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Status Assessment of Community Fisheries in Cambodia, 2023



Food and Agriculture
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Status Assessment of Community Fisheries in Cambodia, 2023

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

The Fisheries Administration (FiA), through its Community Fisheries Development Department (CFDD), prepared this report. This document presents the comprehensive results of FiA's 2023 national assessment of Community Fisheries (CFi). The fieldwork, preparation, and analysis were made possible by the dedicated collaboration of CFDD, provincial fisheries cantonments, and local community fisheries committees, along with the technical support of the Food and Agriculture Organization of the United Nations (FAO). This assessment, which builds on the approach established during the 2018 national assessment, provides valuable insights into the evolution and challenges facing Cambodia's community-based natural resource management efforts.

Preface

The Fisheries Administration (FiA), through its Community Fisheries Development Department (CFDD), has led efforts to strengthen the management of community fisheries (CFi) in Cambodia for more than two decades. CFi play a vital role in supporting rural livelihoods, ensuring food security, and conserving aquatic resources. CFi are also central to the Royal Government of Cambodia's policy commitment to community-based natural resource management including the co-management of fisheries.

This report presents the results of FiA's 2023 national assessment of CFi. The study was conducted between October and December 2023 across 385 CFi in 17 provinces. It represents the most comprehensive dataset compiled on CFi since 2018 national assessment, which covered 259 CFi in 16 provinces. Together, these assessments provide valuable insights into the evolution of CFi and the challenges they faced. The 2023 assessment builds directly on the approach used in 2018 but it expands the scope of analysis. New topics introduced include the impacts of climate and other hazards, including COVID-19, on fishing households and the identification of vulnerable groups within communities. The study also provides a more detailed examination of conservation areas, patrol capacity, and community priorities for future support.

It is important to note that the 2018 raw dataset was not available for re-analysis. As a result, this report uses the 2018 published report as the main point of comparison. Direct statistical comparisons are therefore limited. Nonetheless, the continuity of themes and structures across the two assessments allow for meaningful reflection on trends over time.

The preparation of this report was made possible through the collaboration of CFDD, provincial fisheries cantonments, local community fisheries committees, and the technical support of Food and Agriculture Organization of the United Nations (FAO).

The findings and recommendations presented here are intended to inform policy and programmatic decisions by government institutions, donors, and civil society partners. They highlight both the progress achieved since 2018 and the areas where continued support is required to ensure the sustainability and effectiveness of Cambodia's community fisheries.

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List of abbreviations

Abbreviation	Full form
CFi	Community Fishery
CFDD	Community Fisheries Development Department
FiA	Fisheries Administration
FiAC	Fisheries Administration Cantonment
MAFF	Ministry of Agriculture, Forestry and Fisheries
IDPoor	Identification of Poor Households (national poverty targeting system)
NGO	Non-Governmental Organization
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
ADB	Asian Development Bank
FGD	Focus Group Discussion
HP	Horsepower (for boats/motors)
ha	Hectare
USD	United States Dollar
Riel	Cambodian Riel (KHR)

Executive summary

The cancellation of the fishing lot system in 2001 and 2012 and subsequent reforms resulted in the establishment of community fisheries (CFi) in Cambodia. The CFi model remains central to the Royal Government of Cambodia's policy commitment to community-based natural resource management, aiming to support rural livelihoods, ensure food security, and conserve aquatic resources. A CFi comprises Cambodian citizens dependent on fisheries who organize themselves into legal entities for the protection of their rights and interests, and to participate in the co-management, conservation, and sustainable development of fishery resources.

Information and data on the status of CFi are critical to improving coordination and future support. This report presents the results of the 2023 National CFi Status Assessment, led by the Fisheries Administration (FiA) Community Fisheries Development Department (CFDD) with the technical support of the Food and Agriculture Organization of the United Nations (FAO). This assessment covered 385 CFi in 17 provinces, representing a significant expansion from the 2018 assessment which surveyed 259 CFi in 16 provinces. The 2023 assessment also expanded the scope of analysis to capture new issues, including the impacts of climate change and other hazards, particularly COVID-19, on CFi activities.

Key findings of the 2023 CSA show substantial progress in the formalization and legal foundation of the CFi model:

- **Legal Formalization:** Significant progress had been made, with 100% of the 385 CFi surveyed officially registered by 2023, a notable improvement from the 91% reported in 2018. Foundational documents, including internal regulations, CFi maps, and membership lists, were universally available in 100% of surveyed CFi.
- **Planning:** The share of CFi with an approved Community Fishing Area Management Plan (CFiAMP) increased substantially, from 75% in 2018 to 94.8% in 2023.
- **Conservation:** Establishing conservation areas became a universal practice, with 100% of surveyed CFi reporting at least one designated conservation area. Furthermore, nearly one in five CFi (19.5%) reported having active plans to expand their existing conservation areas.
- **Livelihood Base:** The CFi communities surveyed represent 1,044,849 people in 236,670 households, with 51.1% of households engaged in fishing. In a shift from 2018, CFi members formed the largest group of fishers (43%), followed by non-members (41%).

However, the 2023 assessment highlights persistent institutional and economic challenges to long-term sustainability:

- **Financial Precarity:** Financial resources remained extremely limited, with about 67% of CFi providing no information about a budget. The overall picture is one of widespread financial precarity, often relying on small, project-based contributions.
- **Governance and Functionality:** Despite strong legal formalization, the maintenance of operational records remained a challenge, with only 76.5% of CFi keeping financial records and 81.4% having written progress reports. Furthermore, the sustainability of local CFi management is questioned by issues such as expired committee mandates and CFiAMPs that need external facilitation to update.
- **Resource Decline:** Although quantitative catch data was not collected, community perceptions indicate that some fish, wildlife, and vegetation species were reported as being less commonly encountered in 2023, with species like Kol Reang (*Catlocarpio siamensis*) (53% of CFi) and snails/turtles (over 62%) reported as becoming rare or disappearing.
- **Gender Gap:** While women constituted 44.3% of CFi members, the disparity in leadership remained stark: only 2.1% of CFi chiefs were female, undermining the inclusive principle of the CFi model and reflecting the unsuccessful subsidiaries that encourage election of women in CFi committees.
- **Vulnerability to Shocks:** The introduction of the climate hazard module confirmed high exposure to risks, with nearly all CFi reporting hazards such as drought/fish deaths (67.0%) and flooding

(55.3%). The COVID-19 experience demonstrated acute economic vulnerability: 73.8% of CFi reported stable fish yields, but 69.1% reported lower household incomes due to market and economic disruptions.

To overcome these challenges and ensure the long-term sustainability and effectiveness of the CFi model, future efforts must move beyond compliance and focus on functional resilience. The most urgent priority identified by communities is economic diversification, with a large majority of CFi (82.6%) requesting support for new livelihoods opportunities and vocational training, followed by the need for improved value chain and market access (49.1%).

To address these findings, CFi needs to build capacity to sustain their operations independently, particularly in areas such as sustainable financing, financial management and management plan development, provided through continued, targeted support from government and development partners. The effectiveness of co-management arrangements depends on an evolving process to build local capacities, transition from a compliance-based to a performance-based support model, and link assistance to evidence of activities.

Generating sufficient and sustainable income remains a critical requirement to sustain CFi in the long term and support their role in climate change adaptation and resilience.



Table of Contents

Acknowledgement	iii
Preface	iv
List of abbreviations	v
Executive summary	vii
List of figures and tables	2
1. Background	1
2. Objectives, methodology and analysis	1
2.1. Objectives	1
2.2. Methodology	2
2.2.1. Survey coverage	2
2.2.2. Respondents and instruments	2
2.2.3. Data processing	3
2.2.4. Note on comparability with 2018	3
3. Results of the community fishery status assessment	3
3.1. Population	3
3.2. Community fisheries membership and management committees	4
3.3. Legal foundations and documentation	5
3.4. Flooded forests and fishing grounds	6
3.5. Conservation areas and potential expansion	8
3.6. Capital, assets, and revenues of community fisheries	9
3.7. Fishers and fishing gear	11
3.8. Fish catches and aquaculture	13
3.9. Climate hazards, vulnerability, adaptive capacity, and Covid-19	15
3.10. Supports, priorities and challenges	17
4. Discussion	18
5. Conclusions and recommendations	21
5.1. Conclusions	21
5.2. Recommendations	22
6. References	25

List of figures and tables

Table 1: Comparison of survey coverage, 2018 vs 2023	2
Table 2: Demographic profile of CFi communities, 2018 vs 2023	4
Table 3: Composition of CFi Membership	4
Table 4: Community fisheries characteristics, 2018 vs 2023.....	5
Table 5: CFi Legal and Documentary Status, 2018 vs 2023	6
Table 6: Flooded Forests and Fishing Grounds, 2018 vs 2023.....	6
Table 7: Number of CFi with fishing areas, 2023	7
Table 8: Conservation Areas in CFi, 2018 vs 2023	9
Table 9: Capital, Assets, and Revenues of CFi, 2018 vs 2023	10
Table 10: Fishers and Fishing Gear in CFi, 2018 vs 2023	11
Table 11: Distribution of motorboat sizes (2023, % of boats reported).....	12
Table 12: Perceived Status of Key Species in 2023	14
Table 13: Reported Hazards Experienced by CFi	15
Table 14: Perceived impact level on fishery resources.....	15
Table 15: Yield and income sensitivity during COVID-19.....	16
Table 16: Pressures faced by CFis during COVID-19	16
Table 17: Community coping strategies during COVID-19	16
Table 18: Support received by types of disaster	17
Table 19: Institutions providing support	17
Table 20: Priority support needs identified by CFi (2023).....	18

1. Background

Community fisheries (CFi) in Cambodia were introduced in the late 1990s as a response to long-standing conflicts between small- and large-scale fishers and as a mechanism to reduce stakeholder conflict and illegal fishing and improve local management of aquatic resources. Major reforms in 2001 and 2012 abolished the commercial fishing lot system and transferred fisheries access rights to communities. This process created the foundation for CFi as legal entities, composed of households dependent on fisheries, that co-manage resources with government authorities. Their core objectives were to improve local livelihoods, strengthen food security, and conserve fishery ecosystems¹.

The legal framework governing CFi is defined by the 2006 Law on Fisheries and the 2007 sub-decree on community fisheries. These instruments set out rules for establishment, recognition, and management, including the use small-scale fishing gears only, and a structured nine-step registration process. The Fisheries Administration (FiA), through its Community Fisheries Development Department (CFDD) and provincial cantonments (FiACs), is mandated to oversee CFi. International partners, including FAO, the Asian Development Bank, the European Union, and a range of NGOs, have historically provided financial and technical assistance to strengthen CFi governance and operations.²

By 2018, Cambodia had 516 CFi established across 20 provinces, co-managing 967,000 ha. Of these, 411 CFi were formally registered with the Ministry of Agriculture, Forestry and Fisheries (MAFF). According to the data of the MAFF, as of 2025, there are 516 CFi, 467 of which are registered.

The 2018 CFi status assessment, conducted with support from the EU CAPFISH-Capture programme and FAO, provided the first systematic baseline of CFi structure and functioning. It examined registration, by-laws, re-election of committees, area management plans, conservation activities, capital and assets, and livelihood outcomes. This baseline has been a key reference point for planning and donor support.³

The 2023 assessment builds on this earlier effort. It was conducted between October and December 2023 across 385 CFi in 17 provinces, with particular emphasis on inland fisheries communities in Kratie and Stung Treng. Data were collected through structured questionnaires administered to committee leaders and members, focusing on management structures, membership composition, natural resource management, biodiversity, services provided, and the impacts of external shocks such as COVID-19.

2. Objectives, methodology and analysis

2.1. Objectives

The 2023 CFi assessment was undertaken to update national knowledge on the structure and functioning of CFi in Cambodia. The objectives were to:

- Document the current situation of CFi, including committee structures, membership, services received, and natural resource management.
- Capture new issues that have emerged since the last assessment, particularly the impacts on CFi activities from climate change, natural and other hazards, including COVID-19.
- Produce a clean and structured dataset that can be used by the FiA, CFDD, and partners to inform future planning, policy design, and programmatic support.

The 2018 assessment had a narrower purpose: to establish a baseline database of CFi management and development status to guide planning and coordination. The 2023 assessment thus represents a transition from establishing a baseline to monitoring progress and broadening coverage.

¹ FiA and FAO (2025). Community Fisheries in Cambodia: Status Assessment 2018

² FiA and FAO (2025). Community Fisheries in Cambodia: Status Assessment 2018

³ FiA and FAO (2025). Community Fisheries in Cambodia: Status Assessment 2018

2.2. Methodology

2.2.1. Survey coverage

The 2023 survey was conducted between October and December 2023 and covered 385 CFI in 17 provinces, as indicated in the table below. The 2018 survey, on the other hand, covered 259 CFI across 16 provinces. The 2018 sample focused more heavily on Tonle Sap and coastal provinces while provinces such as Kratie and Stung Treng, which accounted for nearly one-third of the 2023 sample, were not included in 2018⁴.

Table 1: Comparison of survey coverage, 2018 vs 2023

Province	Inspectorates	CFi covered 2018	CFi covered 2023
Banteay Meanchey	Tonle Sap	10	17
Battambang	Tonle Sap	38	32
Kampong Chhnang	Tonle Sap	49	53
Kampong Thom	Tonle Sap	30	37
Siem Reap	Tonle Sap	13	22
Pursat	Tonle Sap	24	19
Kampong Cham	Mekong	11	9
Tboung Khmum	Mekong	10	14
Kratie	Mekong	0	63
Stung Treng	Mekong	0	51
Ratanakiri	Mekong	10	14
Mondulkiri	Mekong	2	3
Kandal	Chaktomuk	5	0
Prey Veng	Chaktomuk	22	22
Svay Rieng	Chaktomuk	0	0
Takeo	Chaktomuk	10	9
Kep	Coastal	5	0
Kampot	Coastal	0	6
Sihanoukville	Coastal	10	10
Koh Kong	Coastal	10	4
Total		259	385

2.2.2. Respondents and instruments

The 2023 respondents were primarily CFI committee leaders or members with direct knowledge of organizational operations. The structured questionnaire covered:

- Basic characteristics (province, year of establishment, membership size).
- Committee composition, leadership, and elections.
- Services provided and support received.
- Resource management, patrol activities, and conservation areas.
- Biodiversity conditions and threats.
- Impacts of climate and other hazards including COVID-19.

The questionnaire design allowed for both single-value entries (e.g. number of members) and dummy-coded responses (e.g. gear types, training sessions, observed species). This structure improves comparability

⁴ In 2018 The CFI in Stung Treng and Kratie was supported largely by a World Bank project (2017-2022). The project had its own assessment and, therefore, these provinces were not included in the FiA survey.

across CFI and provides a stronger foundation for statistical analysis. This approach captured narrative context and historical recall but produced less standardized quantitative data⁵.

2.2.3. Data processing

In 2023, data were entered into Excel, cleaned to ensure accuracy and consistency, and summarized using descriptive statistics. The report presents frequencies, percentages, and simple cross-tabulations. Advanced statistical analysis was not undertaken at this stage but is possible using the cleaned dataset.

2.2.4. Note on comparability with 2018

A key methodological note is that this study analyzes the 2023 dataset directly, while references to 2018 are drawn only from the published 2018 report. The raw 2018 dataset was not accessible to the research team, and therefore no direct pooled analysis was possible. Comparative insights in this report are based on secondary interpretation of the 2018 results as presented in the official publication. The remainder of this report is organized to match, where possible, the structure of the 2018 assessment, while incorporating the expanded scope and new themes of the 2023 survey. This allows continuity in analysis while also capturing emerging issues that were not addressed in the earlier study.

3. Results of the community fishery status assessment

3.1. Population

The 2023 assessment covered 385 CFI across 17 provinces, representing a total population of 1,044,849 people in 236,670 households. This is an expansion from the 2018 assessment, which surveyed 259 CFI in 16 provinces, covering a population of 876,896 people in 199,222 households.

Gender composition of CFI members in 2023 was relatively balanced, with 51.2% male and 49.1% female members. The 2018 report noted a similar balance, stating that "more than half of the population was female". Regarding poverty, the 2023 survey identified 0.7% of the total population as IDPoor1 and 0.8% as IDPoor2.⁶

The 2023 assessment expanded its scope to include additional social vulnerability categories not specified in the 2018 report. These new categories captured data on widows (1.8% of the population), persons with chronic illness (0.6%), disabled persons (0.6%), and orphans (0.5%).

Education levels have been documented more precisely. In 2023, the illiteracy rate among the CFI population was 4.9%. Comparable literacy data was not presented in the main text of the 2018 assessment report.

Livelihood structures remain centered on agriculture and fisheries. In 2023, 60.6% of all households (which are 236,671) engaged in rice farming and 51.1% in fishing. This shows a similar pattern to 2018, where about 52% of households were engaged in farming and 39% in fishing.

The ethnic composition of the communities is largely unchanged. In 2023, the population was predominantly Khmer (94.9%), with smaller groups of Indigenous Peoples (3.1%) and Khmer-Muslims (1.8%). This is consistent with the 2018 findings, which reported the population as over 95% Khmer, followed by Khmer Islam (2.5%), Indigenous Peoples (2%), and Vietnamese (0.4%).

⁵ FiA and FAO (2025). Community Fisheries in Cambodia: Status Assessment 2018

⁶ The 2018 assessment reported that 9% of households were classified as IDPoor1 and 10% as IDPoor2. These figures are not directly comparable with the 2023 assessment, which measured individual beneficiaries rather than households.

Table 2: Demographic profile of CFi communities in assessments, 2018 vs 2023⁷

Indicator	2018 (259 CFI, 16 provinces)	2023 (385 CFI, 17 provinces)
Total population	876,896	1,044,849
Households	199,222	236,671
Male (%)	<50%	51.2%
Female (%)	>50%	49.1%
IDPoor1 (% households)	9.0%	0.7% (of population)
IDPoor2 (% households)	10.0%	0.8% (of population)
Total IDPoor (% households)	19.0%	1.5% (of population)
Illiterate (%)	Not reported in assessment text	
Khmer (%)	>95.0%	94.9%
Indigenous (%)	2.0%	3.1%
Khmer Islam (%)	2.5%	1.8%
Farming (% households)	52.0%	60.6%
Fishing (% households)	39.0%	51.1%
Vulnerable groups (%)	Not specified	Widow 1.8%, Disabled 0.6%, Orphan 0.5%

3.2. Community fisheries membership and management committees

The total registered CFi membership in the sample was 161,170, representing about 15% of the population. Gender distribution among members was moderately balanced: 55.7% male and 44.3% female, mirroring the general demographic pattern where females accounted for 49.1% of the total population. Compared with 2018, the data suggest a gradual normalization of gender participation, but women remain slightly underrepresented relative to their share in the broader community.

Table 3: Composition of CFi Membership

Category	Number of Members	%
Total Members	161,170	100.0
Male Members	89,745	55.7
Female Members	71,425	44.3
Widow Members	1,410	0.9
Pregnant Members	729	0.5
Chronic Illness	654	0.4
Disabled Members	379	0.2
Orphan Members	295	0.2

The 2023 assessment introduced a more detailed mapping of social vulnerability within CFi membership. Among all members, 0.9% were widows, 0.5% pregnant women, 0.4% persons with chronic illness, 0.2% persons with disabilities, and 0.2% orphans. These proportions roughly mirror the vulnerability profile of the wider CFi population, where widows represent 1.8% and persons with disabilities 0.6%. While the absolute shares are small, they signal incremental recognition of vulnerable groups within community structures.

A key period for CFi formation appears to be the mid-2000s. According to data on the last CFi member updates, 40% of CFi updated their membership between 2006 and 2010, while 14.8% conducted updates in 2023. This pattern of establishment is consistent with the 2018 findings, which identified 2007 as the peak year for CFi creation and the 2006-2010 period as a major phase of expansion.

⁷ FiA and FAO (2025). Community Fisheries in Cambodia: Status Assessment 2018; 2023 Excel, Table 31-36

CFi Committee structures are extensive but remain heavily male-dominated. In 2023, a total of 3,553 committee members were reported across the surveyed CFi. Of the 385 CFi, only 8 had female chiefs (2.1%), compared to 377 male chiefs. Deputy positions were similarly skewed: of 383 first deputies, only 29 were women (about 8%), and of 173 second deputies, 23 were women (about 13%). In 2018, the total number of committee members across 259 CFi was 2,302, with women constituting 14% of the total. The 2018 report did not provide a gender breakdown by specific leadership roles. For both periods, the most common responsibility for women across all leadership positions was general management.

Training and outreach to CFi remain limited. In 2023, 36.9% of CFi reported receiving no training sessions at all, 28.9% received only one, 21.6% received two, and the rest received three more training. The 2018 report did not present comparable data on the number of training sessions received by CFi.

The results show that the overall profile of CFi has not shifted significantly since 2018. A large wave of CFi was created in the mid-2000s, committees remain dominated by men, and training coverage appears weak. The main difference in the 2023 assessment is the wider geographic spread, with stronger inclusion of northeastern provinces, which enhances national representativeness.

Table 4: Community fisheries characteristics, 2018 vs 2023

Indicator	2018 (259 CFi)	2023 (385 CFi)	Notes
Provinces covered	16	17	2023 sample has different geographic focus, notably including Kratie & Stung Treng.
Peak establishment period	2007 was peak year	2006–2010	Same general expansion period identified.
Total Committee members	2,302	3,553	Increase reflects the larger 2023 sample size.
Female chiefs (%)	Not reported	2.1%	Leadership remains male-dominated.
Female committee members (%)	14%	9.3% (Deputies only)	Methodologies differ; direct comparison is not possible.
Training received (≥1 session)	Not reported	63.1%	Training coverage appears low in 2023.

3.3. Legal foundations and documentation

The nine steps of CFi registration, outlined in the 2006 Fisheries Law and the 2007 Sub-Decree on Community Fisheries, provide a framework for registration and legal recognition. This process includes establishing the CFi, drafting internal rules, preparing management plans, and receiving final approval from the FiA.

Significant progress has been made in formal registration since 2018. In the 2023 survey, all 385 CFi (100%) reported being officially registered. This represents a notable improvement from 2018, when 91% of the studied CFi had completed all 9 steps for the establishment, which the 9th step on drafting the Community Fishing Area Management Plan (CFiAMP).

The availability of key documents reflects this progress in formalization. In 2023, foundational legal documents such as internal regulations, CFi maps, and membership lists are available in 100% of the surveyed CFi. This is an improvement from 2018, when 96% of CFi had drafted by-laws, internal rules, and maps. The share of CFi with an approved management plan has also increased substantially, from 75% in 2018 to 94.8% in 2023.

While planning documents are now well-established, the maintenance of operational records remains a challenge. In 2023, 76.5% of CFI kept financial records and 81.4% had written progress reports. The 2018 assessment report did not provide comparable percentages for these administrative records. This suggests that while CFI are increasingly compliant with formal planning requirements, their capacity for routine administrative management still requires support.⁸

Table 5: CFI Legal and Documentary Status, 2018 vs 2023

Indicator	2018 (259 CFI)	2023 (385 CFI)	Notes
Completed official registration (%)	91%	100%	Progress in formal recognition.
Internal rules available (%)	96%	100%	Now universally available.
Community map available (%)	96%	100%	Now universally available.
Management plan approved (%)	75%	94.8%	Significant improvement in planning.
Membership list available (%)	Not reported	100%	No 2018 baseline for comparison.
Financial records available (%)	Not reported	76.5%	Highlights a potential capacity gap.
Progress reports available (%)	Not reported	81.4%	Highlights a potential capacity gap.

3.4. Flooded forests and fishing grounds

Flooded forests, mangrove forests, and fishing grounds provide the ecological foundation for community fisheries, supporting critical fish breeding, spawning, and feeding habitats. They also represent the main areas where CFI exercise their collective management responsibilities. The 2023 assessment shows that the majority of CFI manage these vital ecosystems.⁹

Of the 385 surveyed CFI, 95% are inland and 5% (20 CFI) are coastal. Among inland CFI, 70% reported the presence of flooded forest, while 90% of coastal CFI reported having mangroves. The 2018 report also highlighted the importance of these fisheries habitat areas, noting that flooded and mangrove forests together constituted 17% of the total CFI land and water area studied. The 2018 report did not specify the percentage of CFI that contained these forests, focusing instead on their share of the total area.

Table 6: Flooded Forests and Fishing Grounds, 2018 vs 2023

Indicator	2018 (259 CFI)	2023 (385 CFI)	Notes
CFI with flooded forest (%)	Not reported	66.5%	The 2023 data confirms widespread presence.
CFI with mangroves (%)	Not reported	4.7%	Present in a small minority of coastal CFI.
Flooded/mangrove forest as % of total CFI area	17%	Not reported	Methodologies differ; 2018 measured by area, 2023 by presence in CFI.
CFI with at least one fishing areas (%)	Not reported	79.8%	Confirms that most, but not all, CFI have designated fishing zones.

⁸ In 2022, a survey conducted with FiAC in areas where CFIs were located found that 293 CFIs had committees whose terms had expired and required re-elections.

⁹ In the 2022 survey conducted with FiAC, more than 322 CFIs had Community Fishing Area Management Plans (CFIAMPs) that were outdated and needed to be updated. Please see FiA and CAPFISH (2023, 2025).



Designated fishing zones are a common feature of CFI management. In 2023, only 1% of CFI reported having no designated fishing areas. Nearly two-thirds (64%) managed between one and five areas, making this the largest group. A further 22% managed six to ten areas, while smaller shares managed larger numbers: 7% had 11–15, 3% had 16–20, and about 3% had more than 20 areas. The 2018 report highlighted the importance of fishing grounds to CFI operations but did not provide a summary statistic on the proportion of CFI with designated zones.

The findings suggest broad continuity, with these natural assets remaining the foundation of CFI management in both periods. However, differences in how the data was collected and reported as compared to 2018 limit direct statistical comparisons.

Table 7: Number of CFI with fishing areas, 2023

No. of fishing areas	No. of CFI	% of total
<1	4	1.0%
1-5	246	63.9%
6-10	85	22.1%
11-15	27	7.0%
16-20	13	3.4%
21-25	6	1.6%
26-30	3	0.8%
36-40	1	0.3%
Total	385	100.0%



3.5. Conservation areas and potential expansion

Conservation areas are designated zones where fishing is restricted to allow fish populations and aquatic habitats to regenerate. Their presence, scale and effective management are key indicators of a CFI's contribution to resource sustainability.

The 2023 assessment reveals that establishing conservation areas has become a universal practice among the surveyed CFI. A remarkable 100% of the 385 CFI reported having at least one designated conservation area. Furthermore, over a third of them (35.6%) manage multiple conservation zones. The 2018 assessment also found that conservation areas were common, identifying 370 distinct sites across the 259 CFI studied, but it did not report the specific percentage of CFI that had them.

Regarding the size of these zones, the 2018 report showed a total of 8,743 hectares set aside for conservation, with an average size of approximately 23.6 hectares per conservation site. The 2023 initial report, however, does not provide data on the total or average size of conservation areas, which prevents a direct comparison of scale.

In 2023, nearly one in five CFI (19.5%) reported having active plans to expand their existing conservation areas. A comparable figure on expansion plans was not presented in the main text of the 2018 report. This suggests that while conservation is now a core CFI activity, the drive for further expansion is concentrated within a smaller subset of communities.



Table 8: Conservation Areas in CFi, 2018 vs 2023

Indicator	2018 (259 CFi)	2023 (385 CFi)	Notes
CFi with conservation areas (%)	Not reported	100%	Conservation areas are now a universal feature of surveyed CFi.
Avg. conservation area size (ha)	About 23.6 ha	Not reported	The 2023 initial report lacks data on area size.
CFi with more than 1 conservation area (%)	Widespread (1.4 sites/CFi)	35.6%	The practice of managing multiple conservation areas continues.
CFi planning expansion (%)	Not reported	19.5%	No 2018 baseline for comparison.

3.6. Capital, assets, and revenues of community fisheries

CFi must rely on financial resources, infrastructure, and equipment to manage their areas effectively. These assets are crucial for conducting patrols, organizing meetings, maintaining fisheries resources and habitats, and delivering services to members.

Financial resources remained extremely limited for most CFi. The 2023 assessment revealed a critical lack of operational funds, with about 67% of the 385 CFi providing no information about a budget at all. Of the minority that did report having funds, 75 CFi (or about 20%)¹⁰ specified receiving 4,000,000 Riel (approximately \$1,000 USD most likely from the CAPFISH-Capture Project supported by the European Union).

¹⁰ From 202 through 2024, the EU supported CAPFISH Capture project provided a funding of \$USD1,000 to 150 CFi annually. In 2023, a survey was conducted with 147 (including 83 CFIs and 50 CFRs), with 265 respondents (156 chairpersons/vice-chairpersons and 109 treasurers or clerks). Most CFIs received the annual 4-million-riel grant, yet over 80% viewed it as insufficient for patrolling, reporting, and mobilization. Nearly all committee members are volunteers with limited formal education—90% without pay and 95% lacking computer skills—which constrains financial management and documentation. In addition, while 97% of communities received funds in 2022, only half (at the time of the survey) had attended training on the financial guidelines, and about 60% found at least one provision difficult to apply. Many requested simplified procedures and continued mentoring. These findings suggest that CFi financing should link predictable small grants with capacity-building support—emphasizing practical bookkeeping, digital literacy, and co-financing with communes and partners to improve sustainability.

This contrasts with 2018, when 54% of CFI had received some form of funding support. The overall picture is one of widespread financial precarity, with the majority of CFI operating with no discernible budget and others relying on small, project-based contributions.

Despite these financial constraints, the availability of basic infrastructure appears to have improved since 2018. In 2023, 35.6% of CFI reported having an office and 19.5% had a guard hut. This is a notable increase from 2018, when only 4.6% of CFI had offices and 10.0% had conservation guard posts. Signage was present in nearly half of CFI (49.6%) in 2023; comparable data for 2018 is not available.

Equipment for patrol and management is more common than infrastructure but remained inconsistently available. In 2023, 54.0% of CFI had at least one motorboat for patrols, while fewer CFI had communication radios (24.7%) or patrol uniforms (4.4%). The 2018 report listed the total number of equipment units provided to CFI (e.g., 97 boats and 181 radios) but did not specify the percentage of CFI that possessed them, which prevents a direct comparison.

Table 9: Capital, Assets, and Revenues of CFI, 2018 vs 2023

Indicator	2018 (259 CFI)	2023 (385 CFI)	Notes
CFI reporting revenues/budget (%)	54.0%	33% (67% reported no budget info)	Financial precarity appears to have worsened or is more accurately reported.
CFI with an office (%)	4.6%	35.6%	Significant improvement in infrastructure.
CFI with a guard hut (%)	10.0%	19.5%	Notable improvement in infrastructure.
CFI with a motorboat for patrols (%)	Not reported	54.0%	No 2018 baseline for comparison.
CFI with radios/communication (%)	Not reported	24.7%	No 2018 baseline for comparison.



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3.7. Fishers and fishing gear

Fishing is the principal livelihood for many CFI households (as indicated above, 51.1 % in 2023 and 39 % in 2018), and the dynamics between CFI members, non-members living in the community, and fishers from outside are critical to resource management. The types of gear and boats used by these different groups determine both productivity and sustainability.

The 2023 assessment identified a total of 231,409 fishers active in the surveyed CFI areas. A key shift since 2018 is the composition of this fishing population. In 2023, CFI members formed the largest group (99,970 fishers, or 43%), followed closely by non-members from within the community (95,991 fishers, or 41%). This is a reversal from 2018, when non-members were the largest group (43% of fishers), followed by CFI members (36%). Outsiders remained a significant presence, accounting for 35,448 fishers (about 15%) in 2023. The 2023 data also highlights gender dynamics, showing that the proportion of female fishers is highest among CFI members (35.8%) and lowest among outsiders (27.4%).

The fishing gear used by all three groups shows considerable overlap, with a strong reliance on small-scale equipment. In 2023, gillnets and longlines were among the most common gear reported for members, non-members, and outsiders alike. For CFI members, seine nets were also nearly universal (reported in 99.2% of CFI). The 2018 report noted a similar reliance on small-scale gear like gillnets and traps but pointed out that outsiders also used more intensive gear such as trawlers and arrow traps.

Table 10: Fishers and Fishing Gear in CFI, 2018 vs 2023

Indicator	2018 (259 CFI)	2023 (385 CFI)	Notes
Total Estimated Fishers	203,578	231,409	Note that the two study samples are not the same
Female fishers	Unknown	76,091 (33%)	The 2018 report only provides the total number, not by sex.
Composition of Fishers	36% Members, 43% Non-Members, 21% Outsiders	43% Members, 41% Non-Members, 15% Outsiders	A shift towards a higher proportion of CFI members.
Female Fishers (%)	Not reported	35.8% (Members), 31.9% (Non-Members), 27.4% (Outsiders)	Highest participation among CFI members.
Most Common Gear	Gillnets, traps, drag nets	Gillnets, longlines, seine/cast nets	Gear types show some shifts between 2018 and 2023
Most Common Boat Type	Small motorized boats for all groups	Motorized boats of various sizes for all groups	Mechanization is a persistent feature.



The table below shows clear contrasts between inland and coastal community fisheries. Inland CFis were dominated by small ($\leq 50\text{kg}$) and medium ($150\text{--}500\text{kg}$) motorboats, which together account for around 80% of members' and non-members' fleets. Outsiders in inland areas, however, used larger boats more frequently, with nearly one-third of their vessels above 500kg , signaling a higher degree of mechanization compared to local fishers. Coastal CFis present the opposite picture, with large motorboats as the majority. Among members, almost 60% of boats exceeded 500kg , and the share was even higher for non-members and outsiders. Outsiders stood out most, with over three-quarters of their fleet in the largest size categories, reflecting the demands of marine fishing and their stronger capitalization.

Overall, the data highlights a dual divide. Inland fisheries remained primarily small-scale, while coastal fisheries were dominated by capital-intensive, large-vessel operations. Across both zones, outsiders consistently operated the largest boats, creating disparities in fishing capacity that may challenge equitable co-management and sustainable resource use.

Table 11: Distribution of motorboat sizes (2023, % of boats reported)

Region	Groups	<15PH, <50kg	<15PH, 150-500kg	<15PH, >500kg	>15PH, 500-1000kg	>15PH, 1000-1500kg	>15PH, >1500kg	Total
Coastal	Members	26.6%	14.9%	14.4%	31.0%	10.6%	2.6%	100.0%
	Non-members	12.9%	16.4%	24.4%	15.7%	21.9%	8.7%	100.0%
	Outsiders	10.8%	11.6%	22.1%	33.0%	17.0%	5.4%	100.0%
Inland	Members	41.7%	37.8%	10.1%	8.0%	2.0%	0.4%	100.0%
	Non-members	40.5%	37.9%	9.1%	9.1%	3.3%	0.2%	100.0%
	Outsiders	27.2%	41.9%	13.7%	11.3%	5.0%	1.0%	100.0%
Total		37.0%	37.1%	11.1%	10.2%	3.9%	0.8%	100.0%



3.8. Fish catches and aquaculture

A critical gap in the 2023 assessment is the absence of quantitative data on fish catch volumes and aquaculture production. This prevents a direct analysis of productivity trends since 2018. However, the 2023 survey did gather extensive qualitative data on local biodiversity and perceived resource trends, which was not available in the 2018 report. This section therefore first presents the 2018 quantitative baseline, followed by a deeper analysis of the 2023 biodiversity findings.

The 2018 assessment provides a crucial quantitative snapshot of CFI productivity. The total annual fish catch from the 259 surveyed CFI was estimated at 65,591 tonnes. The catch consisted of a wide variety of species, with mixed small indigenous fish and mollusks (snails, clams, shells) being the dominant categories by weight. Aquaculture was also a notable activity, practiced by members in nearly 35% of the studied CFI (90 out of 259). Total production from aquaculture was estimated at 1,172 tonnes, primarily from species like snakehead (*Channa*) and Pangasius catfish.

The 2023 data offer a ground-level view of ecosystem health within the surveyed CFI, of which 95.1% were located in freshwater areas. Because no past reference points were collected, the findings reflect perceptions in 2023 only.¹¹

- **Fish species:** A core group of fish forms the basis of CFI catches, with species like Ros (*Channa straitus*), Riel (*Henicorhynchus siamensis*), Chhlang (*Hemibagrus wyckii*) Kanchos, (mystus spp) and Kranh (Anabas spp) reported as commonly caught in over 80% of CFI. Some species were identified by CFI as being less frequently encountered. These include Kol Reang (53%), Trasak (26%), Khya (16%), Elephant fish (15%), and other locally recognized species.
- **Other aquatic wildlife:** Communities harvested a wide range of non-fish wildlife, especially invertebrates and amphibians. Crabs (harvested in 89.9% of CFI), frogs (83.1%), and various clams (74.3%) were particularly important. An alarming 64.2% of CFI reported that snails were becoming rare or disappearing, while 62.1% reported the same for turtles, indicating severe pressure on these vulnerable populations.

¹¹ For an ecological study on fish standing, please see example Lieng, S., Leang Hua, P., Roth, T., & Hortle, K. G. (2005). Standing crop and fish species association in Cambodian floodplains. Proceedings of 7th Technical Symposium on Mekong Fisheries, Ubon Ratchathani, Thailand, 15th - 17th November 2005.

- **Aquatic and flooded forest vegetation:** Local ecosystems also provide vital plant resources. The most commonly collected vegetation includes Tras (*Combretum trifoliatum*), Reang tree (*Barringtonia asiatica*), and Dense Heed (*Senna alata*). Here too, communities perceived a decline in valuable species, with 20% of CFI reporting that the male *brabuy* tree (*Croton joufra*) is becoming rare.



Table 12: Perceived Status of Key Species in 2023

Species Type	Top Commonly Harvested Species	Top Species Reported as Rare/Disappearing
Fish	Ros, Riel, Chhlang, Kanchos	Kol Reang, Trasak, Khya, Elephant fish, Kanthor
Wildlife	Crab, Frog, Leech, Thai Clam	Snail, Turtle, Tadok (local mollusk)
Vegetation	<ul style="list-style-type: none"> Tras (<i>Combretum trifoliatum</i>), Reang Tree (<i>Barringtonia asiatica</i>), Dense Heed (<i>Senna alata</i>) 	<ul style="list-style-type: none"> Brabuy Tree (<i>Croton joufra</i>), Kravchao (<i>Corchorus capsularis</i>), Duck Leaf Plant (<i>Cammelina salicifolia</i>)

3.9. Climate hazards, vulnerability, adaptive capacity, and Covid-19

Climate-related hazards are emerging as a significant threat to the sustainability and resilience of CFI. As a frontline livelihood system highly dependent on natural ecosystems, CFI are increasingly vulnerable to extreme weather events, changing precipitation patterns, and ecological disruptions. In recognition of this trend, the 2023 national CFI status assessment introduced a dedicated climate vulnerability module to systematically examine the exposure, sensitivity, and coping capacity of CFI to climate hazards.¹²

The 2023 assessment shows that nearly all CFIs were exposed to at least one hazard in the three years prior to the survey. While COVID-19 was reported universally (100.0% of CFIs), climate-related hazards were also widespread. Drought and fish deaths were the most frequently cited (67.0%), followed closely by crop damage (63.1%), drying of lakes and rivers (62.3%), and flooding (55.3%). Less frequent but still significant were storms (21.0%) and forest fires (10.1%). These findings confirm that CFIs face compound risks, with the majority exposed to multiple types of climate shocks in addition to pandemic disruptions.

Table 13: Reported Hazards Experienced by CFI

Hazards	Count	% of survey CFI
Covid	385	100.0%
Drought	258	67.0%
Crop damage	243	63.1%
Drying of lakes & river	240	62.3%
Flood	213	55.3%
Storm	81	21.0%
Forest fire	39	10.1%

In terms of sensitivity, the first measure looks at how CFI perceive the impact of hazards directly on their fisheries resources. The majority of CFIs did not describe the effects as catastrophic, but they did not consider them minimal either. Instead, most communities rated the impacts in the middle range, suggesting that ecosystems remain under stress but not at the point of collapse.

Table 14: Perceived impact level on fishery resources

Impact Level	% of CFI
Low	15.1%
Medium	81.8%
High	3.1%

The second dimension of sensitivity concerns the impacts of hazards on household livelihoods. The survey data show a striking divergence between fish yields and household incomes. Most CFIs (73.8%) reported that their fish yields remained the same during COVID-19, indicating no major ecological shock to production. However, at the same time, 69.1% of CFIs reported that household incomes had declined. This confirms that livelihoods are highly sensitive to market and economic disruptions, even when natural resource productivity is stable.

To illustrate this, the table below first shows yield and income changes separately and then combines them to highlight the most common pattern: communities reported the same fish yields but lower household incomes. This underlines the economic vulnerability of fishing households to shocks such as market closures, travel restrictions, and falling fish prices.

¹² This proposed framework follows the Intergovernmental Panel on Climate Change (IPCC) vulnerability framework. Please see UN-Habitat Lao PDR (2020) Climate Change Vulnerability Assessment and Guidelines for Community-Based Sustainable Environmental Management in Lao PDR. UN-Habitat, UNDP, & Stockholm International Water Institute.

Table 15: Yield and income sensitivity during COVID-19

Category	% of CFIs
Yield same	73.8%
Yield lower	26.2%
Yield higher	0.0%
Income same	30.9%
Income lower	69.1%
Combined: Yield same, income lower	43.4%
Combined: Yield lower, income lower	24.9%

In terms of adaptive capacity, the dataset does not contain sufficient data relating to climate hazards. Yet, the part on COVID-19 provides an important benchmark for understanding how communities experienced shocks and how they responded. Unlike droughts or floods, COVID-19 did not directly affect fishery resources, but it created widespread socio-economic stress. All CFIs (100.0%) reported being affected. The most common pressures were household tension and conflict¹³ (95.3%), loss of income and livelihood (93.5%), disruption of education (83.1%), and mental health issues such as stress and anxiety (78.4%). Almost no CFIs reported physical health as the main problem.

Table 16: Pressures faced by CFIs during COVID-19

COVID-19 Pressure	% of CFIs
Household tension/conflict	95.3%
Loss of income/livelihood	93.5%
Education disruption	83.1%
Mental health issues	78.4%
Physical health concerns	0.0%

In response to these pressures, communities reported a wide range of coping strategies. The most common was planting small-scale crops for home consumption (73.2%). Many also turned to other jobs such as farming or animal husbandry (40.3%), relied on family members returning to help (34.0%), or asked relatives for remittances (21.0%). A concerning 35.8% of CFIs said they did nothing, pointing to the lack of viable options in some areas.

Table 17: Community coping strategies during COVID-19

Coping Strategy	% of CFIs
Planted small-scale crops	73.2%
Other jobs (e.g. farming, livestock)	40.3%
Family members returned to help	34.0%
Asked for remittances	21.0%
Did nothing	35.8%

The COVID-19 experience shows that CFIs are not entirely unable to respond, but their coping capacity remained limited and reactive. Actions such as subsistence farming or temporary labor shifts provide short-term relief but do not build resilience. The high share of CFIs reporting “did nothing” further highlights the structural limits to adaptation. More importantly, despite these coping efforts, 69.1% of CFIs still reported income losses (mentioned earlier), even though 73.8% reported no decline in fish yields (see earlier).

¹³ The 2023 dataset includes a variable (H_39.2.3) on “conflicts within households” under the social impact section. However, it does not define the nature of the conflict or disaggregate responses by gender. As such, the data cannot distinguish between economic disputes, domestic violence, or other intra-household tensions.

Taken together, the COVID-19 findings provide an indirect measure of adaptive capacity: most CFis could take small, temporary steps, but they lacked the resources, institutional support, and diversified livelihoods required for sustained resilience. This insight is highly relevant for understanding how communities may also experience and respond to future climate-related hazards.

3.10. Supports, priorities and challenges

Not all communities received support in response to disasters, but where assistance was provided it was highly concentrated on COVID-19. About 81.0% of CFi reported receiving some form of support specifically for COVID-19 economic impacts. By contrast, only 37.7% reported receiving support for flooding, 20.0% for drought and fish deaths, and less than 10% for other hazards such as storms or forest fires. This highlights a gap: while communities experience multiple climate-related hazards, external support has largely focused on pandemic relief rather than climate adaptation.

Table 18: Support received by types of disaster

Disaster supported	% of CFi reporting
COVID-19 economic impacts	81.0%
Flooding	37.7%
Drought, fish deaths	20.0%
Drying of lakes/ivers	12.5%
Crop damage	11.3%
Storm	6.0%
Forest fire	2.8%

When asked which institutions provided assistance, the most commonly cited provider was the government (43.6% of CFis). Other respondents also listed different levels of government (sometimes duplicated in the dataset under slightly varied wording), the Cambodian Red Cross (6.2%), and commune or district administrations (4.9%). NGOs and international partners appear far less frequently.

Table 19: Institutions providing support

Institution providing support	Count	% of CFi reporting
Government	168	43.6%
Government (duplicate entry variant)	26	6.8%
Royal Government & Red Cross	24	6.2%
Commune/District administration	19	4.9%
Royal Government (variant)	15	3.9%

The 2023 assessment provides a clear picture of the priorities and needs of community fisheries, based on what they identified as the most crucial areas for external support. The data point towards a strong desire for building long-term economic resilience and improving the viability of existing livelihoods.

The most urgent priority identified by communities is the need for economic diversification. A large majority of CFi (82.6%) requested support for new livelihoods opportunities and vocational training. This suggests that reliance on fishing alone is seen as an increasingly vulnerable livelihood choice, and communities are actively seeking alternative income sources to build household resilience.

The second-most cited priority was improving the value chain for their primary source of livelihood, with nearly half of the communities (49.1%) identifying a need for assistance with selling fish products and improving market access.

Beyond these top two priorities, communities also expressed a need for tangible assets and forward-looking support. Over a quarter of CFi (26.8%) requested new appropriate fishing tools, while 14.0% identified climate change adaptation as a key support area. Requests for basic fishing gear (11.7%) and training on new fishing techniques (7.0%) were less common priorities.

Table 20: Priority support needs identified by CFI (2023)

Support need	% of CFI reporting need
New livelihoods / vocational training	82.6%
Selling fish products / market access	49.1%
New appropriate fishing tools	26.8%
Climate change adaptation	14.0%
Fishing gear	11.7%
New fishing techniques	7.0%

4. Discussion

The 2023 status assessment of CFI in Cambodia, building on the 2018 baseline, reveals a period of significant maturation in the CFI model's formal establishment, yet highlights persistent and critical challenges to their long-term sustainability and the livelihoods of their members. This analysis integrates historical context and broader insights from small-scale fisheries to provide a comprehensive understanding of the CFI landscape.

Legal formalization is strong, but does not guarantee full functionality

The evolution of CFI in Cambodia reflects a deliberate policy shift towards community-based resource management, initiated by the abolition of fishing lots in 2000 and 2012, which transferred management rights to local fishers. This foundational period of governance strengthening provided the context for the subsequent formalization observed.

Since these initial reforms, CFI have made remarkable progress in strengthening their institutional and physical foundations through legal formalization. The 2018 assessment found that all studied CFI had completed the nine required steps for establishment, 96% had developed by-laws and internal rules, and 98% had elected committees. By 2023, this progress further solidified, with 100% of CFI surveyed officially registered, a notable improvement from 91% in 2018. Foundational legal documents such as internal regulations, CFI maps, and membership lists became universally available in 100% of surveyed CFI in 2023, an improvement from 96% in 2018. The share of CFI with an approved management plan also increased substantially, from 75% in 2018 to 94.8% in 2023. These figures demonstrate robust progress in formal compliance, with CFI being co-managed by members, local authorities, and the FiA.

Despite the success in the establishment steps, sustainability of the local CFI management and management plans is questionable. Another assessment, also conducted in 2023, pointed out that 293 of CFI were in need of re-election of their committee as the previously selected committee were already out of mandate as they had long passed the end of their term. However, re-election is not a process where the CFI themselves were able to conduct and require local authorities' support. Similarly, many CFI had successfully developed their 3-year Community Fishing Area Management plan (CFiAMP), but the majority had an expired plan and were able to update or rewrite a new one as the template for the plan was complex and needed to be facilitated by outsiders, such as the government officers and/or NGOs. As a result, 322 CFI were in need of updating their CFiAMP but were unable to do it. All these point out the need for CFI to move beyond the stage of establishment and focus on its strengthening and sustainability.

Legal status did not guarantee functional performance in all areas. In 2023, the maintenance of operational records remained a challenge, with 76.5% of CFI keeping financial records and 81.4% having written progress reports. This suggests a gap where, despite strong legal frameworks, functionality varied, and only around half of CFI demonstrated regular activity or effective implementation of their management plans. This highlights that while formal recognition is essential, the effectiveness of co-management arrangements ultimately depends on the local and national support, ongoing communication, and the capacities of the various partners involved, which requires an evolving process to build trust and structures, rather than being a "quick fix". To address this, a shift from a compliance-based model to a performance-

based support model is recommended, linking assistance to evidence of activity and developing performance dashboards to track active versus inactive CFI.

Economic resilience is the most urgent and widespread concern

Economic resilience was consistently highlighted as the most urgent and widespread concern for CFI communities. The crucial importance of fisheries to the livelihoods of coastal communities and inland water bodies in Asia is well-documented, with households linked to the fisheries sector often comprising some of the poorest and most vulnerable groups.¹⁴

A critical weakness identified in 2023 is the lack of sustainable funding, with approximately 67% of CFI providing no budget information, indicating a widespread absence of operational funds. This suggests a worsening financial precarity compared to 2018, when 54% of CFI reported receiving some form of funding support. The COVID-19 pandemic starkly illustrated this vulnerability: despite stable fish yields for 73.8% of communities, incomes fell for 69.1%. This indicates that livelihoods are highly sensitive to market and economic disruptions, even when natural resource productivity remains stable. This vulnerability underscores the precarity of single-source livelihoods and market dependencies that small-scale fisheries globally often face, making them susceptible to external shocks. It also strongly indicates the need to develop sustainable financing mechanisms within CFI, e.g. saving funds, resource user fees collected from outsiders.

Communities are acutely aware of this precarity, with their top-stated priority being the need for new livelihood-enhancing opportunities and vocational training, requested by 82.6% of CFI. Improved market access and support for selling fish products were the second most cited priority, identified by 49.1% of communities. The 2018 assessment already noted that the rights to generate income from commercial fishery activities were not granted by law, representing a significant constraint to long-term CFI sustainability and limiting communities' negotiation power. The 2023 findings reinforce this, emphasizing the reliance on inconsistent external support and the urgent need for diversified income sources and strengthened market linkages. The widespread absence of operational funds and the community's top priority for new livelihoods reflect the general policy gap in many regions where livelihood diversification is vaguely addressed without detailed strategies or resources, and where crucial issues like credit provision are rarely mentioned in national policies.

This lack of financial sustainability is further exacerbated by a history of short-term thinking in budgetary considerations. The 2018 observation about the lack of income generation rights highlights a fundamental policy barrier to CFI economic self-sufficiency, in contrast to approaches that aim to empower producers by providing them more direct access to markets and fairer prices.

Gender inclusion has improved in formal terms, but remains limited in practice

Cambodian national policies explicitly recognize women as the backbone of the economy and society, prioritizing gender equality for inclusive and sustainable development. The CAPFISH-Capture project (2019-2024) also specifically aims to reduce the gender gap by encouraging women's representation in leadership roles and improving their access to economic opportunities and capacity development.

In terms of formal participation, women constituted 44.3% of CFI members in 2023, an increase from 42% in 2018. However, this formal inclusion does not translate proportionally to leadership roles within CFI. In 2018, female CFI committee members constituted only 14%. By 2023, the disparity remained stark: only 2.1% of CFI chiefs were female, with similar imbalances in deputy positions. This significant gender gap in governance undermines the inclusive principle of the CFI model and requires concerted action from decision-makers at all levels.

This limited practical inclusion is particularly significant given that women play a crucial and often central role in post-harvest fisheries, handling decision-making in fish purchases, processing, bookkeeping, and financial management, making them the primary repositories of knowledge and skills in this sector. Often women are also those who ensure household food security relying on immediate local resources. However,

¹⁴ Please see for instance Bann, C., & Sopha, L. (2020). FishCounts – Increasing the visibility of small-scale fisheries (SSFs) in Cambodia's national planning. IIED Working Paper, International Institute for Environment and Development (IIED), London.

women's extensive labor burden in productive activities is often compounded by chronic time poverty due to unpaid home-care responsibilities, which severely limits their mobility, agency, and access to education and capacity building opportunities.

By 2023, CFI members dominated fishing, inland used smaller boats than coastal

The management of CFI in Cambodia is significantly shaped by the dynamics among CFI members, non-members residing within the community, and outside fishers. In 2018, non-CFI members constituted the largest group of fishers (43%), followed by CFI members (36%) and outsiders (21%). By 2023, there was a shift towards a higher proportion of CFI members, who then made up 43% of fishers, with non-members at 41% and outsiders at 15%.

A persistent feature across all fisher types is the widespread use of motorized boats, indicating significant mechanization in the sector. In 2018, small motorized boats were the most common vessel type for all groups. By 2023, motorboats of various sizes were still prevalent. However, a key distinction emerged between inland and coastal CFI regarding boat size. Inland CFI is dominated by small ($\leq 500\text{kg}$) and medium ($150\text{--}500\text{kg}$) motorboats for both members and non-members, collectively accounting for about 80% of their fleets. Notably, outsiders in inland areas more frequently used larger boats, with nearly one-third of their vessels exceeding 500kg, suggesting a higher degree of mechanization compared to local fishers.

Coastal CFI presents the opposite picture, with large motorboats ($>500\text{kg}$) forming the majority. Among members, almost 60% of boats exceed 500kg, and this proportion was even higher for non-members and outsiders. Outsiders in coastal areas were particularly prominent, with over three-quarters of their fleet in the largest size categories, which reflects the demands of marine fishing and their stronger capitalization.

Conservation has expanded but remains undermined by resource decline

Conservation within Cambodia's CFI is crucial for regenerating fish populations and aquatic habitats, and its effectiveness is a key indicator of CFI contributions to resource sustainability. Despite ongoing efforts, the sector faces significant challenges, particularly from climate change impacts and enforcement limitations.

By 2018, approximately 1.3% of the total CFI area was allocated for conservation, with coastal CFI having the largest proportion (2.1%). These conservation areas were categorized, including sites for fish, flooded forests, and mangroves, which together constituted 30% of the total CFI conservation area. In 2023, the practice of managing multiple conservation areas was widespread (35.6% of CFI), and nearly 20% of CFI were actively planning to expand their conservation zones. However, the exact area size data for 2023 was not available in the initial report, limiting direct comparison of scale with 2018.

Despite these conservation efforts, there is a widespread perception of resource decline among commonly harvested species, including fish, snails, turtles, and valuable aquatic plants, as reported in the 2023 assessment. This indicates that current management practices and the size of the conservation areas might be insufficient to ensure long-term sustainability. A critical data gap in the 2023 assessment—the absence of quantitative data on fish catch volumes and aquaculture production—prevents a direct analysis of productivity trends against the 2018 baseline of 65,591 tonnes.

External support remains a critical enabler of CFI functionality

Both assessments, 2023 and 2018, highlight the critical role of external support in enabling CFI functionality. As indicated in the 2018 study, the establishment of CFI themselves were supported by a wide array of international and local partners, including the FAO, Asian Development Bank (ADB), European Union (EU), World Bank, and numerous non-governmental organizations (NGOs). The 2018 report found that NGOs and development partners contributed a significant proportion of total funding to CFIs, ranging from 40% to 90% between 2014 and 2018. It concluded that CFI "can function well with support from external organizations or donors, but without such support, their ability to operate is questionable". Consequently, the need for sustainable and self-financing of the CFI is highlighted.

This dependency persisted in 2023, where most CFI (87.5%) reported receiving some form of support during the COVID-19 period, with 81.0% specifically for COVID-19 economic impacts. However, a notable shift in the primary source of support is evident: while development partners and NGOs were the largest

contributors in 2018, the most commonly cited provider in 2023 was the government (43.6% of CFI), which could be related to the annual \$1000 that several CFI received, with NGOs and international partners appearing less frequently.

A significant gap identified in 2023 is the limited institutional coverage of climate-related hazards, with far fewer CFI receiving help for flooding (37.7%) or drought (20.0%) compared to pandemic relief. This highlights a need for more diversified and targeted support to address a broader range of shocks. The ongoing need for external support is crucial not only for operational funding but also for capacity building in areas like management plan development, sustainable financing, and grant administration.

Exposure to climate hazards is widespread, but adaptive capacity is limited

The 2023 assessment introduced a new and critical focus on the impacts of disasters and external shocks, a topic not covered in detail in the 2018 report, thereby establishing a vital baseline for understanding CFI vulnerability. The findings reveal that communities were highly exposed to a range of hazards, with nearly all surveyed CFI (98.2%) reporting experiencing at least one disaster in the three years prior to the survey. This places small-scale fisheries on the "frontlines of climate change," inherently susceptible to the unpredictable nature of fisheries due to seasonal and weather influences. Widespread climate-related hazards included drought and fish deaths (67.0%), crop damage (63.1%), drying of lakes and rivers (62.3%), and major flooding (55.3%).

Despite this high exposure, most communities perceived the overall impact on their fishery resources as "Medium" (81.8%) and similarly rated their own capacity to respond and adapt as "Medium" (83.1%). However, a notable 12.7% felt their capacity was "Low," indicating a widespread sense of vulnerability. Coping strategies are largely limited and reactive, such as planting small-scale crops for home consumption (73.2%) or shifting to other jobs (40.3%). The fact that 35.8% of CFI reported "doing nothing" highlights a lack of viable options and structural limits to adaptation. This limited, reactive capacity underscores the need for CFI to develop broader adaptive capacities, which encompass not just assets, but also diversity, flexibility, and robust governance, in order to respond effectively to acute and chronic stressors. The limited external support for climate-related hazards (only 37.7% for flooding and 20.0% for drought) further exacerbates this lack of sustained resilience.

5. Conclusions and recommendations

5.1. Conclusions

The 2023 CFI Status Assessment was conducted to provide an updated, evidence-based understanding of the legal, institutional, environmental, and economic conditions of CFI across Cambodia. Building on the 2018 baseline, this assessment expands the scope of inquiry, introduces new dimensions, particularly climate hazards, and generates the most comprehensive dataset on CFI to date.

The findings confirm that the CFI model remains central to Cambodia's community-based fisheries governance. Legal formalization has expanded, with virtually 100% of CFI now registered and operating under approved statutes. However, functionality varies, and only around half of CFI demonstrate regular activity or effective implementation of their management plans. Institutional legitimacy is uneven, with notable concerns around participation including that of women, internal disputes, and weak accountability. The lack of CFI committee re-election and updated CFiAMP threaten the sustainability of CFI as well as structured planned activities that address the priorities defined by the CFI themselves.

Economic vulnerability is another area of concern, especially in the aftermath of COVID-19, where income losses were reported even as fish yields remained stable. Gender inclusion improved in structural terms, but substantive engagement of women in decision-making remained limited. Most CFI remained heavily reliant on external support, particularly from the Fisheries Administration and NGOs, and few demonstrate sustained operational self-reliance. For the first time, the assessment documents widespread

exposure to climate hazards, with nearly all CFIs reporting at least one major event—yet adaptive capacity remained low.

Despite the depth of data, the assessment has several limitations. It relies on self-reported data from CFI leaders and members, which may be affected by social desirability or reporting bias. Certain qualitative dimensions, such as trust, power dynamics, and local politics, are not easily captured in structured surveys. Moreover, while the climate hazards section represents a valuable innovation, it should be interpreted as an initial baseline rather than a comprehensive climate vulnerability assessment.

Future assessments should deepen the economic analysis of CFIs, including income composition, value chain linkages, and cooperative potential. They should also expand gender-disaggregated data collection and analysis and examine the role of youth and marginalized groups in an intersectional manner. Longitudinal tracking of selected CFI could improve understanding of institutional dynamics and sustainability over time. Finally, future rounds should consider integrating geo-coded data and spatial analysis, especially for climate risk mapping and ecosystem-health monitoring.

While the 2023 assessment was strongly weighted toward inland communities (95% of the total sample). This limited coastal representation constrains detailed comparison between marine and inland systems. Future assessments should therefore consider a more proportional inclusion of coastal CFIs to ensure that lessons and policy recommendations capture the full diversity of Cambodia's fisheries ecosystems.

The key message from this assessment is that, while the CFI model has matured legally and is embedded within national fisheries policy, it remains institutionally fragile, economically constrained, and increasingly exposed to environmental pressures. Strengthening and sustaining CFI will require a shift from compliance to performance, from formal recognition to functional resilience. The findings provide a strong foundation for shaping the next generation of CFI policy, including potential transformations into fisheries-based cooperatives, and serve as a critical evidence base for engaging development partners and climate finance mechanisms in support of community-based fisheries governance.

5.2. Recommendations

A key lesson from this assessment is the limited comparability due to the unavailability of the original 2018 dataset. To avoid similar challenges in the future, it is strongly recommended that all raw datasets be systematically archived, stored securely, and made accessible to authorized teams. Ensuring proper data preservation will enable future assessments to conduct more robust analyses and maintain accurate long-term tracking of CFI development. At the same time, the assessment framework should remain flexible to incorporate new modules that address emerging priorities such as climate hazards, economic vulnerability and development, and social inclusion.

The following recommendations aim to strengthen the legal, institutional, socio-economic, and environmental performance of CFIs, ensuring their long-term sustainability and alignment with national policy directions.

Move from legal registration to functional performance

While 100% of CFI were legally registered in 2023 and most had approved statutes and management plans, fewer CFI had financial security, financial records and progress reports. The majority needed support for re-election and updating of their CFiAMP. All these imply that legal status has not guaranteed functional performance or sustainability. To address this gap, government and partners should:

- Shift from a compliance-based model (registration) to a performance-based support model focussing on sustainable and stronger CFI.
- Support the key mechanisms of CFI governance, including the regular re-election of the CFI committee, updating of the CFiAMP, and sustainable financing.
- Link continued technical or financial assistance to evidence of activity, such as updated CFiAMP and sustainable financing plans, documented meetings, or active patrols.

- Develop simple performance dashboards at commune or provincial level to track active vs. inactive CFI, providing a basis for targeted support.

Build economic resilience as a foundation for cooperative and equitable transformation

Several findings highlight that CFI were highly sensitive to market shocks and lack diversified, resilient income sources. The government's plan to link or transform CFI into fisheries-based agricultural cooperatives provides a strategic pathway forward, but only functionally active CFI will be eligible to make this transition. To strengthen economic resilience, the following steps can be considered:

- Map and prioritize CFI with potential for cooperative upgrading (e.g., those with higher participation in aquaculture or value-chain activities).
- Provide training on cooperative principles, collective marketing, business and financial literacy, targeted at committee members and active households, taking into account women's differentiated roles, skills and needs in the broader value chain.
- Integrate CFI into subnational economic development planning and value chain programs.
- Expand access to finance by linking CFI and emerging cooperatives with microfinance institutions, savings groups, or development credit schemes in a socially inclusive manner that addresses financial inclusion barriers faced by women.
- Ensure legal subsidiary frameworks under Agriculture Law support provide steps and guidelines in the transformation.
- Ensure social safeguard principles are applied so that the different CFI members/households have equal opportunities to access opportunities for economic improvement.

Advance gender equality and inclusion in leadership and participation

While women were well represented in general membership, their participation in leadership and decision-making remained limited. To address this gap, government and partners should:

- Provide targeted leadership, management and negotiation training for women committee members that creates a pathway for women to meaningfully contribute to CFI governance.
- Implement legal and gender mainstreaming frameworks (e.g. Policy and Strategic Framework for Gender Equality Promotion and Elimination of Child Labour in the Fisheries Sector (2024-2030) to support equal opportunities, especially access to resources and capacity building.
- Promote gender-sensitive livelihood enhancing programmes (e.g. fish processing, aquaculture, ecotourism, seaweed farming, tree nurseries, mangrove restoration) where women have comparative advantages and can exercise greater economic agency.
- Incorporate gender-disaggregated indicators in future assessments (beyond membership percentages), including qualitative gender indicators that capture changes in perceptions, attitudes, and experiences related to gender equality, and help in assessing changes in women's participation in decision-making and can better track women's influence over decisions.

Ensure sustained and targeted external support

The ability of CFIs to function and recover from shocks is closely tied to the level and reliability of external support. However, the 2023 assessment shows that financial and operational assistance remained limited overall, not only for climate- or disaster-related events, but also for routine CFI management tasks. Most support continued to come from central government channels, with little predictable or sustained assistance available through decentralized mechanisms such as commune-level systems. Development partners and NGOs also played a smaller role than in earlier years. This constrained support landscape affects both day-to-day CFI operations and their ability to respond to hazards. To address these gaps:

- Establish a structured CFI support package through government channels, covering both climate hazards and routine management.
- Strengthen coordination with decentralized mechanisms, such as commune and district administrations, to enable locally accessible funding streams and reduce reliance on ad hoc central allocations.
- Encourage NGOs and donors to align interventions with a national CFI support framework, reducing fragmentation.
- Integrate relevant indicators into the existing monitoring tools to track which CFIs receive support, from which institution, and for what hazard.

Integrate climate resilience into CFI policy and programming

The 2023 assessment provides the first national-level dataset linking CFI with climate hazards. Overall, the results show that CFI were widely exposed to hazards, especially drought/ fish death, drying of lakes and rivers. They also experienced high levels of income loss despite stable yields, and relied on short-term coping strategies with limited external support. To integrate climate resilience into CFI programming:

- Develop and improve weather, climate and early warning systems, and facilitate informational access for CFI.
- Mainstream climate risk assessments into CFI management plans
- Pilot climate-resilient CFI models in hazard-prone areas (e.g., drought-resistant aquaculture, mangrove restoration in coastal CFI)
- Mobilize climate financing (Green Climate Fund, Adaptation Fund, bilateral donors) to scale up CFI adaptation measures.
- Link CFI with broader national and subnational climate strategies (e.g., Cambodia's NAP and NDC), positioning them as frontline adaptation institutions.
- Support CFI participation in flooded-forest, mangrove, and seagrass rehabilitation as part of nature-based climate-mitigation measures.
- Integrate climate-resilient aquaculture practices, eco-tourism, and small-scale processing into CFI livelihood plans.



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