The Assessment of the Effectiveness of Community Fisheries in Cambodia

Cambodia Programme for Sustainable and Inclusive Growth in the Fisheries Sector:

Capture Component (CAPFISH-Capture)

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Executive Summary

Based on the financing agreement between The European Union and The Royal Government of Cambodia, a target was set for 34% of registered CFis qualified as strong in 2022. Totally, 202 registered communities fisheries in 17 provinces in Cambodia were assessed using pre-designed focus group discussion questions (FGD). These questions were based on the data collecting tool of the CFi effectiveness assessment in 2018 and additional questions that help improve the tool. A scoring system was applied for ranking all responses in four main CFi effectiveness assessment criteria for quantitative data analysis. These criteria are: 1) CFi management and operation, 2) CFi Committee process of engaging communities, 3) Benefits/impacts of CFi, and 4) CFi sustainability. Each of variables are being rated and the combined average scores of all criteria were used to determine the status of the CFi being strong, moderate, or weak. The results of the analysis showed that 39% (78 CFis) were strong, 51% (103 CFis) moderate, and 10% (21 CFis) were weak. Following the results, the target was considered as completely achieved. It was also found that the results of the four key criteria in 2022 shows slightly higher rating than those in 2018, especially for the criterion focussed on the CFi Committees' process for engaging community.

1. Introduction

1.1 Background

The Royal Government of Cambodia (RGC) has continuously reformed the fisheries sector since 2001, completing approximately 1 million hectares of fishing lots to deliver to local people for sustainable and equitable management and use through organizing the community fisheries (CFi). To date, there are 516 CFis, organized as such community-based organisations (CBOs) in both the inland and coastal zones of the Kingdom of Cambodia, supported by the Fisheries Administration (FiA), non-governmental organizations (NGO) and development partners (DP), including EU-funded budgets, to strengthen the CFi roles and improve the CFi co-management mechanisms. The number of CFi is still the same as in 2019 remained 516 total, with 447 CFis officially registered, with a total of 332,168 CFi members (35% female) and 4,497 elected CFi Committee members (15.6% female). A total of 150 CFis received the small grant support from FiA.

To understand the effectiveness of the CFi, in 2018, the Community Fisheries Development Department (CFDD) of FiA conducted the CFi effectiveness assessment in 17 provinces, The results of assessment indicated that 9% of CFi were classified as the well-functioning CFi or strong, 52% moderate, and 39% weak. Then in 2022, CFDD conducted another CFi effectiveness assessment in the same 17 provinces, under the technical support of FAO CAPFISH-Capture. The purpose of this assessment was to understand the changes in the effectiveness of the CFis compared to the 2018 assessment. A follow-up CFi effectiveness assessment was designed and conducted in 2022 in order to track the changes.

1.2 Objectives

The main objectives of the assessment were to find out the effectiveness status of the registered CFi in 2022 and to compare with the baselines from the CFi effectiveness assessment in 2018, and to use the results of the assessment to indicate whether the target stated in the Financing Agreement between the EU and the RGC has been met. The target was 34% of registered CFis qualified as strong in 2022.

2. Assessment Methodology

2.1 Data collection

The assessment on the effectiveness of CFis has been conducted by Fisheries Administration Cantonments in 17 provinces[1] that have registered CFis, supervised and advised by the Community Fisheries Development Department (CFDD), to collect the data and information with technical support of the technical staffs of the EU-PGA-FiA.

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[1] Five provinces without CFi (Palin, Kampong Speu, Oddar Meancheay, Preah Vihear, and Phnom Penh) were not included. 115 CFis (out of a total of 119) located in Kratie and Stung Treng provinces were not selected for further data collection because the CFis in these two provinces were covered by another fishery project funded by the World Bank and did not receive EU budget support. The World Bank had its own methodology to assess the effectiveness of the CFi and the methodology was not comparable to the one used by FiA. Kandal was also not included as it did not receive budget support. Only 1 out of 14 CFis in Ratanakiri was included due to budget constraints during the field data collection.

The methodology of the CFi effectiveness assessment in 2022 follows that of the assessment in 2018, for which the CFi selection and the data collection methodology were submitted to, discussed, and adopted by, the Conservation and Economic Sub-group (TWG-CFi) of the Technical Working Group on Fisheries (TWGFi). With the support of the CAPFISH Capture and after long discussion sessions and revisions, the methodology of data collection including FGD questions based on all questions in 2018 and additional questions to improve the assessment of the effectiveness (Annex 1) was finally approved by the Sub-TWG on Conservation and Economic in 2021.

The field data collection for the assessment took place for 6 months, from May to October 2022. Due to limited resources, 202 registered CFis located in 17 provinces (Prey Veng, Takeo, Kampong Cham, Tboung Khmum, Kampong Chhnang, Pursat, Battambang, Kampong Thom, Siem Reap, Banteay Meanchey, Kep, kampot, Preah Sihanouk, Koh Kong, Kratie, Stung Treng and Ratanakiri) were selected from all 447 registered CFis in the whole country for conducting FGD discussion sessions. The sample size of 202 CFis was considered sufficiently large and representative for the total number of 447 registered, with the result statistically significant at the 95% confidence level.

The data collection took place based on Focus Group Discussion (FGD) method which 10 CFi members (excluding chief, vice-chiefs, and CFi committee's members) from each community fisheries for conducting FGD session. These chief, vice-chiefs, and CFi committee's members were not invited for that FGD discussion in order to avoid giving the biased information about the CFi. The only exception was for the 3 finance-related questions for CFC (Q5.2b, Q5.2.c, and Q5.3.d). These questions were posed to the CFi committee as only they had the knowledge to respond accurately.

In each of FGD session, a technical group consisted of one person from the FiA-CFDD and two people from a Fisheries Administration Cantonment (FiAC) served as facilitators. Prior to the field work, a training course and pre-testing were conducted. The FiA staff acted as the supervisor who was advised and assisted the FiACs 'staff for conducting the FGD sessions and data incorporation.

The FGD questions contained four main criteria: 1. community fisheries management and operations; 2. CFC's process for engaging communities; 3. benefits/impacts of CFi; and 4. the CFi's sustainabilitye. In each criteria, there were detailed questions which were simple and easy to be understood.

To answer each question, participants (members of a CFi) were asked to choose only one among three choices: 1 = weakness/less/no, 3 = moderate/same/some , and 5 = strong/better/more/yes.

2.2 Data input and analysis

The data from each of the FGD sessions were incorporated into a pre-designed data template using EXCEL Spreadsheet (Annex 2). The analysis averaged first each of the four criteria. A total average was then calculated for each of the CFis by combining the results from all 4 criteria. The scoring result of a CFi fell into one of the three types of the CFis below. These categories were fully discussed within and adopted by members of the CFDD and the technical experts. The calculation was conducted for individual CFi, as well as for both provincial and the national levels.

- Type (1) "Weak": Score <3
- Type (2)"Average": Score 3-4

- Type (3) "Strong": Score >4.

3. Results and findings

3.1. Chaktomuk Region

Prey Veng province is located in the Chaktomuk region. There were 24 registered CFis. Thirteen CFis were selected as the sample of the assessment. The results of assessment in Prey Veng indicated that 31% of CFi were strong, 69% moderate, and 0% week (Figure 1).

Figure 1: The result of CFi assessment in Pre Veng in 2022 vs 2018
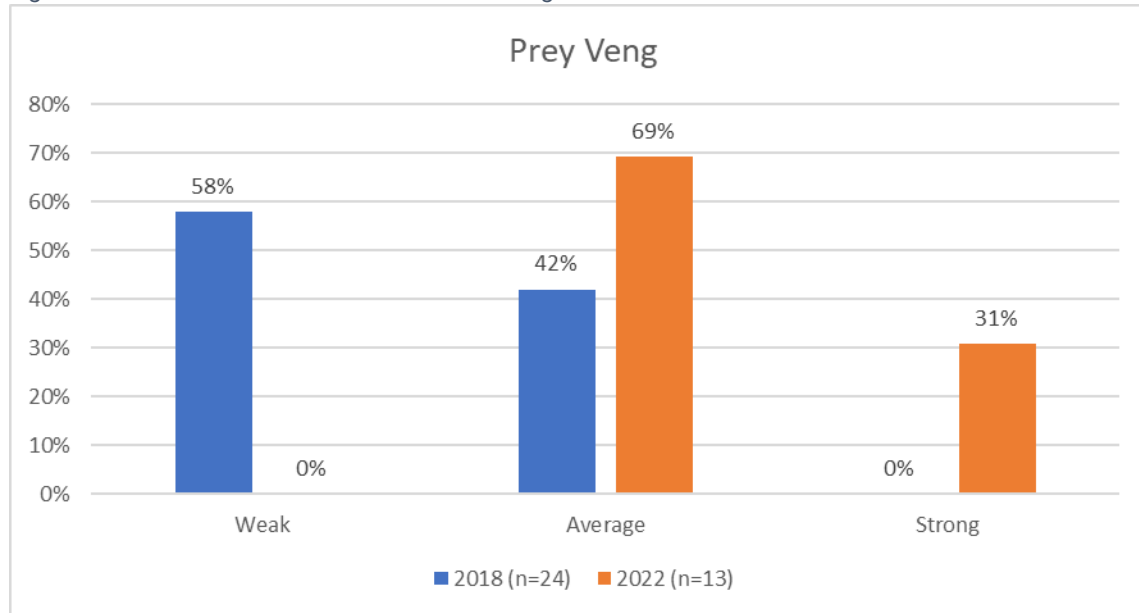
Takeo province is located in the Chaktomuk region. There were 12 registered Cfis and all of them were selected for an assessment. The result showed that 33% of CFis were strong, 58% moderate, and 8% week (Figure 2).

Figure 2: The result of CFi assessment in Takeo in 2022 vs 2018

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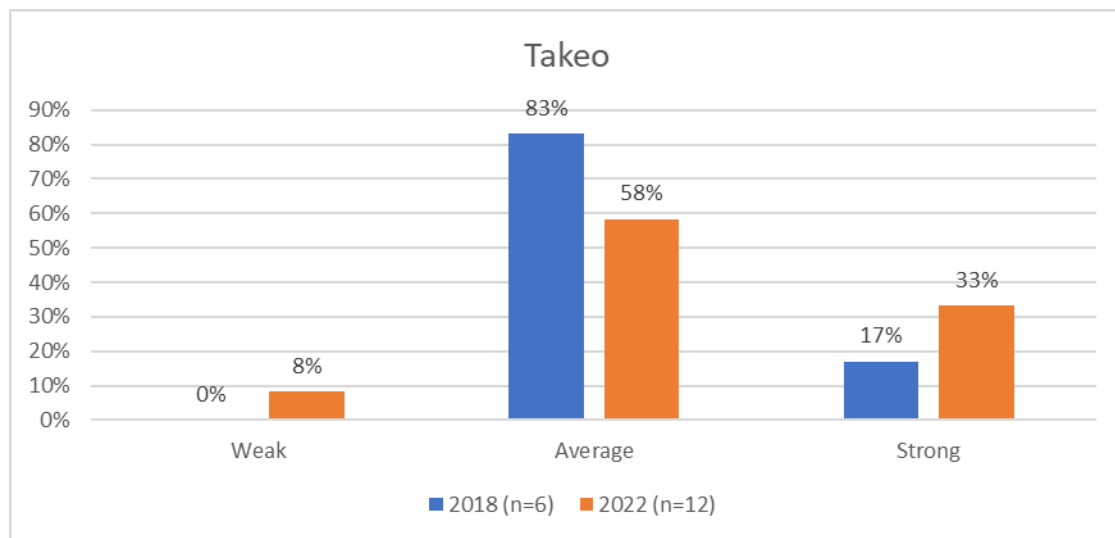
3.2. Mekong Region

Kampong Cham province is located in the Mekong Region. There were 13 registered CFis. Nine CFis were selected as the sample of the assessment. The results of assessment in Kampong Cham indicated that 11% of CFis were strong, 56% moderate, and 33% week (Figure 3).

Figure 3: The result of CFi assessment in Kampong Cham in 2022 vs 2018
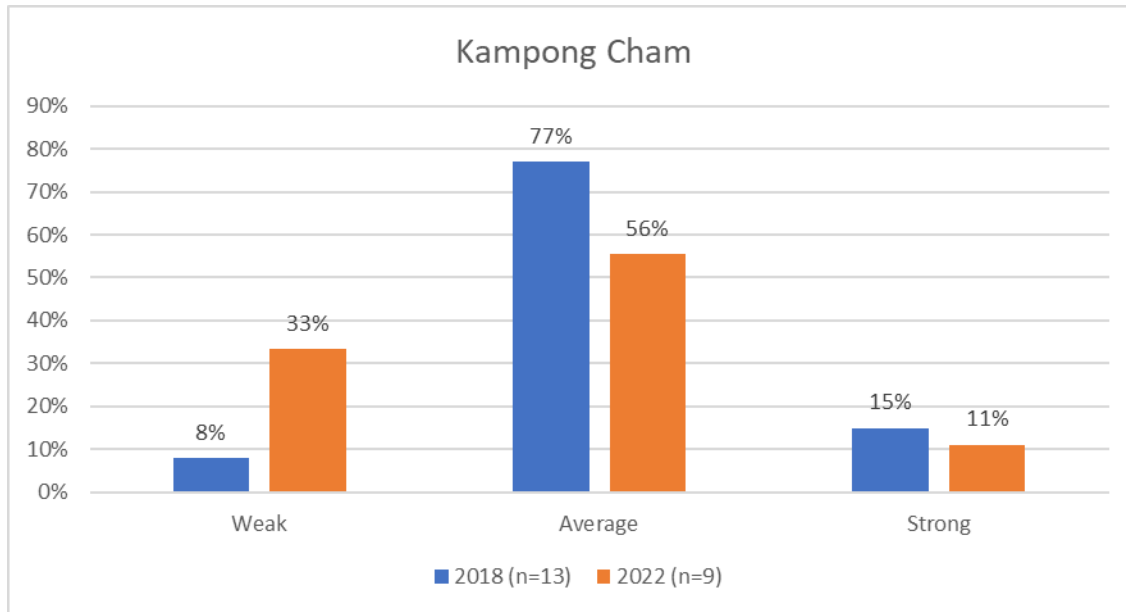
Tboung Khmum province is located in the Mekong region. There were 14 registered CFis. Eleven CFis were selected as the sample of the assessment. The results showed that 45% of CFi were strong, 36% moderate, and 18% week (Figure 4).

Figure 4: The result of CFi assessment in Tboung Khmum in 2022 vs 2018
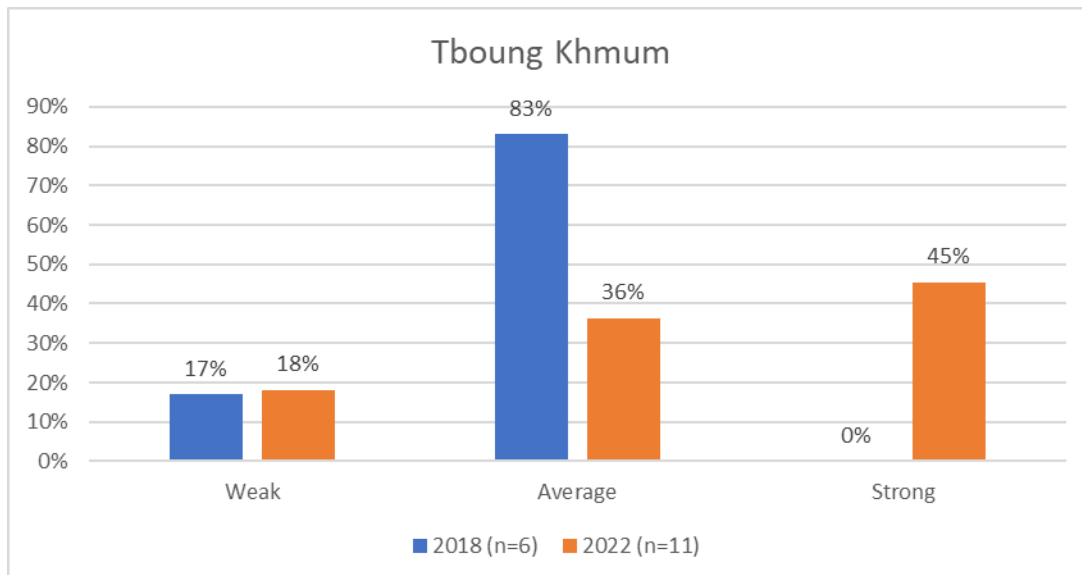
3.3. Tonle Sap lake

Kampong Chhnang is one of the provinces located in Tonle Sap. There were 54 registered CFis in this province. Forty of registered Cfis were selected as the sample of the assessment. The results of assessment in this province indicated that 43% of CFi were strong, 55% moderate, and 3% week (Figure 5).

Figure 5: The result of CFi assessment in Kampong Chhnang in 2022 vs 2018
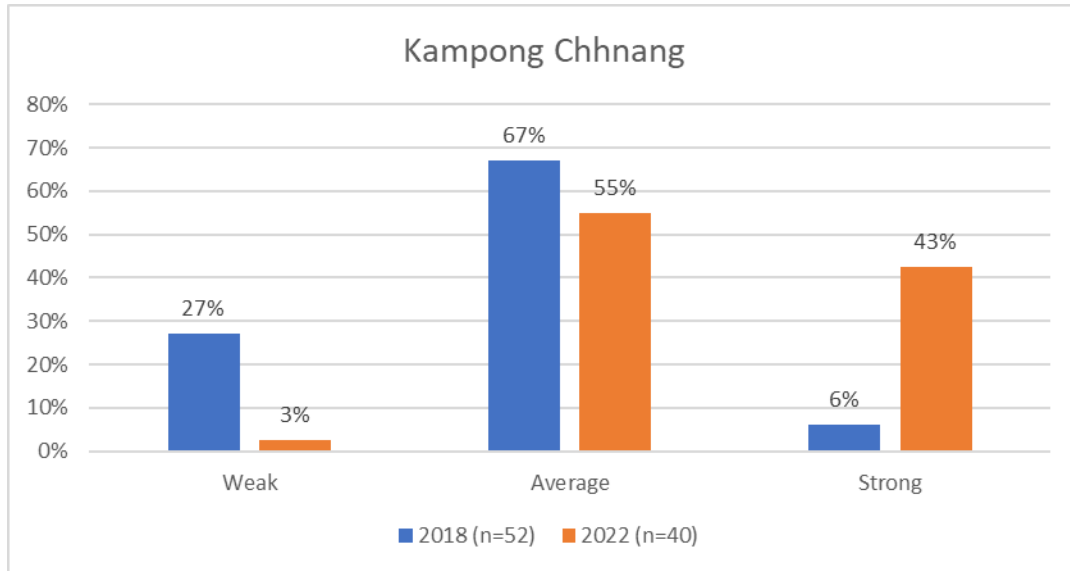
Pursat is another province located in the Tonle Sap Region. There were 32 registered CFis. Eighteen CFis were selected as the sample of the assessment. The results of assessment showed that 44% of CFi are strong, 50% moderate, and 6% week (Figure 6).

*Figure 6: The result of CFi assessment in Pursat in 2022 vs 2018*
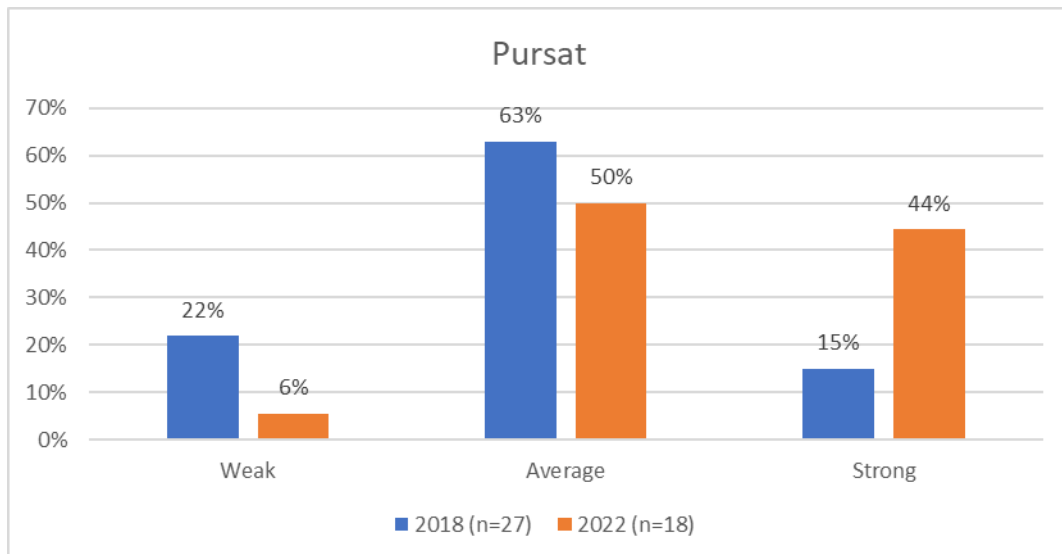
Battambang province is also located in Tonle Sap Region. There are 42 registered CFis. Thirty CFis were selected as the sample of the assessment. The results of assessment in this province indicated that 23% of CFi are strong, 70% moderate, and 7% week (Figure 7).

Figure 7: The result of CFi assessment in Battambang in 2022 vs 2018
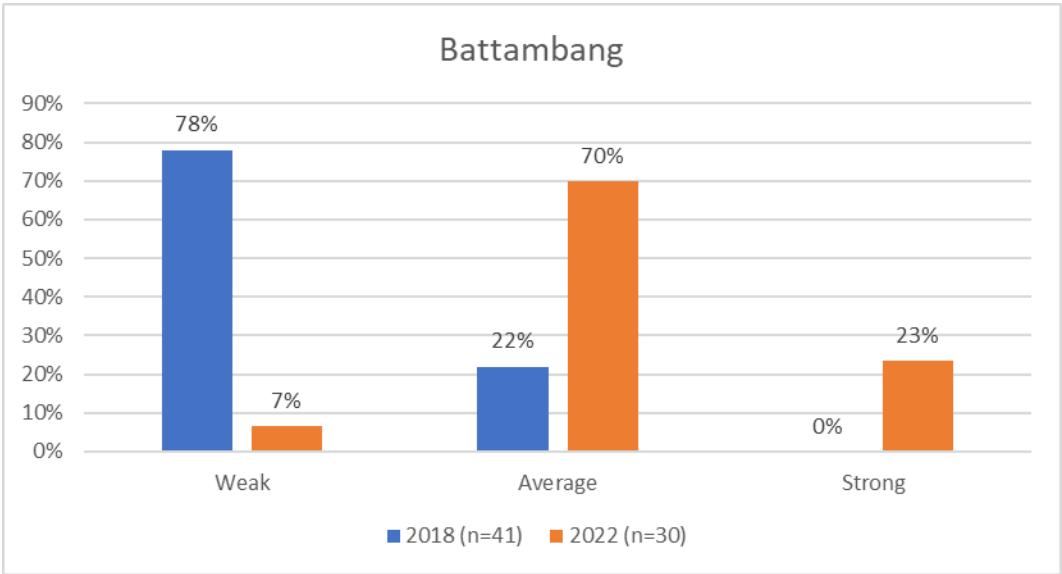
Kampong Thom province is also located in Tonle Sap Region. There are 40 registered CFis. Sixteen CFis were selected as the sample of the assessment. The results of assessment in this province indicated that 13% of CFi were strong, 56% moderate, and 31% week (Figure 8).

Figure 8: The result of CFi assessment in Kampong Thom in 2022 vs 2018
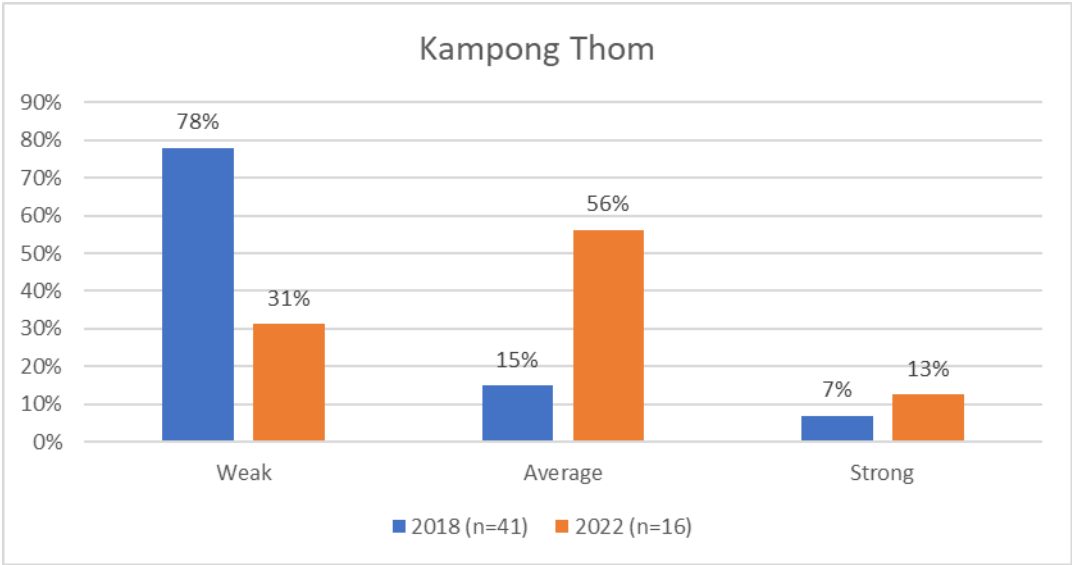
Siem Reap is also located in Tonle Sap Region. There are 22 registered CFis. Eight were selected as the sample of the assessment. The results of assessment in this province indicated that 75% of CFi were strong, 25% moderate, and 0% week (Figure 9).

Figure 9: The result of CFi assessment in Siem Reap in 2022 vs 2018

Banteay Meanchey province is also located in Tonle Sap Region. There are 17 registered CFis. 10 were selected as the sample of the assessment. The results of assessment in this province indicated that 50% of CFi were strong, 50% moderate, and 0% week (Figure 10).

Figure 10: The result of CFi assessment in Banteay Meanchey in 2022 vs 2018
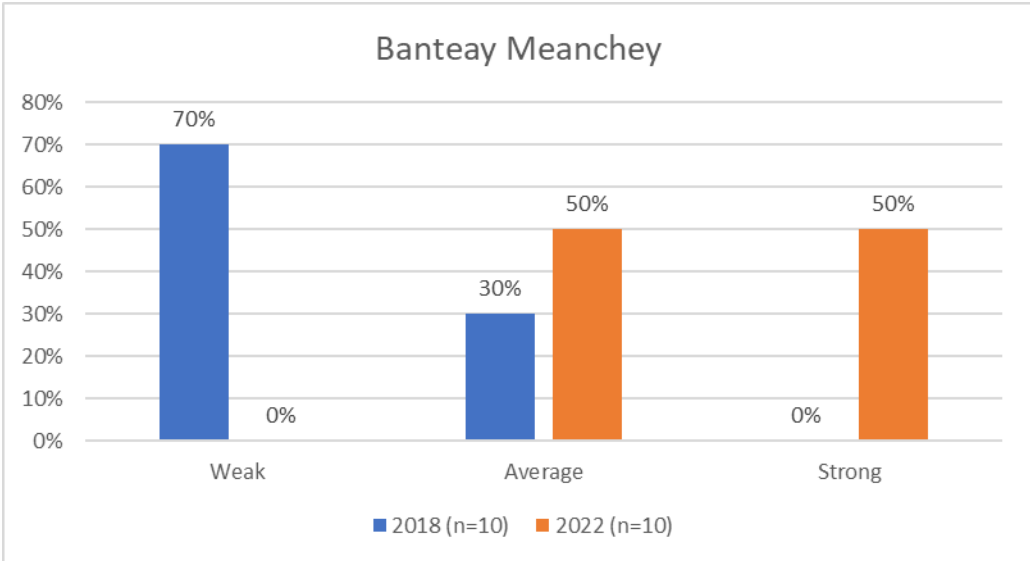
3.4. Coastal Region

Kep province is located in the coastal region. There were 5 registered CFis. All of CFis were selected as the sample of the assessment. The results of assessment in Kep province indicated that 80% of CFi are strong, 20% moderate, and 0% week (Figure 11).

Figure 11: The result of CFi assessment in Kep in 2022 vs 2018
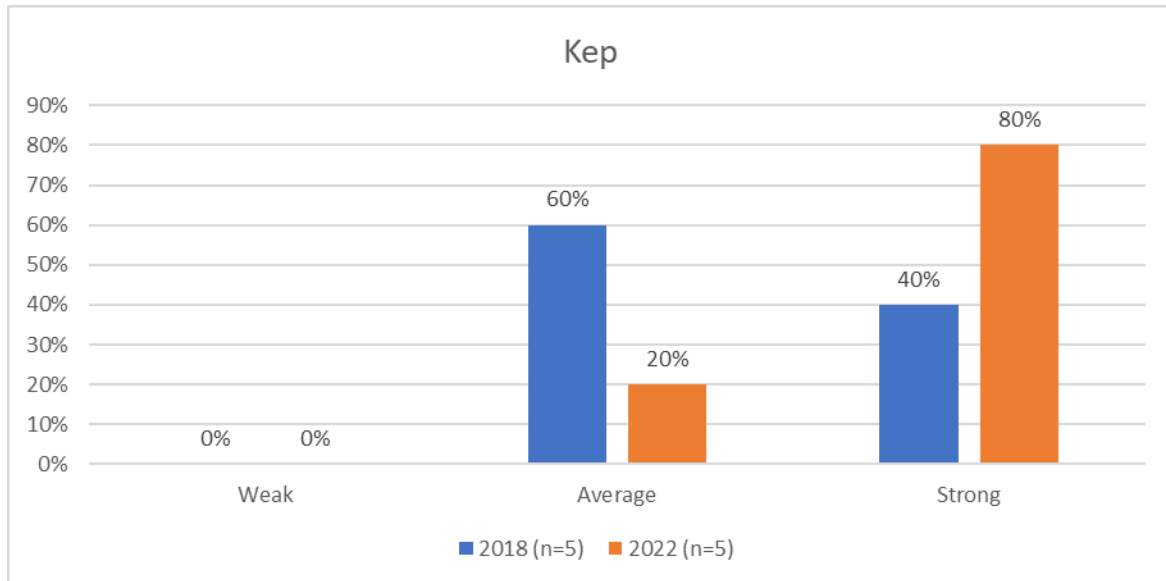
Kampot is another province in the coastal region. There are 7 registered CFis. All of them were selected as the sample of the assessment. The results of assessment in Kampot province indicated that 57% of CFi were strong, 29% moderate, and 14% week (Figure 12).

Figure 12: The result of CFi assessment in Kampot in 2022 vs 2018
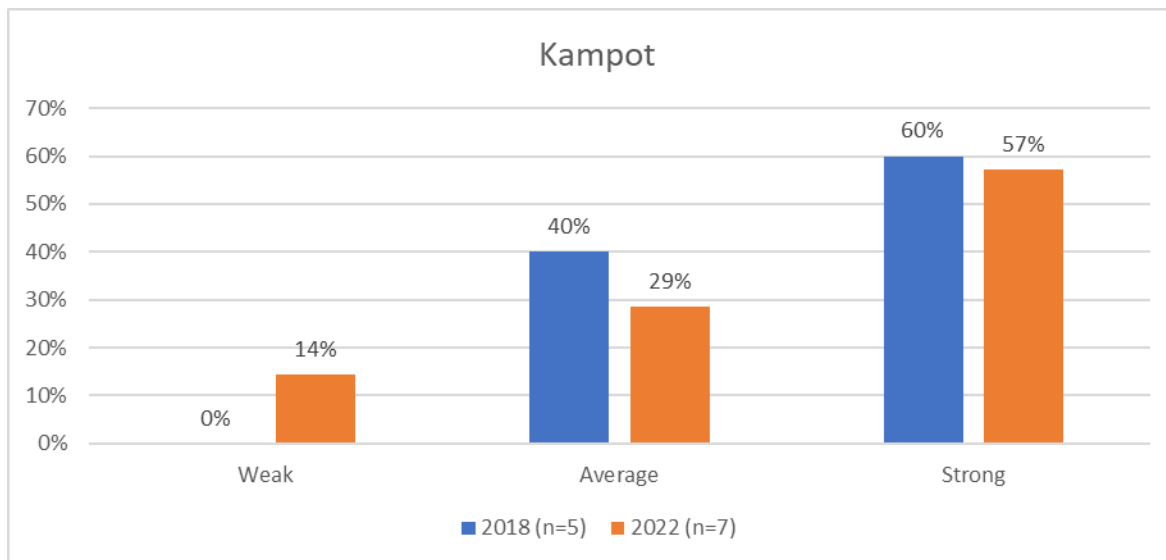
Preah Sihanouk province is also located in coastal region. There were 13 registered CFis. Ten CFis were selected as the sample of the assessment. The results of assessment in this province indicated that 30% of CFi are strong, 50% moderate, and 20% week (Figure 13).

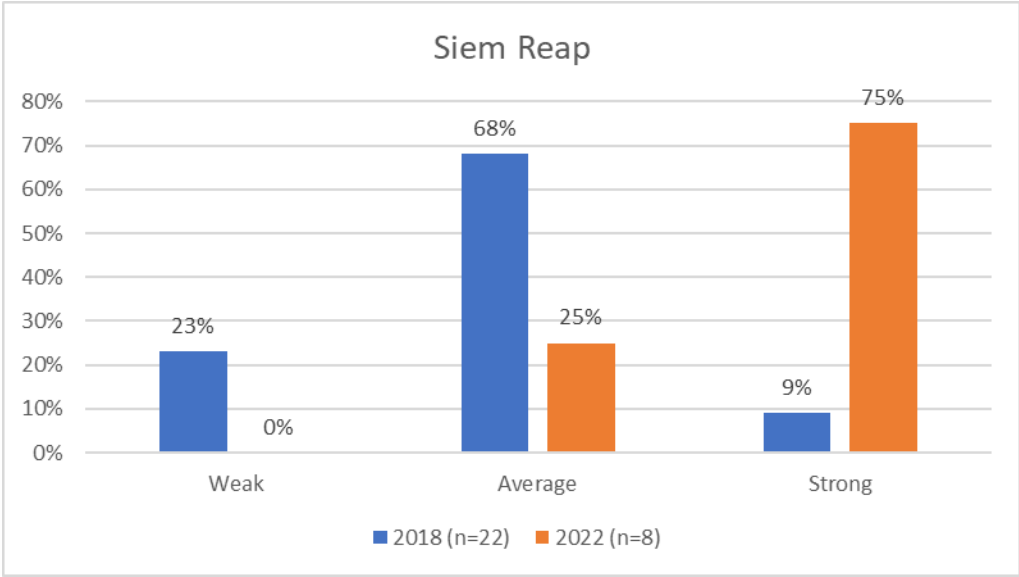*Figure 13: The result of CFi assessment in Preah Sihanouk in 2022 vs 2018*
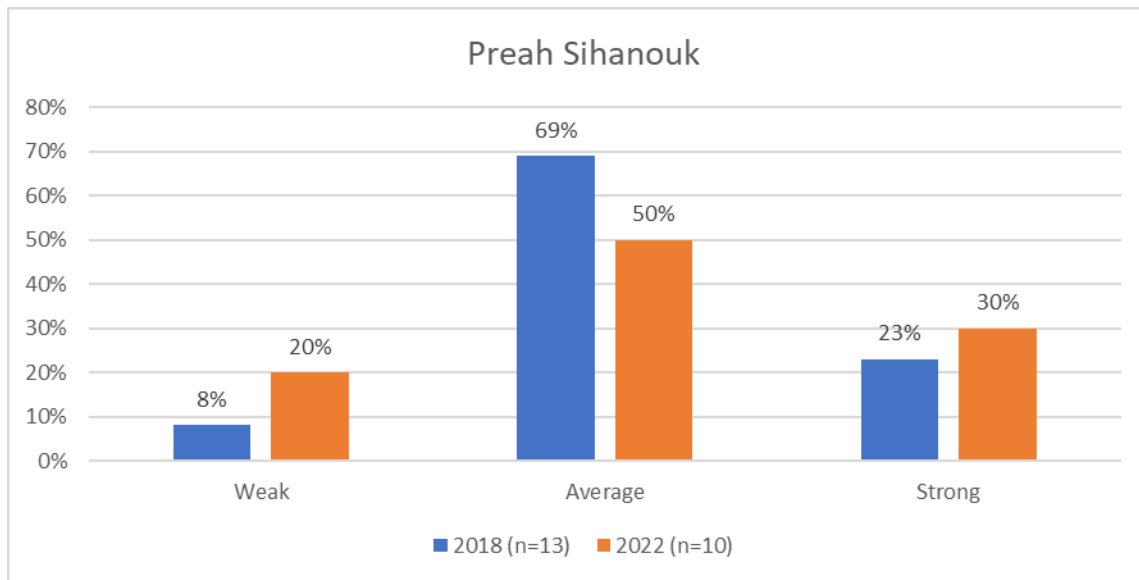
Koh Kong province is located in the coastal region. There are 14 registered CFis. Eight CFis were selected as the sample of the assessment. The results of assessment in Koh Kong indicated that 38% of CFi were strong, 25% moderate, and 38% week (Figure 14).

*Figure 14: The result of CFi assessment in Koh Kong in 2022 vs 2018*
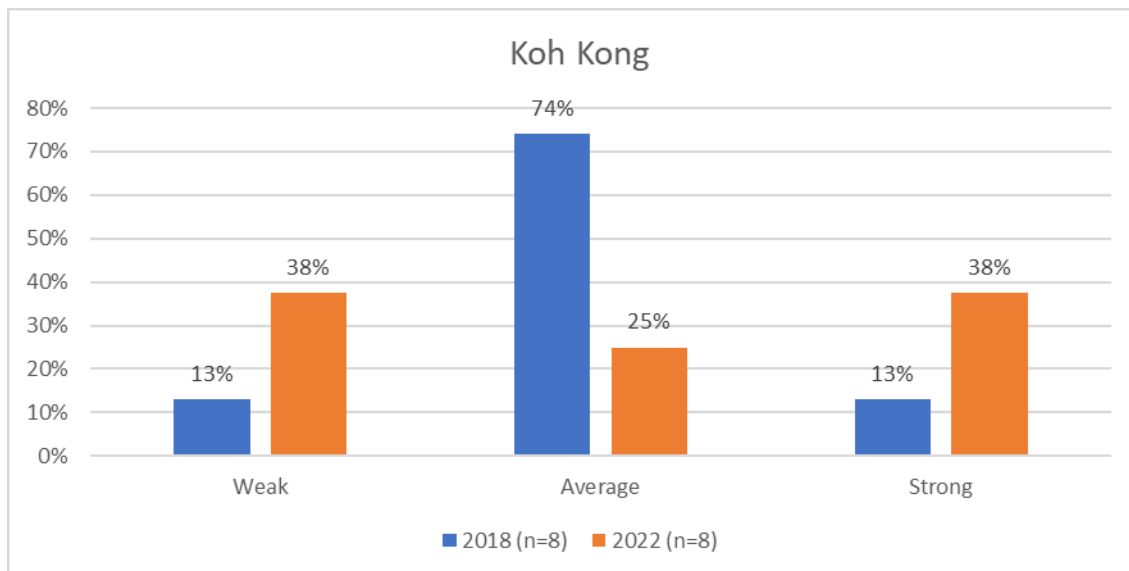
3.5. Summary of all results

The results of the data collection with the registered CFi in the 17 provinces in 2022 showed that 39% (78 CFis) were strong, 51% (103 CFis) moderate, and 10% (21 CFis) were weak. In comparison with the results from 2018, roughly half of the moderate CFis in both assessments were assessed as moderate, while the overall number of strong CFis increased in 2022 and that of weak CFis dropped. The results of the assessments in 2018 and 2022 suggest that the proportions of strong and weak CFis have actually reversed; with the number of weak CFis in 2018 decreasing from 39% to 10%, and the number of strong CFis increasing from 9% to 39% (Figure 15). Therefor the target of 34% strong CFi was met.

Figure 15: CFi Effectiveness Assessment in 2018 vs 2022

CFi Effectiveness Assessment in 2018 vs 2022

	Strong	Moderate	Weak
Assessment in 2018 (N=292 CFis)	9% (26 CFis)	52% (151 CFis)	39% (115 CFis)
Assessment in 2022 (N=202 CFis)	39% (78 CFis)	51% (103 CFis)	10% (21 CFis)

Table 1: Summary result of CFi assessment in 2022 by province

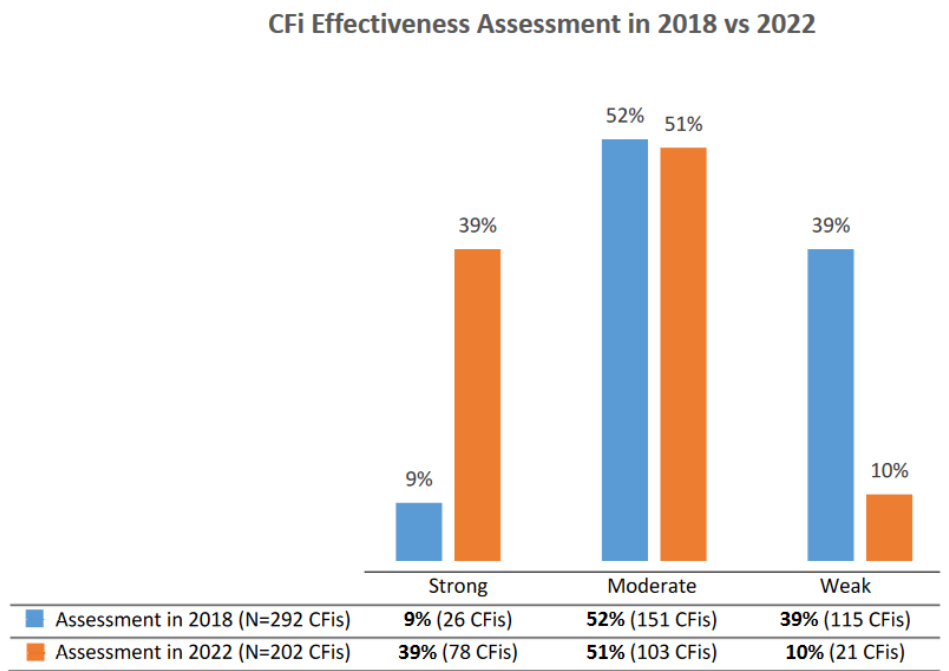| S.N	Regional	English	CFI Registered	Survey 2018 (n)	Survey 2022 (n)	% Survey 2022 to CFi Register	Weak 2022 (n)	Average 2022 (n)	Strong 2022 (n)	% Weak 2022	% Average 2022	% Strong 2022	Total
1	Chaktomuk	Phnom Penh											
2	Chaktomuk	Kandal	5	3		0%							
3	Chaktomuk	Prey Veng	28	24	13	46%	0	9	4	0%	69%	31%	100%
4	Chaktomuk	Takeo	12	6	12	100%	1	7	4	8%	58%	33%	100%
5	Chaktomuk	Svay Rieng	1										
	sub-total Chaktomuk		46	33	25	54%	1	16	8	4%	64%	32%	100%
6	Mekong	Kampong Cham	13	13	9	69%	3	5	1	33%	56%	11%	100%
7	Mekong	Tboung Khmum	14	6	11	79%	2	4	5	18%	36%	45%	100%
8	Mekong	Kratie	63		2	3%	0	0	2	0%	0%	100%	100%
9	Mekong	Stung Treng	52		2	4%	0	0	2	0%	0%	100%	100%
10	Mekong	Ratanak Kiri	14	14	1	7%	0	0	1	0%	0%	100%	100%
11	Mekong	Mondul Kiri	3	2		0%							
	sub-toal Mekong		159	35	25	16%	5	9	11	20%	36%	44%	100%
12	Southern	Kampong Chhnang	54	52	40	74%	1	22	17	3%	55%	43%	100%
13	Southern	Pursat	32	27	18	56%	1	9	8	6%	50%	44%	100%
14	Southern	Battambang	42	41	30	71%	2	21	7	7%	70%	23%	100%
15	Southern	Pailin											
16	Southern	Kampong Speu											
	sub-toal Southern		128	120	88	69%	4	52	32	5%	59%	36%	100%
17	Northern	Kampong Thom	40	41	16	40%	5	9	2	31%	56%	13%	100%
18	Northern	Siemreap	22	22	8	36%	0	2	6	0%	25%	75%	100%
19	Northern	Banteay Meanchey	17	10	10	59%	0	5	5	0%	50%	50%	100%
20	Northern	Oddar Meanchey											
21	Northern	Preah Vihear											
	sub-toal Northern		79	73	34	43%	5	16	13	15%	47%	38%	100%
22	Marine	Kep	5	5	5	100%	0	1	4	0%	20%	80%	100%
23	Marine	Kampot	7	5	7	100%	1	2	4	14%	29%	57%	100%
24	Marine	Preah Sihanouk	13	13	10	77%	2	5	3	20%	50%	30%	100%
25	Marine	Koh Kong	10	8	8	80%	3	2	3	38%	25%	38%	100%
	sub-toal Marine		35	31	30	86%	6	10	14	20%	33%	47%	100%
	Total		447	292	202	45%	21	103	78	10%	51%	39%	100%

Correlation between effectiveness criteria and strong CFi

An analysis of correlations between CFi status and factors in the 4 effectiveness criteria (Table 2) revealed that strong CFi were characterized by many variables including: several related to the impacts/benefits of the CFi (7 out of 17 variables); regular patrolling (1 out of 7 variables) under Management; and 2 out of 11 Sustainability variables, i.e., the levels of participation anticipated by CFi members in community fisheries activities, and future level of the knowledge about the CFi by-laws anticipated among the CFi members.

Table 2: Results of correlation analysis between the strength of CFi status and variables in the 4 effectiveness criteria in the 2022 CFi Effectiveness Assessment

Correlation coefficient	Variables with strong relationship with the strength of CFi status
Management	**1 out of 7 Management variables 2022**
0.615**	Patrolling regularly
CFiC	**0 out of 7 Committee variables 2022**
	No variables with strong correlation
Benefits/impacts	**7 out of 17 Benefits/Impact variables 2022**
0.699**	Compared to a few years ago, how proud CFi members are now to be a part of the community

0.631**	Compared to a few years ago, how are the socioeconomic benefits of CFi members in comparison to non-CFI members now?
0.692**	Compared to a few years ago, how is the fish catch now?
0.685**	Compared to a few years ago, how is the income now?
0.656**	Compared to a few years ago, how is the CFi fishing ground now providing fish and other aquatic resources for income of the CFi members?
0.674**	Compared to a few years ago, how is the CFi fishing ground now providing fish and other aquatic resources for food security (household consumption) of the CFi members?
0.600**	Compared to a few years ago, how is the fish stock in your CFi fishing areas now?
Sustainability	**2 out of 11 Sustainability variables 2022**
0.616**	Based on the current level of the participation of CFi members in the community fisheries activities, what level do you think will be in the future?
0.631**	Based on the current level of the knowledge about the CFi by-laws among the CFi members, what level do you think will be in the future?

Comparative analysis of CFi pairwise status 2018 VS 2022

Given that 163 CFis (81%) in the 2022 data set of the CFi effectiveness assessment were also included in the 2018 data set, a paired comparison analysis was also performed to assess changes in the statuses of these 163 CFis over the 4 years between these two assessments. The results (see summary in Table 3) show that the proportion of CFis in the moderate status category was similar; 52% in 2018 and 55% in 2022. Similar to the overall results of the assessment with the total 202 registered CFis, there was a significant reduction in weak CFis from 39% in 2018 to 9% in 2022. This was paralleled by an increase in the percentage of strong CFis from 10% in 2018 to 37% in 2022. Among the CFis assessed as being weak in 2018, 13% remained weak in 2022, while 63% were assessed as moderate and 24% had become strong. Of the CFis assessed as moderate in 2018, 7% were now assessed as weak while 43% had become strong. In the CFi group assessed as strong in 2018, 44% were assessed as moderate in 2022.

Table 3: Results on changes in CFi statuses from paired analysis of 163 registered CFis in both the 2018 and 2022 assessments

Status 2022	Status 2018			
	Weak n (%)	**Moderate n (%)**	**Strong n (%)**	**Total (%)**
Weak	8 (13%)	6 (7%)	0 (0%)	14 (9%)
Average	40 (63%)	42 (50%)	7 (44%)	89 (55%)
Strong	15 (24%)	36 (43%)	9 (56%)	60 (37%)
Total n (%)	**63 (39%)**	**84 (52%)**	**16 (10%)**	**163 (100%)**

The four main criteria for assessing CFi effectiveness in 2018 and 2022 were comparable. Similar "average" ratings were given for each of the 163 CFis in each of the four main criteria: 1. community fisheries management and operations; 2. CFC's process for engaging communities; 3. benefits/impacts of CFi; and 4.

the CFi's sustainability. The 2022 results show slightly higher ratings, especially for the criterion focused on the CFC's process for engaging communities.

Figure 16: Comparing mean scores of the four effectiveness criteria in 2018 and 2022
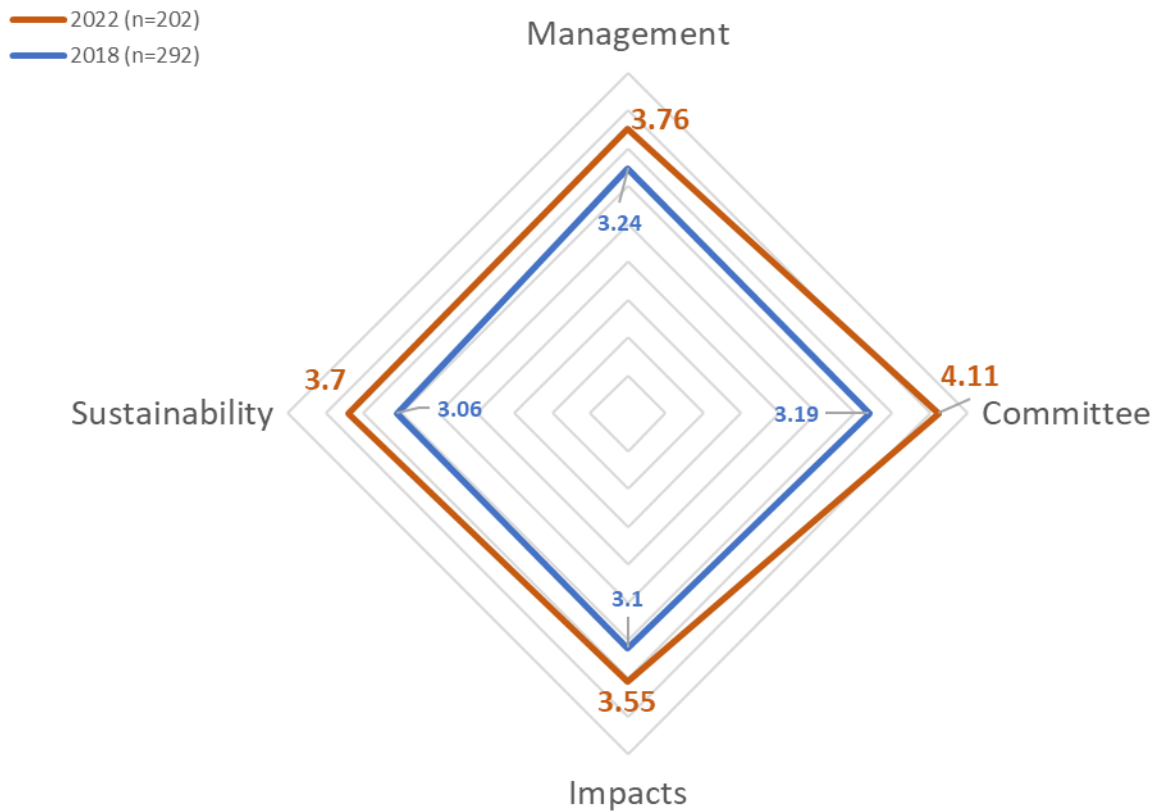
Table 4: Summary result of pair - CFi assessment moving up and down from 2018 and 2022

Status (n)	Weak 2018	Average 2018	Strong 2018	Total (n)	Status 2022
Weak 2022	8	6		14	9%
Average 2022	40	42	7	89	55%
Strong 2022	15	36	9	60	37%
Total	**63**	**84**	**16**	**163**	100%
Overall 2018	**39%**	**52%**	**10%**	**100%**	
Weak 2022	**13%**	**7%**	**0%**	**9%**	
Average 2022	**63%**	**50%**	**44%**	**55%**	
Strong 2022	**24%**	**43%**	**56%**	**37%**	
Total	**100%**	**100%**	**100%**	**100%**	

The table 5 presents the comparison among those 163 Pair-CFis conducted in 2018 and follow up in same community in 2022. Of these CFis, more than 3 times CFis have present status strong in 2022 compare to 2018. This similar proportion the weak status was decline from 39% in 2018 compared with 2022 at 9%.

Table 5: Summary result of pair - CFi assessment 2018 and 2022

S.N	Regional	English	Panel-Pair 2018-22 (n)	% Weak		% Average		% Strong	
				2018	2022	2018	2022	2018	2022
1	Chaktomuk	Prey Veng	13	62%	0%	38%	69%	0%	31%
2	Chaktomuk	Takeo	6	0%	0%	83%	33%	17%	67%
	sub-total Chaktomuk		**19**	**42%**	**0%**	**53%**	**58%**	**5%**	**42%**
3	Mekong	Kampong Cham	6	17%	33%	67%	67%	17%	0%
4	Mekong	Tboung Khmum	4	25%	0%	75%	25%	0%	75%
5	Mekong	Ratanak Kiri	1	0%	0%	100%	0%	0%	100%
	sub-toal Mekong		**11**	**18%**	**18%**	**73%**	**45%**	**9%**	**36%**
6	Southern	Kampong Chhnang	36	22%	3%	69%	56%	8%	42%
7	Southern	Pursat	15	20%	7%	53%	47%	27%	47%
8	Southern	Battambang	30	70%	7%	30%	70%	0%	23%
	sub-toal Southern		**81**	**40%**	**5%**	**52%**	**59%**	**9%**	**36%**
9	Northern	Kampong Thom	15	80%	27%	7%	60%	13%	13%
10	Northern	Siemreap	8	38%	0%	63%	25%	0%	75%
11	Northern	Banteay Meanchey	6	83%	0%	17%	83%	0%	17%
	sub-toal Northern		**29**	**69%**	**14%**	**24%**	**55%**	**7%**	**31%**
12	Marine	Kep	5	0%	0%	60%	20%	40%	80%
13	Marine	Kampot	3	0%	0%	33%	33%	67%	67%
14	Marine	Preah Sihanouk	9	11%	11%	78%	56%	11%	33%
15	Marine	Koh Kong	6	0%	50%	100%	33%	0%	17%
	sub-toal Marine		**23**	**4%**	**17%**	**74%**	**39%**	**22%**	**43%**
	Total		**163**	**39%**	**9%**	**52%**	**55%**	**10%**	**37%**

4. Conclusion and recommendations

The comparison between the results of the CFi effectiveness assessments in 2018 and 2022 concluded that the effectiveness of registered CFi improved over time. Comparison of the data from the CFi status assessments in 2018 and 2022 suggest that the number of weak CFi are reducing, whilst the number of strong CFi are increasing. The proportion of CFis assessed as 'moderate' appears to be unchanged, representing about half of all registered CFis while the proportion of strong CFis increased in 2022 and that of weak CFis decreased. The proportions of strong and weak CFis have actually reversed, with the number of weak CFis in 2018 decreasing from 39% to 10%, and the number of strong CFis increasing from 9% to 39%. Therefore, the target of 34% strong CFi was met.

The CFi effectiveness assessment is a critical tool to track the situation and effectiveness of all CFis in Cambodia. It is also a means to provide important input for developing plans and policies for supporting the CFi development process. The methodology developed in 2018 was sound and successfully implemented. This methodology continued to be used in 2022 with an improved data collecting tool that integrated up-to-date and additional variables for CFi effectiveness. In the future

assessment, the tool should be adjusted to make sure that important variables for the time period are taken into consideration. The questions should remain to be easy to understand and easy to answer by the community members. Participants attending the FGD session should be CFi members (instead of the village chief, CFi chief and CFi committee members) to avoid biased information. The only exception applies to those questions that only the CFi committee themselves are able to respond accurately.

The status of a CFi effectiveness can move from being weak or moderate to become stronger. At the same time, the findings also that CFi that were strong in the past could fall into the moderate category over time. This finding is very important and indicated the importance of continuing activities and capacity building support to all CFis, regardless of the category they are in, to ensure that they can become or remain strong, and be sustainable into the future.

All CFis (registered and none-registered CFis) should be assessed in order to see strengths and weaknesses of each CFi. The pair-wise analysis with the CFi included in both 2018 and 2022 assessments should be continued when possible as these will help track the differences of the individual CFi. Additionally, a study to find out what are the factors and root causes of CFi that have been inactive or weak should be conducted so that these can be addressed and resolved effectively.

As staffs of the FiACs have the capacity to do the follow-up assessment with the simply pre-designed FGD questions and data template, they would and should be able to do so within next three years by themselves, and then send the result from each of the Cantonments to the FiA-CFDD for compiling and doing overall analysis and synthesis. It is important the CFDD has support from other relevant FiA departments in their data analysis as this has been an area of low capacity.

Among the 4 criteria of effectiveness, a correlation analysis between the CFi effectiveness status and the factors that support strong CFi shows the benefits and impacts of the CFi are most important, followed by regular patrolling and the level of participation by CFi members in community fisheries activities and the level of knowledge on the CFi legal frameworks among the members. Therefore, in order to encourage the community fisheries to work towards sustainability and efficiency, more important tasks should focus on the implementation main activities regarding impacts and sustainability of a CFi.

In combination with other assessments and study, it became clear that sustainable financing mechanisms should be developed and strengthen to make sure that all CFis can become more self reliant, stronger as well as sustainable. Collecting of cash contribution from people who are none CFi's members while they do fishing activities in the CFi area should be materialized and supported as this has had not much happened in most CFi in the country. Finding out the possibility of CFi for having direct source of income to support the CFi development and its families will be an important incentive for both the CFi committee member to serve and for the community members to join the CFi, being more ready for taking responsibilities, tasks and ownership of the CFi. At the same time, it is necessary to amend the sub-decree on Community Fisheries Management in order to give the possibility to a CFi to do community-based and small fishing inside of its CFi area and to have more rights for developing the CFi. The promotion of supplementary and alternative sources of income,

such as saving groups, eco-tourism and credit services are very important for livelihoods of poor local fishers and local people.

Lastly, the knowledge of which CFi are strong in each of the province and region could allow for events to support knowledge exchange, having the strong CFis provide lessons learnt and good practices to those that are moderate or weak. Simultaneously , the knowledge of weak and moderate CFi time should be used to initiate and strengthen the capacity of CFi committee's members for the areas of needs.

Focus Group Discussion for CFi's Effectiveness Assessment

(Please tick [✓] only one answer per question, unless specified)

a. ID: …………………	b. Date: …………………………..	c. Name(s) of facilitator(s) Interviewer: ………………………………………………… Note taker: …………………………………………………..

I. Description of CFi	
1.1 What is the name of the CFi?: ……………………………………………………………………………	
1.2 Where is it located? …………………………………….	1.2.1 Village(s): ……………………………………
1.2.2 Commune(s): …………………………………….	1.2.3 District(s): ……………………………………
1.2.4 Province: …………………………………………….	

II. Management/Operation of CFi			
To what extent has CFi been with the following management and operation aspects?			
2.1 Creating a conservation area	1. No ☐	3. In preparation ☐	5. Yes ☐
2.2 Making conservation area useful for conserving fisheries	1. No ☐	3. Some ☐	5. A lot ☐
2.3 Resolving fisheries conflicts in the CF fishing area	1. No ☐	3. Sometimes ☐	5. Always ☐
2.4 Reducing illegal fishing	1. No ☐	3. Some ☐	5. A lot ☐
2.5 Patrolling regularly	1. No ☐	3. Sometimes ☐	5. Often ☐
2.6 Enforcing rules and internal regulations against illegal fishing	1. No ☐	3. Some ☐	5. A lot ☐
2.7 Disseminating information on fisheries laws, sub-decrees, rules and regulations to community members	1. No ☐	3. Sometimes ☐	5. Always ☐

III. Community Fishery Committee (CFC) process of engaging communities			
To what extent has the CFC been in the following processes?			
3.1 CFC meets and consults with members	1. No ☐	3. Some ☐	5. Fully ☐

3.2 CFC implements community development projects	1. No ☐	3. Some ☐	5. Fully ☐
3.3 CFC holds re-elections together with the community and support from fisheries officials	1. No ☐	3. Yes with some delay ☐	5. Yes and on time ☐
3.4 CFC opens elections and re-elections to everyone	1. No ☐	3. Some ☐	5. Fully ☐
3.5 CFC makes sure decisions are open and transparent	1. No ☐	3. Some ☐	5. Fully ☐
3.6 CFC represents all CF members, including women, in fisheries management decision making	1. No ☐	3. Some ☐	5. Fully ☐
3.7 CFC allocates fair fishing access rights to CFi members	1. No ☐	3. Some ☐	5. Fully ☐

IV. Impacts of CFi			
Social			
4.1.a Compared to a few years ago, how is the access to the fisheries resources of CFI members now?	1. No better access ☐	3. Some better access ☐	5. Much better access ☐
4.1.b Compared to a few years ago, how is the access to the fisheries resources of CFI members now in comparison to non-CFI members?	1. No better access ☐	3. Some better access ☐	5. Much better access ☐
4.1.c Compared to a few years ago, are the benefits now shared by all people in the community fisheries?	1. No ☐	3. Some people ☐	5. All people ☐
4.1.d Compared to a few years ago, are women now included in CFiC, fisheries management decision and implementation of CFi?	1. Less ☐	3. Same ☐	5. More ☐
4.1.e Compared to a few years ago, how proud CFi members are now to be a part of the community	1. Less ☐	3. Same ☐	5. More ☐
4.1.f Other social benefit, please specify _____	1. Less ☐	3. Same ☐	5. More ☐
Economic			
4.2.a How are the socioeconomic benefits from being a CFi member now?	1. No benefit ☐	3. Some benefits ☐	5. Lots of benefits ☐
4.2.b Compared to a few years ago, how are the socioeconomic benefits of CFi members in comparison to non-CFI members now?	1. Less ☐	3. Same ☐	5 More ☐
4.2.c Compared to a few years ago, how is the fish catch now?	1. Less ☐	3. Same ☐	5 More ☐
4.2.d Compared to a few years ago, how is the income now?	1. Less ☐	3. Same ☐	5 More ☐

4.2.e Compared to a few years ago, how are the markets for fish now?	1. Less □	3. Same □	5 More □
4.2.f Compared to a few years ago, how are the alternative livelihood sources (cash and non cash) now?	1. Less □	3. Same □	5 More □
If more, what are the alternative livelihoods? Please specify.			
4.2.g Compared to a few years ago, how is the CFi fishing ground now providing fish and other aquatic resources[2] for income of the CFi members?	1. Little □	3. Moderately □	5. Enough for most members □
4.2.h Compared to a few years ago, how is the CFi fishing ground now providing fish and other aquatic resources for food security (household consumption) of the CFi members?	1. Little □	3. Moderately □	5. Enough for most members □
4.2.i Other (specify):	1. Less □	3. Same □	5 More □
Environment			

4.3.a Compared to a few years ago, how is the fish stock in your CFi fishing areas now?		1. Worse □	3. Same □	5. Better □
4.3.b Compared to a few years ago, how is the condition of the fish brood stock in your CFi conservation areas?		1. Worse □	3. Same □	5. Better □
Compared to a few years ago, how has CFi now helped improve/restore the following habitats for fish and aquatic life in the CFi area?				
4.3.c Inundated/flooded forest	0. Not relevant	1. Worse □	3. Same □	5. Better □
4.3.d Coral reef	0. Not relevant	1. Worse □	3. Same □	5. Better □
4.3.e Mangrove	0. Not relevant	1. Worse □	3. Same □	5. Better □
4.3.f Seagrass	0. Not relevant	1. Worse □	3. Same □	5. Better □
4.3.g Compared to a few years ago, how is now the level of understanding of the importance of sustaining natural resources among community members?		1. Worse □	3. Same □	5. Better □

V. Community Fisheries Sustainability			
Social			
5.1.a Based on the current level of fishers who are members of the CFi (compared to the total number of fishers in the community), what level do you think will be in the future?	1. Less □	2. Same □	3. More □

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[2] Other aquatic resources include animals and plants that come from the CFi fishing grounds.

5.1.b Based on the current level of the participation of CFi members in the community fisheries activities, what level do you think will be in the future?	1. Less □	2. Same □	3. More □
5.1.c Based on the current level of the knowledge about the CFi by-laws among the CFi members, what level do you think will be in the future?	1. Less □	2. Same □	3. More □
5.2.d Based on the current CFi Committee's ability/capacity to lead CFi, what level do you think will be in the future?	1. Weaker □	2. Same □	3. Stronger □
Economic			
5.2.a Based on the current fisheries-related income of **CFI community members**, what do you think it will be in the future?	1. Less □	3. Same □	5. More □

ASK ONLY CFC 5.2.b Based on the current CFC budget to support CFi activities, what do you think it will be in the future?	1. Less □	3. Same □	5. More □

ASK ONLY CFC 5.2.c What are the current financing sources of CFi? Check [✓] all that apply)	a. No funding □	b. Government □	c. NGO □
	d. Donor □	e. CFI members (membership fee) □	f. Companies □
	g. Church/ pagoda □	h. Contributions from non-CFi fishers □	i. Income from fishing operations □
	j. Income from eco-tourism □	k. Internal micro-credits (e.g. from saving groups) □	l. Others, specify _____ □

Governance			
5.3.a Based on the current fisheries management, what do you think it will be in the future?	1. Will not improve (continue to be poorly managed) ☐	3. Will be managed better ☐	5. Will be managed sustainably ☐
5.3.b Based on the current fisheries harvest control (who, where and how fisheries are harvested), what do you think it will be in the future?	1. Will still have no control ☐	3. Will have more control ☐	5. Will have sustainable control over ☐
5.3.c Based on the current compliance to fisheries rules, what do you think it will be in the future?	1. Still nobody will comply ☐	3. More people will comply ☐	5. Everyone will comply ☐

ASK ONLY CFC 5.3.d Based on the current means and budget for patrolling, what do you think they will be in the future?	1. Less ☐	2. Same ☐	3. More ☐

Environment			
5.4.a Based on the current condition of the fisheries resources, what do you think they will be in the future?	1. Unsustainable/ Worse ☐	2. Same ☐	3. Sustainable/ Better ☐
5.4.a Based on the current condition of the fisheries habitats, what do you think they will be in the future?	1. Unsustainable/ Worse ☐	2. Same ☐	3. Sustainable/ Better ☐

6.   What do you think are the 3 most important things that would make CFi stronger and more sustainable?
   PLEASE BE SURE TO TAKE NOTES AND ENTER THE INFORMATION ACCURATELY.
      1. _____
      2. _____
      3. _____

Thank you very much for your participation.

Annex 2: Data template for incorporating and analysing the CFi's effectiveness

I.	II.			III.			IV.		-	-	-	V.	-		-	-	Mean	Mean	Mean	Mean	Total mean
1.1	2.1	2.2	2.6	3.1	3.2	3.6	4.1	4.2	4.3	4.7	4.8	5.1	5.2	5.3	5.9	5.11	មធ្យម	មធ្យម	មធ្យម	មធ្យម	ចំលើយរួម
								a.	-	-	-		-	a.	-	-	II	III	IV	V	II,III,IV,V
									-	-	-		-		-						
									-	-	-		-		-						
									-	-	-		-		-						
									-	-	-		-		-						

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