevalence rate without services targeted at 50 per cent (Ministry of Health, 2011), however, this National Five Year Health Plan is not explicitly addressing SRHR services during disasters that are due to climate change.

National Population Policy

The National Birth Spacing Policy was adopted in 1995 which is recognised the importance of population policy in achieving development objectives and stated that the Government is aware of the important linkage between population growth and economic development and environment. To improve MCH and the quality of family life, the national population policy recommended that the number of children born to a woman should not be so large as to impair the health of the mother and place her at high risk for adverse outcomes. The reproductive health part of the national population policy aimed to extend primary health care, reproductive health and family planning services to all areas of the country; especially

to the rural areas, in order to reduce MMR. The policy also included the provision of adolescents with reproductive health and sexuality education including sexually transmitted infectious (STIs) and HIV/AIDS and effective measures to reduce unwanted and early pregnancies for women under 18 years of age. The policy also emphasised the need to reduce socio-economic disparities between different population groups and to provide opportunities for education, health care and other social services throughout the country ("National Population Policy," 1990). The Policy did not address the population dynamics and climate change.

Committee on the Elimination of Discrimination Against Women (CEDAW)

LAO PDR ratified CEDAW in 1981, currently; knowledge of CEDAW is confined mainly to senior government officials or senior members of the mass women's organisation, the Lao Women's Union (LWU). There is a need for greater public advocacy and training of district officials, to encourage greater awareness of CEDAW and of women's human rights in general (United Nation, 1981).² The Legal Frameworks and Structures for Gender Equality in Laos consists of the Constitution (1991) guarantees equal rights for women and men and equal treatment before the law. A National Commission for the Advancement of Women (NCAW) was set up in 2003 to drive national policy to promote gender equality and empower women, previously under the Lao Women's Union. NCAW has developed its second National Strategy on the Advancement of Women for 2011-2015, which outlines how to translate political commitments to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and other international agreements into practical actions, as well as integrate gender equality principles into national laws and policies. In addition, There are 2004 Law on the Development and Protection of Women which focused on eliminating discrimination against women, and creating an enabling environment for women's empowerment and the Family Code has stipulated no discrimination against women in matters of marriage and inheritance, repealing a lowering of the marriage age of girls to 15 (UN Women).

In 2009, the Committee on the Elimination of Discrimination against Women (CEDAW) globally expresses its concern about the absence of a gender perspective in the United Nations Framework Convention on Climate Change (UNFCCC) and other global and national policies and initiatives on climate change. As CEDAW at the global level mentioned that gender equality is essential to the successful initiation, implementation, monitoring and evaluation of climate change policies (Statement of the CEDAW Committee on Gender and Climate Change, 2009).

International Conference on Population and Development (ICPD)

The SRHR agenda has been mentioned and signed onto in a range of international documents especially the 1994 International Conference on Population and Development

² UN Women Asia and the Pacific at: <http://asiapacific.unwomen.org/en/countries/laos#sthash.wiwZA9oK.dpuf>.

Programme of Action (ICPD POA), which firmly put SRHR on national agendas. SRHR are interlinked with all key development agendas: gender equality, poverty, inequality, health, migration, climate change, conflicts, and food and nutritional security. The fulfilment of SRHR for all is vital to the achievement of shared global development goals. Achieving SRHR and equality of women and girls is essential for a world that is just, inclusive and sustainable (Post-2015 Women's Coalition, 2014). Due to complexity of the climate change impacts both human and natural environment, programmes that integrate social and natural systems or people and environment are more likely to be effective to increase resilience and promote adaptation. Thus, programmes addressed the population issues and reproductive health in addition to the natural system, environment and livelihoods will be important in climate change policies and programs (Michael et al., 2003).

Global Responses to Climate Change

Most countries, including Lao PDR have signed the treaties of the United Nations Framework Convention on Climate Change (UNFCCC). The main purpose of the UNFCCC is to consider what can be done to reduce global warming, and to cope with whatever temperature increases are inevitable. The UNFCCC Secretariat supports all institutions involved in the climate change process. The UNFCCC highlights two fundamental response strategies to address climate change. The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as adjustment in natural or human systems to a new or changing environment. This is important to understand three terms related to adaptation, namely, coping range, resilience range, and failure range (Grambsch A, Menne B, 2003).

Adaptive actions to reduce health impacts can be considered in terms of the conventional public health categories of primary, secondary, and tertiary prevention (Kovats et al., 2000; McMichael & Kovats, 2000). Primary prevention refers to an intervention implemented before there is evidence of disease or injury: avoiding hazardous exposure, removing causative risk factors or protecting individuals so that exposure to the hazard is of no consequence. Secondary prevention involves intervention implemented after disease has begun, but before it is symptomatic (e.g. early detection or screening), and subsequent treatment that averts full progression to disease. Tertiary prevention attempts to minimise the adverse effects of an already present disease or injury (Grambsch A, Menne B, 2003). Mitigation refers to the policies and measures designed to reduce the effect of climate change. Measures can include reducing demand for emission-intensive goods and services, boosting efficiency gains, and increasing the use of low-carbon technologies (Grambsch A, Menne B, 2003).

The National Adaptation Plan of Action (NAPA) in Lao PDR was released in May 2009 and contains 45 priority projects and totals US\$ 85 million within four identified sectors of priority for climate change adaptation, namely agriculture, forestry, water and water resources and health. The National Capacity Self-Assessment (NCSA) also identifies the needs and assesses the capacity of the country in the implementation of the Rio Conventions, which the Government has ratified (e.g., UN Convention on Biological Diversity, UN Framework

Convention on Climate change, UN Convention on Combating Desertification). For the public health sector, the program appears to be focused on burden of diseases as reflected in high infant and maternal mortality rates, as well as high prevalence of diarrheal diseases, food poisoning, typhoid fever and hepatitis A, particularly in many areas where potable water supply and environmental sanitation conditions remain a problem (Climate Change Office, 2010). However, Women's SRHR related to climate change adaptation has not been a priority target of public health work. This might be due to climate change impacting health outcomes particularly women SRHR has not been fully understood and further study is needed to get evidence to support its impact on women SRHR.

Participants' Socio-Demographic Characteristic

Sixteen key informants were interviewed. The respondents' ages ranged from 27 to 60 with a mean of 52 years. The Ministry of Environment, and the National Institute of Forestry and Agriculture Research (NAFRI) is responsible for climate change and adaptation. Four of them hold the position of director, six were the head of division and the remaining are technical staff. The key informants are from MoNRE, LWU, MoH and Ministry of Forestry and Agriculture (MoAF). In addition, there were 47 participants from different sectors from provinces and district government offices and marginalised women participated in focus group discussion. Table 1 and 2 at the appendices show characteristics of respondents in the focus group discussion (FGD). A total of 6 FGDs was conducted, including 3 FGDs with the health staffs and 3 FGDs with the women reproductive age.

Awareness of Policy of Climate Change and SRH

Some key informants from maternal and child health (MCH) centre were involved in drafting the strategies of climate change that could affect the health status of populations. Specific project related to climate change affecting women sexual reproductive health and rights has not been proposed. Although project related to maternal and child health activities has addressed some of the reproductive health particularly family planning, women SRHR, particularly marginalised women has not been proposed in the plan (MOH, 2014). Climate change impacting women SRHR is a very new area. There is a need to be more study to understand its relationship and impact to women health particularly SRHR. Therefore, most of the project related to women health were emphasised more on infectious diseases, hygiene and sanitation occurring during climate change. Maternal and child health policy and plan for disaster preparedness might have offered women SRHR services but limited during disaster, including for example, being prepared for the assisting in deliveries or birth preparedness during disasters. In addition, disaster also impacts mothers and newborns such as premature delivery or low birth weight of newborns. Due to geographical of the country and mountainous, pregnant women might not be able to access to health facilities for ANC, delivery at health facilities and newborns may be as affected through low birth weight, neonatal death and malnutrition. The MCH centre will also have to ensure that there are no epidemics or diseases that affect mothers and children during disasters. Although government has tried to provide health care services to all population, the strategy on climate

change and health adaptation is currently a draft and It has not yet implemented. Therefore, this study will provide some evidence to policy makers to include women SRHR in the future strategy on climate change and health adaptation.

Understanding of impact of climate change and women reproductive health and rights

Impact of Climate Change of health outcome

There is a study on climate change and health outcomes in Lao PDR in 2011. Most of the unpublished and official documents reviewed for this study mentioned only very briefly climate change and environmental health issues. The study indicated that the level of awareness and knowledge of climate change and adaptation is still generally low in the Lao PDR. Staff at many national level agencies interviewed for this study have attended workshops, conferences and training courses on climate change topics and initiated adaptation relevant projects specific to climate change impact agriculture productions, economic loss, and public health issues. However, in many cases, these staff have not shared knowledge and understanding of how climate change could impact SRHR directly or indirectly. Many need further training on climate change and health outcomes not only on women but in the general population including men and children as well as strategies and a plan for post training dissemination. Discussions with local authorities at the provincial, district and community levels reveal that awareness and knowledge of climate and adaptation were generally very low, and there were few people who have not had some any training on these issues.

Interviews with participants from the Ministry of Natural Resources and Environment and the Climate Change Office (CCO) found that although the CCO office has been designated by the Prime Minister's Office to be the focal point and draft policies related to climate change and public health in collaboration with Division of Environmental and Occupational Health Management, Department of Hygiene and Health Promotion, Ministry of Health, issues of SRHR have not discussed among the working group. Rather, climate change related public health policy has been focused on preventing malaria, diarrhea, malnutrition, and maternal and child health which are priorities for the Millennium Development Goals set forth by the government and Ministry of Health.

Several discussions were conducted with the provincial and district Lao's Women Union Office and Social Labor and Welfare Offices and found similar answers with limited understanding or awareness of climate change and health outcomes for women, including how climate change will impact on women's SRHR. Several participants however could identify that climate change could affect health due to exposure to climatic extremes, such as high temperatures that cause dehydration, heat stroke and indirect impacts related to

warmer, drought, irregular rainfall and the potential for increased malaria, dengue, diarrhea and infectious disease.

Impact of Climate Change and food security

The district office of Lao Women's Union and Social Welfare and Labor stated that they have been concerned about longer dry seasons and less rainfall, which would impact negatively on agricultural production. This would impact a number of households in terms of food insecurity and malnutrition especially in remote areas. More awareness and advocacy on climate change related to women are required from district government office. According to CCO all health issues include women health and SRHR has been referred to Ministry of Health to address. Key informants from the MCH center, Environmental and Occupational Health Management Division, Department of Hygiene and Health Promotion, Ministry of Health were interviewed about their perspectives of climate change policy towards impact of SRHR among marginalised and general women. On key informant mentioned that

"We did not have enough food to eat in my family as we faced a lot of drought. We could not plant or growth anything here as there was no water. Some days, my children did not have anything to eat, or they ate only a small amount of rice without any meats". (Female, 39 years old)

Impact of Climate change on SRHR

When asked if the division has prepared to integrate SRHR into policy on climate and public health outcomes of the women, the participants said that if there was enough evidence to link the two variables, SRHR would become a public health issues and it would be possible for the division to bring SRHR to the working group meeting at CCO. However, further research is needed to generate evidence of climate change and SRHR to help policy makers consider the topic in National Policy on Climate Change. The participants pointed out that they have no knowledge of climate change and SRHR and they need to have more trainings or workshops on this topic for future advocacy and preparedness for disaster health activities.

The key informants from the MCH center and from the Department of Health prevention said they were not involved in the drafting of the policy of Climate Change and Health or SRHR. There was a poor understanding of the impact of climate change on SRHR. Participants from the MCH center were more aware of the effect of climate change on communicable diseases (diarrhea, malaria, Leptospirosis), problems of water and sanitation and unavailability of food. They felt that pregnant woman or those with newborns and children under five years during the disaster or climate change, would suffer in terms of SRHR and it would be a priority for women as they are responsible for the health, food of the family and their general health and SRHR.

Participants from MCH center, the district hospitals and village health centers in 5 different provinces said that women' SRHR include sexually transmitted diseases, prenatal

and post-partum care, and reproductive health and have been addressed via family planning and maternal and child health mobile outreach care programs. Government and Non-Governmental Organisations have supported the mobile outreach care programs during disasters by providing family planning, ANC, assisted delivery and providing Information, Education and Communication (IEC) materials. However, the knowledge related to the impact of climate change and health outcomes including women's SRHR was very limited among staff from national to local levels. Much of the public health and primary health care work in the community has been focused on addressing vaccination, maternal and child health, diarrhea, family planning (for both married and none married women) and prenatal and post-partum care. The impact of climate change and women's SRHR particularly in marginalised communities has never been discussed at the district and village levels. When discussing how women from disaster prone areas and remote communities have accessed care during and post disaster, all village level participants provided similar information. Women can access care during disaster via mobile treatment team and services provided by the volunteer Traditional Birth Attendant or skilled birth attendant in the village. At the district and community level there are no specific activities to address climate change related health outcomes including women and sexual and reproductive health. All participants requested more training and advocacy to get attention from policy makers to address the impact of climate change on women's health specific to SRHR.

Some of them mentioned the potential impact of climate change on SRHR, particularly, on the fetus in the womb and newborn baby. As one key informant explained:

"The climate change might have some impact on the SRRR of women during pregnancies, for example, newborns from mothers affecting disasters might have low birth weight, slow growth development; in addition, for mothers, they could not eat and could not sleep which had impact on newborns such as premature delivery before 36 weeks." (Female, aged 57 years from provincial health department of maternal and child health)

Key informants from the Ministry of Natural Resources and Environment (MoNRE), Department of Climate Change and Disaster Management reported that they were aware of the impact of climate change on health, but not on SRHR and they referred to the MOH. The Ministry of Environment (MoNRE) and NAFRI could assist the MOH in mobilising or seeking for funding to address the impact of climate change on SRHR of marginalised women. The Ministry of Health has to initiate to integrate the women's SRHR into the projects addressing climate change and women's SRHR. A key informant from MoNRE stated the responsibility of policy makers on SRHR as the following way:

"In implementation of the Policy of Climate Change, we developed the projects by translating the strategies of climate change into the projects, we also involved the MOH. In order to involve all sectors in drafting the projects and strategies to address the impact of climate change on health and SRHR. Thus, MOH could prioritise the SRHR

of women and children as women and children are more vulnerable to climate change and they are more affected.” (Male, 45 years from MoNRE)

Major public health and health issues of women and children have been addressed via family planning from the division of maternal and child health and related to the Millennium Development Goals of reducing Maternal and under five mortalities and preventing malnutrition among pregnant women. Participants from the environmental health division proposed that women’s health and SRHR could probably be addressed through outreach maternal and child health programs with doctors and nurses delivering free services to remote communities, including marginalised and areas where there is no existing health care facility. Or marginalised women can access SRHR services from the nearest health centers that are now available in almost every village around the country.

Impact of Climate Change on SRH of Marginalised women

Some key informants mentioned the impact of climate change to women, especially marginalised women in remote areas. At the family level, women are responsible for health and household chores; however, during disaster, women have more of a burden compared to the normal situation and do not have time to take care of their SRHR.

“During the disaster in the southern part of Lao PDR last year and 2 years ago, pregnant women of reproductive aged could not go to the health facilities to attend ANC, lack of food, lack of time to take care of their SRH, thus women in the remote areas are more affected to climate change. “ (Female, 54 years)

The impacts of climate change are likely to increase the unpaid work burden of women, due to longer walking distances to collect water and fuel wood, additional care for the sick and elderly and food insecurity. Women had to spend more time for domestic work instead of spending this time for their income-generating activities. Smallholders are affected the most in relative terms. Many of these women do not have alternatives for income generation, and, with increases in food prices and declines in subsistence production, food insecurity may lead to precarious situations. Moreover, some women, in particular those in female-headed households, cannot avoid the impacts because of their family responsibilities.

The majority of marginalised women are illiterate and unable to speak Lao language and group discussions were done with help from women in the villages who could speak the local dialect. Marginalised women from Khamou village in Oudomxay province said that access care to health centers during the raining season were impossible due to access roads or bridges being damaged by flood. In addition, health facilities are far away from the villages. Women have to walk at least 12-20 km by foot under heat to access care at the health center. While most villages have access to traditional birth attendants, several women said that they went to health center only if it was necessary during pregnancy. Low utilisation of reproductive health service was likely to be further exacerbated during climatic disasters,

especially in rural areas, which already have some of the highest maternal and neonatal mortality rates in the country and many households live in fragile circumstances.

When asked what they understand about climate change and impacts on their health and desires to have more babies, all women responded that they had no idea and have never heard about climate change and the impact on health. The women were aware only of irregular rainfall and drought that will impact on their agriculture and especially rice and vegetable production. Climate change has also contributed to natural food deficiency in the forest surrounding remote villages. Many women said that they have to go further to look for food during the summer time and they have no time to care for their children. While improved access to family planning education and outreach from the government has contributed to their choice of having fewer children in the family, the extent of these services in disasters and where roads are inaccessible are considerably reduced.

Case Story*

A-Neea is 24 years old marginalised woman, lives with her husband and their 3 children, 2 daughters aged 3 and 2 years old, and a 9 months old son, in the remote valley area in the Southern Province of Lao PDR. She married her husband when she was 14 years old. She gave birth 8 times but only 3 survived. She had never been in school and was not able to communicate in Lao language. A-Neea's tradition does not allow women to give birth at home. Therefore, A-Neea gave birth alone in the forest with little support from her husband. A-Neea's husband built a small carrier with roof cover by leafs for her to deliver a baby in the forest. She was allowed to bring baby home from forest after giving birth for 3 days. Throughout her life, A-Neea had never seen a health care provider. She did not have access to family planning methods, ANC and delivery at the health facilities during the flooding. There is a health center, across a mountain, about 20 km away from her village. Women in her village has never visited health center because it is too far and too hot to walk across a mountain by foot to go to health center in dry season. In the rainy season, mud slid occurs every year. Mud slide or flooding cutted off access road and make it impossible for villagers and visitors to go in and out from the village. There is no school, no health service, and no electricity in their village. A-Neea relies on wild food to feed her family. Due to drought and irregular raining which destroy agriculture, the villagers will have rice shortage 6 months per year. Villagers received rice support from World Food Program about 20 kg per household but not enough. Her village relies on spring water for agriculture and cooking. Planting vegetable is not possible due to lack of water. She has to walk at least 2 km to get water every day during dry season. She also has to go to forest to collect fuel and look for food everyday while her husband is working in the rice field.

Further, due to the remoteness of many villages, in the event of a climate related disaster, access by local government and non-government organisations is likely to be limited. That which is provided typically focuses on food and water and immediate primary healthcare

needs but excluding access to care for obstetric complications or preventing the transmission of STIs, pregnancy care or access to family planning methods.

Addressing the impact of climate change to SRHR among marginalised women and general women

Even in normal times, families and communities in remote areas and particularly ethnic minority groups have limited access to adequate and appropriate SRHR services. In addition, in remote rural areas many villages still lack access to clean water and sanitation and food insecurity and suboptimal nutrition continues to be a pressing problem. At the family, community and local government level, interventions are needed to reduce these vulnerabilities and build capacity. This should include building the capacity of families and communities to prepare for and respond to disasters – an issue, which has been largely neglected in the areas included in this study. During disasters local families, communities and local authorities are the first responders. At the health services level outreach MCH/SRHR needs to be strengthened using an integrated approach to the planning and delivery of SRHR services. The MCH outreach team could for example, provide family planning, ANC, immunisation, assisting delivery and PNC to the women of reproductive age. As one key informant suggested:

“During disaster, we have to provide family planning services to women of reproductive age as there were some difficulty situations such as lack of food, if women are pregnant, this will be difficult for them to look after themselves? (Male, 50 years old from MOH).

They could also provide some anti-parasite medication to children less than five years old. Planning to reduce vulnerabilities and strengthen capacity to respond to and recover from disasters also needs a bottom up approach with local people determining their needs and indicators. As one person explained:

“During disaster, what are the impacts of the villages, if we planned from the top to bottom, we might not respond their needs. For example, the villagers would like to have water supply, if we built different things, we might not address their needs and the villagers should involve or participate in the planning and implementation process.” (Male, 45 years from Office of Climate Change)

It was also suggested that the government organise a working group as stated in the Policy of Climate Change including a public health working group. The public health working group should be tasked to address the impact of climate change on general health, including SRHR for all women, with a particular focus on marginalised women. Each team should have a TOR and work together as a team to integrate health and SRHR into the Policy of Climate Change. In particular, Minimum Initial Services Package (MISP) should be included in the planning. This would include identifying organisation(s) and individual(s) to facilitate the coordination and implementation of the MISP; preventing and manage the consequences of

sexual violence; reducing HIV (and other STIs) transmission and increase access to medication by providing Anti-retro viral therapy ART services to HIV positive persons in the post-disaster or crisis situation; preventing maternal and neonatal morbidity and mortality; and planning for the integration of SRHR into primary health care.

The specific activities in each sector are dependent on the need and the relevance of the sector. For example, the key informants from the MoNRE mentioned that the need of specific vulnerable group of women and children depended on the health sector and they have to develop a detailed project targeted to the specific groups that mostly affected by climate change or disasters. Currently the MoNRE are disseminating messages about climate change to the provincial and district level and they could assist the MOH to disseminate the messages and design appropriate activities including the integration of the MISP as well as addressing existing vulnerabilities. Strategies to involve under representative such as minority and marginalised women to be part of climate change policy towards SRHR.

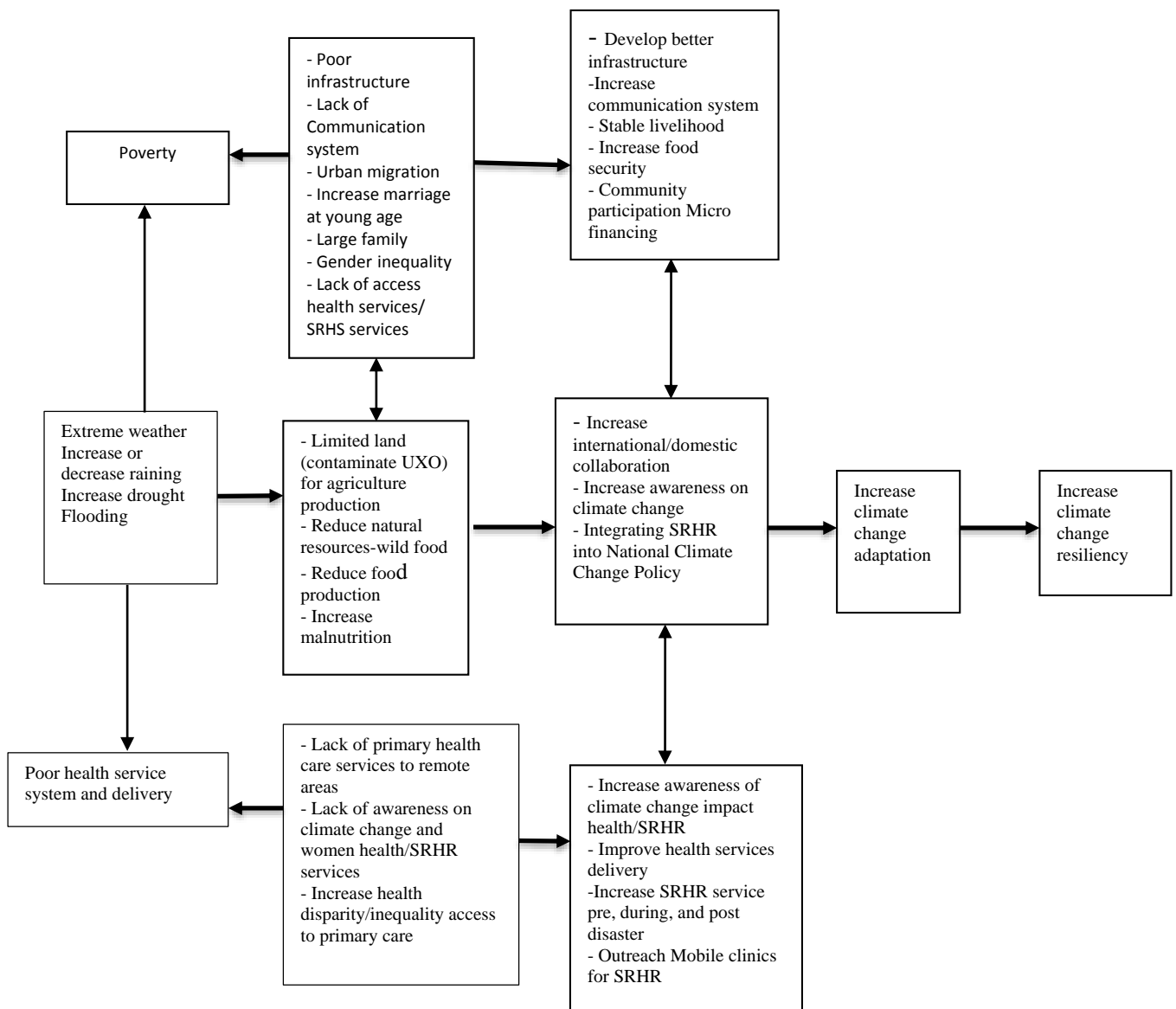
There is a need to create an environment of learning and awareness at all levels from the central level to the village level about climate change and its potential impacts specifically its public health consequences including SRHR. Within government, this also includes building awareness and strengthening the capacity of government officials to include the community in discussions about improving community health and SRHR. It includes participatory risk assessment, vulnerability reduction, and emergency response planning and incorporating the MISP in the curricula for SRHR workers. Community networks to monitor local vulnerabilities and capacities can also be developed. Where community health committees exist they can be utilised to inform people and to assist in assessment and planning processes. The active participation of adolescents, men, and women is important including traditional birth attendants and others involved in reproductive health services, and other primary health care services.

Advocacy is needed to influence policy and educate policy makers on the public health importance of including SRHR in climate change and disaster management policy. In particular, the MISP needs to be planned for and integrated into public health disaster management plans. This should include identifying appropriate coordinating bodies. Crucially, more effort needs to be spent on reducing vulnerabilities of particularly at risk populations. This will develop an evidence base related to climate change and related natural disasters and how SRHR can be integrated into disaster planning in low resource settings, and would help policy makers understand the importance of addressing SRHR in public health disaster plans. Further there is limited knowledge of these issues outside of these institutions.

Figure 2 is presented the summary of the findings of the study of linkage of climate change and SRHR. The FGD respondents also expressed their own responses towards community resiliency and commit to doing their own share. They mentioned that there's a need to keep more plantations, and pursue an afforestation and reforestation. Some key informants suggested that they would like to get support from the local authority. One key

informant mentioned that she would like to get appropriate technologies for crop production, and credit facilities for agricultural development or micro financing from the local authorities. For example, they could borrow money from the village saving account to do some income generation activities such as rearing livestock, weaving.

Figure 2: Framework of the Interlinkage of Population, Health, Environment and Climate Change and SRHR, in the Lao context³



³ Source: Patz et al., 2000 and findings from this study

CONCLUSION

This is the first exploratory study of climate change and women's SRHR in Lao PDR. The study highlighted the lack of knowledge of climate change and women's SRHR among our stakeholders and key informants including women of reproductive age. There was some evidence of the impact of climate change on marginalised women in the areas likely to be most affected. The findings from the current study indicate that knowledge of climate change and awareness of, and the need for, women's SRHR to be included in disaster planning is very limited in Lao PDR. Climate change policy makers from national to local government organisations and marginalised women in our study demonstrated limited knowledge and understanding of how climate change impacts health and women's SRHR.

The climate change policy has largely focused on the adaptation and prevention of economic losses from disaster related climate change with little emphasis on public health. To date the draft public health strategy policy on climate change and health related outcome has focused on environmental health related to safe water reservoir to prevent spreading outbreaks of malaria, dengue fever, and diarrhea. There has also been a focus on improving nutrition, maternal and child mortality, and other communicable disease largely driven by the Millennium Development Goal targets. Despite its vital role in economic growth and contributing to the aforementioned targets, women's SRHR has not been mentioned in public health or climate change adaptation at the national or local level. Health care providers from national to village levels have no awareness and are unprepared for changes as a result of climatic changes. The disaster response committee at the national level is not fully developed to minimise negative health outcomes as a result of climate change.

Recommendations and Advocacy

Several recommendations have been identified from literature and discussions with participants. For the current paper, the recommendations will be targeted at policy makers and practitioners who have been working on the climate change issues in the country from central to village level. Since there have been very limited studies on climate change and health outcomes of disadvantaged populations including marginalised women, recommendations for future research will also be provided in the following section.

Recommendations for policy makers

Findings from the current study suggest that policy makers and practitioners who have been working with the climate change policy and strategies planning from multiple government and non-government sectors have not been well connected or collaborating in developing strategies for future intervention on climate change and its impact health outcomes. Therefore, there is an urgent need to raise awareness on the need to improve communication among different policy makers from different ministries to integrate climate change intervention strategies to reduce existing vulnerabilities including food security,

nutrition, water and sanitation, maternal and child health, women's SRHR, preventive health measures, livelihood strengthening and gender equity.

Since knowledge on climate change is very limited and not many people are aware of the impact of climate change and health, it is crucial to strengthen media advocacy on the importance of maintaining women's SRHR services prior, during, and after disaster events. Moreover, interventions that build the capacity of communities to prevent, prepare, respond to and recover from emergencies related to climatic events, particularly addressing SRHR of women and girls, are critical in order to reduce vulnerabilities and improve overall access to public health information and services. This includes strengthening access to women's SRH services in non-disaster times. In addition, to address SRHR and reduce the burden on women and girls during a severe weather event, a better understanding of women's SRHR in natural disasters is needed to place it on the political agenda. It is also crucial to reduce discrimination and inequality in accessing care of women and girls, women's SRHR and other needs should be discussed and addressed in non-emergency times to strengthen access to skilled birth attendants and emergency obstetric care plans for scaling up in times of natural disasters.

The climate change office and committees have been recently established, however, communication and coordination mechanisms and systems from the central level down to community level need to be explored to better prepare communities for readiness to assist women and girls access women's SRHR services when natural disasters occur in the future. The MOH has good primary health care services through mobile outreach and therefore, MISP should be integrated into the public health climate change policy. This should also include plans for pre-positioning reproductive health kits and women's SRHR services in areas identified as vulnerable. A coordinating body for women's SRHR, including MCH services in disasters, needs to be identified at the local and central level when there is no severe weather event happen. Health facilities and road access need to be upgraded and investigated if they are accessible prior to a disaster event to withstand natural disasters as much as possible to ensure that facilities remain functional to provide women's SRHR during disasters, including maintaining vehicles to be used for referral of complication cases. Thus, access to women's SRH during disasters at all times should be available for all women, including marginalised women. In addition, following recommendations, there is a need to strengthen the community level climate change adaptation and mitigation measures to prepare them for enhanced and efficient natural resources management; Mainstream gender perspective into the climate change efforts at national and regional levels and develop and implement preparedness and response plans for health threats such as heat waves, severe weather events, and infectious diseases and women's SRHR threats as well.

Recommendation for future researches

There is very little existing knowledge on climate change and health outcomes in the country. Although there is existing literature on climate change and women's health in the region and globally, little or almost none relates to Lao PDR. Therefore, to provide scientific

evidence to policy makers to include women's SRHR into national policy plan for climate change, more research related to climate change and women's SRHR needs to be conducted with different groups of women including those with disabilities and young people and those from ethnic minority groups to better understand existing vulnerabilities, services need of each group and addressing services gap prior to and during natural disaster events. It is essential to have further research to better understand how to translate research into policy and practice in contexts such as the Lao PDR.

In addition to recommendations provided by the authors, participants also suggested the effective ways to conduct advocacy for climate change and SRHR of women particularly marginalised women. Since there is little knowledge and understanding of climate change and women's SRHR, there should be increased advocacy for public health workers by providing health education to the women of reproductive age and assisting them to see the importance of women's SRHR during disasters. In addition, at the central level, a committee of disaster preparedness from different ministries to oversee and supervise the disaster situation or climate change and advocacy for women health include women's SRHR is needed to raise awareness and understanding of the services needed for women from different backgrounds. The most crucial thing is the dissemination of the strategies of climate change to different sectors at the provincial, district and community level.

Consider running advocacy targets related to climate change and these should be integrated into the routine activities of each sector and ministries lines. The MOH should consider integrating climate change into their activities. Further, support and advocacy committees are needed to assist in making the government's climate change policies, publications and reports readily available on the internet both in Lao and English, on a government website and/or on the NGOs sites. Workshops or training courses on climate and women's SRHR to general public and health care professional can be useful in building awareness. Increase collaboration and networking with regional and global networks to increase opportunities for research, knowledge exchange, and raise awareness on climate change and its impacts on health outcomes and women's SRHR.

As there are limited studies on climate change, gender and SRHR, there's a need to do more research on women's SRHR & CC among marginalised groups and comprehensive study on the gender-differentiated impacts of climate change with particular focus on gender difference in capabilities to cope with climate change adaptation and mitigation strategies.

LIST OF REFERENCES

- Asian Development Bank. (1999). *Fighting poverty in Asia and the Pacific: The poverty reduction strategy*. Manila: ADB.
- Asian Development Bank. (2014). *Lao PDR Country report on Climate Change*. Accessed from www.ADB.org
- ARROW. (2014). In Search of Climate Justice: Refuting Dubious Linkages, Affirming Rights. Vol. 15 No. 1 2009 n ISSN 1394-4444.
- Bartlett, S. (2008). *Climate change and urban children: Impacts and implications for adaptation in low and middle income countries*. Human Settlements Working Paper Series Climate Change and Cities No. 2. London: IIED.
- Berry HL, Bowen K, Kjellstrom T. Climate change and mental health: a causal pathways framework. *Int J Public Health* 2010;55(2):123-132. Epub 22 December 2009
- Brody, A., Demetriades, J., Esplen, E. (2008). Mapping a link: A scoping Study of Knowledge and gap. *BRIDGE, Institute of Development Studies (IDS), UK*.
- Centre for Research on the Epidemiology of Disasters. 2009. *Annual disaster statistical review 2008 – The number and trends*. Report prepared by Jose Rodriguez, Femke Vos, Regina Below, and D. Guha-Sapir. Brussels: CRED.
[http://www.cred.be/sites/default/files/ADSR_2008.pdf]. Last accessed on 6 March 2012.
- Costello, Anthony, Mustafa Abbas, Adriana Allen, Sarah Ball, Sarah Bell, et al. (2009). Managing the health effects of climate change. *The Lancet* 373: 1693-1733.
- Grambsch A, Menne B. (2003). Adaptation and adaptive capacity in the public health context A. In A. J. McMichael . . . [et al.], editors. *Climate change and human health : risks and responses*. WHO.
- Government of Lao PDR. (2004). *The National Growth and Poverty Eradication Strategy (NGPES)*, Committee of Planning and Investment. Vientiane, Lao PDR.
- Hanson, K., Ranson, M. K., Oliveira-Cruz, V., & Mills, A. (2003). Expanding access to priorityhealth interventions: A framework for understanding the constraints to scaling-up. *Journal of International Development*, 15, 1-14.
- Hess JJ, Malilay JN, Parkinson AJ. Climate change: the importance of place. *Am J Prev Med* 2008; 35(5):468-478.
- International Union for Conservation of Nature. (2009). *How Natural Disasters Affect Women*.
<http://www.iucn.org/knowledge/news/events/isdr/?3373/How-natural-disasters-affect-women>
- Kazuyuki, U. (2012). *The health impacts of climate change in Asia-Pacific: Asia-Pacific Human Development Report Background Paper Series 2012/16*. [www. UNDP.org](http://www.undp.org)
- Kovats, R.S. et al. (2000). *Climate change and human health: impact and adaptation*. Geneva, Switzerland & Rome, Italy, WHO European Centre for Environment and Health (document WHO/SDE/OEH/00.4).

- Intergovernmental Panel on Climate Change. (2007). *Climate change 2007: Impacts, adaptation and vulnerability*. Geneva.
http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html.
- Intergovernmental Panel on Climate Change. (2001). *Climate change 2001: Impacts, adaptation and vulnerability*. Geneva.
http://www.grida.no/publications/other/ipcc_tar/.
- Lao Statistics Bureau. (2012). Lao Social Indicator Survey. Vientiane Statistics Division, Department of Planning and Finance, Ministry of Health, Lao Statistics Bureau, Ministry of Planning and Investment.
- Mekong River Commission. (2012). The Impact & Management of Floods & Droughts in the Lower Mekong Basin & the Implications of Possible Climate Change. Working Paper 2011-2015. Mekong River Commission Flood Management and Mitigation Programme.
- McMichael, A.J. & Kovats, R.S. (2000). Climate change and climate variability: adaptations to reduce adverse health impacts. *Environmental Monitoring and Assessment* 61: 49–64.
- Ministry of Health of Lao PDR. (2012). *A Five Health Action Plan from 2012-2016*.
www.who.int
- McMichael, Anthony J., Maria Neira, and David L. Heymann. (2008). World Health Assembly 2008: climate change and health'. *The Lancet* 371 (9628): 1895-6.
- Ministry of Labor and Social Welfare National Disaster Management Office, Lao PDR. (2012). Lao PDR National Assessment Report on Disaster Risk Reduction: linkage between poverty and disaster risk. *Ministry of Labor and Social Welfare, Lao PDR*.
- Ministry of Planning and Investment. (2009). *National Socio-Economic Development Plan, Vientiane Capital, Lao PDR*. Unpublished paper
- Ministry of Health Lao PDR, PMNCH, WHO, World Bank, AHPSR and participants in the Lao PDR multistakeholder policy review (2014). Success Factors for Women's and Children's Health: Lao PDR.
- Patz, J. et al. The potential health impacts of climate variability and change for the United States: executive summary of the report of the health sector of the US National Assessment. *Environmental Health Perspectives*, 108: 367–376 (2000).
- Pimhidzai, O. (2014). What does evidence tell us about poverty in Lao PDR? *The World Bank*. Retrieved from [www._rightslinklao.org](http://www.rightslinklao.org)
- Post-2015 Women's Coalition. An Advocacy Brief: Post 2015 Development Agenda sexual and reproductive health and rights beyond 2014: opportunities and challenges. Available:
- Sananikhom, P., Reerink, L., Fajans, P., Elias, C., & Satia, J. (2000). Strategic assessment of reproductive health in the Lao People's Democratic Republic. *Asia Pac Popul J*, 15, 21-38.
- Statement of the CEDAW Committee on Gender and Climate Change (adopted at the 44th session of CEDAW 20 July to 7 August, New York 2009). Available at the website: <http://www.wedo.org/wp-content/uploads/statementofthecedawcommitteeongenderandclimatechange.pdf>
- Susanne Moser (USA), Kuniyoshi Takeuchi (Japan), Editors. Climate Change: New Dimensions in Disaster Risk, Exposure, Vulnerability, and Resilience

- Thikeo, M., Feng, S., Winttik, M., Cerrulli, K. (2015). Unmet needs of women victim of human trafficking and sexual violence in Lao PDR. *Under review by the Journal of Interpersonal Violence*. The Climate Change Office of the Department of Environment and Social Impact Assessment of Water Resource and Environment Administration. (2010). *Strategy of Climate Change of the Lao PDR*. Vientiane Lao PDR. Unpublished document.
- The Climate Change Office of the Department of Environment and Social Impact Assessment of Water Resource and Environment Administration. (March, 2010). *Strategy of Climate Change of the Lao PDR*. Vientiane Lao PDR
- United Nation. (June 2014). Thematic paper towards the preparation of the 2014 World Conference on Indegenious People Sexual: and reproductive health and right of indeginous people. Inter-Agency Support Group on Indegenious People's Issue. Retrived from www.un.org
- United Nations Children's Fund. (2006). Multiple Indicator Cluster Survey 3. Ministry of Health of the Lao PDR, National Statistical Centre (NSC) of the Committee for Planning and Investment.
- United Nations Framework Convention on Climate Change. (2007). *Climate Change: Impacts, vulnerabilities, and adaptation in developing countries*. Bonn: UNFCCC. <http://unfccc.int/resource/docs/publications/impacts.pdf>.
- United Nation Women Watch. (2009). Women, Gender Equality and Climate Change. Retrived from http://www.un.org/womenwatch/feature/climate_change/
- Water Resource and Environment Administration. (2009). *National Adaptation Program of Action. The Climate Change Office of the Department of Environment and Social Impact Assessment of Water Resource and Environment Administration*. Vientiane Capital, Lao PDR.
- World Bank. (2014). *Lao Country Profile*. www.worldbank.org
- World Food Program. (2007). *Comprehensive Food Security and Vulnerability Analysis. Vulnerability Analysis and Mapping Branch*. Retrieved from <http://foodsecurityatlas.org/lao/country/utilization/childrens-women-nutritional-status>.
- World Food Program. (2006). *Children and Women nutritional status in Lao PDR*. www.WFP.org
- World Health Organization. (2008a). Climate change and human health in Asia and the Pacific: From evidence to action'. Report of the Regional Workshop, Bali, Indonesia, 10-12 December 2007. New Delhi: WHO Regional Office for South-East Asia. http://www.searo.who.int/LinkFiles/Publications_and_Documents_Booklet.pdf.
- World Health Organization. (2008e). *Mental health assistance to population affected by the Tsunami in Asia*. Geneva: WHO.
- World Health Organization. (2009b). *Protecting health from climate change: Connecting science, policy and people*. Geneva: WHO.
- World Health Organization. Gender, Climate Change and Health. Geneva: WHO, 2005.
- World Health Organization. (2010c). *Gender, Climate change and health*. Geneva: WHO. <http://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf>].

- World Health Organization. (2011a). *Gender, climate change and health*. Geneva:WHO.[http://www.who.int/globalchange/publications/reports/gender_climate_change/en/index.html].
- World Health Organization. (2011b). Malaria: Disease burden in SEA region. http://www.searo.who.int/en/Section10/Section21/Section340_4018.htm.
- World Health Organization. (2012). Lao PDR health service delivery profile - WHO Western Pacific Region. Retrieved 29 January 2014, from www.wpro.who.int/health_services/service_delivery_profile_laopdr.pdf
- Woodward, A., Hales, Weinstein, S P. (1998). Climate change and human health in the Asia Pacific region: Who will be most vulnerable? *Climate Research* 11: 31-38.
- Yusuf. A. A., & Francisco, H.A. (2009). Climate Change Vulnerability Mapping for Southeast Asia, *IDRC-SIDA-EEPSEA-CIDA*.

APPENDICES

I. Interview guide and questionnaires

Moderators or research assistants introduce self, purpose of the SRHR study to the participants and all confidentiality include ethical approval from UHS. After introduction, the moderators distribute the demographic questionnaire form to participants. The demographic questionnaire consists of the following questions:

1. Name and family name_____
2. Age_____
3. Gender_____
4. Ethnic_____
5. Educational level_____
6. Your current affiliation and position_____
7. What is your understanding of climate change and women reproductive health and right?
8. Does your organisation have policy on climate change and women health?
9. What is your office, ministry, department policy related to climate change and women health and reproductive right?
10. How vulnerable is climate change impact sexual and reproductive health and right of marginalised women toward climate change policy?
11. What do you know and don't know about climate change impact SRHR of marginalised and general women in Lao PDR?
12. How can we address the impact of climate change and sexual health and right of women especially minority and marginalised women at the local to central government?
13. How can we advocate for having sexual and reproductive health and right of women integrate into National Policy on Climate Change and Public health outcome using evidence from the current study?
14. What would be the most effective policy advocate for climate change and sexual and reproductive health and right of women especially marginalised women in Lao PDR?
15. What strategies to involve under representative such as minority and marginalised women to be part of climate change policy toward SRHR?
16. How can we use the outcome of the current study to influence ministry of health and other policy makers to consider more medical and public health support to women accessing and make decision on sexual and reproductive health and right of women during and post disaster related to climate change?
17. Do you have any advice or comments for future addressing climate change and sexual reproductive health and reproductive right of women in Lao PDR?

18. Do you want to be part of advocacy group to address climate change and sexual reproductive health and reproductive right of women in Lao PDR?

Table 1: Socio-demographic characteristic of the interviewed Key Interviews

No	Variables	Number
1	Sex	
	Male	6
	Female	10
2	Age Range (Mean=52, SD=, Max=27, Min=60)	
	27-47	12
	48-60	4
3	Education	
	Bachelor	5
	Master	10
	Ph.D	1
4	Working Place	
	Ministry of Health	6
	Ministry of Environment	4
	Lao Women's Union	4
	Forestry	2
4	Position	
	Technical Staff	6
	Director	4
	Head of division	6

Table 2: Socio-demographic characteristic of the respondents in the Focus Group Discussion

No	Department	Gender	Age Range	Education	Position
FGD1	Oudomxay Health Center	5 males 5 females	24-42	Associate Degree in Nursing	Staff nurse
FGD2	Health Center in Nong districts, Savannakhet Province	2 males and 1 female	25-38	Associate Degree in Nursing	staff nurses
FGD3	Samnau Provincial public health Division of Infectious Disease	3 females	35-55	MD Nurse, BA Nurse, BA	Director of Infectious Disease department Field staff Nurse, BA
FGD4	Mangkhong Villages in Nong District Savanakheth	15 females	15-35	Marginalised women from 3 villages in high risk zone or climate change in Savanakheth. They have never been in school	Village marginalised women
FGD5	Ta-Oi village in Xekong	8 females	14-48	Marginalised women from 1 Ta-Oi village in high risk zone or climate change in Xekong province. They have never been in school	Village marginalised women
FGD6	Khamou Villages in Oudomxay	8 females from 3 Khamou villages	16- 45	3 Minority villages	Village marginalised women

This research is an initiative of a regional partnership that are working together on building the interlinkages of climate change and SRHR. The 8 partners are from Bangladesh, Indonesia, Lao PDR, Malaysia, Maldives, Nepal, Pakistan, and the Philippines. The regional partnership generates evidence on the linkages of the issues and advocates for the integration of SRHR in climate change frameworks to advance sustainable development.

The Faculty of Postgraduate Studies is one of the seven Faculties located in the University of Health Sciences, Vientiane Capital City, Laos and it was established in 2001. The Faculty is responsible for higher education of different fields such as Residency Program, Master Program of Public Health, and Family Medicine and has a unique leadership position in postgraduate studies in the Field of Medicine and Public Health. The Faculty has been working to advance adolescent's health and sexuality through information and knowledge, evidence generation, advocacy, capacity building, partnership building and Faculty development.

ARROW is a regional non-profit women's NGO based in Kuala Lumpur, Malaysia, and has consultative status with the Economic and Social Council of the United Nations. Since it was established in 1993, it has been working to advance women's health, affirmative sexuality and rights, and to empower women through information and knowledge, evidence generation, advocacy, capacity building, partnership building and organisational development.

**University of Health Sciences,
Faculty of Postgraduate Studies**
Samsenthai Road, Ban Kao Gnot, Sisattanak District

Telephone 856-21-240854; 856-21-254487
Fax 856-240854
E-mail vsychareun@gmail.com
Web psr.edu.la; uhs.edu.la

**Asian-Pacific Resource and Research Centre for Women
(ARROW)**
1 & 2 Jalan Scott, Brickfields 50470, Kuala Lumpur, Malaysia

Telephone (603) 2273 9913/9914/9915
Fax (603) 2273 9916
E-mail arrow@arrow.org.my
Web www.arrow.org.my
Facebook The Asian-Pacific Resource & Research Centre for Women (ARROW)
Twitter @ARROW_Women
Youtube youtube.com/user/ARROWomen
Pinterest arrowomen

