



Guidelines for patrolling community fish refuge systems



Sustainable Aquaculture and Community Fish Refuge Management Project

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Table of contents

1. Introduction.....	2
1.1 Threats to CFR ponds	2
1.2 Benefits of guideline	2
1.3 Approach of guideline	3
2. Patrol teams	3
2.1 Purpose	3
2.2 Establishing a patrol team	3
2.3 Roles and responsibilities	4
3. Location and time	4
3.1 CFR pond	4
3.2 Channel	4
3.3 Rice field.....	5
4. Steps for patrolling CFRs	6
4.1 Step 1: Knowledge of fisheries laws and CFR bylaws	6
4.2 Step 2: Equipment	6
4.3 Step 3: Things to do on patrol	7
4.4 Step 4: Monitoring and evaluation	7
Annex 1. Guidelines for supplementary patrols.	8
Annex 2. Form for recording patrolling activities in the SAFR project.....	10
Annex 3. Template of certification of CFR patrol team	11
References	13

Preface

In the Kingdom of Cambodia, flooded rice fields hold great potential for the spawning and growth of many species of fish and aquatic animals that millions of Cambodians depend on for their survival. During the rainy season, these fields remain flooded for about 6 months, providing a place for fish and aquatic animals to breed and grow. The fields are connected to community fish refuges (CFRs) through various channels, including passages, canals, creeks and streams. Together, these CFRs form a rice field fishery that provides productive fishing grounds that all Cambodians are free to use.

Based on the importance of this natural resource, the Royal Government of Cambodia issued a recommendation in 2007 to establish one CFR in each commune throughout the country. Good management of this system helps to protect and conserve sustainable fisheries resources.

Considering that patrols in community fish refuge ponds are an important part of increasing natural fish stocks and protecting fish species to ensure the sustainability of fisheries resources, the Fisheries Administration, in collaboration with WorldFish and the Sustainable Aquaculture and Community Fish Refuge Management project, has developed a set of guideline. **Guidelines for patrolling community fish refuge systems** for technical assistance in managing CFR pond systems. This document describes the threats to the CFR pond, the purpose of the patrol, the responsibilities of the patrol team, the location and time of the patrol, the steps of the CFR pond patrol (understanding of fisheries laws and community bylaw, measures during the patrol); monitor and evaluate.

Our hope is that this guide meets the needs of all CFR management committees to implement interventions in their areas and helps inform policymaking and planning to protect and manage rice field fisheries in a balanced way, now and for the future.

**Delegate of the Royal Government of Cambodia
in charge of the Fisheries Administration**

1. Introduction

In 1998, Cambodia established its first community fish refuge (CFR) pond, and a total of 915 have been put in place (Fisheries Data 2021). According to WorldFish research, proper pond management can increase catch as much as 71 percent for poor families who depend on fishing in paddy fields (WorldFish 2017). Managing CFRs involves a range of activities, such as building ponds, canals and passages and establishing habitats. But one of the important is patrolling. During the dry season, patrolling protects breeding stocks in a CFR pond, where fish take refuge when the water recedes from isolated ponds in the surrounding rice field. This, in turn, allows the fish to reproduce and repopulate the CFR system during the next rainy season.

1.1 Threats to CFR ponds

Fish from CFR pond systems are an important source of food and income for millions of Cambodians. However, the country's fisheries currently face many pressing issues, including population growth, climate change, habitat loss and illegal fishing. These threaten both the quantity and quality of local natural fishstocks.

At the start of the rainy season, when heavy rains return, CFR ponds are reconnected to paddy fields. This creates a channel or canal that allows fish to swim from the pond and into a flooded rice field, where adult fish spawn and juveniles grow. When the water in the fields recedes, at the end of the rainy season, the fish then return to the CFR pond.

During the rainy season, fishing offenses often occur along the channel, as people set up various traps and barriers and use illegal fishing gear to catch fish passing through. Even during the 6 months of the dry season, when fish in these systems take refuge in CFR ponds, offenses continue to occur.

1.2 Benefits of guideline

We developed this guide to patrolling CFR pond systems with the following objectives in mind:

- Provide technical guidance and knowledge to patrol teams to help them protect fishstocks and prevent illegal fishing in CFRs.
- Respond to the need for regular patrols by CFR committees, local authorities and Fisheries Administration (FiA) cantonments.
- Serve as a reference and guide for CFRs throughout the country and for relevant agencies and partners to use and to implement their patrolling effectively.

- Help inform policies and planning for fisheries in the country.

1.3 Approach of guideline

The guide includes information gleaned from the following sources:

- a review of existing materials on CFR patrols
- two consultative workshops¹ held to gather experiences on proper stocking practices among local communities, FiA officials, private sector actors and nongovernmental organizations
- consultation meetings on the draft guide with national FiA officials in January and February 2023
- efforts to build on the patrolling experience of the Sustainable Aquaculture and Community Fish Refuge Management (SAFR) project and the Rice Field Fisheries Project Phase II.

2. Patrol teams

2.1 Purpose

The general purpose of patrolling CFRs is to protect, preserve and conserve breeding stocks of fish and other aquatic animals to maintain their reproduction capacity and ensure food security, now and in the future. Patrolling activities aim to prevent all illegal fishing in CFR pond systems and all fishing in conservation areas of these systems. Patrolling also raises awareness of the benefits, protection and preservation of fish in CFRs and strengthens the sustainable management of these pond and rice field fisheries.

2.2 Establishing a patrol team

CFR members elect the leader of the patrol team. Those on the patrol are appointed by the commune chief and the relevant local authorities, including the CFR management committee, local authorities (village heads, village deputy-heads, village members, the village security guard) and citizens or CFR members.

Each CFR has two to seven patrol teams, and each team consists of two to five members depending on the size of the CFR, proximity to town, location and the

¹ The first workshop was held on 23 June 2022 in Kampong Thom province, second workshop - 30 May 2023 in Battambang province, participated by the Director of the provincial Department of Agriculture, Forestry and Fisheries; FiA officials from national and sub-national levels; aquaculture specialists from private actors; CFR heads or representatives; and commune councilors.

conservation area. Teams must be officially recognized by the commune chief to conduct patrolling.

2.3 Roles and responsibilities

As part of the process to elect the CFR committee, the patrol team's roles and responsibilities are discussed and agreed upon and then set out in the CFR's bylaws.

The main roles and responsibilities of the patrol team include the following:

- Prevent the placement of all fishing gear in conservation zones as well as the channels connecting the pond to the rice field.
- Seize any gear found in the channel to the CFR pond and in protected zones.
- Report all offenses immediately and collect evidence, including photos of the crime scene, and hand it over to the nearest local authority, competent armed force and fisheries officials for legal action.

3. Location and time

Patrolling must comply with the CFR's bylaws, including regulations on fishing gear, conservation zones and protected zones, which can differ between CFRs. Regular patrols may focus on either general areas or specific parts of the CFR system by season and time.

3.1 CFR pond

During the dry season, fish congregate in CFR ponds. This, in turn, attracts fishing activities whether the pond is known as no fishing area and is protected by law.

3.2 Channel

Channels include canals, creeks, streams and other waterways that connect the CFR pond to rice field ecosystems. During the rainy season, fish migrate out of the pond and into the field to spawn and then return to the pond to take refuge for the dry season. Illegal fishing often occurs along channels, especially ones near a CFR pond. As such, patrolling the channel is essential to control activities that could prevent the fish from using it, especially at the beginning (May to July) and end (November to December) of the rainy season. Regular patrols during these periods will help ensure that the fish can move to the pond to spawn and then return safely to the rice field.

3.3 Rice field

Spawning and nursery grounds are where fish feed and grow. They are also where the public is allowed to fish for subsistence purposes. In their bylaws, most communities define areas for protection according to their various sizes. In addition to protected zones, patrolling may also take place in a nondefined way within a rice field. The community has the right to report any offense, particularly illegal fishing and other practices such as channeling water for the purpose of fishing and fishing with banned gear, like electrofishing.

Rice fields are often too large for teams to patrol and manage effectively. If the community wishes to patrol the field outside the protected zone, it must consult with relevant fisheries officials, the commune chief or councilors to secure an agreement in terms of extent, time and frequency of patrols and to focus specifically on illegal fishing.

Additional point 1: The relationship between the frequency of patrols, intervention activities and the location of CFR ponds:

- Improvements like deepening the pond and fishing installation (dead branch of trees) within it will require less patrols.
- The proximity of the ponds, channels and protected zones to the village center helps minimize the need for frequent patrols.
- Shallow CFR ponds require more patrols compare to deep CFR, as do any of the three components of the CFR (refuge ponds, channel and rice field) that are far from the village.

Additional point 2: The patrol team must explore the possibility of any illegal fishing in the area and how to combat it, taking into consider the time and location that it often takes place.

Additional point 3: This following is a case study of actual patrolling in the Kaek Ngout CFR located in Kampong Chheu Teal Village, Taing Krasau Commune, Prasat Sambo District, Kampong Thom Province:

- During the dry season (November to May), communities conduct regular patrols with motorcycles, intermittently, for 6 hours a day. Patrols take place between 05:00 and 07:00 in the morning, 13:00 and 15:00 in the afternoon and 17:00 and 19:00 in the evening.
- Between these times, patrols are done as needed.
- During the rainy season (June to October), patrols are done by boat, both during the day and at night.

Additional point 4: When planning patrols, communities need to take the weather into consideration, as more illegal fishing tends to happen:

- Early in the rainy season (May to July) when it rains heavily, some illegal fishing occurs.
- At the end of rainy season (November to December) when the northeast monsoon prevails illegal fishing, such as electrocution, fishing with fine mesh nets, or fencing, happens.

4. Steps for patrolling CFRs

4.1 Step 1: Knowledge of fisheries laws and CFR bylaws

All team members must have received training on many relevant subjects to be able to conduct effective, successful and safe patrols:

- fisheries laws, provisions relevant to protection and conservation, permitted fishing gear, and penalties
- CFR bylaws, conservation zones, protected zones, permitted fishing and conflict resolution
- roles and responsibilities of the patrol team
- CFR systems and their functions
- how to use equipment such as radio transceivers, cameras
- approaches to addressing offenses
- planning for effective patrols
- documentation for M&E of the patrol process, offenses, illegal gear or illegal fishing encountered during patrols and their reporting
- a pre-patrolling assessment of the overall state of offenses in all three components of the CFR system, the locations and time the offenses often happen, the nature of the offenses, illegal fishing gear identified by the community, trends of illegal fishing, causes of such trends, solutions to reported cases, and the nature of cases resolved by local authorities and competent agencies.

4.2 Step 2: Equipment

For patrols to be successful, communities need to have the proper equipment and documentation. This includes a radio transceiver, telephone, contact numbers of relevant authorities, rain gear (for rainy season patrols), flashlight, motorbikes or boats (paddle or motorized), mosquito net, hammock, uniform, boots, solar-powered CCTV, guardhouse and first aid kit.

In addition, the members of the patrol team must know how to operate and use the gear, and solar-powered CCTV, as well as how to communicate with local authorities (commune and police). CCTV should be installed according to patrolling needs of the community, as it saves time and provides evidence of offenses.

4.3 Step 3: Things to do on patrol

When encountering an offense, such as illegal fishing gear or illegal activities within the CFR system, the patrol team must take the following actions:

- Take photos of the crime scene with the perpetrator(s). Report the offense to the nearest local authority and competent agencies and then hand over the photos so that they can take action against the offender.
- Advise and educate offenders with a written warning.
- For multiple offenses, file a report immediately to the local authority and competent agencies for legal action.
- Financial fines or penalties may be imposed in accordance with the provisions of the fisheries law and compensation sought for any damage. Community bylaws contain penal provisions and fines for illegal fishing, though they may vary between communities.
- All financial fines and compensation for damages must be supported with receipts and reports acknowledged by the village and commune authorities and administrative police or fisheries agency.

More information is provided in Annex 1 regarding the nature of offenses, gear types and solutions.

4.4 Step 4: Monitoring and evaluation

Community leaders or commune chiefs must regularly review patrolling activities to assess their effectiveness. The process includes the following:

- Review the patrol diary and logbook.
- Review the patrol report.
- Inspect patrolling activities.
- Respond to fishing offenses reported by the patrol team.
- Report offenses immediately to the relevant authorities, such as the commune, FiA and local police.

In addition, the CFR committee must report monthly results of the patrols and address any problems encountered during patrols in monthly commune meetings.

Along with law enforcement, patrol and CFR leaders should monitor trends in offenses. Whenever there is an increase in offenses, CFR leaders and local authorities should meet to discuss the underlying causes and develop plans to address them. This could include, for example, raising awareness of the benefits of CFRs and the bylaws associated with them and by enforcing fisheries laws.

Monitoring, evaluation, and action planning should also be done regularly.

Annex 1. Guidelines for supplementary patrols.

		Actions, when encountering offense	Actions, when not encountering offense
Illegal fishing in CFR conservation areas (refuge pond and protected zones)	Fishing in contradiction to the provisions of fisheries laws	Take action in accordance with provisions in fisheries laws.	
	Corroboration in offenses	Take action in accordance with provisions in fisheries laws.	
	Fishing with gear in conformity with fisheries laws in conservation areas and protected zones	When seeking financial compensation in the amount as set in the relevant CFR bylaws, evidence will not be returned.	Remove the gear.
	Littering and dumping waste in or near CFR ponds	Seek financial compensation in the amount as set in the relevant CFR bylaws.	Remove the waste.
Illegal gears	Electrocution	Take action in accordance with provisions in fisheries laws.	Remove the gear.
	Fyke net made of mosquito netting	Take action in accordance with provisions in fisheries laws.	Remove the gear.

	Mosquito nets or bag nets	Raise awareness among offenders regarding relevant provisions in the CFR bylaws and the fisheries laws so that they do not commit repeated violations.	Remove the gear.
	Modified fyke net (<i>Preus 100</i>)	Take action in accordance with fisheries laws.	Hand the gear over to the competent agency.
	Fine mesh net across the channel	Take action in accordance with fisheries laws.	Remove the gear.

Annex 3. Template of certification of CFR patrol team

KINGDOM OF CAMBODIA

NATION RELIGION KING

Province: Kampong Thom

District: Kampong Svay

Commune Hall: Sann Kor

No. 3985/2021

DECISION ON ESTABLISHMENT AND RECOGNITION OF ANKANH VIEN CFR PROTECTION AND MANAGEMENT PATROL TEAM

Pursuant to:

- Royal Kram NS.RKM 0301/04 dated 19 March 2001 promulgated the law on Commune/Sangkat Administrative Management
- Sub-decree No. 22 ONK.BK dated 25 March 2002 on Delegation of authority and duties to the commune/Sangkat councils.
- Decision No. 070 SSR.TKS dated 25 November 2005 of the National Committee to support commune/Sangkat.

Hereby decided.

Article 1. It is to establish and recognize the Angkanh Vien CFR patrol team at Krasaing Village, Sann Kor Commune, Kampong Svay District with members as follows:

Team 1 – To patrol from Monday to Tuesday

Name	Role
Mr. Sok Ol	Leader
Mr. Chuob Meun	Deputy leader
Mr. Prum Sarith	Member
Mr. Tuy Kheang	Member

Team 2 – To patrol from Wednesday to Thursday

Name	Role
Mr. Meoun Rum	Leader
Mr. Thnag Bonh	Deputy leader
Mr. Mum Krui	Member
Mr. Tuk Sma Art	Member

Team 3 – To patrol from Friday to Saturday

Name	Role
Mr. Tann Phut	Leader
Mr. Ban Kreoun	Deputy leader
Mr. Chhuon Kinin	Member
Mr. Chann Pheoung Lem	Member

All teams will patrol Sunday jointly.

Note: Shifts are subject to change as needed.

- Prevent all fisheries offenses in the CFR and the entire area or report offenses to the local authorities.
- Perform other duties as advised by the FiA.
- Produce progress and financial reports for relevant stakeholders and the CFR members.
- Liaise with competent agencies, local authorities and stakeholders to prevent and suppress fisheries offenses in the CFR area.
- Convene meetings of the CFR committee to consolidate and evaluate outcomes of their work on a monthly, quarterly and annual basis.
- Attend meetings with commune councils and the FiA upon invitation.
- Raise awareness among local people and stakeholders on the CFR's bylaws, internal regulations, and benefits.

Article 2: All relevant agencies in the commune and individuals in article 1 and 2 shall ensure the decision effectively from the date it is signed.

December 2, 2021
Sann Kor Commune Chief
Ouch Sreng

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