Mekong Integrated Water Resource Management Project Phase 3

CAMBODIA: ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

22 May 2014

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Acronyms

ADB	Asian Development Bank
BP	Bank Procedures
CMU	Component Management Unit
CNMC	Cambodia National Mekong Committee
ECOP	Environmental Codes of Practice
EA / EIA	Environmental Assessment / Environmental Impact Assessment
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
FiA	Fisheries Administration
IEE	Initial Environmental Examination
IESE	Initial Environmental and Social Examination
IPPF	Indigenous Peoples Planning Framework
IPDP	Indigenous Peoples Development Plan
MAFF	Ministry of Agriculture, Forestry and Fisheries
M-IWRM3	Mekong Integrated Water Resources Management – third phase project
MOE	Ministry of Environment
MOWRAM	Ministry of Water Resources and Meteorology
MRC	Mekong River Committee
NGOs	Non-governmental Organizations
OP	Operational Policy
PDOWRAM	Provincial Department of Water Resources and Meteorology
RAP	Resettlement Action Plan
RGC	Royal Government of Cambodia
RPF	Resettlement Policy Framework
WB	World Bank
WWF	World WildFund for Nature

I. INTRODUCTION

This Environmental and Social Management Framework (ESMF) for Cambodia is preparedbased on the outcomes ofthe Initial Environmental and Social Examination (IESE) developed for the Mekong Integrated Water Resource Management Project Phase 3 (M-IWRM3).The ESMF is used to examine environmental and social issues and impacts associated when the project consists of a series of activities or subprojects that are not well defined and/or their location not known at the time of project appraisal. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social impacts of the project. It also contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance benefits, provisions for estimating and budgeting the costs of such measures, and information on the agencies responsible for managingproject impacts and the implementation of proposed measures.

The M-IWRM3 is the third phase of the Mekong Integrated Water Resources Management Program (M-IWRMP), which is series of projects (SOP) supporting Lao PDR, Vietnam, Cambodia, and the Mekong River Commission. The ultimate objective of M-IWRMP is tosupport implementation of IWRM in the Lower Mekong Basin at the regional, national and sub-national level.

M-IWRMPphases. The program to date comprises the following four phases: (a) M-IWRM1 for MRC and Lao PDR,approved in March 2012 and under implementation (2012-2017); (b) M-IWRM2 for Vietnam approved in November 2013 (2013-2018); (c) M-IWRM3for Cambodia, planned for 2014-2019 – the subject of this ESMF document; and (d) M-IWRMP4 for MRC (planned for 2016-2022).Table 1 below gives an overview of the program. This arrangement results from differences in institutional capacity and regulatory requirements for IDA processing in the respective countries.

The proposed project (and thus this ESMF)has prioritized fisheries resources and river basin management in Cambodia as these are the main aspects where cooperation with neighboring countries is advancing.

Estimated cost for the M-IWRMP. The overall program cost – covering the four phases – is estimated at US$80.77 million, for which the IDA contribution would be US$80.8 million (with the remainder financed by counterpart funds from Lao PDR, Vietnam, and Cambodia).

Table 1: Overview of the M-IWRMProgram (four-phase series of projects)

Partner	Activity	Tentative cost (including counterpart funds) (US$ Millions)
M-IWRM1 (2012-2017)		
MRC	***Component 1*** • Regional Support for Trans-boundary IWRM Dialogue; • Support for Establishing an Approach for Environment; • Impact Risk and Disaster Risk Assessment in the LMB; • Communication Outreach; and • Project Administration and Management.	8.0
Lao PDR	***Component 2*** • Institutional Strengthening for MONRE regarding water resources management; and ***Component 3*** • Floodplain Management (Component 3-1) • Fisheries Resources Management (Component 3-2).	18.5
M-IWRM2 (2013-2018)		
Vietnam	• Support for the Institutional Development of Integrated Water Resources Management in the Vietnam Part of the Sesan-Srepok Basin; • Establishment of a Water Resources Monitoring Network at the Border Areas with Cambodia and Lao PDR in the Lower Mekong and a Water Resources Information System for the Vietnam Part of the Lower Mekong; • Strengthening the Hydro-Meteorological Information Network, Flood Forecasting and Warning System in the Central Highlands; and • Project Management.	30.0
Proposed M-IWRM3 (2014-2019)		
Cambodia	• Support for Fisheries and Aquatic Resources Management in Northern Cambodia; and • Support for River Basin Management in the 3S sub-basin and 4P sub-basin and Coordination with riparian Countries in Northern Cambodia.	16.3
Planned M-IWRM4 (2015-2020)		
To be determined – MRC and riparian states	• Support for Regional Data Collection and Analysis for Flood Risk Management; • Support for Agriculture/Fishery Knowledge Base and Management; and • Support for Water Resources Management and hydro meteorological monitoring.	8.0
	Total	**80.8**

The proposed M-IWRM3 would be implemented by Cambodia. The Ministry of Water Resources Management (MOWRAM) has been designated as the entity responsible for implementing the project and the Cambodia National Mekong Committee (CNMC) has been assigned as the overall executing agency. The Fisheries Administration (FiA) within the

Ministry of Agriculture, Forestry and Fisheries (MAFF) would be responsible for implementing Component 1. The CNMC would be responsible for overall project management and implementing Component 2. FiA and CNMC would therefore be responsible for implementation of the safeguards measures stipulated in this ESMF for their respective components.CNMC would also be responsible for overseeing FiA and ensuring they fulfill their responsibilities under the project.

II. PROJECT DESCRIPTION

Geographic focus.The proposed M-IWRM3 will focus on: (a) key spawning and growing habitats in the Sekong River and the Mekong mainstream in the northern part of Cambodia; the 100 kilometer stretch of the Mekong River between KohLanga (bordering with Lao PDR) to Kratie / Stung Treng in Cambodia and the concerned villages along this stretch; (b) Cambodianparts of the regionally significant Sesan-Srepok-Sekong(3S) Sub-basin,shared by Lao PDR, Cambodia, and Vietnam, and related tributaries;and (c) the PrekPreah, PrekKrieng, PrekKampi and PrekTe(4P) Sub-basin east of Kratie. Figure 1 below illustrates the project provinces and Figure 2 shows the 3S and 4P sub-basin areas.

Figure 1: Project Provinces
(Source: http://www.nationsonline.org)

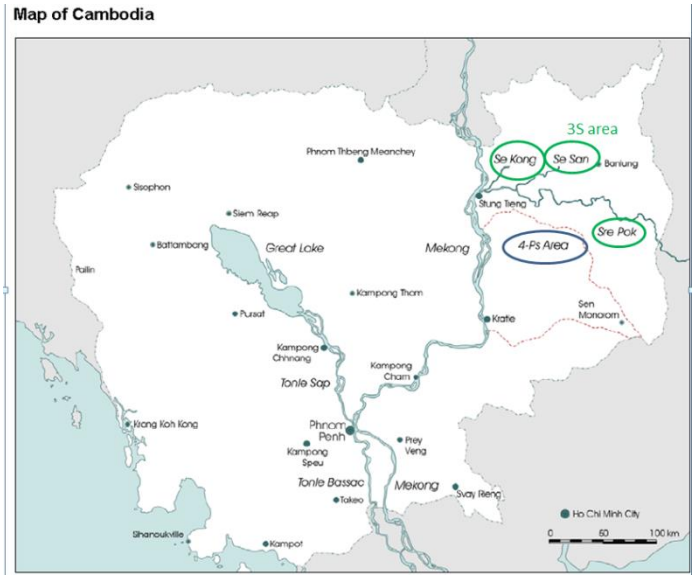

Figure 2: 3S and 4P Sub-Basins
(Source: adapted from http://ppcrcambodia.files.wordpress.com/2012/11/cnmc-1104-iwrm-cam.pdf)

Rationale for the proposed components and activities. In light of the accelerating water resources exploitation, such as hydropower and irrigation investments upstream of Cambodia, the Royal Government of Cambodia (RGC) has identified the following issues as the most acute ones in the Lower Mekong Basin (LMB):

- Introducing community fisheries co-management, including increasing the resilience of fisheries communities to potential changes in flow patterns and fish stocks resulting from the hydropower development upstream and establishing a framework for monitoring impacts. The priority area is in the northern part of Cambodia, where there are a number of important habitats(mainly so-called "deep pools" scattered in the above-mentioned 100 kilometer stretch)and little systematic support for establishing sound fisheries resources management from other development partners.

- Establishing IWRM principles in key basins to ensure sustainable development and due attention to social and environmental factors. In particular, the RGC has identified: (a) the 4P Sub-basinin order to respond to rapid mining and forestry development and establish a model to be replicated for smaller tributaries, building on the technical assistance supported by the ADB, mainly collecting information on the water resources in the sub-basin and awareness raising of the stakeholders on IWRM; and (b) the 3S Sub-basin to develop joint management of the sub-basin with Vietnam, including joint monitoring on water use and impacts, data sharing, and analysis.

In responding to the Government's priorities, the proposed M-IWRM3 would comprise the following two components:

Component 1: Support for Fisheries and Aquatic Resources Management. (US$10.8million).The component objective is to establish sound management in the mainstream Mekong between Kratie and Stung Treng, and the Sekong River, in Northern Cambodia where significant number of critical natural habitats such asthe Ramsar Site in Stung Treng, National Park, Wildlife Sanctuaries and Protected Forests are located (see

Section III below). This would be achieved through: (a) establishment of community fisheries (CFi); and (b) strengthening public sector capacity regarding surveillance and monitoring, research, and restocking. The component has been designed based on the experience of various community service organizations (CSOs) that are active in the field, and would comprise the following sub-components similar to Component 3-2 of M-IWRM1(see Table 1 above):

(1-1) Fostering development of Community Fisheries including: (a) establishment of community-based fisheries management organizations; (b) development of fisheries management plans; (c) demonstration of supplementary livelihood activities such as livestock, aquaculture and household garden; (d) capacity building for commune governments, and (e) supporting the rehabilitation of small scale infrastructure in the villages covered by the CFis;

(1-2) Strengthening public sector fishery management, including: (a) fish catch data collection, monitoring and enforcement of regulation; (b) supporting indigenous species aquaculture and stocking through construction of a small hatchery in Stung Treng; (c) technical assistance and logistic support for the provincial Fisheries Administration Office including construction of a small office building; (d) technical studies for assessing water resources infrastructure impacts on the fisheries; and(e) technical research on key selected species; and

(1-3) Component management and administration, including support for logistics, office equipment, and incremental operating costs.

Component 2: Support for River Basin Management in Northern Cambodia (US$5.5 million). The component's objectives are to: (a) assist the RGC to improve the effective and sustainable management of water resources in the 4P sub-basin[1] covering the provinces of Kratie and Mondulkiri; and in the lower 3S sub-basin[2] covering the provinces of Strung Treng, Mondulkiri and Ratanakiri (see Figures1 and 2); (b) establish planning and monitoring capacity for effective water resources monitoring. The component's activities are being designed to build on the experience on IWRM support for the 3S sub-basin and the technical assistance (TA)work in the 4P basin supported by ADB. The work in the 3S sub-basin would initially focus upon the 2S sub-basin, shared by Cambodia and Vietnam, and would contribute to the development of bi-lateral forum with Vietnam for coordination on water resources management.

This Component would include the following activities in the 3S and 4P sub-basins:

- (2-1) Support for the implementation of IWRM in Northeastern Cambodia covering the 3S and 4P sub-basins, including: (a) strengthening the Provincial Department of Water Resources and Meteorology (PDOWRAM) capacity in the four target provinces (Kratie, Stung Treng, Mondulkiri and Ratanakiri);(b) support for legal, institutional and technical frameworks for IWRM-based river basin management;(c) water resources planning (updating basin profile and planning) in the 3S and 4P sub-basins;(d) technical studies on

[1]Cambodia 4-Ps Area, referring to the Prek Preah, Prek Krieng, Prek Kampi, and Prek Te river basins. Located in the eastern part of Cambodia at the left bank of the Mekong River, the 4-Ps area covers some 12,472 square kilometers and the Kratie and Mondulkiri Provinces

[2] The Sesan, Sre Pok and Sekong river basins (3Ss) are located in the south-eastern part of the Mekong Basin and have a total drainage area of 78,650 km^2. The 3Ss straddle Cambodia (33%), Lao PDR (29%), and Vietnam (38%).

water resources (sediment management, water quality);and (e) engagement of the local governments and communities in water resources management (e.g., awareness raising on Integrated Water Resources Management (IWRM) and Disaster Risk Management (DRM), participatory water quality monitoring, demonstration activities).

- (2-2) Support for water resources monitoring, information management and transboundary dialogue, including: (a) Reviewing and updating the architecture of the National Information System for water resources management, (b) Developing an integrated database for the Department of Hydrology and River Work, and Department of Meteorology for the water resources management in the 3S and 4P basin, and (c) Strengthen hydro-meteorological information management systems (including upgrading and construction of hydromet stations in the 4P and 3S basin); and (d) Support for investments for transboundary sharing information to be identified under the on-going transboundary dialogue under APL-1 Component 1-1.

- (2-3) Project and Component management, including support for logistics, office equipment, and incremental operating costs, overall monitoring and evaluation, safeguards and financial management.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The project implementation will strictly comply with national laws and the relevant Bank safeguards policies.

3.1. National laws and regulations

The following laws and regulations are applicable to the project;

1.ALaw on Environmental Protection and Natural Resources Management(November 18, 1996). The purposes of this law are to:(a) protect and enhance the environment quality and public health by means of prevention, reduction and control of pollution; (b) assess the environmental impacts of all proposed projects prior to the issuance of decision by the RGC; (c) ensure the rational and sustainable preservation, development, management and the use of the natural resources of the Kingdom of Cambodia; (d) encourage and provide the possibility for thepublic to participate in the protection of environment and the management of the natural resources; and (e) suppress any acts which may affect the environment.In particular, the following articles are applicable: (a) *Articles 6 and 7* (Environmental Impact assessment); (b) *Article 8* (Conservation); and (c) *Article 14 and 15* (Monitoring and inspections at sites of natural resource development).

1.BLaw on the Protection of Cultural Heritage (January 25, 1996). The law aimsprotect national cultural heritage and cultural property in general against illegal destruction, modification, alteration, excavation, alienation, exportation or importation. National cultural heritage comprises cultural property created or discovered on national territory (*Article 2*). Particular articles applicable to this project include: (a) *Article 3* (movable and immovable cultural property, whether publicly or privately owned); (b) *Article 6* (Protected sites); (c) *Articles 37 and 38* (Possible suspension of civil works in case of chance find); and (d) *Article 40* (Authorization of surveys).

1.CLaw on Fisheries(March 30, 2006). The aims of this law, as given in *Articles 1 and 2*, are to: (a) ensure fisheries and fishery resource management, enhance aquaculture development andthe management of production and processing, and to promote the livelihood of people in local communities for the social-economic and environmental benefits, including the sustainability of the conservation of biodiversity and natural culture heritages in the Kingdom of Cambodia (*Article 1*);and (b) ensure the rights on traditional use of fishery resources for local communities.The law covers all fisheries; natural, artificial and aquaculture. This law is the key underlying legal framework for Component 1. *Article 4* (definition of fisheries resources) and *Article 62* (Community Fisheries) are of particular importance.

On August 12, 2009, RGC signed a sub-decree under the country's Law on Fisheries that identifies 58 endangered aquatic animals including 29 freshwater fish, reptile and mammal species. The sub-decree spells out which freshwater and marine animals are banned from being transported or traded unless they are being farmed or are in compliance with the domestic fisheries law and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which Cambodia ratified in 1997. The endangered freshwater species comprise 19 fish and 7 turtles as well as the Siamese crocodile (Crocodylus siamensis) and the Irrawaddy dolphin (Orcaella brevirostris). CITES considers 7 of the 29 freshwater species to be threatened with extinction including both the crocodile and the dolphin as well as giant fish species like the Mekong giant catfish (Pangasianodon gigas),

Giant barb (Catlocarpio siamensis) and the Isok barb (Probarbus jullieni), also known as Jullien's barb. Other endangered freshwater species threatened with extinction under CITES are two fishes —the Asian bonytongue (Scleropages formosus) and the smalltooth sawfish (Pristis microdon) — and a turtle known as the mangrove or estuarine terrapin (Batagur baska). Endangered marine species identified by the sub-decree include a dozen marine mammals and half a dozen bivalves and gastropods. Also included are five species of turtles, three fish species, two horseshoe crabs and a crocodile as well as corals and sea anemones.

1.DSub-Decree 27 on Water Pollution Control(April 6, 1999). The purpose of this sub-decree isto prevent and control the pollution of water in order to protect human health and conserve bio-diversity (*Article 1*);itappliesto all sources of pollution and activities that cause pollution of the public water areas (*Article 2*). *Article 19*(Water Pollution Monitoring) outlines the requirements for the Ministry of Environment (MOE) to take samples at discharge points and is relevant to waste water discharge from the proposed hatchery. In addition 'Aquatic production processing' is listed as a pollution source which is required to have permission from the Ministry of the Environment before discharging or transporting wastewater.

1.E. Sub-Decree 36 on Solid Waste Management(April 17, 1999). The general provisions of this sub-decree are to regulate solid waste management safely in aproper technical manner in order to ensure the protection of human health and conservebiodiversity (*Article 1*). This sub-decree applies to all activities related disposal, storage, collection, recycling, transport, dumping of garbage and hazardous waste (*Article 2*).

1.F. Sub-Decree 42 on Air Pollution and Noise Disturbance (July 10, 2000). The general provisions of this sub-decree are to protect the quality of the environment and public health from air pollution and noise pollution through monitoring, curbing and mitigation activities (*Article 1*). This sub-decree applies to all movable sources and immovable sources of air and noise pollution (*Article 2*).

1.G Law on Water Resources Management. (June 29,2007). The general purpose of this Law is to foster the effective and sustainable management of the water resources of the Kingdom of Cambodia to attain socio-economic development and the welfare of the people.This Law determines: (a) the rights and obligations of water users, (b) the fundamental principles of water resources management, and (c) the participation of users and their associations in the sustainable development of water resources. This law is the key underlying legal framework for Component 2. The most important Articles for this project are Article 4 (Basis on IWRM principles), Article 8, 9 and 10 (MOWRAM as the Agency responsible for water resources monitoring and planning), Article 34 (International Rivers). This law also lays out provisions on water allocation, licensing and dispute resolution.

2. Applicable Bank safeguards policies

This is a category B project, and the instruments to implement the policy comprise the ESMF, the Resettlement Policy Framework (RPF), and the Indigenous People Planning Framework (IPPF).

OP/BP 4.01 (Environmental Assessment):The Bank safeguards policy on EnvironmentalAssessment (OP 4.01) is triggered because the project will involve; (i)

rehabilitation of the critical rural infrastructures (e.g., village access roads, foot bridges, etc.) and construction of a small-scale hatchery in Stung Treng Province (outside the Ramsar Site – See Section V) under Component 1; and (ii) construction of hydrological observation stations along the Sekong and Sesan Rivers under Component 2. The overall environmental impact of the proposed project would be positive, as the project aims to reduce the fishing pressure and establish a framework for proper management of the fisheries resources andhabitats.The impacts from the planned new hatchery are also considered to be manageable. In principle, the hatchery has been designed to recycle water and minimize the discharge; the annual discharge is estimated to be less than one two-thousandth of the Sekong River flow (estimated at 90 billion cubic meter), at the point of discharge. Before entering the river waters, the discharges from the hatchery activities shall go through the nutrition stripping ponds, in order to reduce any possibleriver pollution. An Environmental Management Plan (EMP) will be prepared during project implementation when the detailed design isdeveloped and before the works commence for the hatchery.

The other potential negative impacts of the project include limited land acquisition, dust, noise, and construction wastes resultingfrom small scale civil works. However, these impacts are assessed to be small, localized andtemporary. These impacts can be easilymitigated through application of site-specific Environmental Codes of Practice (ECOPs).

OP/BP 4.04 (Natural Habitats):The project triggers the Bank safeguards policy on Natural Habitats (OP 4.04) because activities under Components 1 and 2 are planned in villages located along the Mekong River in Northern Cambodia. While the selection of the exact villages to be supported by the project would be done during the implementation period, a part of the project area may be located within the Stung TrengRamsar Area.

The overall impacts of the project will be positive, as the proposed investments will enable hydrological and water quality (i.e., sediment) data collection and analysis in the 3P and 4S sub basins and establish sound fisheries resources management in the selected fishing villages along the mainstream Mekong in the two provinces (Kratie and Stung Treng) through community participation.

The Kratie and Stung Treng provinces lie in the most critical area for fisheries resources management in the Mekong, the section of about 200 kilometers from Champasak Province (in Southern Lao PDR) to Kratie Province. The Mekong in the two target provinces is known to have critical growing habitats called ‘deep pools’. Thesehabitats areimportant as refuges both during the dry season and spawning season for many species with long migratory paths, including endangered fish species such as the Mekong giant catfish Pangasianodon gigas, the Mekong giant barb Catlocarpio siamensis, and mammals like the Irrawady dolphin. The project would therefore contribute to the conservation of bio-diversity. In Stung Treng, the Ramsar site was designated in 2006 (see Figure 4). The MOE is currently finalizing the draft Ramsar Site Management Plan with the assistance of World WildFund for Nature(WWF), and the establishment of community fisheries (CFi) has been identified as key for the Ramsar site management. The current draft Ramsar Site Management Plan already identified the 21 villages and Component 1 would support most of these villages to establish or strengthen CFis.

In order to provide incentives for the fishing villages to enforce designated protection zones, Component 1 would also support rehabilitation of rural infrastructure and demonstration for supplementary livelihood activities (e.g., household ponds for agriculture) to support local

livelihoods and reduce fishing pressures. These activities are permissible under the current draft Ramsar Site Management Plan. These investments would not cause any significant impacts due to their small scale and simplicity.In particular, livelihood demonstrations (mainly aquaculture, livestock and household garden) would be at the household level, and rural infrastructure would include mainly rehabilitation of foot bridges, footpaths, schools, and small clinics so would not cause any significant environmental damage. These rural infrastructure investments will be selected out of the list of investments identified by the stakeholders approved by the respective communes. Minor impacts associated during the civil works will be mitigated or eliminated through application of good engineering practices and Environmental Codes of Practice. A summary of the current draft Ramsar Site Management Plan is attached as Annex 7, including the names of the 21 villages. In order to ensure the compliance with the Ramsar Site Management Plan during implementation of the project, the National Steering Committee, which would oversee the implementation of the project, will contain a representative from the MOE.

Within the 3P and 4S sub basins (covering Kratie, Stung Treng, Mondulkiri and Ratanakiri) implementation of Component 2 would strengthen technical and management capacity of CNMC and MOWRAM to take the lead in supporting sustainable water resources development in Cambodia. The only construction would be for small water resources monitoring stations and would not cause any significant damage. As above any minor impacts would be mitigated or eliminated through application of good engineering practices and Environmental Codes of Practice.

OP/BP 7.50 (Projects on International Waterways): The Mekong River is an International Waterway and the OP 7.50 is triggered. The project was approved by the MRC's Council, involving Thailand, Vietnam, Cambodia, and Lao PDR at the MRC Council Meeting in November 2009, fulfilling the notification requirement for these riparian states. During preparation of M-IWRM1, the Bank has notified China and Myanmar, which are not members of the MRC, of the Component 1 (Supporting Fisheries and Aquatic Management), including the proposed hatchery investment, on behalf of Cambodia on September 30, 2010. No response has been provided by these two countries and so for the purposes of OP 7.50 the riparian notification process is now complete. Investments proposed under Component 2 are exclusively technical assistance including installation of a few hydro-meteorological (hydromet) monitoring stations, which are for surface water monitoring purposes and do not alter flow or quantity of the river; therefore, they fall into the category of the investments stipulated under paragraph(b) of OP. 7.50 which waives riparian notification as an exception.

OP/BP 4.12 (Involuntary Resettlement):The project triggers the Bank safeguards policy on Involuntary Resettlement (OP 4.12) because the project will involve small-scale land acquisition. The investments proposed are of small scale and rehabilitation by nature;however, the project might involve unavoidable land appropriation mainly for the construction of small-scale community infrastructure; furthermore, in developing community fisheries management plans, fish conservation areas may be established, resulting in reduced access to resources during certain times of the year. This policy shall be covered by the Resettlement Policy Framework (RPF) document, which has been issued separately.

OP/BP 4.10 (Indigenous Peoples):In Stung Treng and Kratie of Cambodia, about 8 percent of population is considered to be ethnic minority groups, comprising a number of Chinese and/or Vietnamese minority and another seven indigenous groups: Phnorng, Kouy, Mil, Khonh, Kraol, Steang, and Thanmoun. In Mondulkiri and Ratanakiri provinces there are

eleven ethnic groups, making up between 25% - 40% of the population, the largest group of which are the Phnongand the Tompuonn. Thus, the Bank safeguards policy on Indigenous Peoples (OP 4.10) is triggered. The ethnic minority communities to be involved in the project are expected to benefit from investment and livelihood support activities. This policy shall be covered by the Indigenous PeoplesPlanning Framework (IPPF) document, which has been issued separately. The IPPF together with the ESMF and the RPF have been presented to the concerned ethnic minority groups and disclosed at the office of the Provincial Department of Water Resources and Metrology in the four project provinces.

Public Consultation and Information Disclosure: In line with the World Bank policy on Access to Information and OP 4.01 (Environmental Assessment) the project owner provided a summary of the proposed project's objectives, description, and potential impacts and mitigation measures for groups being consulted prior to consultation to ensure that they have sufficient time to review and contribute their views during consultation. Public consultation was conducted in project provinces of Kratie and Stung Treng with participation of key stakeholders in 2010, 2011 and 2013. Comments and suggestions from key stakeholders were incorporated into the Environmental Assessment (EA) process. Final safeguards instruments such as the RPF, IPPF and ESMF will be disclosed to the public through CNMC's website and the project provinces' websites in local language; hard copies are disclosed in all project commune offices accessible to key stakeholders, especially affected persons. The English version of this ESMF, plus the IPPF, and RPFwill be made available through the Bank's InfoShopon March 15, 2014. The EMP will also be re-disclosed in Infoshop prior to implementation. The consultation workshop on preparation for the project was conducted on 25 and 27 March 2014 in Kratie and Stung Treng respectively. The purpose of the workshop is (i) to disclose the project's information including safeguards related documents prepared by the Fisheries Administration (FiA) to the concerned stakeholders namely the CSOs and FCs, (ii) to raise awareness on the project intervention among the direct and in-direct beneficiaries, (iii) to collect any lesson learned about success and failure of FCs and integrated water resource management, and (iv) to discuss how to sustain them.

IV. BASELINE DATA

The project area covers the four provinces (Kratie, Stung Treng, Mondulkiri, and Ratanakiri) in Northeastern Cambodia. This section provides brief information about the project provinces, including *geography*, *climate*, *population* and *economy*. It should be noted that Component 1 covers Kratie and Stung Treng Province, while Component 2 would cover part of all four provinces (see Figures 1 and 2).

4. 1. Kratie Province

General Setting. Kratie is located in the East of the country and is borderedto the North byStungTreng, to the East byMondulkiri, to the West byKampong Thom and to the South byKampong Cham.The province is bisected North-South by the Mekong River and its narrow floodplains.The population of Kratie province is concentratedclose the banks of the Mekong; most communities are, on average, between 0.3 to 1.0 kilometer away from the mainstream Mekong and the Sekong (largest tributary of the Mekong). Away from the alluvial floodplain the population density is very low – almost negligible - and undisturbedforested areas extend across most of the province.

*Population.*In total, there are 68,171 households, with a total population of 331,592 (National Committee for Decentralization and Deconsentration (NCDD), 2010). Among these, 17.18 percent of the total population come from seven indigenous peoples groups and other three minority groups, namely: Phnong (13,934 persons, or 4.20 percent), Kouy (9,194 persons, or 2.77 percent), Stieng (5,595 persons, or 1.69 percent), Mil (3,696 persons, or 1.11 percent), Kraol (3,758 persons, or 1.13 percent), Thmorn (1,011 persons, or 0.30 percent), Khoanh (871 persons, or 0.26 percent), Khmer Islam (16,771 persons, or 5.06 percent), Vietnamese (2,121 persons, or 0.64 percent) and Laotian (12 persons, or 0.004 percent).

Economy. The Irrawaddy dolphins are the focus point for the development of the tourist industry in the province.One of the key livelihood activities in Kratie is capture fisheries; the province is ranked as sixth in terms of fish catch (fifth for inland fisheries). The location of CFis in Kratie Province is shown on Figure 3.

Ecology and environmental issues. The stretch of the Mekong River adjacent to the provincial capital, Kratie town,is home to a group of endangered freshwater Irrawaddy dolphins. This particular part of the mainstream Mekong is designated as a (relatively small) dolphin conservation zone and deep pool protected area; however, there is no designated wildlife protected area in the mainstream Mekong. ThePhnom Prich wildlife sanctuary in the Snoul District bordering with the Mondulkiri Province is outside the project area.As noted previously,fisheries resources management in the Mekong is an ongoing challenge. In addition there are concerns about the impact ofupstream dam development (in Vietnam) and effluent from upstream mining operations (within Cambodia) on water quality. There is anecdotal information that turbidity levels at Kratie haveincreased over recent years and concern that this may impact on the tourist trade.

Climate. The provincial climate can be summarized as follows (a)Cool season: November-March (18-26^{0}C)*;* (b) Hot season: March- May (27 – 35^{0}C); and (c) Rainy season: May - October (26-34^{0}C, with humidity up to 90 percent).

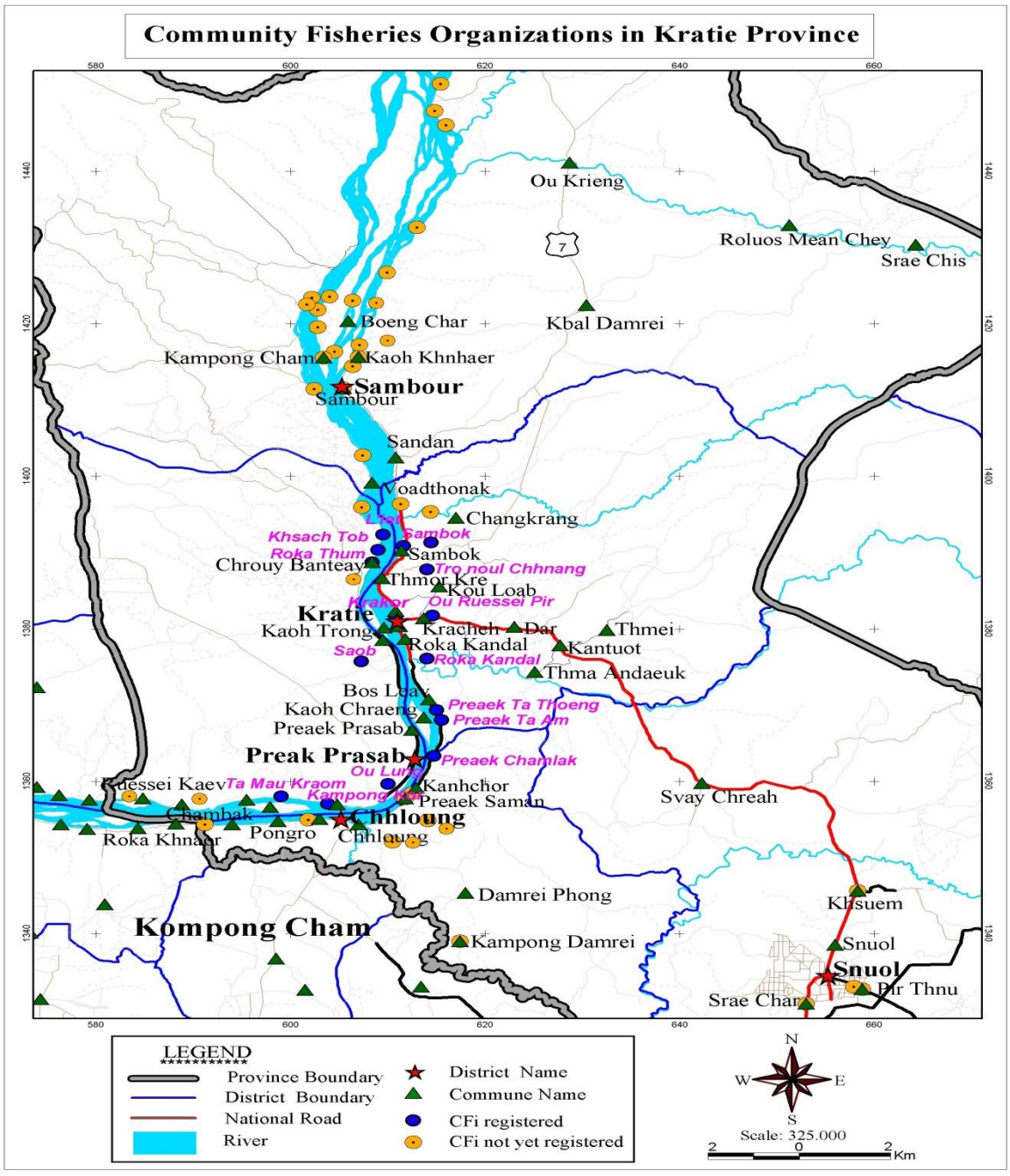

Figure 3: Community Fisheries in Kratie Province

4.2. Stung Treng Province

*General Setting.*Stung Treng is themost northern province of Cambodia and most upstream of the Mekong in Cambodia. Stung Treng, which covers an area of 11,092 square kilometers, is a remote and sparsely populated province in the northeast of Cambodia. It borders Lao PDR(Champasak Province) to the north, Ratanakiri Province to the east, PreahVihear Province to the west and Kratie and Kompong Thom provinces to the south. The province is divided into five districts, 34 communes and 128 villages.

*Population.*There are 22,870 households in Stung Treng, with total population of 112,237. Among these, 12.38 percentof the population comes from 10 indigenous people groups and threeother minority groups, namely: Phnong (652 persons, or 0.58 percent), Kuoy (4,358 person, or 3.88 percent), Stieng (151 persons, or 0.13 percent), Tompoun (17 persons, or 0.02 percent), Charay (3 persons, or 0.003 percent), Kreoung (882 persons, or 0.79 percent), Kavet (3,041 persons, or 2.71 percent), Lun (549 persons, or 0.49 percent), Kachak (3 persons, or 0.003 percent), Praov (591 persons, or 0.53 percent),Khmer Islma (3,170 persons, or 2.82 percent), Vietnamese (437 persons, or 0.39 percent) and Laotian (43 persons, or 0.04 percent).

Economy.Stung Treng's economy is mainly based on fishing. The province is ranked as second in capture fisheries and first for inland fisheries. Similarly to Kratie, many villages are located near the Mekong and its tributariesand rely on the fisheries for food security and livelihoods.

*Ecology and environmental issues.*Stung Treng is characterized by extensive forests, intersecting rivers and streams, and low population density. Stung Treng includes the western sectionof the Virachey National Park.The Stung Treng stretch of the Mekong was initially surveyed for potential nomination as a Ramsar Site in 1994 (Asian Wetlands Bureau 1994). In 1999, it was designated as such and is under the management authority of the Department of Nature Conservation and Protection of MOE. At the site level, the Provincial Department of Environment maintains jurisdiction over the Ramsar Site.The Ramsar site (Figure 4) covers an approximately 37 km long stretch of the Mekong river in Stung Treng Province and incorporates 21 villages, three communes and one Sangkat. Along this stretch of the Mekong River 21 community fisheries at various stages of establishment(see Table 2 and Figure 5). Currently, the proposed hatchery station is located near the Sekong River and about 7 km away from the border of the Ramsar Site. The Ramsar site has two sections with many islands, divided by a single wide, open water channel in the region of Koh Key. The Ramsar site harbors a rich faunal biodiversity that is significant not only in Cambodia but also regionally and globally. Recent surveys (Bambaradeniya *et al*. 2006, Timmins 2006, Boonratana *et al*. 2005, Sarinder Singh 2006, Kong Kim Sreng and Lopez, 2006, Sala Phum, 2006) have documented range-threatened and endemic species occurring within the Ramsar site.

No systematic fish survey has been conducted within the Stung Treng Ramsar site. Over 850 fish species have been recorded from the lower Mekong and Tonle Sap and can be divided into two groups – 'white fish' and 'black fish'. The whitefish require higher levels of oxygen in the water and lower pH than the black fish. They migrate regularly between the Tonle Sap and the upper Mekong and its tributaries entering the Ramsar site when the river rises in the wet season. They thus form the basis for much of the Ramsar site's important fisheries. 'Black fish' are permanent residents of Tonle Sap (Ashwell, 1997). In the most comprehensive survey to date of fishes in the Ramsar site, Vong (2004) recorded 167 species, and many more may be present. Of the total recoded species, 21 species were identified to be particularly important for Ramsar fisheries as specified in Table 2. Figure 5 illustrates the location of CFis in the province.

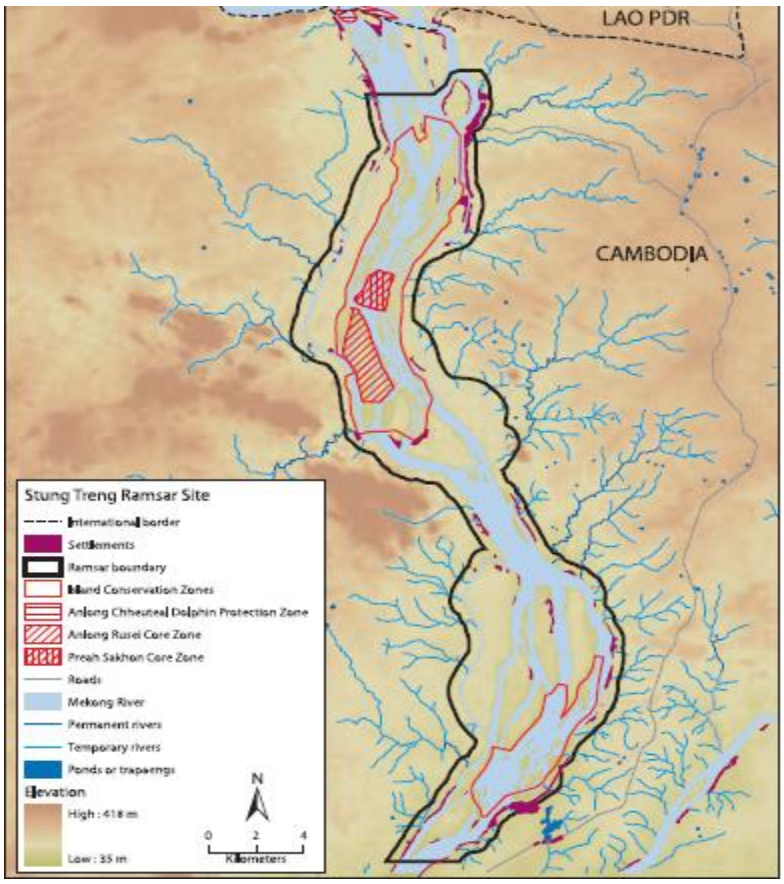

Figure 4: Boundary of Stung Treng Ramsar Site

Table 2: Villages in the Ramsar Site

No.	CFi name	Village	Commune	District
1	Chou Tamoa Meanchey	Kam Phoun Sesan	Kam Phun	Sesan
2	Anloung Svay	Anloung Svay	O'Rei	Thala Borivat
3	Krom	Krom	Pras Romkil	Thala Borivat
4	Kandal	Kandal	Pras Romkil	Thala Borivat
5	Leu	Leu	Pras Romkil	Thala Borivat
6	Krola Preas	Krola Preas	Pras Romkil	Thala Borivat
7	Koh Lngor	Koh Longor	Pras Romkil	Thala Borivat
8	Koh Phnov	Koh Phnov	O'svay	Thala Borivat
9	O'svay	O'svay	O'svay	Thala Borivat
10	O'run	O'run	O'svay	Thala Borivat
11	Koh Key	Koh Key	Koh Sneng	Thala Borivat
12	Chorm Thom	Chorm Thom	Koh Sneng	Thala Borivat
13	Koh Sneng	Koh Sneng	Koh Sneng	Thala Borivat
14	Koh Sralao	Koh Sralao	Koh Sneng	Thala Borivat
15	Koh Cheuteal Touch	Koh Cheuteal Touch	Pras Romkil	Thala Borivat
16	Koh Cheuteal Thom	Koh Cheuteal Thom	Pras Romkil	Thala Borivat
17	Veoun Sean	Veoun Sean	O'svay	Thala Borivat
18	Koh Hib	Koh Hib	O'svay	Thala Borivat
19	Khe	Khe	Sameki	Stung Treng
20	Koh Khondin	Koh Khondin	Sameki	Stung Treng

21	Thmei	Thmei	Sameki	Stung Treng

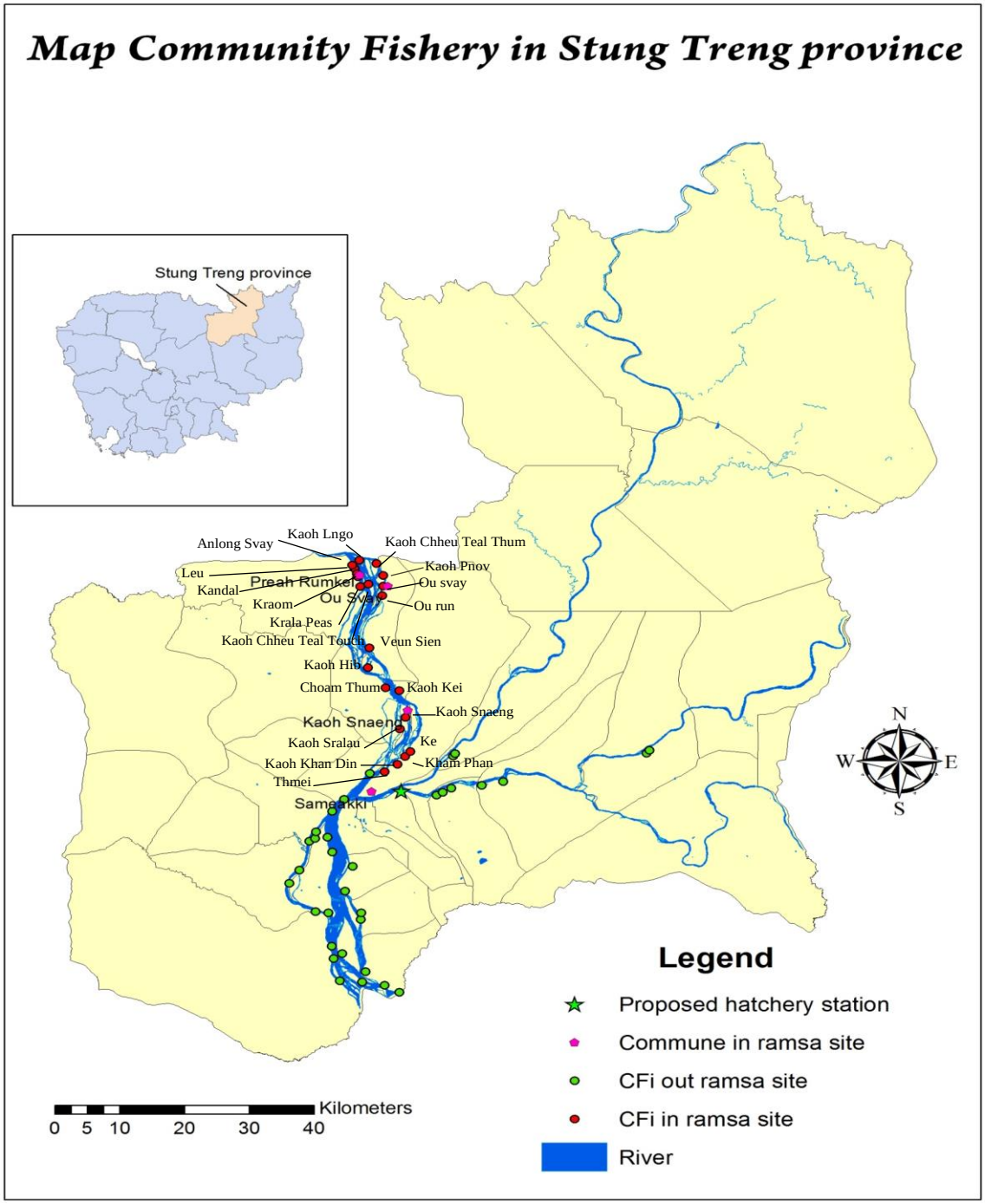

Figure 5: Community Fisheries in Stung Treng Province

4.3. Mondulkiri Province

General Setting. Mondulkiri,with a total area of 14,288 square kilometers, is situated about 375 km from Phnom Penh city on the South-East plateau (approximate altitude is around 200-1000 meters).The provinceborders Vietnam to the East and South, Ratanakiri Province to the North, and Kratie Province to the West. It is both the largest and the most sparsely populated

province in Cambodia. The two main rivers crossing the province are the Preak Chhbar and the PreakTe River. The topography is undulating uplands, mostly upland forested areas with some lowland valley areas.

Population. The total population is 44,913 inhabitants with density of 3.14 person/ km^2. From 2007, the total population within the province had increased by 6 percent in 2008 and decreased from 6 percent to 2 percent in 2009 and then increased again from 2 to 8 in 2010. Among the population, 70.70 percent of the people come from nine indigenous people groups and three minority groups, namely: Phnong (36,992 persons, or 59.46 percent of the total population within the province), Kuoy (23 persons, or 0.04 percent), Stieng (492 persons, or 0.79 percent), Mil (355 persons, or 0.57 percent), Kraol (1081 persons, or 1.74 percent), Thmorn (49 persons, or 0.08 percent), Tompoun (32 persons, or 0.05 percent), Charay (225 persons, or 0.36 percent), Kreang (80 persons, or 0.13 percent) and other minority groups, namely: Khmer Islam (3,455 persons, or 5.54 percent), Vietnamese (87 person, or 0.13 percent) and Laotian (1,130 persons, or 1.82 percent).

Economy. The vast majority of the indigenous peoples living in Mondulkiri are subsistence farmers relying on traditional cultivation methods, hunting and non-timber forest products. Others grow coffee, strawberries, rubber and cashew nuts. These old cultures believe in spirits, derived from their animism beliefs. Production of the famous rice wine, which is one of the best in the country, is also prevalent. There is a small tourist industry which provides a market for indigenous people sell handmade products such as bracelets, necklaces, scarfs, and Kromas (scarf).However, recently economic development in the area has accelerated with the development of natural resource extraction – specifically the mining industry and rubber plantations.

Ecology and environmental issues. Within the province, four major conservation areas have been established, including: (a) Seima Biodiversity Conservation Areawith some portions shared with Kratie Province (305,440 ha);(b) Mondulkiri Protected Forest (429,438 ha);(c) Phnom Prech Lumphat;and (d) Nam Lear wildlife sanctuary. Seima Biodiversity Conservation and Mondulkiri Protected Forests werecreated by a ministerial decree in 2002 and are managed by the Forestry Administration under the jurisdiction of the Ministry of Agriculture, Forestry and Fisheries. The Phnom Prech and Nam Lear wildlife sanctuaries were declared protected areas by a Royal Sub-decreein 1993. Mondulkiri also shares some portions of the Lumphat Wildlife Sanctuarywith Ratanakiri Province and the Snoul Wildlife Sanctuary with Kratie Province. All fourwildlife sanctuaries are under the jurisdiction of the MOE.

The development of mining and rubber plantations has led to some negative impacts, including principally increased land erosion and water quality deterioration, at least locally. Despite the growing deforestation, especially due to the rapidly developing mining industry, Mondulkiri has still one of the biggest successional woodlands of Cambodia.

4.4. Ratanakiri Province

*General Setting.*Ratanakiri is situated on the northeast plateau (approximate altitude is around 200-400 meters), 636 km from Phnom Penh. The province is bordered by Lao PDR to the north, Vietnam to the east, Mondulkiri Province to the south, and Stung Treng Province to the west. The two main rivers crossing the province are the Sre Pok and Sesan River. The total area of Ratanakiri is about 10,782 square kilometers.Until 2002 Ratanakiri was highly

isolated and the process of service provision and integration into the national economy is progressing slowly.

Population. This rural rugged province has a 70 percent ethnic minority population which is known as "Chunchiet." There are a total of 32,947 households representing a population of 156,705. It is found that, from 2007, the total population within the province had been increasing by 5 percent in 2008 and 2009. Of the total population, 71.42 percent come from nine indigenous peoples groups and three minority groups, namely: Phnong (466 persons,or 0.30 percent of total population), Kouy (1 person, or 0.001 percent), Stieng (121 persons, or 0.08 percent), Tompoun (33,506 persons, or 21.38 percent), Charay (24,834 persons, or 15.85 percent), Kreoung (22122 persons, or 14.12 percent), Kavet (2,497 persons, or 1.59 percent), Lun (492 persons, or 0.31 percent), Kachak (4,356 persons, or 2.78 percent), Proav (8,985 persons, or 5.73 percent) and other minority groups, namely: Islam (2,501 persons, or 1.6 percent), Vietnamese (795 persons, or 0.51 percent) and Loatian (11,249 persons, or 7.18 percent). Most of them live in the deeper jungle, on the hills and covered mountains in small separated villages. Usually they make their living through traditional ways of cultivation (shifting agriculture), hunting and collecting fruits from the forest. These old cultures believe in spirits, derived from their animism beliefs.

Economy. The vast majority of the indigenous peoples living in Ratanakiri are subsistence farmers, some grow an additional cash crop such as peanuts or cashews. There area number of wealthy Cambodians and Vietnamese, who own large plantations surrounding the provincial capital of Banlung and plant peanuts, coffee, or cashews. However Ratanakiri is so sparsely populated that the Provincial capital does not have an adequate market to compete with other provinces of Cambodia. Ratanakiri boasts hundreds of square miles of lucrative rubber plantations; the rubber is mostly exported to neighboring Vietnam. Due to the present reconstruction of the Cambodian National Highway 19, which runs through the center of the provincial capital of Banlung, this trade with Vietnam will soon increase. Ratanakiri is endowed with mineral wealth, including gold, gemstones, granite and onyx. The mining industry, although still small scale, is growing rapidly.

Ecology and environmental issues. Within the province, Virachey National Parkwas established in 2004 by the MOE, with coverage area of 3.325 square kilometers; it is the largest National Park among seven others in Cambodia. It offers an incredible insight into the variety of both Cambodia's still existing wilderness and wildlife. Virachey National Park is located within Ratanakiri and Stung Treng provinces. It shares a border with Lao PDR and Vietnam. However, the anticipated project area would not fall into these protected areas/national parks.

As in Mondulkiri, the mining and plantations occasionally create issues of erosion and poor water quality in the streams and the rivers, which can impact on fish stocks.

Climate. Ratanakiri Province has a climate like the other areas in the country, with three seasons: Rainy season: June - October ($<27^0$C); Cool season: November- February ($>24^0$C); and Hot season: March- May: Temperature: from 20 – 32^0C. Ratanakiri's average temperature throughout the year is lower than in the other areas of Cambodia (except Mondulkiri Province).

4.5Water quality in 3S

The water quality of the 3S recorded from four stations during the period from 2004 to 2008 (MOWRAM database, 2004-2008) wasassessed against three main categories of water quality indices:(a) water quality index for aquatic life (WQIal);(b) water quality index for human impact (WQIhi);and (c) water quality index for agricultural use (WQIag). Following the MRC guideline (MRC, 2008), the WQIal was assessed against six parameters:(a) Dissolved Oxygen (DO), (b) pH (measuring acidity/alkalinity), (c) NH3 (ammonia), (d) Conductivity, (e) NO3/NO2, and (f) Total P (Phosphorus).

In general, water quality is good, but there is a gradual trend towards deteriorating water quality, particularly due to nutrients because of the increased economic activity in the upstream areas both within Cambodia and in Vietnam.

Table 3: Water quality at monitoring stations on the Se Kong, Se San, and Sre Pok

Water quality parameters	**Sekong Siem Pang**	**Sesan Andoung Meas**	**Sesan Plum Pi**	**Sre Pok Lumphat**
Temp (^{0}C)	28.5	27.8	27.8	28.5
pH	7.1	7.2	7.2	7.1
TSS (mg/L)	46.123	33.808	33.808	42.402
Cond (mS/m)	5.357	4.000	4.611	6.005
Ca (meg/L)	0.220	0.131	0.180	0.214
Mg (meg/L)	0.161	0.098	0.100	0.158
Na (mg/L)	0.131	0.132	0.137	0.174
K (mg/L)	0.025	0.040	0.042	0.041
ALK (meg/L)	0.435	0.295	0.316	0.432
Cl (meh/L)	0.028	0.295	0.109	0.057
SO_4 (meg/L)	0.080	0.080	0.109	0.100
NO_2-N(mg/L)	0.075	0.107	0.100	0.205
NH_4-N (mg/L)	0.038	0.039	0.039	0.040
TOTP (mg/L)	7.353	0.069	0.043	0.089
DO (mg/L)	2.820	7.740	7.641	7.664
CONDMN (mg/L)		2.091	3.387	3.238

Source: MOWRAM (2004-2008)

Notes: The parameters shown in this table are as follows: Temp (temperature); pH (Phosphorus); TSS (Total Suspended Solids); Cond (Conductivity);

V. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT

As stated in the previous section, the project was assigned Category B and triggered five safeguards policies: *Environmental Assessment (OP/BP 4.01)*; *Indigenous Peoples (OP/BP 4.10); Involuntary Resettlement (OP/BP 4.12); Natural Habitats (OP/BP 4.04)* and *Projects on International Waterways (OP/BP7.50)*. Given the project's objective and scope, it is anticipated that project activities will not cause significant negative environment and/or social impacts. An initial environmental and social examination (IESE) was conducted in accordance with RGC requirements.Key safeguards issues and actions to be undertaken to mitigate adverse impacts during the project implementation are summarized below:

5.1. Potential environmental impacts and mitigation measures

5.1.1 Potential environmental impacts during construction

Any investment activity/subproject that involves civil works has the potential to generate negative environmental impacts such as dust, noise, wastes, accident risks, etc. Project activities suggested that the activities related to civil works would be limited to; (i) construction/installation of hydrological observation stations within the 4P sub basin and along the Sekong and Sesan Rivers (Component 2) and (ii) rehabilitation of existingcritical rural infrastructure (e.g., village access roads, foot bridges, etc.) and construction of a small hatchery in Stung Treng(Component 1).

All potential negative impacts associated withabove-mentioned civil works, which are of small scale, will be minimized through the application of good engineering practicesand environmental codes of practices that would provide measures to reduce dust, noise, and waste generations as well as by keeping nearby communities informed. If a proposed activity or subproject requires a specific EA document in accordance with national environmental law, the CNMC (for Component 2) and FiA (for Component 1) will prepare appropriate documents and secure clearance from the MOE as well as the Bank. Any large-scale activity/subproject that requires a full Environmental Impact Assessment (EIA) by the Government and the Bank will be considered as an ineligible subproject/activity. Good engineering practices and environmental codes of practices (ECOPs) that will be included in bidding documents or contracts are given in Annex 4 to this ESMF.

5.1.2 Potential Environmental Impacts on Critical Natural Habitat

The overall impacts are expected to be positive as the project aims to establish sound fisheries management. Component 1 aims to support CFi to develop own fisheries management plan. This would help the Government's effort to identify and explore the possibilities for establishing bio-diversity conservation zones in the mainstream Mekong, particularly along the 'deep pools' which are considered to be critical for some endangered species. Component 2 aims to address the water quality issue and make water resources management more sustainable through participation of stakeholders in river basin management, an improved knowledge base and strengthening the capacity of the provincial government (PDOWRAM) to monitor and analyze water resources, including water quality.

Implementation of Component 1 for Cambodia will involve the Ramsar Site within Stung Treng. As stated in Section II, the 21 villages within the Ramsar site have been identified as potential target villages. Special attention will be given to ensure that the activities within the Ramsar Site, such as rehabilitation of rural infrastructure, will be undertaken with the highest care and in a manner consistent with the management plan of the site. Activities will also be undertaken in close coordination with the MOE, which is responsible for site management, and the WWF, which is currently providing technical and financial support for the Ramsar site.The project would only support the rehabilitation of existing foot paths, bridges, schools and clinics (no new construction);these are permissible activities under the current draft Ramsar Site Management Plan. The proposed investment must be approved by the communes and be included in the commune development plan. The project will not support investments that have the potential to cause significant conversion or degradation of natural habitats, directly or indirectly. Once the rural infrastructure investments are identified for any of these 21 villages, the proposal and the site-specific ECOP will be sent to the MOE for review and concurrence prior to the commencement of the procurement of the civil works contractors. The FiA will prepare a report every quarter and provide it to the Bank for its review. MOE will also send a representative to the National Steering Committee. In this way, the project will ensure full compliance with the OP/BP 4.04 (Natural Habitat).

The conservation areas in other target provinces are located in forest areas and away from the physical investments (hydromet stations) to be carried out by Component 2.

5.1.3 Potential Environmental Impacts from the operation of the hatchery.

An environmental screening was conducted and confirmed that the Hatchery subproject is not located within the Ramsar Site (see Figure 4). The Hatchery is about 7 km away from the border of the Ramsar Site. The potential environmental impacts from the operation of hatchery planned in Stung Treng include: (a) impacts from the potential floods; (b) wastewater and sediment discharge from the hatchery; (c) disposal of sludge; and (d) impacts on wild stock's degeneration. The environmental assessment concluded that these four impacts are not significant and can be mitigated by proper measures.

- First, the hatchery has been designed to recycle the water to the extent possible and minimize the amount of discharge. The feasibility study estimated that annual discharged water is about 250 cubic meters, which is less than one four-thousandth of the annual flow of the Sesan River, into which the discharged water would flow. Most of the pollutants of the discharge water are organic matters, which would be removed by the through nutrition stripping ponds installed in the hatchery premise through which the discharged water will run before discharge. The sediments will accumulate and the hatchery needs to be cleaned from time to time (semi-annually) by the operation unit under FiA. However, the volume of the sediment is not large (less than 1 cubic meter per year) and can be disposed of in a designated area within the hatchery. An agreement with the local authority and people on a suitable disposal site is necessary before the works start. However,it is anticipated that the sediment would be dried out and used for agriculture production if toxicity results are within the admissible limits, as is the practice in Thailand. No harmful chemical (pesticide or herbicide) would be used in the hatchery operation.

- Second, there is a general concern that the hatchery would have impacts on the indigenous species. It should be noted that the hatchery will only support indigenous species, not

exotic species; furthermore, the spawner fish would be periodically rotated from captured fish so that there will be no impacts on genetics.

A simple environmental management plan (EMP) has been prepared for the hatchery construction and operation stages to define the design parameters and operational procedures and to minimize any potential environmental impacts, according to the format attached in Annex 2.

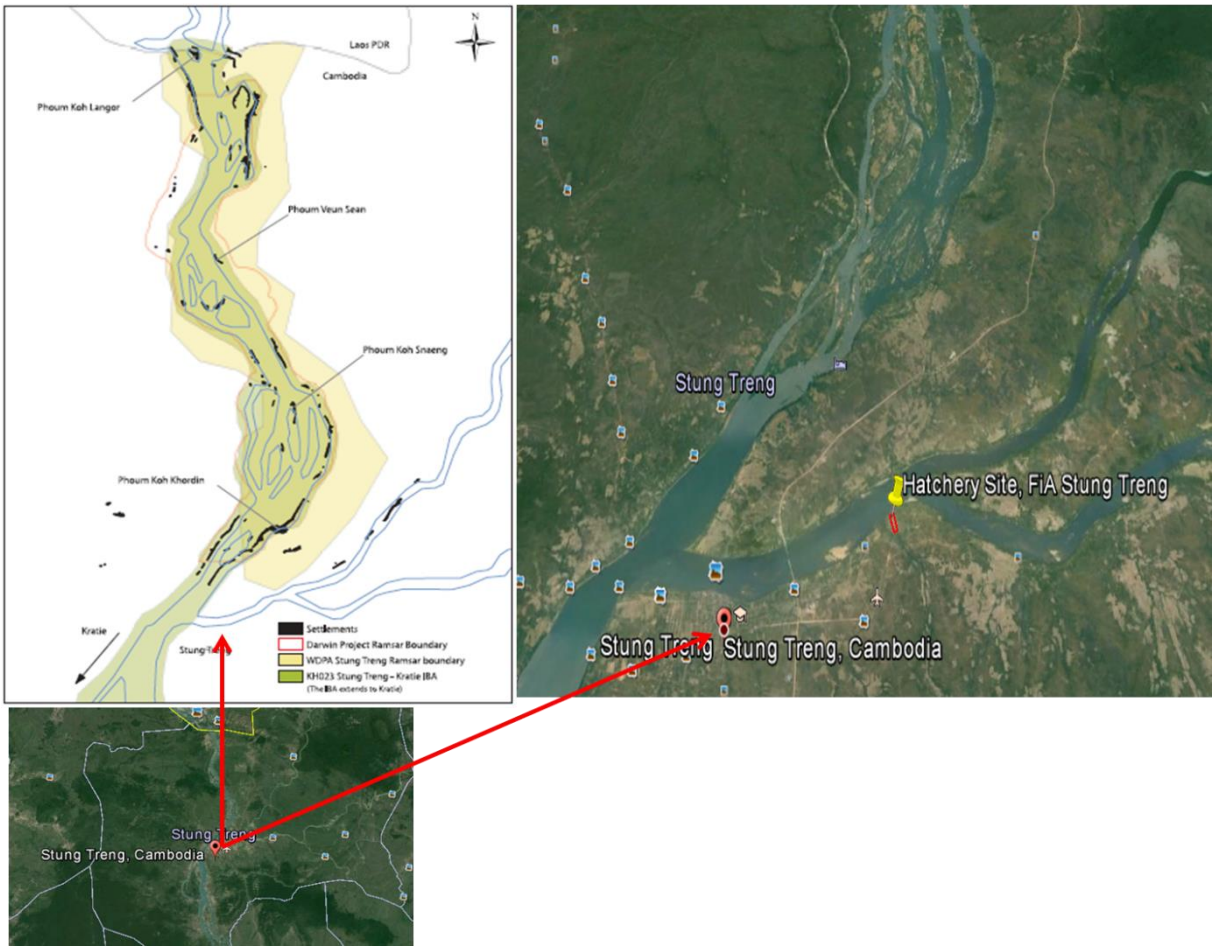

Figure 6: The Hatchery Site in Stung Treng

5.2. Potential social impacts and mitigation measures

5.2.1. Indigenous Peoples

Implementation of Component 1 will involve indigenous peoples. The project will follow the key principles of the WB's policy concerning indigenous peoples (OP/BP 4.10), which are to ensure that:(a) the consultation process constitutes free, prior and informed consultations leading to 'broad community support';(b) indigenous peoples do not suffer adverse impacts during the development process; and (c) they receive "culturally compatible social and economic benefits." Indigenous Peoples, as used for the M-IWRM for Cambodia, includes those who are living in Stung Treng, Kratie, and Mondulkiri provinces and may include Khmer, Laotian, Kavet, Kuoy, Vietnamese, Chinese, Phnong, Lun, Brao, Kreung, Chams,

Tum Puon, Kachock, and Jarai. An Indigenous Peoples Planning Framework (IPPF) has been prepared as a standalone document to provide guidance on preparation of an Indigenous Peoples Development Plan (IPDP) including a consultation process and mitigation measures when indigenous peoples are involved. In this project, the IPDP will be prepared on an annual basis and at the provincial level.

5.2.2. Resettlement and Land Acquisition

The Project will not involve resettlement or large amounts of land acquisition, but may require small amounts of land for rehabilitation of the critical rural infrastructures, rehabilitation/construction of a small hatchery in Stung Treng, and rehabilitation/construction of hydrological monitoring stations. A Resettlement Policy Framework (RPF) has been prepared as a standalone document to mitigate negative impacts when land acquisition is involved. The RPF define the definition of Project Affected Persons (PAPs), eligibility and entitlements, content of Resettlement Action Plan (RAP), and the consultation process, including grievance procedures and monitoring requirement. The Resettlement Action Plan is based on up-to-date and reliable information about: (a) the proposed investment and its associated impacts on the displaced persons and other adversely affected groups;(b) the legal issues involved in resettlement; and (c) mitigation measures including compensation, assistance, and resettlement supports. In this project, the RAP will be prepared on an annual basis and at the provincial level.

Voluntary land donation will be allowed only when it meet the description in the RPF.

5.2.3. Resource Access Restriction

Implementation of the fisheries management under Component 1 may restrict access to resources, notably through efforts to enforce national laws or local regulations in protected and/or conservation areas. This concern has been considered during the Project design and provision of small scale livelihood demonstration activities has been included in the component. During pre-appraisal the following approach was accepted, in principle, by local communities and local authorities as well as local and international non-governmental organizations active in the project area:

- First, better fisheries management would benefit the local communities in the long run by establishing sustainable fisheries management;
- Second, the fisheries management plan would be developed through full participation and ownership of the respective communities; and
- Third, the Project also envisages provision of livelihood development options (which will be selected through participatory planning with affected populations) in order to mitigate potential negative impacts.

The implementing agencies of this component will finalize the activities following this approach and keep proper documentation and filing. If the affected population is part of an ethnic minority group, as defined by OP 4.10, consultation will follow the principle and process described in the IPPF and proper documentation and filing will also be required. Special attention will be given to minimize negative impacts on women and other disadvantage groups.

5.2.4. Gender

During project preparation, attention has also been given to encourage women to play an active role in the consultation process. During implementation effort will be continued to make sure that women are: (a) consulted and their concerns will be addressed; (b) consulted and trained on chosen livelihoods that would restore their income and improve their living standards;(c) given the opportunity to be represented at the community group meetings, focus-group discussions, planning and implementation; and (d) represented equally in the Grievance Redress Committees (GRCs).

VI. ESMF PROCESS

6.1 Objectives

The main objective of the ESMF is to ensure that the subprojects and activities to be financed under the Project would not create adverse impacts on the local environment and local communities and that the residual and/or unavoidable impacts will be adequately mitigated in line with the WB's safeguard policy. Based on the potential negative impacts and mitigation measures described in Section V, the ESMF process has been designed for threekey actions: (a) screening for the subprojects, (b) implementation arrangements, and (c) responsibility of relevant agencies. This ESMF process is included in the Project Operation Manual (POM).

6.1.1. Screening for the subprojects

For the identified subprojects, the screening process will be adopted to ensure that no significant social and/or environmental impacts would be caused. The checklist is described in Annex 1 to this ESMF. The checklist first screens out the location of the investments – whether the investments are planned within the Ramsar Site or aprotected area, whether there is involvement of unexploded ordnance (UXOs), and potential impacts on cultural heritage, etc.As stated inthe remarks in the checklist, no new investments will be carried out within the protected area or if considered to impact the cultural heritage. Furthermore, within the Ramsar site, no new investments would be carried out. The checklist will also cover social issues such as potential resettlement, conflict over land tenure, as well as climate change and disaster risk issues to ensure long-term sustainability of the investments.

Cambodia was subjected to heavy bombing during the Indochina war as well as extensive ordnance utilization during internal conflict, resulting in a safety risk of unexploded ordnance. UXOsarea critical impediment to agricultural development and land utilization. As part of the overall consultation process and initial screening process, a rapid assessment will be carried out with the communities to identify possible UXOs, their locations and potential safety risk. If a safety risk is present, the project staff will contact Government agency responsible for UXO clearance and request for assistance in developing a simple plan to clear the UXO, and the removal of the UXO can be done by only qualified entities authorized by the Government. Only after the actual clearance of the UXO, with certification from the qualified entities engaged in the removal of the UXO, will the Project provide support for the proposed activity.

For the hatchery planned in Stung Treng, a simple Environmental Management Plan has been prepared to describe principle for design, and regulation for the operation (including cleaning, disposal of sediments, permissible species) to minimize the potential negative environmental impacts. The outline of this simple EMP and the draft are included in Annex 2of this ESMF.

At the time of the appraisal, the location of the hatchery in Stung Treng and a small office building of the provincial Fisheries Administration is known; however, for the following investments (subprojects), the exact location and scope of works (for Component 1-1) will be determined during the project implementation period.

- Under Component 1-1, rehabilitation or new construction of rural infrastructure will be carried out. The selection of the target Communities Fisheries would be carried out during

the implementation period. Once the target villages have been selected as part of the annual planning process, consultation with the Communities Fisheries (CFi) and the concerned commune governments will be carried out to identify the priority investments according to the approved Commune Development Plan.

- Under Component 2-3, construction of new hydromet stations as well as rehabilitation of the existing hydrological stations and metrological stations are planned. The exact location of the hydrological stations will be determined once the feasibility study is completed.

6.1.2.Implementation arrangements

FiA and CNMC have been assigned to take the lead in overseeing and monitoring of the implementation of the projectand will periodically supervise and monitor the safeguard implementation performance and include the progress/results in the Project progress report.During Project implementation, FiA and CNMC will be responsible for ensuring effective implementation of safeguard measures (annual RAPs, IPDPs, EMP/ECOPs) in close consultation with local authorities and local communities

The WB will conduct regular safeguard supervision, monitoring, and post review both at the subproject and Project levels.

6.1.3. Responsibilities

FiA and CNMC are overall responsible for monitoring and evaluation of project safeguards compliance and report to the Bank. FiA and CNMC are responsible for preparation of annual RAP and IPDP and provision of safeguards trainings for staff, field engineers/construction supervision consultants and contractors. FiA and CNMC ensure that contractors are compliant with EMP and ECOP. Field engineers and/or construction supervision consultants will help FiA and CNMC to monitor contractor's compliance with environmental covenants. Local authorities and communities are encouraged to participate in monitoring program. Further details are given in the section on institutional arrangements.

6.2 Detailed Assessment

After completing the screening, the FiA (Component 1) and CNMC (Component 2) will carry out the detailed analysis to determine the potential impacts of the proposed investments according to the criteria stipulated in the Table 4 below.

Table 4: Safeguard Issues and Measures to Be Taken

Potential negative impacts	Required mitigation actions
(1) Permanent or temporary loss of land or resources for any families, including restriction of access to natural resources and/or impediments to movement of people and	Identify the amount and nature of land required, owner, and/or other issues and prepare an annual Resettlement Action Plan (RAP) to provide compensation and/or assistance following the Resettlement Policy Framework (RPF).

animals (Includes patrolling activities)	The project will support to increasing awareness of PAPs about the Grievance Redress Mechanism, and building capacity of the existing Grievance Redress Mechanism on the required tasks, including dealing or mediating complaints, recording/reporting and monitoring proposed resolutions.
(2) Potential social conflicts arising from land tenure and land use issues and/or in water rights or related social conflicts	Develop a mitigation measure for conflict resolution through close consultation with stakeholders and placed within Project processes, inherently community-based and collectively managed, not precluding the involvement of third-party/external mediators. Develop Village Resources Use Agreement. Using existing local Conflict Management mechanisms, that most likely led by senior/elderly respected persons, or leaders of IP/Ethnic Minority groups.
(3) Likely to adversely affect indigenous peoples.	Carry out social assessment process through free, prior, and informed consultations and. Prepare an annual Indigenous Peoples Development Plan (IPDP) in accordance with guidance in the Indigenous Peoples Planning Framework (IPPF). The project will support to increasing awareness of PAPs, in respective languages of IP groups, about the Grievance Redress mechanism, and building capacity of those involved in existing Grievance Redress Mechanism on the required tasks, including dealing or mediating complaints from IP individual/groups, recording/reporting , and monitoring proposed resolutions.
(4) Activities may cause adverse impacts such as air and water pollution, noise nuisance, soil erosion, and human health risks; impacts on natural habitats and physical cultural resources; UXO risk; activities in Ramsar Site	Conduct screening through application of REA checklist (see Annex 1) Apply good engineering practices and environmental codes of practices (see Annexes3 and 4) and development of a simple EMP for construction of a new hatchery(see Annex 2) under close supervision and monitoring by the executing agency, CMUs and local government and communities; Consult with local government and communities to address EA-related issues in a timely manner. In case of involvement of UXO risk, contact responsible agency, jointly prepare for a UXO clearance plan and complete the clearance according to the plan before conducting project activities Develop guidelines to develop mitigation measures to minimize/avoid damage to natural habitats and physical cultural resources

	Strictly comply with Ramsar Site Management Plan and closely consult the MoE and WWF.
(5) Opportunity to enhance environmental benefits, and mainstream environmental issues through trans-boundary dialogue	Under Component 1 of M-IWRM1 (see Table 1), there is an activity to support trans-boundary dialogue managed by the MRC. The fisheries management and IWRM in 3S have been identified as key topics under that component.

Lastly, the above-mentioned flow is summarized in the Figure 7 below.

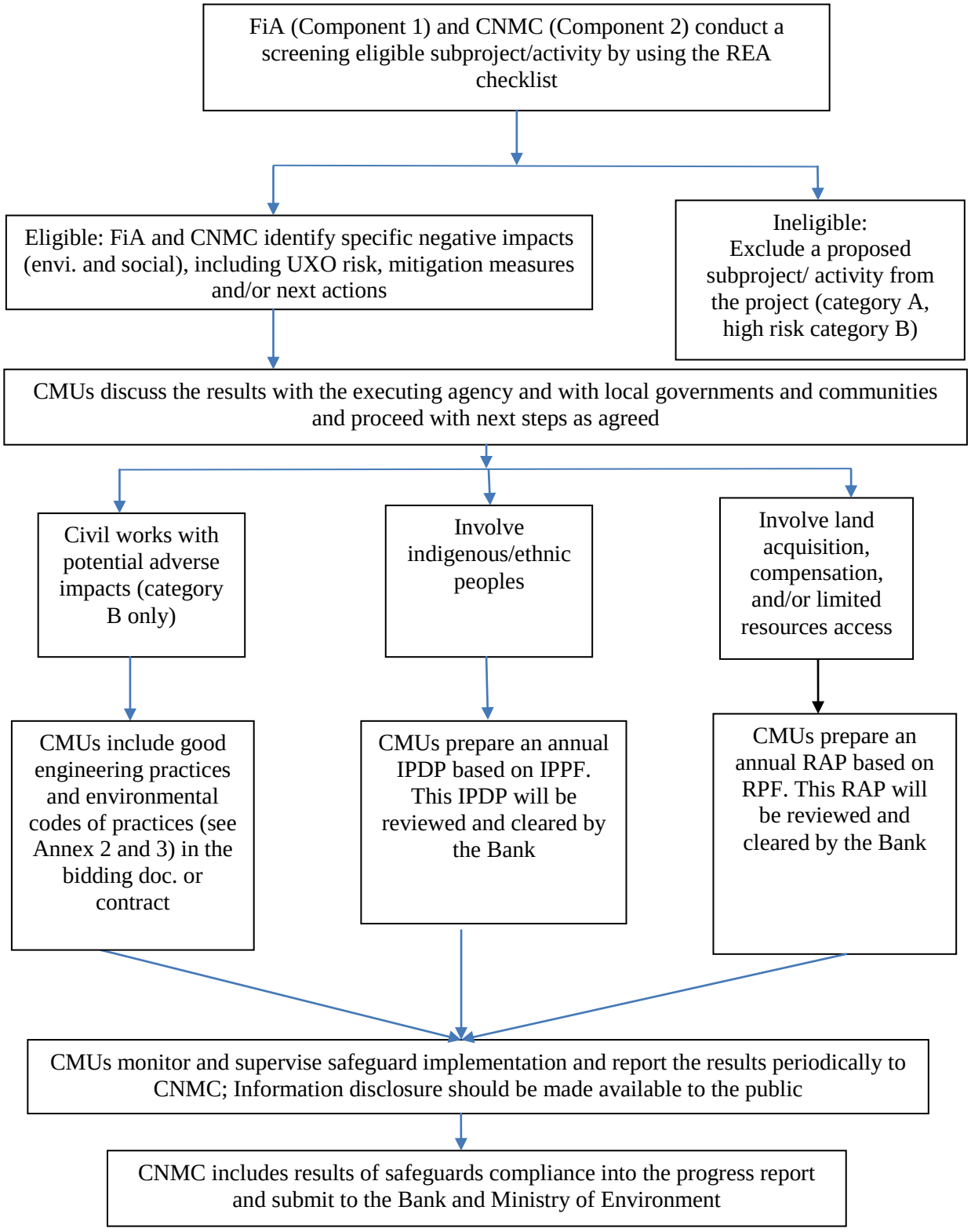

Figure 7: Flow Chart of the Screening process

VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

The process of developing the proposed project is based on extensive consultations with various stakeholders, mainly with local governments and villagers. A series of consultations were carried out in Kratie and Stung Treng provinces since January 2010 in conjunction with the preparation of M-IWRM1 to confirm the interest and support of communities in the project, and to take their views into the project design.Additional public consultation took place in early 2011 to present the planned activities under Component 1 and the proposed safeguards documents. A follow-up public consultation with stakeholderswasconducted by CNMC and FiA in early December 2013in Kratie province to inform them of the entire project activities as well associal and environmental impacts including potential positive and negative impacts as well as measures to enhance social and environmental benefits and avoid/mitigate/compensate potential negative social and environmental impacts. The public consultation confirmed overall broad support for the project, and all comments and suggestions from the key stakeholders have been incorporated into the preparation of ESMF, the RFP, and the IPPF (see Annexes 4 and 5).

On 3-4 December 2013, a workshop was held with all key stakeholders, including representatives of 20 selected CFis, relevant national and provincial government officers, local NGOs and International Organizations (including representatives from the WWF) who are currently working on the fisheries sector and on water resources management inthe project provinces. The specific objectives of the workshops included: re-confirming the social and environmental safeguard documents which wereprepared in2010; discussing potential changes from 2010 to 2013 within the target fisheries community in Stung Treng and Kratie provinces; and introducing component 2 on river basin management at the 3S and 4Psub basins.

The consultation workshop on preparation for the project was conducted on 25 and 27 March 2014 in Kratie and Stung Treng respectively.The purpose of the workshop is (i) to disclose the project's information including safeguards-related documents prepared by the Fisheries Administration (FiA) to the concerned stakeholders namely the CSOs and FCs, (ii) to raise awareness on the project intervention among the direct and in-direct beneficiaries, (iii) to collect any lesson learned about success and failure of FCs and integrated water resource management, and (iv) to discuss how to sustain them

In relation to the IPPF and RPF, some of the concerns cited by the participants were as follows: (a) completion of a survey is required in all villages to ensure that issues of vulnerable groups have been taken into account, particularly during the process during the process to re-establish the Community Fisheries; (b) small-scale rural infrastructure within the targeted fisheries communities would make negative impact on the villagers; if there are impacts on private properties, there is a need to discuss the matter with relevant agencies and provide compensation to affected families, if needed; (c)the culture of Kuy people should berespected; and (d) livelihood alternatives should be providedincluding technical and financial support.

The information generated from the secondary data collection and inputs gathered from the consultation meetings yielded valuable data that could feedback into project design. In particular, the contents of the IPPF and RPF have been enhanced with the views and perspectives shared by the participants. Mitigating measures on potential adverse impacts as

identified by the participants could likewise be considered. For instance, to guide land acquisition and mitigation of resources access restriction, the RPF, which provides process and technical guidelines when land acquisition and/or restriction of resources access are involved could benefit from the information shared by the participants. They suggested that there should be proper conduct of social and environmental impact assessment within the target sites in the four provinces. All stakeholders at national, sub-national and local community levels should be well involved and informed. A proper structure must be established to implement the project effectively. In addition, implementing an annual action plan following to project's master plan would be helpful. The project could organize regular annual meetings to reflect on new challenges and assess accomplishments during of project implementation. The project design must include capacity building of project staff, local community and other relevant stakeholders. Meanwhile, an independent audit could provide credible assessment of project progress.

The IPPF has likewise benefited from the results of the discussions where the importance of the language, culture and way of life of indigenous peoples was stressed. The participants pointed out that different indigenous groups share traditional lifestyles which could help mitigate or minimize potential impact on their culture, if any.

All safeguards documents prepared during project implementation will also be disclosed locally in Khmer language and will be accessible to affected peoples in accordance with the World Bank policy on Access to Information before commencement of respective subproject activities/works.

VIII. INSTITUTIONAL ARRANGEMENTS

During project implementation, the project's environmental and social safeguard management will be implemented in accordance with the ESMF and the relevant social safeguards documents. To assure good implementation of relevant policies; the roles and responsibilities of relevant agencies, the need for training, the mechanisms for monitoring and reporting, setting up communication program and grievance redress mechanism are specified during project preparation. The role and responsibility of responsible units for implementing social safeguards policies are given in respective social safeguards instruments such asthe RPF and IPPF.

8.1. Responsibility

Overall responsibility for the compliance with the ESMF rests withthe executing agency (CNMC); however, the implementation for Component 1 will be delegated to the Fisheries Administration (FiA).The FiA and CNMC will recruit separate safeguards coordinators to be the focal point for each component. The safeguards coordinators will be responsible for implementing the safeguards instruments in consultation with the local authorities, CFis, and NGOs.

As part of the periodic reporting, safeguards compliance information shall be compiled by the CNMC, which will submit the report to the Bank and the MOE. Information regarding the safeguard measures and performance should be made available to the public. The WB will periodically conduct safeguard supervision and monitoring, normally once every six months.

The FiA and CNMC shall engage local communities, especially affected people, who are encouraged to participate in monitoring and supervision of the project implementation to the extent possible.Details are given in Table 5.

Table 5: Responsibility for environmental safeguards performance

Community/agencies	Responsibilities
FiA and CNMC	- FiA and CNMC will establish CMUs to manage respective components. CMUs will set up an Environmental and Social Unit (ESU) responsible for forging effective and timely implementation of safeguard activities and assign one senior staff and at least one full time safeguard staff to be responsible for managing and monitoring of the environmental and social impacts of the subproject throughout the Project implementation. Main responsibility of the ESU will include, but not be limited to:(a) forging compliance, including supervision and monitoring of all environment and social aspects;and (b) being responsible for overall coordination of the subproject RAP, IPDP, EMP/ECOP implementation. Safeguard coordinators may be hired by CMUs to assist ESU in performing its tasks. Information regarding the safeguard measures and performance should be periodically disclosed to the public.

CSC and/or Field engineer	- Assist the subproject owner in the routine supervision of contractor performance in line with the environmental covenants, including reporting and maintaining close coordination with local authorities and communities.
Contractor	- Take actions to mitigate all potential negative impacts in line with the objective described in the ECOP and/or EMP. - Actively communicate with local residents and take actions to prevent disturbance during construction. - Ensure that all staff and workers understand the procedure and their tasks in the environmental management program. - Report to the subproject owner on any difficulties and their solutions. - Report to local authority and the subproject owner if environmental accidents occur and coordinate with agencies and keys stakeholders to resolve these issues.
Local authorities and communities	- Participate in the process of subproject preparation and ensure that their views are taken into account. - Monitor contractor's activities in terms of safeguards policies compliance. - Report problems to CSC/field engineers

8.2. Capacity development and training

Training on safeguard principles and instruments -- such as the RPF; IPPF; ESMF and Project Operation Manual -- will be provided to the project staff and local authorities during project implementation. This is to ensure that: (a) the proposed project activities will be properly screened through the ESMF; (b) good engineering practices and environmental codes of practicesare included in the bidding documents and contracts and supervision and monitoring of the contractor performance is conducted by the supervision consultant; and (c) close consultation with local agencies and communities is carried out throughout project planning andimplementation. The project will provide safeguard training to the implementing agencies and at least one training session at the inception and one training/year during the following years. A total of US$80,000 has been allocated from the budget of Components 1 and 2 to support safeguard training. Below are the proposed trainings to be conducted prior and during project implementation:

- *Training on Environmental and Social Assessment, Appraisal and Management*. Stakeholders would require capacity building inputs to help them understand the social risks attached to different investments and the appropriate environmental and socials mitigating measures that can be taken to minimize impacts on the target-community and neighboring areas. In addition, they would require training to equip them with skills they can use to appraise sub-projects on key environmental and social criteria and ensure that they are environmentally and socially sound based on the ESMF that encourages in preparing strong monitoring and management plans.

- *Training on consultations and surveys*is important so that all understand the importance in the processes linked to community participation,

communitymobilization, census surveys, baseline surveys, etc. Training on consultation processes for specific subprojects and exposure to various participatory methods of consultation can be imparted by consultants. The training should concentrate on increasing participation and transparency in project planning and implementation.

- *Training on Safeguard Policy, Resettlement and Rehabilitation.*Another very essential requirement is addressing environmental and social safeguard issues during project implementation. Stakeholders, particularly those managing implementation at the provincial level,need to build capacity in this regard. This could include information on related laws and legislations, National and World Bank safeguard policies, methods of implementation, valuation of assets, grievance redressal, preparation and implementation of short Environmental Management Plan (SEMP), IPDP and RAP that may be requiredduring project planning and implementationin.

- *Training and Capacity Building for Gender Awareness and Participation.*Capacity building activities will be provided for relevant stakeholders to increase gender awareness and support gender mainstreaming in project activities.. Trainings to support women members of village development committees (VDCs) would be provided. Also, some meetings and activities would be gender segregated to encourage participation of all groups in project activities and increase the participation ofwomen in village decision-making.

8.3. Communication Strategy

The project has been designed to promote and strengthen village-based community fisheries (CFi) and to support improved river basin management with participation of the key stakeholders. In order to fully exploit the potential benefits of the project, the following communication strategy, focusing on direct participation and two way communication, has been developed. A total of US$60,000 has been allocated to support the implementation of the communication strategy under the project.

- For Component 1, the communication to the CFis would be made in terms of annual workshops which would be carried out in Kratie and Stung Treng Provinces. More than 110 CFi were established many years ago in these provinces but the lack of technical and financial support from the local government made it difficult for the poor communities to maintain these positive efforts. CFis will also benefit not only from the direct support (rural infrastructure, livelihood activities, preparation of regulations), but also from the hatchery, research and training activities.

- For Component 2, improved river basin management will include stakeholder workshops disseminating the outcomes of the project and getting feedback from stakeholders regarding the prevailing water resources issues in terms of social and environmental aspects. The workshops will also strengthen the voice of local stakeholders in decisions on water resources planning, which will impact on their livelihoods.

In addition, the methods of radio broadcasting of commune/district, television, and especially leaflets in Khmer language will be applied to reach out to particularly remote areas where there is limited access to the workshops.

ANNEX 1.RAPID ENVIRONMENTAL ASSESSMENT CHECKLIST

Questions	Yes	No	Remarks
A. Subproject Siting Is the subproject area adjacent to or within any of the following environmentally sensitive areas?			
Cultural heritage site			No investment will be made affecting cultural heritage sites, including temples and graveyards.
Protected Area			Within the Ramsar site, no new construction of rural infrastructure shall be supported.
Wetland nearby			
Buffer zone of protected area			
Special area for protecting biodiversity			No new investment will be made in the protected area
Could the subproject potentially involve UXO?			If yes, engage the qualified entities for further investigation
B. Potential Environmental Impacts Will the Project cause…			
noise from construction equipment?			
dust during construction?			
poor sanitation and solid wastes disposal in construction camps and work sites and possible transmission of communicable diseases from workers to local populations?			
creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			
increase in soil erosion and siltation?			
increase in risks due to rehabilitation or construction of dams?			
increase in peak and flood flows?			
loss of downstream beneficial uses (water supply or fisheries)?			
impairment of ecological and recreational opportunities?			

Questions	Yes	No	Remarks
impairment of beneficial uses of traditional forests?			
any loss of precious ecology?			
possible conflicts with established management policies?			
dislocation or involuntary resettlement of people?			No investments will be carried out involving involuntary resettlement
loss of downstream ecological and economic functions due to any construction of social infrastructure (e.g., road, training or information center, office or housing)?			
displacement of people or reduce their access to forest resources?			
disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
uncontrolled in-migration, including the influx of workers and their followers, with opening of roads to forest area and overloading of social infrastructure?			
unnecessary loss of ecological value and decreased biodiversity by replacement of natural forest with plantation with limited number of species?			
technology or land use modification that may change present social and economic activities?			
ecological problems as well as community health and safety hazards due to land clearance prior to reforestation (e.g., soil erosion, disruption of hydrological cycle, loss of nutrients, decline in soil fertility)?			
other ecological problems as well as community health and safety hazards (e.g., pollution of water bodies from fertilizers, pesticides, and herbicides used in the plantation)?			
dangers to a safe and healthy working environment due to physical, chemical and biological hazards during project construction and operation?			
social problems and conflicts related to land tenure and resource use rights?			
social conflicts if workers from other regions or countries are hired?			

Questions	Yes	No	Remarks
risks to community health and safety due to the transport, storage and/or disposal of materials such as explosives, fuel, pesticide and other chemicals during construction and operation?			
C. Climate Change and Disaster Risk Questions			
Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes			
Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost?			
Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			
Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)?			

ANNEX 2. OUTLINE OF SIMPLE ENVIRONMENTAL MANAGEMENT PLAN FOR THE HATCHERY SUBPROJECT

1. Subproject description- provide brief but concise information on subproject (e.g., subproject name, subproject scale, subproject owner, construction schedule, and a layout)

2. Potential impacts and mitigation measures – provide results of the safeguard screening following the criteria in the ESMF, identify potential impacts (positive and negative) and mitigation measures; the impacts should be described for pre-construction, construction, and operation phases; using a matrix format could help understanding connection between the impacts and mitigation better.

3. Monitoring – Environmental monitoring during subproject implementation providesinformation about key environmental aspects of the subproject, particularly the environmental impacts of the subproject and the effectiveness of mitigation measures. Monitoring provides (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate articular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

4. Implementation arrangement– explain responsible agencies (including their capacity to carry out the activities identified in the EMP and the need for training), implementation schedule, cost estimate, and how the EMP will be integrated into the subproject.

5. Consultation and information disclosure – provide summary on consultation activities and stakeholders on the EMP (this can be combined with RP) and concerns raised and responses. Locations and dates of EMP to be disclosed should be provided.

ANNEX 3. GOOD ENGINEERING PRACTICES

Good engineering and housekeeping practices

The practice of housekeeping involves proper storage, use, cleanup, and disposal of the various materials used during construction for human and environmental safety. The following good housekeeping practices are required for all MIWRM3-funded activities:

DO:

1. Limited working hour during the day time, especially in residential areas, and control driving speed;
2. Minimize earth excavation and appropriate disposal of spoil;
3. Minimize opening of new borrow pits and ensure proper closure;
4. Minimize traffic congestion, dust and noise generation;
5. Proper maintenance of construction equipment and vehicles;
6. Provide appropriate safety sign (day and night) and closely inform local residents;
7. Avoid spill of used oil and other toxic materials, including safe transportation and storage;
8. Apply good housekeeping in the construction and/or storage sites to ensure safety of workers and peoples (Gather up and remove debris to keep the work site orderly and safe; Plan and implement adequate disposal of scrap, waste and surplus materials; Keep the work area and all equipment tidy. Designate areas for waste materials and provide containers; Keep stairways, passageways and ladders free of material, supplies and obstructions; Secure loose or light material that is stores on roofs or open floors; Keep materials at least 2m (5ft) from openings, roof edges, excavations or trenches; Remove or bend over nails protruding from lumber; Keep hoses, power cords, welding leads, etc from laying in heavily traveled walkways or areas; Ensure structural openings are covered/protected adequately; Provide the appropriate fire extinguishers for the materials found on-site. Keep fire extinguisher stations clear and accessible; etc.)
9. Ensure access to clean water and latrines by workers and provide mosquito net.
10. Avoid social/cultural conflict between workers and local population.

DO NOT:

1. Do not permit rubbish to fall freely from any locations of the project and/or access by animals (dogs, cats, pigs, etc.). Use appropriate containers.
2. Do not throw tools or other materials.
3. Do not raise or lower any tool or equipment by its own cable or supply hose.
4. Use grounding straps equipped with clamps on containers to prevent static electricity buildup.
5. Do not allow hunting of animals by workers in protected areas.

SPECIAL NOTE ON FLAMMABLE/EXPLOSIVE MATERIALS:

1. Store flammable or explosive materials such as gasoline, oil and cleaning agents apart from other materials.
2. Keep flammable and explosive materials in proper containers with contents clearly marked.
3. Dispose of greasy, oily rags and other flammable materials in approved containers.
4. Store full barrels in an upright position.
5. Store empty barrels separately.

6. Post signs prohibiting smoking, open flames and other ignition sources in areas where flammable and explosive materials are stored or used.
7. Store and chain all compressed gas cylinders in an upright position.
8. Mark empty cylinders and store them separately from full or partially full cylinders.
9. Ventilate all storage areas properly.
10. Ensure that all electric fixtures and switches are explosion proof where flammable materials are stored.

ANNEX 4. ENVIRONMENTAL CODES OF PRACTICE (ECOP)

1. ECOPs applicable to most construction activities

Safeguard issue	Mitigation measures to be taken
Loss of land or use of land; acquisition or removal of assets (structures, crops, trees)	• Consult with lease-holders and other stakeholders; • Consult with local authority and request resumption of land (as per RPF); • Prepare and implement RAP as per the RPF.
Dust generation; impacts on air quality; nuisance	• Spray water on exposed surfaces during dry periods; • If required, install dust screens when working adjacent to residential areas/schools/clinics; • Ensure that vehicles carrying materials are either damped down or are covered with tarpaulin or similar; • Cover stockpiles of aggregate materials to avoid dispersal during windy days; • Do not burn site clearance debris (trees, undergrowth) or construction waste materials; and • Carry out monitoring as necessary to ensure that the air quality meets national standard.
Soil Erosion	• Schedule construction during dry season; • contour and minimize length and steepness of slopes; • use mulch, grasses or compacted soil to stabilize exposed areas; • cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) construction areas quickly once work is completed; • Design channels and ditches for post-construction flows and line steep channels/slopes (e.g., with palm frowns, jute mats, etc.).
Noise impacts on communities/sensitive uses (schools/clinics)	• Ensure that vehicles transporting materials for works are well maintained and equipped with mufflers; • Advise managers of sensitive uses (schools/clinics) of works in the area and possibility of periods of unavoidable noise; • Carry out activities during the day and only during working hours i.e. between 8am and 5pm; • Use noise-control methods (fences, barriers) or maintain a buffer zone (open space, trees) between project site and residential areas; and • Carry out monitoring as necessary to ensure that noise level meets national standard.
Removal of significant or shade trees	• Work carefully in such areas; and • Avoid tree removal where possible
Aggregate/gravel/sand extraction	• Use already identified/approved quarries or aggregate/gravel/sand sources; • Refill borrow pits to avoid standing water and disease

	vectors (mosquitos, etc.); and • Prohibit illegal extraction of construction materials.
Inappropriate spoil/waste disposal	• Re-use spoil/cut wherever possible in other road repair activities; • Waste and spoil stockpiles to be stored at least 100m from waterways; • Protect excavated spoil and waste from erosion by covering and providing interception drains if left overnight; • Use secure area for refueling and transfer of other toxic fluids distant from settlement area and ideally on hard/non-porous surface; • Rubbish stored in neat/tidy piles awaiting collection; • No burning or burying of rubbish; and • Disposal of rubbish/waste only in approved dump sites or designated areas
Pollution of water sources; degradation of water quality in streams and rivers	• Material stockpiles to be stored at least 100m from a waterway; • No soiled materials, solid wastes, toxic or hazardous materials should be poured or thrown into water bodies for dilution or disposal; • Vehicles not to drive in stream or river beds and will not be parked adjacent to waterways while delivering materials; • Accidental spills to be cleaned up immediately; and • Run-off from site or activities to be directed to temporary settling basin/sediment trap.
Traffic problem	• Inform local people about construction plan; • Neatly organize construction materials to avoid disturbance of traffic; • Design and construct temporary routes to keep normal traffic as necessary; • Properly use trucks on local roads; and • Comply with traffic safety regulations.
Health and Safety	• Train and inform workers about safety rules; • Provide safety tools for workers throughout construction period; • Provide for basic first-aid kit at each site and identify from where and how qualified first-aid can be secured; • Make a sign and fence at dangerous places; • Prohibit unauthorized persons entering construction sites; • Ensure that technical design covers safety measures; • In case of use of inflammable and explosive materials, strictly comply with instructions of manufacturer; • Provide adequate signboards at construction site; • Ensure the light at night at construction site; and
Environmental hygiene and ponding issues	• Provide workers with (a) clean water, (b) mobile toilets, and (c) garbage bins; • Avoid ponding at construction sites as mosquito habitats;

	• Avoid blocking water flows by designing appropriate culverts; and • Apply environmentally sound measures to control mosquitos, rats, flies and other pests
Chance finds of Physical Cultural Resources	If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall: • Stop the construction activities in the area of the chance find; • Delineate the discovered site or area; • Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department of Culture and Information takes over; • Notify the Construction Supervision Consultant who in turn will notify responsible local or national authorities in charge of the Cultural Property of Cambodia (within 24 hours or less); • Relevant local or national authorities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values; • Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage; • If the cultural sites and/or relics are of high value and site preservation is recommended by the professionals and required by the cultural relics authority, the Project's Owner will need to make necessary design changes to accommodate the request and preserve the site; • Decisions concerning the management of the finding shall be communicated in writing by relevant authorities; • Construction works could resume only after permission is granted from the responsible local authorities concerning safeguard of the heritage.
Unexploded ordnance (UXO)	• If UXO was found during construction, contractor must stop construction, protect this dangerous site and inform the investment owner immediately; • Investment owner to inform nearest office of the Cambodia Army; • The relevant office of the Army to apply special measures/techniques to probe, control and remove UXO in a

	timely manner to meet construction progress; and • Construction to be continued only when relevant office of the Army declares the site to be safe.

2. Specific ECOPs by subproject type (in addition to ECOP for construction activities)

a. Rural roads/bridges rehabilitation

Sub-project type	Mitigation measures to be taken
Rural Roads	• To avoid erosion, avoid construction in unstable soils, steep slopes and nearby river banks. Additional measures need to be applied should there be no alternatives for road alignments (see below); • Sediment control structures should be applied where needed to slow or redirect runoff and trap sediment until vegetation is established; • Spray water on dirt roads, cuts, fill materials and stockpiled soil to reduce wind-induced erosion, as needed; • Plant locally available, fast-growing grass on slopes prone to erosion; • Provide interceptor ditch, particularly effective in the areas of high intensity rainfall and where slopes are exposed to intercept and carry away surface run-off from erodible areas and slopes before reaching the steeper slopes, thus reducing the potential surface erosion; • Use terracing/stepped embankments for steep slopes; • Rocks (riprap) can be used in addition to protect the slope; • Use retaining wall (with weeping holes for drainage) at the lower part of the unstable slope; • Prevent uncontrolled water discharge from the road surface by sufficiently large drainage ditches and to drain water away from the down slope; • Any sealing activities to be carefully managed through mixing sealant in approved locations only and prevention of on-site mixing;
Small bridges	• Gabions: o The slope of gabions should be in the ratio of at least 1 vertical: 2 horizontal. Flatter slopes may be adopted depending on the site terrain. o The filling of the gabions should be from strong and competent rock which is laid very closely packed to maximize the weight. o Bracing wire should be used to prevent the gabion bulging out. The bracing wire should be placed at each third of the gabion height. o The gabions should be firmly anchored into the ground by founding the gabions below the expected

	scour depth level. ○ In cases where stone pitching is not provided, the top layer should be covered by soil to encourage the growth of grass and the stabilization of the slopes. ○ Stone pitching may be provided as an adequate erosion protection measure in those cases where the erosion potential is deemed minimal. Stone pitching is not very resistant to strong water current and is mainly used as the top finish on gabion walls. • Water Quality and Fauna: ○ restrict duration and timing of in-stream activities to lower flow periods (dry season) and avoid periods critical to biological cycles of valued flora and fauna (e.g., spawning) ○ use techniques to divert water flow or isolate work area to reduce flow of sediments in moving water
Culverts	• Remove all formwork from inside the culvert (after concrete has reached full strength). Formwork that is not removed will rot eventually, drop down and obstruct the free flow of water. • Place large stones at the outlet of the culvert to prevent erosion. • Keep the culvert inlets free from sand and gravel – the water must flow through the culvert. • Ensure that the water of the adjacent road sections can flow freely into the roadside ditch.

b. Small-scale irrigation/drainage canals rehabilitation

Environmental issues	**Mitigation measures to be taken**
Erosion	• Masonry walls (along the road) or stone riprap should be built to prevent erosion on a sloped bank. • May use bamboo as bank protection along the rice fields as the loads are low. • A bar screen (vertical bars; about 20mm diameter with an approximate 10 cm clear distance for easy maintenance) is essential in front of any inlet structure (upstream) to prevent large objects and debris blocking the irrigation canal. The angle between the bottom of the canal and the screen shall be between 45 to 80 degrees.

c. Rural water supply schemes

Environmental issues and subproject types	**Mitigation measures to be taken**
General	• Design and site water tanks in such a way that to avoid

	creating mosquito habitat. • Periodically test water quality to ensure that it meets national standards.
Wells	• Include slab around the well for easier drainage, a crossbeam and a pulley to support the use of only one rope and bucket for collecting water. One rope and bucket is more hygienic for the well and water. • Steel rungs (placed inside wall of a deep well) are essential for maintenance of a well or in case of an emergency. • Provide a cover/roof/wire mesh on top to protect this area from falling leaves or debris. • Locate wells upstream of the septic tank soakaway. Minimum 15 meters distance from septic tank is recommended to maintain quality of the drinking water.
Rainwater harvesting	• Rainwater storage reservoir should be intact, connected to roof gutter system, with all faucets and piping intact. • If distribution pipes are attached into the storage reservoir, install pipes 10cm above the storage/tank bottom for better use of the storage capacity. • Cover must be fitted tightly onto the top of the storage reservoir to avoid overheating and growth of algae (from direct sunlight), and to prevent insects, solid debris and leaves from entering the tank. • A ventilation pipe with fly screen should be placed in the cover to help aerate the tank/reservoir. • Roof gutters need to be cleared regularly, as bird and animal waste and leaf litter on roofs or guttering can pose a health risk if washed into the reservoir tank. • Reservoir tanks need overflow so that heavy rain, the excess water can drain away. The overflow should be designed to prevent backflow and stop vermin/rodents/insects entering the system. A good design will allow the main storage tank to overflow at least twice a year to remove build-up of floating sediment on the top of the stored water and maintain good water quality.
Pipelines from natural springs or surface water sources	• Build a structure with roof over the water source to prevent leaves or other debris from entering into the basin. • Use fence to protect water source (springs particularly) from public access and risk of contamination. • Include filter and sand trap, which needs to be regularly cleaned. Pipe Laying: • PVC water transmission and distribution piping need to be buried underground (coverage 50cm minimum) to prevent pipe against external damage (e.g. passing vehicles, solar UV radiation, etc). Exposing PVC pipe to UV radiation causes the plasticiser in the PVC pipe to evaporate resulting in loss of integrity and becoming brittle.

	• Pipe shall be laid in a straight line, over a constantly falling slope. • When conditions do not allow piping to be buried (i.e. pipe is used above ground), then metal pipe must be used, and supported/braced as excessive movement may lead to leaks and breaks. • Outlet pipes and fittings from water storage/basin shall not be PVC pipe due to exposure to solar UV/sunlight. Metal piping and fittings are preferred.

d. Small buildingsconstruction

Environmental issues	Mitigation measures to be taken
General issues	• Provide adequate drainage in the building's immediate surroundings to avoid standing water, insect related diseases (malaria, etc.) and unsanitary conditions. • Include sanitary facilities such as toilets and basins for hand-washing. • Avoid use of asbestos cement tiles as roofing. • Tiled floors are preferred for easier cleaning and more hygienic.
Specific concerns	• SCHOOL: Maximise natural light and ventilation systems to minimise artificial light needs; use large windows for bright and well ventilated rooms; plant green trees; provide water tanks, toilets, playground and drains. • CLINIC: Provide adequate area for treatment, waiting area and patient's rooms, all of which should be well ventilated; include facilities for proper disposal of health and biological wastes (syringes, blood, etc.). • MARKET: Provide garbage/waste disposal that can be emptied regularly; ensure stalls/shops have covers/rooves to avoid standing water during rainy season.

e. Rehabilitation/construction of hydrological monitoring stations

Environmental issues	Mitigation measures to be taken
Navigation obstruction	• Install signboards at station locations and make sure that the station will not affect waterway transportation
Flood and riverbank erosion	• Check statistical data of hydrometeorology at propose locations for construction of stations and make sure that the proposed locations will not be affected by flood and erosion
Wastes	• Ensure that the stations will be provided with trash bins and wastes from the stations will be properly collected and disposed.

ANNEX 5: REPORT AND HIGHLIGHTS OF THERESULTS OF THE PUBLIC DISSEMINATION AND DISCLOSURE GROUP DISCUSSION ON SAFEGUARD POLICIESIN STUNG TRENG AND KRATIE PROVINCES (12-18 JULY 2010)

INTRODUCTION

The public dissemination and disclosure group discussion on the project appraisal of the Mekong Integrated Water Resource Management Project (M-IWRMP) was conducted with targeted community fisheries in Stung Treng and Kratie Provinces. The main purposes of those CFis workshops are to provide a result of the Indigenous People Development Framework and Resettlement Policy Framework which is prepared by the M-IWRMP to the community member, community committee and especially to local authorities such as personnel police, commune head and commune council. The public dissemination and disclosure group discussion were flexibly conducted either at the commune offices, community member house or temples where could provide available places for the meeting.

DETAILED PROCEEDINGS – PRESENTATION PROPER

- Registration of Participants

The public consultation and disclosure workshop were mainly targeted on some keys stakeholders and agencies who are strongly engaged with the community fisheries development and particularly those who have involved with the present of indigenous people in those two provinces. Due to logistic arrangement, some dissemination and disclosure meetings were participated from NGOs and International Organization but some meetings just organized directly with CFi committee, CFi members and local authorities. The list of participants could be found in the Appendix A.

- Welcome Remarks

The welcome remarks was given by **Mr. Chheng Pen**, Project coordinator of the M-IWRMP or **Mr. Heng Kong**, presented the objectives of the project during the period of project appraisal. He also mentioned about the overall goals and objectives of the project that: 1). Project will focus on some works regarding with the strengthening of the community fisheries through providing technical supports to the existed CFis which is selected from the two provinces namely Stung Treng and Kratie Provinces. Regarding with CFis strengthening activities, he added that project will look and minimize on the process of preparing legal documents for registration at MAFF. Beside CFi strengthening, some works regarding with livelihood alternatives also planned to provide to the 10 selected community fisheries. The project is also plan to provide a small scale infrastructure to selected community fisheries.

- Objectives of the Public Consultation and Disclosure Workshop and Presentation

A. M-IWRMP Overview and Objectives
Mr. Heng Kong
National Consultant (Environmental and Social Safeguard)

During the dissemination and disclosure meeting with CFis in Stung Treng and Kratie Provinces **Mr. Heng Kong** made presentation on a brief of M-IWRMP information. In the presentation covered the following major points about the project:

- Project Objectives
- Objective of the dissemination and disclosure meeting

Mr. Heng Kong mentioned that main objectives of the project is try to assist the existing community fisheries within these two provinces by focusing on CFi strengthening through providing technical and financial support in preparing legal documents for registration at MAFF. Beside these activities, project will also find out what is the needs of CFis and find out livelihood alternatives in tern of improving their standard living within the community.

Adding to the meeting he mentioned that M-IWRMP also look on facilities which could provide to CFia rural infrastructure such as small road in within the village, latrine and clean water.

B. Presentation on the result of Environmental and Social SafeguardFramework (ESSF)
Mr. Heng Kong
National consultant (environmental and social safeguard)

To achieve those goals, particularly during the project appraisal, M-IRWP is required by the World Bank to conduct and prepare guideline or procedure in order ensure that the implementation of project will not have negative impact on the indigenous people within the selected community fisheries. Therefore during this negotiation stage, indigenous people development framework (IPDF) has been produced by the international consultant. Beside this, resettlement policy framework (RPF) has also produced in order to ensure that sub-project regarding the rural infrastructure could be reduced and minimized the impact to the custom, lifestyle and culture of those indigenous people. During the public dissemination and disclosure on the result of IPDF and RPF, translated documents in Khmer Version were distributed to the participants.

C. Presentation on Indigenous People Development Framework (IPDF)
Mr. Heng Kong
National Consultant (Environmental and Social Safeguard)

The presentation was made by **Mr. Heng Kong**, a national consultant of Environmental and Social Safeguard. Information regarding with Indigenous People Development Framework were described during the presentation. During the discussion meeting with relevant stakeholders issues regarding how the impact of the project on indigenous people raised up. The result of the discussion is showed in section II.

D. Presentation on Result of Resettlement Policy Framework (RPF)
Mr. Heng Kong
M-IWRMP National Consultant

The presentation was made by **Mr. Heng Kong**, a national consultant of Environmental and Social Safeguard. Information regarding with the result of Resettlement Policy Framework were described during the presentation. During the discussion meeting with relevant stakeholders issues regarding how the impact of the project (M-IWRMP) on indigenous people raised. The result of the discussion is showed in section 2.

E. Presentation of KRLP Screening Checklist
Mr. Heng Kong
National Consultant of Environmental and Social Safeguard

During the presentation, issue regarding with the number of indigenous people group participates within the community fisheries is also raised up. In addition, the role of the indigenous people in the village and in the community fisheries is also considered.

2 Result from the IPDF and RPF Discussion

2.1. In Stung Treng Province

In Stung Treng Province, four community fisheries were invited for dissemination and disclosure workshop. Two CFis namely Anlong Koh Kang and Phoum Osvay from the two communes were invited for the meeting. The meeting was organized at the Sangkat Sameki office with participation from the commune head of Osvay commune and Sangkat Sameki, representative of the two community fisheries, police and represent of the local NGOs. The list of participants is showed in Appendix A. For other two CFis namely Koh Sampai and Thborng Khla was directly discussed with them in their villages.

- ***Anlong Koh Kang and Phoum Osvay community fisheries***

*** Result of IPDF**

Some issue regarding with IPDF discussion are as follow:

- Due to the invited two community fisheries have no indigenous people inhabited within the villages therefore discussion on the impact of M-IWRMP seemed to be not concentrated and most of them thought that there is no impact when the project implementation.
- **Mr. Man Lihour,** a commune head of Osvay requested that, in his commune there are villages which are consisting of the minority group of Lao, but there is no minority group within the selected community fisheries. Therefore to make sure on the impact could be happened, the project should conduct a survey in all villages so that we could ensure that issues regarding these vulnerable groups have been taken into account, particularly during the the stage of project preparation.

*** Result of Resettlement Policy Framework**

- **Mrs. Vorn bunly**, a Sangkat head (commune) of Sameki informed that, for small scale rural infrastructure within the targeted community fisheries may have a small impact to the villagers. She mentioned that if there are impact on the private properties we need to discuss with relevant agencies, especially with the land owner, village head and commune local authorities (commune head, police and commune council). She added that it would be good if we could negotiate and provide any compensation to effected family if needed. She said that it would be good if the project could help the villagers through providing clean water, latrine and other small rural road.
- **Mr.Man Lihour,** a commune head of Osvay mentioned that he warmly welcome the M-IWRMP for helping in his commune. In the name of local authorities, he willing to assist the project if there are some issues occurring within the commune.

- **Mr. En Chanarith**, a representative of local NGO namely CEPA and also the person who has a lot of experiences in those two communes mentioned that, based on his experiences he think that villagers strongly need assistant both technical and financial supports in order to improve their standard living. He thought that there is no impact. If there are impacts we should consult with local authorities to solve the problem through consultation with relevant stakeholders and then we could minimize all those impact.

- **Thborng Khla community fisheries**

*** Result of IPDF Discussion**

Thborng Khla community fisheries consists of 20 indigenous households namely Kuy. During the discussion found that most of the young generation could not speak their own language (Kuy) whereas some old generation (their grandparents) still speak their own language. For young generation, they have ready mixed up with the Cambodia people in term of dressing, livelihood diversifications, lifestyle and the way of respecting to the traditional believe.

- **Mr. Kong Vong** a commune head of the Thborng Khla mentioned that even though there are some families are Kuy but most of them have ready mixed up with the Cambodian lifestyle. Some Kuy families married with Cambodian and now most of them are mixed up in term of lifestyle and the way of living, particularly they could not speak their own language, bearing to the old generation. He added that as he mentioned above, regarding with the livelihood alternatives which is planned to provide by the project will not has any impacts on the lifestyle, custom and culture of the Kuy families due to in the fact is that those Kuy families are also practicing animals raising such as pig, chicken raiding and livestock raising, which is the same way to Cambodian people (Khmer) .
- **Mrs. Yang Norn**, a secondary school teacher and she also a Kuy people (CFi member) mentioned that she really want to conserve their own language (Kuy) due to based on her observation, recently the young generation of Kuy prefersto consider themselves as Cambodian people and they are not willing to speak Kuy language. She requested the project that if possible she would like to have a class for providing a lecture to the young generation of how to speak. She added that recently most of them are ready mixed up with Cambodian people and they follow traditional ceremonies as Khmer people.
- **Mr. Kong Tha** a village head of the Thborng Khla and also a Kuy family mentioned that the project will not impact on their culture. Before that some Kuy families believe in God by praying to the God when there is family member getting sick and this believe still remains in some Kuy families. He added that, this believe could not is originated from the Kuy but some Khmer families also use this way. In society, they never think that Kuy or Khmer family, it means that they are all always celebrate the traditional ceremonies together and they never have any problems regarding with racing, the way of lifestyle….etc. He mentioned that recently there some Kuy people also have a good position in the village level such himself is a head of the Thborng Khla village and some Kuy people also works as a local authorities such ad police and river guard for the dolphin conversation.

*** Result of the Resettlement Policy Framework (RPF)**

- The commune head of Thborng Khla **Mr.Kong Vong** mentioned that he is very glad that his community fisheries are selected as targeted CFi among the other 9 CFis within the Stung Treng Province. He expressed his warmly welcomed to the project and will try to assist all issues if needed from his side. Regarding the rural infrastructure in his area, he thought that the project will not cause any significant impact to the indigenous peoples but in case there is any impact, he will try to solve those problems by conducting a consultation with effected families in the village and it would be good if the project has any policies regarding compensation.
- The village head of the Thborng Khla mentioned that the project will not impact on the property land either Khmer or indigenous people but he added that during the project implementation we need to discuss also with effected people to find out a good solution for them or sometimes the effected families may contribute their own land for the project.

- **Koh Sampai community fisheries (Koh Sampai village, Sampai commune, Siem Bouk District, Stung Treng Province)**

In general,people in the Koh Sampai village (also community fisheries) speaks Lao language. The village consists of 1,534 population, with 748 are women and the rest are men. It is reported that most of them are mixed blood with Laotian. Recently, although most of them are speaking Lao but the official figure has not been separated between Loa and Khmer people due to they are considering themselves as Khmer people. During the dissemination and closure meeting some key issues found:

* **Result of IPPF Discussion**

- **Mr. Khem Sok**, a head of patrolling group mentioned that based on his observation there is no difference between the Lao and Cambodian people regarding with their lifestyle, custom and culture due to they are celebrate the same traditional ceremonies. He added that the preference of speaking Lao language is due to their grandparents were Laotian and young generation in the village still prefers speak Loa. Therefore he thought that there is no impact on the villagers (community members) due to the way of their subsistence is mainly focus on rice cultivation and the secondary occupation are gardening, poultry raising and livestock raising.
- **Mr. Pork Bun Horm**, CFi head mentioned that it would be good if the project (M-IWRMP) provide them additional livelihood alternatives both technical support and financial support. He thought that the project will not has any impacts on the minority group of Lao due to they are considered themselves as Khmer people and the way of lifestyles are not different from the Cambodian people (Khmer).

* **Result of Resettlement Policy Framework (RPF)**

- **Mr. Bun Horng**, community head requested that although there is no impact but we still need to consult on the possible impact with relevant agencies such as villagers, community committee, police, commune head and commune council. He said that this process should be conducted during the project preparation so that we could avoid what are the negative impacts. He provided an example that if the project would like to construct a small road in the village, of course it may effect to the people land therefore we need to negotiate with them first and we need official support from the local authorities as mediator.

2.2. In Kratie Province

Dissemination and disclosure meeting were conducted in three community fisheries namely Prek Taam, Roka Kandal and Svay Check. The meeting was organized with assisting arrangement from the Kratie FiA Cantonment. Among those community fisheries, only one community fisheries namely Svay Check is reported having Kuy and Phnorng living in the village. For other two community fisheries all of the villagers are Khmer.

- Prek Taam CFi

A Prek Taam community fishery is located in Prek Taam village, Boleav commune, Chentra-Borey district, Kratie province. The total community member consists of 116 which is comes from 116 households. The meeting was conducted at the village head with participation from the CFi head, CFi committee and representative of the Kratie FiA Cantonment.

* **Result of IPPF Discussion**

- The village head of the Prek Taam **Mr. Kiev Chheng** mentioned that there is no indigenous or minority group in his village, therefore he thinks that there is no impact regarding with the project's implementation. He added that he very happy that his village (community fisheries) was selected for the project and he willing to assist the project if there are some needs.

- **Mr. Deuk Den** head of Prek Taam community fisheries informed that recently Oxfam GB provides a small grant to the community committee. The main purposes are provide loan with low interest to CFi members after the peak season of fish processing (*Prohoc*) end, and some parts of this money also divided for the women saving group. He added that most of the CFi members borrow the money for animals raising such as chicken, duck and pig and some buying vegetable seed. It is said that some money also used for rice bank by collecting rice during the harvesting period and then sell it back when the price of rice getting high. Due to M-IWRMP have the same objectives in order to improve the livelihood of the villagers so that he assumes that the project will not has any negative impact to the community fisheries members.

*** Result of the Resettlement Discussion**

- **Mr. Kim Bao,** a deputy chief of Prek Taam community fisheries welcomed for the M-IWRMP and he hoped that through this project will help the villagers, especially community members to improve their standard living. He added that rural road infrastructure may has a small impact on the properties of the villagers, therefore he suggested that we need to consult with property owners (private property) with assistance from the local authorities such commune head, commune council, police and village head. He mentioned that some families may contribute their own properties for the collective group (community) but some may be not, therefore we need to provide them compensation if needed.

- Roka Kandal CFi

Roka Kandal community fishery is located in Sangkat Roka Kandal, Kratie town, Kratie province. The community was formed by the two combination villages namely Phoum 1 and Phoum 2. The total community member consists of 158 which is comes from 158 households. The meeting was conducted at the village deputy chief with participation from the CFi head, CFi committee and representative of the Kratie FiA Cantonment. It is reported that there is no indigenous/minority group within the village.

*** Result of IPPF Discussion**

- **Mr. E Khimso,** head of the Roka Kandal community fisheries warmly welcomed for the presence of Kratie FiA cantonment (**Mr. Sean Kin**, Chief of Kratie FiA Cantonment) and M-IWRMP officers. He mentioned that, there is no indigenous or minority family within the community, therefore he thinks that the project will not have any negative impact in term of livelihood improvement to the villagers.

- **Mr. Khoun Sokom,** a village head of Phoum 1 provided a clear vision regarding with the possibility impact could be happened during the project implementation. He mentioned that the providing of livelihood alternatives through M-IWRMP may has no negative impact on the lifestyle, custom and culture of the villager and particularly the provided job alternatives needs to be discussed and agreed from CFi members, so that it seemed that CFi members are ready willing to take those job alternatives.

*** Result of RPF Discussion**

- **Mr. Thom Sophorn**, secretary of the CFi mentioned that the project's plan regarding with rural infrastructure at village level will not has negative impact to the way of living, custom and culture of the villagers. He suggested that during the implementation it may effected to the private properties so what we need to do is to work and consult closely with them and especially we need help from the local authorities to negotiate and explain clearly about the project and how is benefit could be provided from the project.

- **Mr. Mr. I Khimso,** head of the Roka Kandal community fisheries mentioned that if the village consists of indigenous people or minority groups such as Cham, Vietnamese, Lao…. we need to consult with them in order to ensure that issues regarding with the project implementation is minimized properly.

- Svay Check CFi

A Svay Check community fisheriesare located in Svay Check village, Koh Kagner commune, Sambo district, Kratie province. It was established by Oxfam Australia in 2004 and then this community fisherieswere abandoned for several years so that the number of the CFi members is not clear. Recently, under Kratie FiA Cantonment, this CFi starts to re- preparing some relevant documents and the community committee has been strengthened. It is reported that, total population of the village consists of 587, which comes from 237 households. It is reported that, around 30 percents of total population has relative with Kuy and Phnorng (mixed blood).

*** Result of IPPF Discussion**

- **Mr.Nay La**, a head of Svay Check village informed that although there are some families of Kuy and Phnorng but recently they are ready mixed up with Kmher people and the way of believe such as Leung Nekta (a traditional ceremony that pray for peace from the God) and celebrate traditional ceremonies of those families are not differ from Khmer families. He mentioned that recently Kuy and Phnorng families, particularly for the young generation has considered themselves as Khmer people due to some of them are married with local people (Khmer). In addition he mentioned that primary occupation of those Kuy and Phnorng families mainly bases on rice cultivation, poultry and livestock raising,

therefore he thinks that the implementation of the project will not has any impacts on the livelihood, lifestyle, custom and culture of those people.

- **Mr. Kheang Khom**, a community member and also Kuy people informed that although he is originated from Kuy family but now he considered himself as Cambodia people therefore he assumes that it will not has negative impact to their people. He added that some Kuy families still uses traditional way, especially during the rice transplantation most of families celebrate traditional ceremony for their peace and to get more crop (local name called Sen Neak Ta Srei). The traditional ceremony consists of chicken, sticky rice and fermented fish and then they move family to the rice field for several months. After rice harvesting, the same ceremony conducts again which locall name called ‘Lear Neak Ta Srei, a ceremony which they move back to village’ to their villages. Beside the traditional ceremony mentioned above, Chon Arak also found in the Kuy and Phnorng families but it is different from Khmer people, due to Kuy and Phnorng people prefers to celebrate at their own family while the Cambodian people prefer to celebrate this traditional ceremony together.

*** Result of the RPF Discussion**

- **Mrs. Chhun Sacha**, a community member said that, regarding with rural infrastructure needs to consult with effected people before the project’s implementation in order to make sure that all issues regarding with project activities discussed and solved. She added that it is depend on how much is the impact and if needed the compensation should be provided to the effected families. She mentioned that all consultation with effected families needs a support from local authorities.

Attachment A

List of participants in Stung Treng and Kratie Provinces

No.	Name	Position	Organisation
O Svay and Anlong Koh Kang Community			
1	Mr. Khay Sirabo	Officer	Kratie FiA Cantonment
2	Mr. Sao Dirom	CFi member	Anlong Koh Kang CFi
3	Mr. Seang Vuthy	Accountant	-
4	Mr. Lan Somny	CFi member	-
5	Mr. Man Lihor	Commune head	O Svay commune
6	Mr. Em Moa	Chief of patrolling group	Along Kog Kang CFi
7	Mr. Heng Theun	Village secretary	-
8	Mr. Kong Phearum	CFi member	O Svay CFi
9	Mr. Om Maradi	Village head	O Svay village
10	Mrs. Vorn Bunly	Head of Sangkat Sameki	Sangkat Sameki
11	Mr. Horm Savor	Head commune police	O Svay commune
12	Mr. Kiev Ravuth	Deputy chief of commune police	Sangkat Sameki
13	Mr. Phat Tomy	Provincial Assistent	CEPA
14	Mr. Iv Vechet	Officer	Stung Treng FiA Cantonmet
15	Mr. Hem Kim Kong	National consultant	FiA/WB
16	Mr. Heng Kong	-	-
17	Mr. Chheng Phen	Project Coordinator (M-IWRMP)	FiA
18	Mr. Peter Degen	International Consultant	WB
19	Mr. Em Chanarith	Provincial officer	CEPA

20	Mr. Puy Chanrethy	Clerk	Sangkat Sameki
21	Mr.Em Mayonry	FiA Officer	FiA
Thborng Khla community fisheries, Thborng Khla village, O Maras commune, Seambok district, St. Treng province			
22	Kong Vong	Commune head	O Maras commune
23	So Skorn	Head of commune police	-
24	Chan Sophal	Commune council	-
25	Dol Saveun	Head of CFi	Thborng Khla CFi
26	Yeng Nor	CFi member (secondary teacher)	-
27	Ros San	-	-
28	Heang Theda	-	-
29	Ros Som	-	-
30	Om Sophat	River guard and CFi member	-
31	Choun Ka	CFi member	-
32	Kong Tha	Village head	Thborng Khla village
33	Om Ban	Deputy village head	-
34	Chan Rith	Head of commune development	O Maras commune
35	Yem Meun	CFi member	Thborng Khla CFi
36	Yem Leung	-	-
37	Mem Sayuth	-	-
38	Iv Viechet	Officer	Stung Treng FiA Cantonment
39	Khay Sirabo	-	-
40	Em Mayonry	Officer	Central FiA
Koh Sampai CFi, Koh Sampai village, Koh Sampai commune, Seambok district,			

Stung Treng provice			
42	Khem Sok	Chief of CFi committee	Koh Sampai CFi
43	Teng Sanvan	Patrolling group	-
44	Teng San	CFi member	-
45	Thun Orn	-	-
46	Tenh Sithan	-	-
47	Ouch Vuth	-	-
48	Om Vy	-	-
49	Phorng Yong	-	-
50	Sen Gnoun	-	-
51	Pork Bunhorm	CFi chief	-
52	Khay Sirabo	Officer	Stung Treng FiA Cantonment
53	Kem Sokha	-	-
54	Em Mayory	-	FiA
55	Yeng Dam	CFi member	Koh Sampai CFi
56	Near Sivty	-	-
57	Na Ratha	-	-
58	Seun Som	-	-
59	Sen Kanchak	-	-
60	Orn Khamlak	-	-
61	Chorm Soriya	-	-
62	Phorn Kaov	-	-
63	Hom Vuthy	-	-
64	Pok Vanna	-	-
65	Cheun Polak	-	-

66	Pen Paksamol	CFi secretary	-
67	Heng Kong	National consultant	FiA/WB
Prek Taam CFi, Prek Taam village, Boleav commune, Chetra- Borey district, Kratie province			
68	Tep Sok Heng	Disseminationg group	Prek Taam CFi
69	Kim Bao	Deputy chief	-
70	Srun Saren	CFi member	-
71	Min Srea	-	-
72	Pheng Thy	-	-
73	Om Kimsan	-	-
74	Kiev Chheung Korn	Village head	Prek Taam village
75	Ly Sreu	Officer	Kratie FiA Cantonment
76	Mr. Deuk Den	CFi Chief	Prek Taam CFi
77	Mr. E Sanavuth	Officer	Kratie FiA Cantonment
78	Mr. Lay Lim	Deputy Chief of CFi	Prek Taam CFi
79	Mr. Ngeab Saka	CFi member	-
80	Mr. Peter Degen	International consultant	WB
81	Mr. Em Mayonry	Officer	FiA
82	Heng Kong	National consultant	FiA/WB
83	Mr. Sean Kin	Chief of Kratie FiA Cantonment	Kratie FiA Cantonment
Roka Kandal CFi, Sangkat Roka Kandal Kratie town			
84	Mr. Sean Kin	Chief of Kratie FiA Cantonmen	Kratie FiA Cantonment
85	Mr. E Kimso	Chief of CFi	Roka Kandal CFi
86	Mr. Som Somphorn	Accountant of CFi	-
87	Mr. Chreung Ny	Patrolling group	-

88	Kei Sothea	-	-
89	Chan Sothea	-	-
90	Khat Seth	-	-
91	Sok Kim Chan	-	-
92	Chan Vanthean	-	-
93	Om Sophea	Head of patrolling group	-
94	Khoun Soyun	Head of village	Phoum 1 villahe
95	E Sanavuth	Officer	Kratie FiA Cantonment
96	Peter Degen	International consultant	WB
97	Heng Kong	National consultant	FiA/WB
98	En Mayonry	Officer	FiA
Svay Check CFi, Koh Knger commune, Sambo district, Kratie Province			
99	Chhoung Kor	CFi chief	Svay Check CFi
100	Nai La	Village chief	Svay Check village
101	Mok Mot	CFi member	-
102	Chhounh Hor	-	-
103	Lim Doung	-	-
104	Key Virak	-	-
105	Chem Thol	-	-
106	Chhun Sacha	-	-
107	Phorng Rith	-	-
108	Neit Reun	-	-
109	Mai Chanty	-	-
110	Ngeim Saran	-	-
111	Kheang Kom	-	-

112	Thouch Ratana	-	-
113	Lei Sokleang	Officer	Kratie FiA Cantonment
114	E Sanavith	-	-
115	Ly Sreu	-	-
116	Chem Chanty	villager	Svay Check village
117	Heng Kong	National Consultant	FiA/WB
118	Sean Kin	Chief of Kratie FiA Cantonment	Kratie FiA Cantonment

ANNEX 6: RE-CONFIRMING SOCIAL AND ENVIRONMENTAL SAFEGUARDS-COMPONENT 1 AND INTRODUCTORY NATIONAL WORKSHOP ON RIVER BASIN MANAGEMENT FORMULATIONFOR 4P AND 3S- COMPONENT 2

Ly Cheur Hotel, Kratie Province (3-4 December, 2013)

I. Introduction:

The objective of the Cambodian Fishery Management is aligned with the overall project development objective of the Mekong Integrated Water Resources Management (M-IWRM) of which a brief project description are given in Section II. The Cambodia activities will be limited only to the Subcomponent 3-3 and they may involve land acquisition, land donation, and resources access restriction. The Cambodia subcomponent will be implemented through the following activities:

- Support to the fishing communities, including: (a) establishment, registration and organizational strengthening of Community Fisheries (CFi), (b) mainstreaming fisheries management into respective community development planning processes (Commune Development Plans) and (c) providing the fishing communities with complementary livelihood opportunities and;
- Support to the public sector, particularly for district and provincial FiA, to ensure adequate public sector capacity in surveillance on the implementation of the fisheries management plan, fish catch monitoring, promotion of aquaculture, and restocking of the key indigenous species.
- Support for improved River Basin Management in Northern Cambodia: (a) to improve the effective and sustainable management of water resources in the 4P sub-basin locates in Kratie and Mondulkiri and 3S sub-basin locates in Strung treng, Mondulkiri and Ratanakiri, (b) to establish planning and monitoring capacity for effective water resources monitoring. The work in the 3S sub-basin would initially focus upon the 2S sub-basin, shared by Cambodia and Vietnam, and would contribute to the development of bi-lateral forum with Vietnam for coordination on water resources management. The activities under this Component would include the following subcomponents: (a) Support for coordination mechanisms in the 3S and 4P basin; (b) Support for basin plans and technical studies and (c) Support for water resources monitoring, hydromet network improvement and information sharing.

Scope of the Cambodia activities would cover the Mekong mainstream from the Lao-Cambodia border to Stung Treng and Kratie Provinces and the 3S and 4P sub basins. This area is known as one of the most critical habitats (mainly for refugees during the dry season and spawning season) for many long migratory species, including endangered fish species such as *Pangasiuskrempfi*, and *Pangasianodongigas* and mammals like the critically endangered Irrawady dolphin (freshwater dolphin). It is also known that this area is inhabited by various indigenous peoples and they may be affected (positively and negatively) by the project.

II. Objective of the workshop

The main objectives of the 2 days national workshop are:

- Re-confirm on social and environmental safeguards which was prepared since 2010 to relevant stakeholders in Kratie and Stung Treng Provinces.

- Discuss on potential changes during the period from 2010 to 2013 within the target community fisheries in Stung Treng and Kratie provinces.
- Introduce component 2 on the river basin management at 3S and 4Ps to relevant stakeholders.

III. Result of the workshop

The public consultation workshop on re-confirming of social and environmental safeguards and river basin management was carried out for 2 days from 3-4 December, 2012 at Ly Cheu Hotel, Kratie Province. Key stakeholders are involving with fisheries sector and other related activities on water resources management invited (Attachment 1). The agenda is shown in Attachment 2 and Attachment 3.

Day1: Re-confirming social and environmental safeguards documents

Day 2: Project Introductory on River Basin Management of 4Ps and 3Ss

IV. Group discussion:

Group 1: What arethe New Challenges and Solutions for River Basin Management: 4P and 3S?
Group 2: What arethe related water issuesand options for river basin management in 4P and 3S?

Presented by the head of Mondulkiri Rural Development Department

A. Issues related to water management:
   - Mining byforeign companies and local people in the four provinces (more than 300 companies, both national and international companies) to seek for gold mining has seriousnegative impactsonthe environment and human settlementsalong the streams and rivers.
   - Economic land concession to private companies has increasederosion into the streams and rivers
   - Navigation within 3S has usually faced problems during dry season due to some part of the river beingcut off or dried up.
   - The use of chemical fertilizer/pesticides for agriculture purposes is also found to havemodified the environment through runoff ofthose chemical/pesticides into streams, lakes and rivers.
   - Waste from industrial activities (rubber industrial, sugar cane,etc.) flow to rivers,lakes and streams.
   - Use of chemical poisons to kill fish by local people in deep pool habitat during dry season.
   - Hydropower dam (especially Yalihydro-power dam in VN in the Sesan river andin Srepok, namely Dalak Hydro-power dam.). Currently LaoPDR plans to build another new hydro-dam close to Stung Treng province. Villagers complain that,

there are sometimes floods in their areaand modified water levelshave reduced some flow which has a negative impact on their fishing activities.
- Home consumption waste materials from local people along 4P and 3S (hard and liquid waste), plastic, medical waste from health centers are other contribution in the degradation of rivers, lakes and stream environment and particularly water condition.

B. Option to solve the problem:
- Establishment of 4P and 3S management committee at National and Sub-national level
- Local community participation
- Establish legal document-law and internal role
- Broader law dissemination
- Financial support from DPs

Note: Kampi canal:82 km, PrekTei: 350km
1. Srei Pork: NorngKileuk, KohNgeik (Mondulkiri) &Lompat (Ratanakiri)
2. Sesan: (Taveng, Veunsai, Sesan (Stung Treng)
3. Sekong

Group 1:
New Challenges:
- Law enforcement (forest, land and fisheries) has not been effective
- Issue of forest: some investment along the river/prek because those area is very important part to invest in agriculture
- Issue of land grabbing
- Issue of immigration of people from other provinces (due to lack of land for agriculture)leading to increased clearance of forest land for agriculture activities.
- Development (mining, use of chemical, Siem Pang …..) of some areas (river bank, land slide), some companies needs thousand hectare of land and do not follow the agreement with Government.
- Issue relating to water quality due to the use of chemical fertilizer, pesticide, hydro power dam which will modify the water quality, water discharge
- Issue related with fisheries resource and biodiversity due to being located in Ramsar Site
- Gender impact onwomen's health due to unsafe water use
- Impact on tourism (Sopheakmeat), as they know the government plan some people comes to clear forest along the road.
- Lack of exchange of information from VN to release water from Hydropower dam in Vietnam (Sesan and Srei Pork)
- Current climate change is also a major issue contributes to river basin management

Presented by the head of rural development of Stung Treng:
Group 1:
Resolution:

- Currently law enforcement on forestry, fisheries, land use is very limited. There is a need to strengthen law enforcement.
- Inventory on forest land (land use and forest land) is needed at the current timein Cambodia in order to manage those resources properly.
- Clear inventory on the protected and conserved areas: fisheries, forest land
- Awareness raising for local community is needed.
- Provide right to local people to participate in the process of using their community land.
- Install high-tech hydrometstation in order to provide weather and flood information to local people in order to cope and adapt to the quickly change of climate.
- Provide capacity building to relevant stakeholders
- Strengthen good cooperation with neighboring countries in order to share information regarding with the use of water between upstream and downstream.

V. Future recommendation for 4P and 3S Project Implementation

Based on the result of the two group discussion with relevant stakeholders from national and sub-national level, we came out with future recommendation and advice as follows:

- Conduct social and environmental impact assessment within the target sites in the four provinces.
- All stakeholders at national, sub-national and local community levels should be involved and informed
- Establish proper structure to implement the project effectively
- Implement annual action plan following theproject's master plan
- Regularly organize an annual meeting to reflect onnew challenges and achievementsduring project implementation.
- Build up capacity to project staff, local community and other relevant stakeholders
- Independent auditor company

Attachment 1: List of Participants attended in the 2 days National Workshop on Integrated Water Resource Management-Phase 3

Day#2:

Name	Title/position/Ministry/ Department/Province	PhnomPenh /Province	Tel/email
UngHuor	Vice director of DIME	Ratanakiri	unghour@gmail.com
NginSovimean	Director of DoT	Mondulkiri	sovimean@gmail.com
NouthSokha	Chief of Tourism	MoT	
SimThavry	Deputy director of IFReDi	FiA	simthavry@yahoo.com
Von Tum	Vice director of DoT	Stung Treng	
PokVanna	-	-	
NhimHeang	-	-	

NopChanthy	Director of DoE	Kratie	
Lim CheavHav	Director of PDRD	Kratie	cheahav@gmail.com
YimSavinh	Officer at PDRD	Stung Treng	
Mao Vicheat	Deputy director of PDA	Kratie	maovicheat@gmail.com Tel:012 996944
UyLydeth	Deputy director of MoP	Phnom Penh	lydeth.ung@yahoo.com Tel:012 308 338
PuyChandara	Deputy director of Water Resource Management		

Attachment 2: Day#1

Agenda for the re-confirming workshop:

December 3, 2013		
Time	***Description of Activities***	***Responsible***
08.00-08.15	Registration	SimThavary and OuSary
Opening Session		
8:15- 8:20	Introduction by Master of Ceremony	OuSary
8:20-8:40	Welcome and Opening Remark	ChhengPhen, Acting Director of Inland Fisheries Research and Development Institute, Fisheries Administration
8:40-8:50	Introduction to Workshop Programme	ChhengPhen, Acting Director of Inland Fisheries Research and Development Institute, Fisheries Administration
8:50-10:00	Presentation on Project Fisheries Management in Kratie and Stung Treng Provinces.	ChhengPhen, Acting Director of Inland Fisheries Research and Development Institute, Fisheries Administration
10:00-10:30	Refreshment break	All participants
10:30-12:00	Presentation on social safeguard	Heng Kong, Consultant on social safeguard/IWRMP
12:00-13:30	Lunch Break	All Participants
13:30-15:00	Presentation on Safeguard of the Project Part 2	Pham Van Khang, Consultant on Environmental Safeguard
15:00-15:30	Refreshment break	All participants
15:30-16:30	Plenary discussion on ways forward (20 minutes)	
16:30-16:45	Wrap up meeting	ChhengPhen, Acting Director of Inland Fisheries Research and Development Institute, Fisheries Administration
Closing Remarks		ChhengPhen, Acting Director of Inland Fisheries Research and Development Institute,

		Fisheries Administration

Attachment 3: Day#2

The objectives and outputs of the national workshop

Objective	Expected outputs
To introduce the existing knowledge and status of natural resources and their development in the 4-Ps Basin and 3Ss Basin	Enhanced capacity and knowledge of participants on 4-Ps and 3Ss basin
To ease understanding of participants with information in river basin issues, challenges and solution being thought through the river basin management project	The participants of national and provincial levels gained understanding and being able to express their interesting and support for project initiatives and formulation.
To prepare project formulation for Cambodia APL3 Component River Basin Management	Participants discussed, provided their ideas and support and contributed their inputs to the process of project formulation
To identify and seek comments and views from participants to be part of project document	Comments and views from the participants on project objectives, outputs and activities being recorded

Proposed programme

Time	Description of activities	Responsible
8:00- 8:20	Registration	Ms. KhinSokmaly, BDP Assistant, CNMC
8:20- 8.30	***Welcome and Opening Remarks***	
8:30- 9:00	H.E. Watt Botkosal, CNMC Deputy Secretary General and National MIWRMP Coordinator	
9:00-10:00	Overview of Workshop: objectives, activities and expected outcomes	H.E Watt Botkosal
	Background on MIWRMP and APL3 For Cambodia: concepts on River Basin Management	
10:00-10:15	***Questions and comments***	All
10:15- 10:30	***Group Photo and Coffee break***	
10:45-11:45	Overview of 4-Ps Basin and 3Ss Basin: Current Status and previous study on River Basin Management: GWP-ADB-MRC	H.E Watt Botkosal
11:45-12:15	***Questions and comments***	All
12:15- 13:30	***Lunch***	
13:30- 14:30	Group Discussion: New challenges and solution for River Basin Management : 4Ps and 3Ss	Facilitated by the WB Representatives/Mr. Heng Kong
14:30- 14:45	Group discussion presentation	All
14:45-15:00	***Coffee break***	

15:00-16:00	Group Discussion: Water Related Issues and optionsfor management of the River Basin: 4-Ps and 3Ss	Facilitated by The WB Representatives/Mr. Heng Kong
16:00-16:15	Group discussion presentation	All
16:15-16:45	Plenary discussion and recommendations for project formulation	All
16:45-17:00	Wrap-up	H.E. Watt Botkosal
17.00-17:10	***Workshop Closing Remarks***	

ANNEX 7: THE MINUTES OF CONSULTATION WORKSHOP IN KRATIE AND STUNG TRENG ON 25 AND 27 MARCH 2014

1. Introduction

The Consultation Workshops were conducted in two provinces - Kratie and Stung Treng - on March 25and March 27, 2014. There were 85 participants, 16 were from the Civil Society Organizations (CSOs), 5 from Provincial Fisheries Offices, and 55 from the fisheries communities (CFs) in both provinces. There were also 4 participants from Inland Fisheries Research and Development Institute (IFReDI) - Fisheries Administration and 5 from the World Bank in Phnom Penh.

The purpose of the workshopis (i) to disclose the project's information including safeguards-related documents prepared by the Fisheries Administration (FiA) to the concerned stakeholders namely the CSOs and FCs, (ii) to raise awareness on the project intervention among the direct and in-direct beneficiaries, (iii) to collect any lesson learned about success and failure of FCs and integrated water resource management, and (iv) to discuss how to sustain them.

This workshop is an addition to the previous workshops which were conducted in the same provinces in December 2013 for the government officials, local authorities, some FCs, and some CSOs. The main audience of this workshop was the FCs and civil society representatives who did not attend the previous workshops.

The workshop began with a welcome remark by Veasna Bun, Senior Infrastructure Specialist of the World Bank in Cambodia and followed by three presentations at each workshop. In Kratie province, Mr. Touch Bunthang, Chief of Biodiversity of Fresh Water Fisheries Research and Development Institute of FiA, presented the objectives of the workshop and the project objectives and scope; Mr. Heng Kong, World Bank Consultant presented the Hatchery Construction Plan and Environmental Management Plan; and last presenter was Mr. Sam Sovan, Executive Director of NRD (Northern Rural Development). He presented the NRD works and supportsFCs as well as the success and failure of the FCs in Kratie Province. In Stung Treng province, the same presentations had been given, except the NRD which was replaced by Mr. Peak Saven who is a representative of My Village Organization. Mr. Peak presented My Villages activities in Stung Treng Province.

Mr. Bun highlighted the importance of the additional Consultation Workshops with Civil Society Organizations and the FCsin the two provinces to further share the project objectives and intervention with the relevant stakeholders and collect more information regarding fisheries resources and water resource management in these two provinces. He also underscored the benefit of the project to improve the livelihood of the people live along the Mekong and beyond. Of course, socio-economic development would have direct and indirect impact on water resources and related water resources such as fisheries, he said. He added that sustainable fisheries and water resources management requires active participation of all stakeholders and today workshop is one of a form of participation in the project. He finished his remark by encouraging participants to share their ideas what works well and what need to be done differently for the benefit of the project and for benefit of the communities.

2. Presentation

Mr. Touch Bunthang presented the project objective

Several questions were raised in both workshops. Those questions are: period of project preparation, measurement of fish population, way of supporting FCs, and the definition of success FCs. In response, Mr. Chheng Phen, Deputy Director of IFReDI – Fisheries Administration said that the project preparation takes quiet long time due to a slowdown in relationship between the Government and the World Bank. The World Bank needs to solve some problems such as Boeung Kak Lake issue.

Regarding measurement of fish population, Mr. Phen responded by saying that project will strengthen 114 FCs including official registration of new FCs, preparation of fisheries community management plan, and additional work such as fish cultivation and animal raising. He also encouraged all stakeholders to support project when it's implemented. Without them the project is hardly to achieve its goal. He also emphasized that project will benefit not just only for the people who live along the Mekong River, but beyond. So, well manage of fisheries and water resources is so important and this project can help.

Regarding history of the project, Mr. Bun responded by saying that the project preparation actually started in 2008 with around $200 million financial support for countries in the Mekong River basin. Phase I, he said, the project provided financial support to MRC for regional integrated water management including trans-boundaryfacilitation and dialogue with upper Mekong countries. It also supported the development of Water Law in Lao PDR and fisheries management in the country. Phase II, the project supports Vietnam government to manage water resources in central Vietnam and the Mekong Delta water resource management. Phase III, the project will support Cambodia to strengthen FCs in two provinces - Kratie and Stung Trengand integrated water resource management in four provinces of Ratanakiri, Mondulkiri, Kratie, and Stung Treng.

Mr. Phen said that FCs have been established several years ago. However, there are only several succeed. He identified success when the fisheries community has a proper capacity to run it and has a proper management plan.

Heng Kong presented Hatchery Plan and Environmental Management Plan to the participants in both workshops.

Several questions have been asked. Those are: the decision of the location of the hatchery site, the distribution of fingerling, the impact of the build hydropower along the Mekong and its tributary, and the impact of farmers who are now doing hatchery for sale.

The location for hatchery was selected based on the suitable site for the some endangered fish species like *Pa Sa E*. About nine indigenous fish species will be bred at the Hatchery. Fingerling will be released to natural lakes or rivers for the public benefit and distribute or sell to farmers who really want to cultivate them. The hatchery will pilot the pound to show the interested farmers and will provide training to them. Distribute free of charge to farmers has a bad experience.

Som Sovann presented NRD's work on FCs in Kratie Province.

Pheak Saven, representative from My Village Organization shared its interest work in the field of deep pool conservation. He discussed the success, challenges, and lesson learned of his organization work.

Mr. Saven also highlighted some aspects that could lead to sustainable development in FCs. Those aspects are: get villagers well understand about how important of natural resources to their daily lives, they are the owners of the resources, build trust among their members, and generate more income for the communities.

3. Group Discussion

At each workshop, after lunch, the participants were divided into two groups to discuss two main questions—What's work and what's does not work of FCs/integrated water resources management and what would be the success of fisheries community/integrated water resources management and livelihood ? All communities fisheries representatives were put in one group I and all Civil Society Organizations were put intoanother group. These two groups discussed the same questions as mentioned above in both workshops.

Each group was given 70 minutes for the discussion and 15 minutes for presenting their results. Below is a combine results.

Fisheries Community Group:

Success:

- Regular meeting between the committee members
- Regular patrolling
- Good collaboration with local authorities and specialized agencies
- Active participate from members
- Establish by-law and internal regulation for communities
- Dissemination of Fisheries law
- Support from relevant institutions and NGOs
- Good gender participation (Fisheries Law dissemination and take part in combating illegal fishing such as reporting the illegal fishermen)
- Use media to report illegal issue

Failure/challenges:

- Some authorizes are involving in illegal fishing
- Lack of financial support
- Poverty
- Lack of collaboration from authorities.
- Lack of fully participate from villagers
- Lack of Fisheries Law enforcement from local authorities
- Lack of mean (boat, machine, gasoline, Life Jacket, Rain coat, light, camera, hammock, walkie-talkie)
- Irregular meeting between the members and network (People lack of awareness)
- Limitation of participation from the local authorities
- Threat from illegal fishermen (Threaten to kill or cause danger)

Sustainable:

- Full participation from local authorities and experts (No upset, no disappointment)
- Members of Communities well understand of Fisheries Law
- Provide financial support
- Provide more training
- Support for study tour
- Create additional jobs for the members/farmer such as fish cultivation, pig, chicken, duck raising, vegetable growth to reduce over fishing of natural fish (Generate more income. If there is no income, we cannot treat it as success)
- Create saving group to reduce the interest rate charge by other financial micro-credits and banks

- Have enough mean
- Food processing and create job for communities (fish production)

Group Civil Society Organization:

Success:

- Good collaboration with authority
- Participate from villagers volunteer
- Form ranger, regularly patrol, report illegal activities
- Support from development partners
- Build good partnership and capacity building for the communities
- Co-manage of preservation of the deep pool
- Have management plan and monthly planning of the committee
- Official registration at the MEF
- Insert community development plan in the commune development plan
- Establish saving group and food and other processing
- Form self-help group for fish cultivation and pig raising

Failure:

- Conflicting view in implementation of the community development plan
- Conflict over the interest of FCs
- The impact of the political and economic crisis
- Some authorities involve in illegal fishing
- Lack of prioritize from the local authorities in term of fisheries
- Lack of financial
- Lack of broadly dissemination of legal/fisheries law

Sustainable:

- Develop a clear management plan
- Build capacity for the community members
- Strengthen the collaboration between the relevant agencies
- Broadly disseminate the Fisheries Law
- Establish monitoring group
- Prepare business plan, create more jobs
- Provide capacity and knowledge and technical to fisheries community members and government staff
- Establish small enterprise
- Prepare for exit strategy (Study tour, training, and see any potential for sustainable of the communities, active saving and build trust among the members)
- Include the FCs' management plan into the commune development plan.

4. Plenary discussion

The workshops also opened for plenary discussion. In addition to the result of their group, several participants shared their success in managing their FCs as well as sustainability. A Fisheries Community representative pointed out that his community is running well because it has self-finance. They make income from establishing eco-tourism, including home-stay, sell souvenir and other services for tourists. He hopes some FCs could take it as example. Another

community representative pointed out that some FCs established saving group. Few participants from Civil Society groups supported the activities that have been done by the communities in order to sustain their communities. They also add that FCs' management plan should be included in the commune development plan. They also raised that the most important way to sustain is to create income for the communities, to help them to understand that the resources are belong to them, and to build trust among their members. However, some participants acknowledged that community still face with lack of both capital and human resources. There is no sufficient support to communities in term of technical support such as fish cultivation and chicken, duck, or pig raising. They also acknowledged that the majority of communities are uneducated.

5. Closing

Mr. Veasna Bun captured three main take –away messages for success of FCs. First, he said, good collaboration among fisheries officials and FCs; second, community members have been empowered to take action for community development including combat illegal fishing; and third, FCs have good collaboration with local authorities such as village leaders, commune council members, and district authorities. He encouraged the fisheries officials to work closely with the civil society groups to capture good lesson learned (what's work and what's doesn't work) and to develop good sustainable development plan for FCs and encouraged the participants to share the information to those communities who could not attend the workshops.

At both workshops fisheries officials closed the session by thanking the participants for their contribution and for their active participation in the workshops. They also encouraged the participants to continue to involve and contribute to the project when it's implemented. They also said the purpose of the project is to bring more income for family while their traditional fishing production decreases. FiA also informed the participants that the project's safeguards instruments including RPF, IPPF, ESMF and EMP being translated into Khmer language will be disclosed to the public through the provincial fisheries offices, CNMC and FiA's website.

6. List of participants

On 25 March 2014 in Kratie Province

No.	Name	Position	From	Contact No.
1	Chun China	Programme assistant	WB- PP office	012 729294
2	Sor Sunthary	CFi deputy chief	Cheung Peat	092 504701
3	Lim Samrang	CFi member	-	088 7085201
4	Ngor Chheng	Head of CFi	Kampong Phnov CFi	097 79 82855
5	Houn Sreng	CFi member	Kbal Koh village	092 34678
6	Phan Thy	CFi head	Kbal Somnom village	097 6320299
7	Lei Sokleng	FiA officer	Kratie FiA Cantonment	092749376
8	Neang Sopha	CFi head	Koh Sam	097 5522288
9	Anted Thearith	CFi head	Ponda	092864148
10	Choun Thy	CFi head	Achein village	0979042679
11	I Sanaroth	FiA Officer	Kratie FiA cantonment	092722206
12	Yeun Yav	CFi head	Ampil Teuk	097487400
13	Chan Khemarak	Coordinator	MEDICAM	012 444 356
14	Sam Sovan	Executive Director	NRD	0977775788

15	Om Sokhun	-	CCD	012476834
16	Bou Sareun	Information officer	WB	012414088
17	Hun Sothea	Coordinator	KAFDOC	011554056
18	Chheng Phen	Acting director of IFReDI	FiA	012875072
19	Touch Bunthorng	FiA officer	FiA	078206917
20	Nein Thuok	CFi member	Vatanak CFi	-
21	Ou Sary	Deputy chief of Adm.	IFReDI, FiA	077321121
22	Sim Thavry	Deputy director	IFReDI, FiA	012894226
23	Vein Chung	Deputy chief	Kampong Roteas	0973476252
24	Ngeib Sokhom	-	Preah Kor	0885380153
25	Doung Chantrea	CFi member	Damrei	0975067033
26	Chin Sorm	Network	Koh Dambang	0883525139
27	Sorm Nom	Deputy head	Sambo	0889627427
28	Khiev Oun	-	Kampong Cham commune	0929127667
29	Mom Kosal	CFi head	Koh Pdav	0889843794
30	Hok Kin Eing	CFi deputy chief	Kampong Krabey	0978913475
31	An Hour	Chief of network	Koh Kngei village	0972917950
32	Ros Koy	CFi member	O'Kreang commune	0977405517
33 34	Chheng Chham	CFi head	O'Sandan	
35	Heng Kong	National consultant-WB	Phnom Penh	016 640333
36	So Socheat	Senior officer	Kratie-WWF	012535698
37	Pham Van Khang	Environmental specialist	WB-Hanoi	-
38	Him Hoy	PO	FLO	092707194
39	Sean Kin	Head of Kratie FiA Cantonment	Kratie FiA Cantonment	012674889
40	Or Vanny	Executive director	CRDT	012454636
41	Keo Phat	CFi head	O'Krasang village	0929170980
42	San Di	CFi head	Yav	0888365068
43	I Sokheang	CFi head	Sampy village	0976654815
44	Sa Koy	CFi head	Kampong Khlieng	0976132147
45	San Theung	Deputy of chief	O'Krasang CFi	0978524162
46	Van Meuk	Patrol group	Kampong Kbeung village	0978432714
47	Mut Nin	CFi head	Vatanak CFi	0886194949
48	Lim Sokhen	Chief of patrolling group	Kampong Kbeaung village	-
49	Vesna Bun	Senior officer	WB-Phnom Penh	-

On 27 March 2014 in Stung Treng Province

No.	Name	Position	From	Contact No.
1	Pheak Saven	TLV	MVI	0976656483
2	Mao Sareth	CFi head	Koh Kenden CFi	012356240
3	Than Fan	CFi head	Koh Him	0886874213
4	Houn Chen	CFi member	Koh Him	-
5	Om Nean	-	Koh Kenden CFi	-
6	Pal Bunarak	Programme officer	RECOFTC	089927778
7	Chea Seila	Researcher	WorldFish	077555804
8	Bour Khantorng	CFi member	Koh Sneing village	0979813164
9	Khon Borin	CFi head	Koh Ki	078397270
10	Si Sour	CFi committee	-	011665905
11	Sin Sika	local officer	SCW	0887721329
12	Phat Tomy	Project assistant	CEPA	097777171
13	Van Lon	CFi committee	Koh Sralov CFi	0977408707
14	Leum Ngorng	Secretary	-	097971232
15	Heng Kong	National Consultant	WB-Phnom Penh	016640 333
16	Sim Thavry	Deputy director	IFReDI, FiA	012894226
17	Pham Van Khang	Environmental specialist	WB-Hanoi	-
18	Vesna Bun	SIS	WB-Cambodia	012330360
19	Chea Vanna	CEPA assistant	CEPA	0974989039
20	Kheim Ra	Coordinator	PVT	0887511112
21	Sok Bin	Deputy Chief of CBO	Ngang Som village	0972656425
22	Chanty Dany	CFi member	Sdav II village	0884949381
23	Pheing Kosal	Deputy chief of CBO	Ngang Som village	0979790672
24	Phorn Phun	CFi member	-	0972656425
25	Tha Thorsanith	Head of CBO	Samkouy village	0886873487
26	Kheit Cherm	Village vice-chief	Sameki Thmey village	-
27	Hor Pengly	CFi head	Sangkat Sameki	0887555171
28	Lien Sokhom	CFi head	Koh Sneing village	0976288077
29	Por Khampor	Secretary	Phoum Thmey village	0884948900
30	Chhun China	PA	WB-Cambodia	012729291
31	Phang Lan	CFi member	Kham Than	0746399996
32	La Tha	-	-	0976582745
33	Prom Chun	-	Porng Teuk CFi	0977085322
34	Mao Loun	-	Anlong Svay CFi	0887100278
35	Srey Reim	Head of Extension	Dam Thom	0979901610
36	Heang Leung	CFi member	-	0978281732
37	Long Dim	Programme coordinator	Malop Baitorng NGO	012899471
38	Sok Lay	CFi deputy chief	Anlong Kambor	078397139
39	You Sokneat	FA& Senior producer	WCV	011773708
40	Keo Mib	Head of CBO	Kbal Romeas village	0975771507
41	Pen Chhundy	Head of S. Treng FiA Cantonment	Stung Treng FiA Cantonment	

42	Srey Samvicheat	Head of Sekong division	-	011365883
43	Touch Bunthorng	FiA officer	FiA	078206917
44	Chheng Phen	Acting director of IFReDI	FiA	012875072
45	Ou Sary	Deputy chief of Adm.	IFReDI, FiA	077321121

ANNEX 8: SUMMARY OF DRAFT RAMSAR SITE MANAGEMENT PLAN

Upon designation of the Ramsar Site in Stung Treng, the RGC started drafting the management plan in 2006; the current draft, which is incomplete, is dated June 2007. The draft was primarily prepared by the IUCN; however, its efforts have been suspended due to the apparent lack of financial resources.

Since late 2013, the RGC (the Ministry of Environment) has resumed the finalization of the management plan with the assistance of the WWF. According to the current schedule, the final draft would be prepared by September 2014; however, at this moment, no updated draft is available yet.

The current draft (June 2007) is still preliminary; the current draft mainly comprises description of the site, including flora and fauna uniquely found in the area, and identify the endangered species. The draft states the management objective and goals, and identified establishment of fisheries co-management in the 21 villages located within the designated Ramsar site. However, the draft does not go into details and describes the elements of the necessary actions. It is expected that the current revision works would cover and determine the elements of actions to promote the community fisheries co-management, including the identification of the potential protected sites, preliminary description of fishing regulations, and a strategy to balance livelihood of the villagers and bio-diversity conservation.

The FiA had meetings with the WWF/MOE during project preparation and confirmed that the planned activities under Component 1 (Establishment of the Community Fisheries, Support for Livelihood, and Rehabilitation of the rural infrastructure) is fully in compliance with the direction of the management plan. It is expected that the management plan will set out explicit provisions to allow the project to carry out the planned activities. Further in order to ensure full compliance with the management plan, it has been agreed that: (a) for the 21 villages, the rural infrastructure would be limited to the rehabilitation of the existing foot path, foot bridge, schools and dispensaries, which are already subscribed in the development plan of the respective communes, (b) plans for rehabilitation of rural infrastructure will be submitted to the MOE (Department of Conservation), which is in charge of Ramsar site management for its no objection, and (c) a representative would be included in the National Steering Committee to monitor project implementation and provide with the technical guidance if necessary.