

Coral Cay Conservation 2013

Socioeconomic and community perceptions survey: Prek Svey, Koh Rong, Cambodia

Presented to the Fisheries Administration, Ministry of Agriculture,
Forestry and Fisheries



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Coral Cay Conservation

Founded in 1986, CCC is dedicated to 'providing resources to protect livelihoods and alleviate poverty through the protection, restoration and sustainable use of coral reefs and tropical forests'. CCC works in collaboration with government and non-governmental organisations within a host country and does not charge that country for the services provided. CCC is primarily self-financed through a pioneering volunteer participatory scheme whereby international volunteers are given the opportunity to join a phase of each project in return for a financial contribution towards the project costs. Upon arrival at a project site, volunteers undergo a training programme in marine life identification and underwater survey techniques, under the guidance of qualified marine scientists, prior to assisting in the acquisition of data. Finances generated from the volunteer programme allow CCC to provide a range of services, including data acquisition, assimilation and synthesis, conservation education, technical skills training and other capacity building programmes.

CCC has been successfully operating volunteer based conservation programmes in developing countries over the past 27 years with several internationally notable accomplishments, including the establishment of several Marine Protected Areas around the world. Examples of CCC action include the creation of the UNESCO World Heritage Site in Belize, the Danjungan Marine Reserve and Wildlife Sanctuary for Negros in Philippines, and the development of 12 no-take marine parks around Sogod Bay in the Philippines.

1. Introduction

Coral Cay Conservation (CCC) has been working in Cambodia since 2010 at the invitation of the Fisheries Administration (FiA) of the Cambodian Ministry of Agriculture, Forestry and Fisheries (MAFF). Based on the island of Koh Rong, in Preah Sihanouk Province, CCC has initiated the 'Cambodia Reef Conservation Project' (CRCP), which aims to support the sustainable use of marine resources around Koh Rong and the nearby islands of Koh Koun and Koh Rong Sanloem. The CRCP focuses on three main areas to achieve this:

1. The collection, interpretation and presentation of ecological data from the coral reefs around the islands;
2. Building capacity for sustainable management within local communities, stakeholder groups and project partner organisations through the provision of workshops and training;
3. Raising awareness for environmental issues and building support for sustainable management within local communities through engagement and education programmes.

Coral reefs play an important role in Cambodia's marine ecosystems, providing essential habitat for many marine species, as well as supporting the fisheries and tourism industries; however, many reefs are threatened by anthropogenic impacts including overfishing, destructive fishing, coastal development, agricultural runoff and sedimentation (Kim, et al., 2004). In order to protect their coral reefs and ensure their sustainable management into the future, the FiA are working with NGOs and local stakeholders to implement a multiple-use marine protected area (MPA), known locally as a marine fisheries management area (MFMA), around Koh Rong and the nearby islands. The vision for the MFMA has been identified as: *"A model marine fisheries management area for conservation of marine biodiversity, sustainable fishing and tourism, contributing to poverty reduction"*. Through the CRCP, CCC is working to support this project.



1.1. Report Aim

The establishment of an MPA will have social and economic impacts, which will often differ between user groups (IUCN-WCPA, 2008). By their nature, MPAs will limit extractive activities and impact on their extent, location and/or timing, thus forcing behavioural change within dependent communities. Since the success of an MPA is influenced, in large part, by the willingness of communities to abide by the rules, addressing social and economic considerations is crucial to the success of MPA planning and management (Voyer, et al., 2012). In recent years, emerging trends in MPA design and management in tropical countries have moved towards a linkage between social and ecological considerations, as well as an increased level of community engagement (Ban, et al., 2011).

In January 2013, the CCC expedition site was relocated to the village of Prek Svey on Koh Rong (Figure 1). This move initiated our first contact with the community within Prek Svey with whom our teams of staff and volunteers would be living and working for the foreseeable future. Based on the importance of understanding social and economic factors to the MPA design process, and on the

need for our team to successfully engage with the local community to achieve project aims, it was determined that a series of interactive surveys would be carried out within the village.

The primary aims of these surveys were to:

- Introduce CCC to the village
- Clarify CCC's role within the community and Cambodia as a whole
- Give CCC team members an understanding of the village in which they would be working and the people they would be working with
- Identify areas of concern and/or need within the community to enable development of appropriate community based activities
- Assess community perceptions relating to the MFMA

This report summarises the findings of these surveys and presents an overview of social and economic issues within Prek Svey village, with particular focus on marine fisheries.

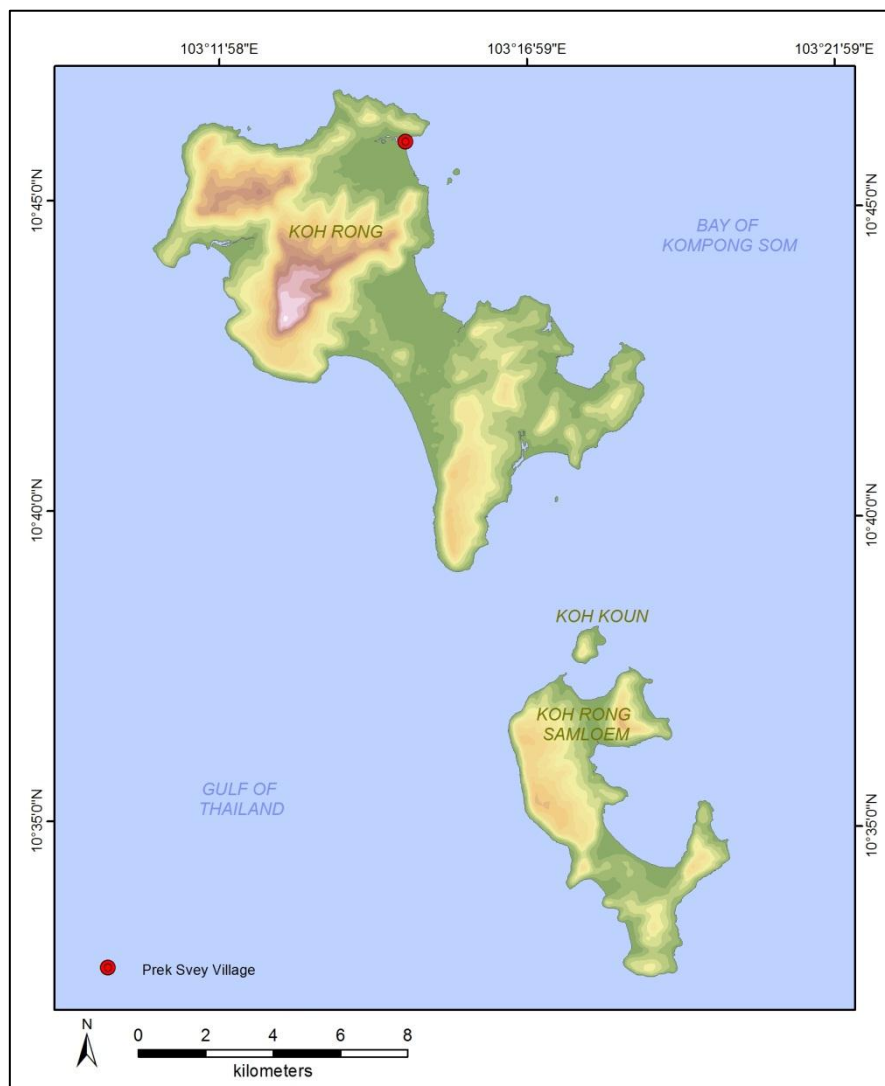


Figure 1 - Location of Prek Svey village on Koh Rong

2. Methods

Questionnaires were developed to gather background demographic information on households, including number of members in the household, education levels, health issues and general areas of employment or income. In addition, information was gathered to identify current skills present in the community, areas of training or capacity building previously received (if any), potential areas in which to develop training and skills delivery, and aspirations of individuals in terms of development.

Basic information was gathered to identify the prevalence and importance of fishing in the community. This included, the type of fishing in terms of target species (crab, fish, squid, other); the scale of fishing efforts; the techniques being used, including the type of boats and equipment in use; and perceptions on whether catch has increased or decreased in recent years. Information was also collected on the current levels of environmental awareness, including awareness of environmental problems or challenges within the village; knowledge of the marine environment; and perceptions of the proposed MFMA.

Interviews were conducted with groups of individuals within households in the village. The atmosphere was kept relatively informal to encourage participants to engage fully and answer honestly. Interviews were conducted in Khmer and notes were subsequently summarised in English. The same basic questions were asked of all interviewees (see Appendix A – Questionnaires). In addition, certain groups and individuals were asked supplementary questions, based on their role within the community:

- ✧ The village chief was asked to confirm the total number of people in the community and give a breakdown of their gender and age, as well as to outline the level of medical facilities available in the village.
- ✧ The head of the Community Fisheries (CFi) was asked for details of the fishing community, including, total numbers of fishermen or women; the number of families involved in the fishing industry and the scale of fishing by these; and details of any CFi activities or training provided.
- ✧ Monks were asked about the total number of monks in the Pagoda and the frequency and type of activities involving monks within the village.
- ✧ Teachers were asked whether they were from within the community or from elsewhere, as well as details of their teaching activities including, what grades they taught; the number of classrooms and facilities within the schools; the numbers of students and gender breakdown of these; whether they received any sponsorship, donor assistance or external training; and whether the school would be receptive to CCC involvement in lessons, training and under what circumstances (i.e. time, place etc.).

2.1. Survey Participants

Socioeconomic surveys carried out in 2011 established that Prek Svey village had a population of 697 people in 148 households, with a roughly equal split between gender at 319 women and 359 men (Vibol, et al., 2011). This study found that, according to the village chief, there is currently a total of 613 community members in 149 families, 297 of which are female, 316 male, suggesting there has been a slight population decrease in the last 2 years. The CCC expedition site, housing CCC staff and volunteers, was not included in these totals.

Interviews were conducted with 33 families, representing 22% of the families within the village. Participants were chosen at random by selecting every third house (where possible). The number of individuals within the households surveyed range from 2 to 10. Participants in the surveys included:

- ⬆ The Village Chief (Mr Keao Pouv)
- ⬆ The Head of Community Fisheries (Mr Mon)
- ⬆ 1 monk
- ⬆ 3 teachers from Prek Svey community school (3 male, 1 female)
- ⬆ 27 other families

3. Results and Discussion

Survey findings have been grouped into nine categories, based on overarching objectives. These are:

1. Characterise the educational status within the community and identify opportunities for educational activity within the village
2. Identify existing skills and expertise in Prek Svey with a view to developing alternative livelihood strategies
3. Identify extent of community reliance on fishing for income and food security
4. Identify potential anecdotal/qualitative trends in volume catch in recent years
5. Ascertain basic health issues and concerns
6. Ascertain current and past levels of involvement with NGOs and other organisations
7. Identify areas of environmental and community concern within the community
8. Identify current perceptions and levels of understanding of the proposed MFMA
9. Identify areas for potential development within the community

Additional information gathered, which did not fit into any of the above objectives has been summarised separately.

3.1. Objective 1: Characterise the educational status within the community and identify opportunities for educational activity within the village

Education levels of interviewees varied, with completion ranging from Grade 1 up to Grade 7. No interviewees had received any additional education in school and in some cases the interviewee had not received any formal education at all. It is therefore essential that community engagement and education initiatives are targeted with this in mind. No prior knowledge of environmental subject matter should be assumed and information should be presented in a manner that is easy to access and understand.

There are currently a total of 212 students attending school in Prek Svey (34% of the population of the village). This breaks down into 90 girls and 122 boys; of which 31 are pre-primary or kindergarten pupils (with 2 teachers and a cook); 153 primary school pupils (Grades 1-6, with 5 teachers) and 28 secondary school students (Grade 7, with 3 teachers) (Figure 2).

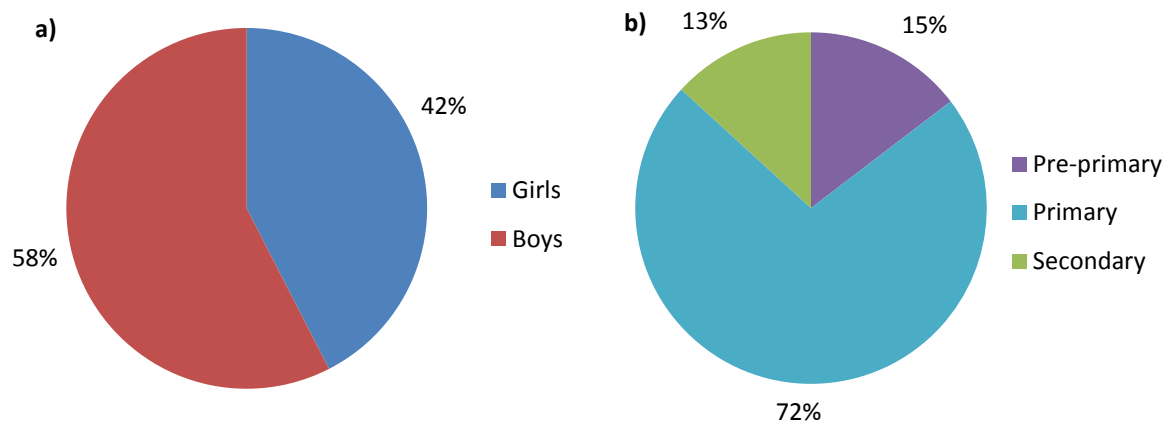


Figure 2 - Demographics of school students in Prek Svey. a) Sex of students attending school in Prek Svey. b) Percentage of students in different stages of education within Prek Svey.

There are a total of eight teachers, (7 male, 1 female), all of whom come from outside the Prek Svey community. The school itself consists of two buildings, one of which is an old wooden building with three classrooms, the other a cement building with six classrooms. Three classrooms are used for kindergarten/pre-primary, five for primary school and one for secondary school lessons. Lessons are distributed throughout the day, depending on the age group, with Grades 5 and 6 having lessons together in the afternoons, along with Grade 7 pupils and Grades 1 to 3 studying in the mornings.

Foreign assistance received by the school includes help from Save the Children (Norway) who fund teachers' salaries: \$150/month for secondary school teachers and \$100/month for primary school teachers. They have also built two new toilets and rebuilt two existing toilets for the school, as well as building a new well, renovating the existing well, and establishing a rain water collection and storage facility. Additionally, they provide breakfast for children attending kindergarten. The school also receives foreign assistance from CCS, an Italian NGO, who provides \$50 monthly for kindergarten teachers' salaries and contribution for breakfast. They also provide study materials for the pupils.

The school director and teachers are open to collaboration with NGOs operating locally and have agreed that activities with CCC can be conducted primarily on Saturday mornings as well as weekday afternoons. This is with the proviso that agreement is sought with the school director prior to any activities.

3.2. Objective 2: Identify existing skills and expertise in Prek Svey with a view to identifying potential alternative livelihood strategies

Of the families interviewed, over half derived some or all of their income from fishing, with 36% relying primarily on fishing alone, and 15% depending on a combination of fishing and farming. Additionally, 9% were teachers and 6% operated village shops, selling food and general supplies within the village.

The majority of interviewees said they have not received any formal training, or were unable to remember the context of any skills training if they have received any; however, various skills were identified within the community that could potentially be developed to provide additional income for members of Prek Svey. These included:

- ⤴ Weaving natural grasses (hats, bags, roof thatch etc.). The level of skill seems to vary, with only one or two being considered particularly strong in this area. Despite the lack of tourism currently in Prek Svey there may be opportunities to develop this and find routes to market elsewhere on Koh Rong or the mainland.
- ⤴ Sewing. Although apparently not to a significantly high level.
- ⤴ Building (boats and houses). In addition, it is evident there are at least 2 more families not surveyed who seem to have reasonably high-level skills in woodworking (doors, windows, shutters etc.).
- ⤴ Mechanics. With skills to fix engines and motors.

In addition to the above, it was found that two interviewees have had formal medical education, completing two-year courses in basic medical and nursing care. This however, is limited by the lack of clinic facilities in Prek Svey. Of the people interviewed, only two had reasonable English speaking skills. This is an area that local NGO, the Song Saa Foundation, has been focused on, providing English lessons to both children and adults. The ability to speak good English has the potential to open up many opportunities for people in the village, particularly within the tourism industry. Two of the people interviewed had also received training on general agriculture but it is unclear as to how effectively this is being utilised.

The majority of the interviewees expressed willingness or desire to join with NGOs and other partners on the island to develop existing skills and move away from reliance on fishing for primary income streams. When asked to identify skills that they would like to develop, interviewees focused mainly on training to facilitate employment in the tourism industry, or in fisheries and agriculture. These included:

- ⤴ Learning to cook
- ⤴ Animal husbandry
- ⤴ Fisheries law/regulation
- ⤴ Agricultural training
- ⤴ English lessons
- ⤴ Farming rock crabs

3.3. Objective 3: Identify extent of community reliance on fishing

The questionnaire aimed to identify the level of household reliance on fishing, including the types of fishing on-going, for which target species and the scale of these fishing efforts in terms of catch (kg)

Fish, crab and squid are the key target species for local fishermen with varying catch success. For fish and squid, catch was cited as between 0 kg to 20 kg daily (per fishing trip), with the dry season identified as the best time of year for higher catch. Crab fishing success ranged from 0.5 kg to 150 kg per fishing trip. This significant range was largely due to the scale of effort, i.e. the size of the boat owned and the number of operating fisherman. The rainy season was identified as the best time of year for crab fishing.

There is a diverse range of boat sizes used for resource collection in the archipelago; this is the same within the Prek Svey Community Fishery. Out of 12 families, two used large fishing boats (over 11 m in length), five had medium sized boats (between 2 and 11 m in length), four used small boats (less

than 2 m in length), and three used Styrofoam boats. This range of boat types and particularly sizes roughly correlated with the range of catch sizes recorded.

Types of fishing gear and equipment in use also varied. Four families use net fishing cages, four families used fishing nets, four families used fishing lines, and two families used both fishing nets and fishing lines. This variance in gear use is largely derived from family wealth. Net cages, for example, create a higher catch per unit effort, but are more expensive to buy and maintain than fishing line. The implications of this on a socioeconomic basis, is that some families are able to accumulate more resources for their families. The families who only use lines to catch resources, will likely have a higher reliance on fishing, as well as the potential need for a secondary source of income.

The areas commonly fished by the interviewees were largely in the immediate surrounding waters of Prek Svey and to the north, excluding the protected area surrounding Song Saa Private Island. One interviewee fishes within the protected area of Song Saa Private Island due to being disabled and therefore having being granted a special allowance to do so. The reason for increased fishing effort close to the village is due to the reduced time in transit to and from their abodes. The implications of this are potential resource deficits in some areas of the Prek Svey Community Fishery, where fishing pressures are too high. Education of local fishermen regarding the use of an expanded fishing area, in order to retain catch stocks, will be beneficial to both socioeconomic and ecological paradigms.

All families involved in fishing recognised the importance of fishing to their family but were unable to clearly articulate why or how this may be. It is clear however, that with the integration of an MFMA around the archipelago, a large proportion of the village will be impacted in one way or another. This will benefit some, especially those whose fishing practices already conform to MFMA legislation, yet some may need to look for alternative livelihoods if they are unable to adapt to changing fisheries law. With such a strong reliance on fishing to sustain family values in the village, an important element of the MFMA plan should be to strongly assist any development of alternative livelihood strategies.

3.4. Objective 4: Identify potential anecdotal/qualitative trends in catch volume in recent years

The aim for this objective was to ascertain from the resource users of Prek Svey Community Fishery if they subjectively perceive catch volumes to be changing. The rationale being, that if fish and crab stocks are theorised to be diminishing, legislative procedures need to be augmented into the proposed MFMA management plan to mitigate further degradation of impacted natural habitats.

Of the 33 interviewees 22 (67%) identified an observed decrease in quantity of fishing catch in the last 5 years and only two identified no significant increase or decrease. Two further interviewees identified seasonal variation influencing increase or decrease in fishing catch. When asked about the suspected or perceived reasons behind the general decrease in catch levels being experienced, 12 interviewees identified the rising number of fishing boats in the local area as the key driver. A further four interviewees identified illegal fishing by large commercial vessels with large scale equipment (Vietnamese generally suggested), and five interviewees could not identify any suspected cause of decreased catch. Whilst it's reassuring to note that many participants were able to identify possible reasons for declining fish stocks, it is important to address that a number of people were unable to note a decrease in catch rate. After the inauguration of the proposed MFMA it is important to gain understanding from locals to see if they perceive catch rate to be increasing. For this to be successful

it is vital to explain how the MFMA will function, and how it's implementation will affect them directly as fishermen. On-going ecological surveys of habitats within the MFMA, and subsequent data dissemination, is imperative in order for resource users to be able to see changes in species abundance and diversity over time.

3.5. Objective 5: Ascertain basic health issues and concerns

Whilst not directly related to fisheries or fisheries management, it is important as part of a socioeconomic community survey to determine what the actual and perceived medical issues are. This information can then be used to ensure that health of the community is monitored and, with collaboration with other NGOs, there is potential to provide health care to village residents.

All interviewees identified some types of sickness or illness in their households. These were mainly relatively minor illnesses, with most identifying diarrhoea due to using unclean water. Also identified as common ailment were headaches, minor fevers and other less severe illnesses.

Additional illnesses identified included:

- ⬆ Malaria, by 9 interviewees
- ⬆ Dengue fever, by 12 interviewees
- ⬆ Stomach and gastrointestinal issues, by 16 interviewees
- ⬆ Most females interviewed identified various women's health issues but were unsure as to the name of these

In general, when illness occurs all interviewees stated that for basic sickness such as headaches or fever they buy medication from one of the shops on the island without consulting a doctor. There are three shops in the village selling basic medications that are apparently packaged in the pharmacy and sent to the island. There is no indication if these are appropriate medicines for the issue at hand. If the illness is more severe there are two private doctors available for consultation on the island (although these have both only completed very basic training and are perhaps more similar to nurses than doctors). Those interviewees who had experienced more severe illness also said they went to their home province or to Sihanoukville for treatment, if unavailable on the island. It is worth noting that one family reported the death of two of their daughters on the same day due to dengue fever around 10 years ago.

3.6. Objective 6: Ascertain current and past levels of involvement with NGOs and other organisations

Many of the interviewees said they have had some limited involvement with NGOs but were unable to identify any particular organisation. This was also true of the type of training or skills development received; the interviewees were unable to clearly describe any training and how this was received. None of those interviewed said they actually continued to use any skills or training they had received in the past. This may be due to delivery of unsuitable or inappropriate material that may not have been directly relevant to those receiving it.

In order to be relevant, future training should be community driven and focused on filling skills gaps and deficiencies identified by the community themselves. Prior to any skills training there should be

consultation with the Chief of the village but also with the villagers themselves to ensure this is a community driven exercise and increase the chances of successful capacity building.

3.7. Objective 7: Identify areas of environmental and community concern within the community

For this objective, interviewees were asked to identify areas of environmental concern within the community, and concerns regarding the community as a whole. Very few responses focused on natural environmental issues so this question was expanded to include all issues such as socioeconomic and other community based issues.

Health issues were frequently cited, including a lack of clinic or access to health advice or care. Also mentioned was a lack of access to medicine, although this was not clearly associated with any particular reason such as prohibitive costs or lack of capacity. This could be an area to address in the future, as noted under 'Objective 5'.

Education was raised repeatedly by those interviewed. The lack of facilities, resources and limited classrooms were identified as concerns. In addition, the limited value placed on education by families in the village was mentioned. This means students often do not complete higher education or even the available education levels currently provided. Reasons for this included the need for children to be involved in household activities which may prevent them going to school, such as assisting with fishing activities or working on household farms.

Social issues were identified by many interviewees. These included fighting between adults, which was commonly associated with alcohol use. The level of gambling was mentioned as a significant social issue, although this was mainly in the case of women gambling and playing cards rather than men.

Other concerns which arose were illegal fishing and general corruption. Many identified illegal fishing as an issue, with the "Vietnamese" commonly blamed. Also mentioned was the increase in number of fishing boats and fishermen from outside the CFI collecting their resources. Almost all interviewees mentioned corruption, but there was an unwillingness to expand upon this.

Very few people identified any environmental issues, which highlights the need for community education regarding conservation and pertinent anthropogenic environmental pressures. The village chief identified sewage and garbage as key issues and expressed a desire for the community to "take more responsibility" in this area. Song Saa Private Island has been operating a long-term rubbish removal system, including provision of rubbish bins and employing people to collect and dispose of this. The recyclable waste of any value (i.e. cans and bottles) seems to be viewed as an additional form of 'payment' for the people whose job it is to collect the rubbish. The rubbish is removed on the Song Saa boat at their expense. There also seems to be an additional 'wage' from some but not all households to the people who collect the rubbish. Little focus on the environment was evident in responses, indicating a need for increased focus on environmental awareness. Aside from the village chief, only 2 interviewees identified a "cleaner village" as important for the future.

The majority of responses in this area focused on additional employment opportunities, in particular from developing access to tourism markets. The tourism industry has developed at a more rapid speed on other parts of Koh Rong and it seems in Prek Svey the community is aware they could potentially benefit from this also and see this market as playing an important role in the economic

future of the village. Current inhibitors to this include a lack of tourist accommodation and other facilities; and low levels of English speaking ability within the community.

Training and capacity building from NGOs was mentioned a number of times, however there was no clear articulation on specific areas which may be of value. These can be inferred from objective 1.

3.8. Objective 8: Ascertain current perceptions and levels of understanding of the proposed MFMA

The MFMA is proposed to encompass the whole Koh Rong and Koh Rong Samloem archipelago. There will be designated 'use zones' wherein certain activities will be prohibited, accepted or encouraged. These zones are currently defined as 'conservation zones', 'fisheries zones' and 'multiple use zones'. Each zone will have set legislation regarding resource use. The aim of this objective, and the rationale behind it, was to determine if local resource users are aware that the MFMA is being implemented, understand what it will entail, and accept that their fishing methods may need to adapt. This is important to address now, before the MFMA is inaugurated, to ensure its success in future years.

Overall there seemed to be very little understanding of marine issues and challenges, but in general there was support for the role of the CFI and also of the MFMA. This is encouraging as it shows acceptance to adapt. All but one person was in support of greater regulation of marine resources. The one interviewee not fully in support of increased control over marine resources was from one of the most powerful fishing families. Increased understanding can be arranged through pre-planned talks in the community, with a 'Q&A' section to cover all important aspects of the MFMA designation process.

One issue that was mentioned repeatedly was the level of fishing from other CFIs occurring within the Prek Svey CFI. This issue can be addressed by undertaking workshops with resource users within each CFI. The workshops would be designed to provide maps and visual aids to outline fisheries boundaries, and also detail who is allowed to fish within each area. It would also be a great opportunity to educate resource users about the proposed MFMA, again detailing changes to fisheries law and how this may affect them. It is difficult to monitor and police resource use within the CFIs, and thus difficult to prevent fishermen from other CFIs utilizing that of Prek Svay; however, with the correct education aimed at the correct people, it is certainly possible to minimise incorrect resource use, and mitigate against CFI conflicts.

3.9. Objective 9: Identify areas for potential development within the community

This objective links closely with 'Objective 7'. When asked specifically about areas in which the community members surveyed perceived development or "dreams" within Prek Svey almost all responses included some level of NGO involvement. This may be due to the limited presence of foreigners in the village being associated with either CCC or Song Saa, therefore developing the perception that NGOs bring 'barang' (colloquial word for tourists) and increased income opportunities. All but one interviewee stated they would be happy and keen to work with CCC or other NGOs to build capacity and develop further employment opportunities within the community.

In general the responses fell into a number of clear categories:

- ✧ Access to **medical facilities** was repeatedly identified as an important aspect of development. Five people surveyed identified the need for a clinic on the island. This was reinforced throughout other questions asked and appears to be an important focus of the community.
- ✧ **Corruption** was again identified as an issue, with respondents expressing a desire to see “less corruption”, but once again there was an unwillingness to clearly articulate in which areas this may be. Lack of effective “leadership” was also mentioned but not significantly expanded upon.
- ✧ Development of **basic amenities** was a key desire with adequate electricity and water supplies at affordable prices expressed repeatedly, with increased access to well water frequently cited.
- ✧ Despite a lack of commitment in other questions asked in terms of environmental awareness, when asked about future aspirations for the village there was a higher level of response in this area. Having a “**clean village**” and increased levels of working together to achieve this aim was mentioned by some respondents; as was limiting the amount of sewage directly entering the river. **Protection of marine and forest environments** was identified by a number of respondents, but as this was the last question asked it may be that the increased levels of awareness in this area may have been led by previous questions.
- ✧ **Physical access** was identified as an area of concern for future development, with a lack of roads, and an inadequate bridge crossing the river. Access to more supplies including household or everyday goods and general markets was also identified.
- ✧ **Education** was raised as an issue, currently the government community school finishes at grade 7 (anything from 12-17 years old) and to complete further education students must attend schools on the mainland. Due to a low population it is unlikely to be viable to significantly increase this aspect of education provision for Prek Svey alone.
- ✧ Low **employment opportunities** were identified, with the **tourism industry** being perceived as a solution to many economic issues. Increases in local Khmer population were mentioned as a related issue but the current population figures appear to have decreased since the last socioeconomic surveys conducted (Vibol, et al., 2011).

3.10. Additional information gathered

In addition to the key questions asked there was further discussion within the surveys, as detailed:

- ✧ Increase awareness and understanding of CCC role, aims and objectives by distributing information and translating our vision and goals for the community to see.
- ✧ Many respondents identified the desire to be able to legally sell their land, which apparently is not something they are able to do.
- ✧ The school requested development of gardens and tree planting schemes surrounding the school area.
- ✧ Additional employment opportunities with Song Saa Private Island were expressed repeatedly. Although the lack of proficient English spoken in Prek Svey precludes many of the employment options available at Song Saa.
- ✧ Addressing the perceived rising levels of Vietnamese illegal fishing occurring in the waters surrounding Koh Rong is seen as key.

- ⤴ It has been suggested that teachers occasionally don't turn up to teach their classes and that additional funding should be provided, whether by government or NGOs, to ensure consistent standards of education are provided. Some villagers stated their willingness to pay more "school fees" to ensure a higher standard of education for their children.
- ⤴ Despite the rubbish collection system implemented and operated by Song Saa, many houses do not have rubbish bins and there is the perception of exclusion in some areas that could be addressed.
- ⤴ The CFI should facilitate involvement from all fishermen in the community, not just those present on the committee. Also suggested was provision of a salary for committee members.
- ⤴ Not all households have access to electricity.
- ⤴ NGOs and other organisations that dilute the balance of power in the village are considered beneficial and there is desire to increase external involvement to further detract from the power held by a small number of people.

4. Conclusions

The surveys conducted by CCC within Prek Svey village have identified a number of pertinent issues within the community which may be used in the future to inform the work of NGOs in the area, as well as the implementation of the MFMA. Key concerns included decreasing fish stocks in the CFI, limited availability of medical assistance and poor standard of education. There was however, little raised regarding environmental issues and this is a concern and must be addressed. In general CCC and other NGOs are well received in the community and there is a desire for further community development work in the future. That said, it is clear that NGOs operating within the village must concentrate time and resources on awareness raising within the community to ensure that their work is understood and accepted.

Within the community in Prek Svey there is a lack of understanding about environmental issues in general, particularly marine issues, and little awareness of challenges facing sustainable use of marine resources. Through subsequent community engagement work within the village, it has become clear that the younger generation are more aware and educated in terms of the importance of sustainable use of resources in comparison to the older members of the community. This reinforces the need to conduct marine focused workshops, in particular aimed at adult members of the community.

While support for the CFI, MFMA and other marine resource management measures in general is high, there is little in-depth understanding as to why and how these measures can benefit the community. Before the implementation of any large-scale management strategy, such as the proposed MFMA, local resource users need to be educated as to what the designation and subsequent resource-use changes will entail. It is of significant concern that the majority of interviewees were unable to raise discussion regarding environmental awareness, and the need for it. With the proposed MFMA expected to be initiated in the near future, it is vital that community engagement and education remain at the heart of the management strategy, to ensure a wider understanding of the goals, methods and rules associated with the MFMA. Such engagement and education programmes would ensure that all members of the community know what the MFMA is, how it will benefit them and how they need to change their behaviour once it is implemented, which would not only increase local support and compliance but may also support enforcement, with community members feeling empowered to report violations. On-going engagement to report on

the status of the MFMA and the ecosystems it protects would enable community members to see the benefits themselves, again leading to enhanced local support and compliance, and provide a forum for community feedback into the management process.

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Appendix A - Questionnaires

Brief introduction to CCC, what we are doing, how we are doing it etc.

1. Personal Data:
 - i. Name
 - ii. Sex
 - iii. Age
 - iv. Knowledge / education level (school grade completed)
 - v. Family number
 - vi. Role in village
2. What skills you have?
3. Job
 - i. Gardening / farm
 - ii. Fishing
 - iii. Other
4. Reliance on fishing:
 - A. What kind of fishing?
 - i. a - Crab
 - ii. b - Fish
 - iii. c - Squid
 - iv. d - Other
 - B. What are your catch levels?
 - i. a - minimum (kg)
 - ii. b - maximum (kg)
 - C. What kind of boat do you use for fishing?
 - D. What kind of fishing gear do you use?
 - E. Which location/area do you usually go to fish? (map shown)
 - F. How important this is to you?
5. Have you observed a change you catch levels in recent years?
 - i. Decrease
 - ii. Increase
 - iii. Why?
6. Any health problem in family?
7. What they do and where they go for medical assistance when they get sick?
8. Have you received any training and if so what level and type?
9. What is your current knowledge of marine environment?

10. What is your understanding and opinions of the Marine Fisheries Management Area?
11. Have you had any involvement in activities with and of the following: other NGOs, community groups, western businesses, fishery community members? If so, what kind of activities have you been involved in?
12. Do you believe that there are any environmental problems which affect village?
13. What are your aspirations for the village and how do you think these may be achieved?
14. Are you happy to join CCC activities (such as community awareness workshops etc.)?
15. Do you have any ideas or suggestions for CCC?