

Cambodian Rural Development Team (CRDT)

Endline Assessment Report

“Changing perceptions for Active Biodiversity



Conservation in Ramsar site Cambodia”

Conducted by: CRDT Team at June 2017:

Mr. Bun Sophara, Mr. Khong Makara, and Ms. Saroeurn
Leakhena

APPREVIATION

CBOs -- Community-Based Organizations

CRDT – Cambodian Rural Development Team

CFi – Community-Fisheries

CF – Community Forestry

DoE – Department of Environment

NTFP – Non-Timber Forest Product

PDoA – Provincial Department of Agriculture

WASH – Water, Sanitation and Hygiene

Table of Contents

EXECUTIVE SUMMARY	2
I. 6	
II. 7	
III. PROJECT DESCRIPTION	6
IV. ASSESSMENT DESIGN	11
4.1. 14	
V. DATA	12
5.1 SAMPLING	12
5.2 ANALYSIS	13
5.3 METHODOLOGICAL LIMITATIONS	13
VI. RESULTS	13
6.1 CHANGE IN LIVELIHOODS - 5 ASSETS OF LIVELIHOODs	13
Human Capital	14
Social Capital	15
Financial Capital	15
Physical Capital	16
Natural resource	17
Overall assessment of livelihoods in all nine villages	18
6.2 ANALYSIS OF ASSESSMENT	20
VII. CONCLUSIONS AND CONSIDERATIONS FOR LEARNING	24
7.1 CONCLUSIONS	24
7.2 LEARNING AND RECOMMENDATIONS CONSIDERATIONS	24
ANNEX 1. PERFORMANCE INDICATORS FOR OVERALL OBJECTIVES	25
ANNEX 2 - THE SUSTAINABLE RURAL LIVELIHOOD FRAMEWORK	26

EXECUTIVE SUMMARY

This is the endline assessment report for the **“Changing Perception for Active Biodiversity Conservation in Ramsar site”** project under the CEPF (Critical Ecosystem Partnership Fund) supported fund. The project is due to run for two years, starting in July 2015 and finishing in June 2017. The total budget was \$79,959.00.

The objective of this project was: **“To contribute to the safeguard of Cambodia’s Ramsar site’s biodiversity in the Indo-Burma hotspot through communities’ empowerment”**

The project implemented by CRDT at the Ramsar site, located in Thala borivat District of Stung Treng Province. Four communes and nine villages were selected to participate: Samaki Commune (Thmey and Koh Korndin villages); Koh Sneng Commune (Koh Sneng, Koh Sralao and Koh Key villages); O’Svay Commune (O’Run and O’Svay villages) and Preas Romkil Commune (Kralapeah and Along Svay villages).

The project activities included courses on:

- Biodiversity conservation,
- The causes of climate change impacts and adaptation,
- Climate change mitigation actions,
- Youth established and conservation
- Leadership and,
- Hydropower dam impacts

We additionally involved the coordination of the communications between communities and the local authorities on the biodiversity conservation issues at Ramsar site, those that focus on illegal activities on biodiversity and mobilized youth to engage in decision-making at sub-national level and active of safeguarding activities.

The Endline Assessment Design

An internal CRDT team conducted the endline assessment in June 2017. The team used the participatory ‘Livelihoods Perception Analysis tool’ to collect data. The tool used the Sustainable Livelihoods Approach (SLA) that is based on five capital assets. A community value for each project indicator was agreed upon through a voting process. The group discussion also produced rich qualitative data that was analyzed using thematic analysis. The results of the analysis are reported within results of each ‘capital asset’.

Results of the Endline Assessment

- 118 participants (79 women) participated in the endline assessment.
- Endline participants were from the nine project villages in Thala Borivath District, Stung Treng Province, Cambodia
- About 70 percent of the beneficiaries could understand and explain the reasons that lead to the natural resource degradation in the Ramsar site. They could take serious action in regards to conservation, through their contribution, by keeping a look out for the illegal activities, including report to the stakeholders.
- We have seen the evolution of the participants in the field of conservation activities. Almost all Community fisheries, Saving CBOs, local authorities, and youth in the communities have joined and taken serious action in conservation activities (patrolling, contribution, reporting, and coaching to other villagers about the value of biodiversity and its illegals). About 50 percent of the community members understood about the law and regulations of the Ramsar site and shared this to other people.
- There are 9 CBOs that provide the contribution of their interest from saving activities to the community fisheries. The idea is would like to community help the community by their own ways for protect the biodiversity. The communities have reported on the youth activities, which contribute to the many conservation activities such as waste collection, write down slogan on board in the public places, attend the village/communal meetings and raise the concerns on the impacts from illegal activities at the Ramsar site and ask for actions from the local authorities.
- In addition, the community have applied the agriculture techniques through climate change adaptation for vegetable growing and rice plantation. They could earn income and increase their food security through agriculture production and fishing by traditional equipment. However, there are many groups of people who are practicing illegal ways of fishing at the Ramsar site, with the community not having enough capacity to protect it. The community are concerned that if there are no solutions, the fish will be gone in the next five years.
- Another problem, even though the community could adapt to climate change, the hydropower dam has huge impacts on the community and natural resources. There are not solutions for these.
- About the physical capital, some of the community have access to solar energy, toilet, and clean water, which is currently only in the Preah Romkil village – there is a problem with water pollution from the dam (water for household consumption).

Future considerations

Based on the endline survey we recorded some issues that CRDT need to explore in the future:

- CRDT should keep working on creating links between the different stakeholders and to bring them to work together with fair decision-making.
- CRDT need to help develop the materials of regulations and laws for the community on biodiversity conservation, through creating a group from representatives of the Saving CBOs and Community fisheries.
- CRDT needs to work on the income diversification and contribution to the conservation activities. For example, Community-Based Eco-Tourism, helps the community increase their income generation, and this protects the biodiversity which the ideas of working together as a network from all various stakeholders (community forestry, community fisheries, local authorities, communities, and young people).

I. INTRODUCTION

CRDT received funding from the Critical Ecosystem Partnership Fund (CEPF) to support the project “**Changing perception for Active Biodiversity Conservation in Ramsar site**”. The funding was for a two year period, from 2015 to 2017. This report had been created after the project was implemented. It was carried out in June 2017 by the CRDT team. This report was produced to (1). Provide an endline that how was the processing of the project after implemented for two years, (2). Demonstrated accountability to stakeholders (beneficiaries, donors, partners, and etc...), and (3). Support internal learning.

Section 2	Provides the project background
Section 3	Describes the project and activities
Section 4	Describes the endline assessment design
Section 5	Describes the implementation of the design and method data analysis
Section 6	Presents the findings
Section 7	Support internal learning

II. BACKGROUND TO PROJECT

Within Indo-Burma hotspot, Cambodia, the Ramsar site in Stung Treng has some of the richest biodiversity, but is also threatened from the many things which are destroying the valuable biodiversity of this site. The Mekong River, Ramsar Site, Stung Treng Province (Northeast Cambodia), was declared an area of wetlands importance in 1999. With 14,600ha, the 40km stretch of the Mekong River, it is characterized with largely undisturbed Channel Islands providing refuge for highly endangered species such as the Irrawaddy Dolphin, the Giant (Thaumatibis gigantean) and White-shouldered (Pseudibis davisoni) Ibises. It is an ecosystem of prime importance. For decades, communities, mainly poor subsistence farmers, have inhabited the site.

Yet, the site faces a number of significant threats. Increased hunting of endangered wildlife has caused the migratory Mekong Giant Catfish (Pangasianodon gigas) to decline by more than 80 per cent over the last 21 years, due primarily to overfishing. Market-driven agricultural and increases of cash cropping have caused large-scale land clearance. Furthermore, the impending construction of upstream dams could have detrimental impacts both on the biodiversity and the lives of the communities. The communities at the Ramsar Site felt helpless when facing outsiders who are coming to exploit natural resources, and they do not understand external threats, such as the dam projects. They do

not know how to protect their heritage and raise their voices to receive support from their country's institutions.

The Royal Government of Cambodia became a signatory of the Convention of Biological Diversity in 1995 and subsequently set up frameworks for a National Biodiversity Strategy and Action Plan. In 2014, with the support of WWF, the Ministry of Environment finalized the first Management Plan for the Stung Treng Ramsar site. The Department of Environment has also important activities planned, such as raising awareness about conservation legislation and law enforcement but they are currently lacking the budget to implement these.

In 2010, CRDT developed a project in nine villages at the Ramsar site with funding from CEPF. The project was implemented in a partnership between WWF, CRDT, and Worldfish Center. The project allowed CRDT to provide alternative livelihoods to communities both to contribute to conservation efforts, and to offset the growing risks to the viability of these communities' current natural-resource-based livelihood strategies. As a result, the target communities decreased their reliance on forest and river resources for livelihood activities by an overall 69 percent (calculated from the time spent on these activities).

The establishment of a new partnership with WWF and the Association of Buddhists for the Environment (ABE) followed this project, under funding from the German Federal Ministry for Economic Cooperation and Development (BMZ). Eight new Community-Based Organisations (CBOs) have been established bringing the total number of CBOs established by CRDT in the Ramsar Site to 27. By taking part in CRDT's agricultural training, benefitting from better access to water and sanitation, and learning how to save their money and adapt to climate change, the CBO members have improved food security and will, this year, learn how to set up small businesses and access the market. However, even if both the Government and civil society's interventions prove to be effective, they will still be insufficient. The Mekong River is facing more threats than ever and there is an increased need for communities to support the Site's conservation and use its natural resources more sustainably.

Cambodia has recently been identified as the country most vulnerable to the impacts of climate change in South-East Asia. In the coming years, it is likely to face an increase in the loss of agricultural lands, and shortages of food and fresh water. This will lead to a decline in food productivity. If not mitigated, these changes will result in people putting greater pressure on natural resources. In 2014, the Worldfish Center was awarded a CEPF grant to conduct its new "Integrating Fisheries Management and Wetlands Conservation (Phase II)" project in the Ramsar Site. The project, aimed at strengthening the success of site-specific fish conservation zone management, is being extended to another 3 areas within the Stung Treng Ramsar site. Building on their close relationship, Worldfish

Center and CRDT will collaborate on this project, in the Ramsar Site. CRDT will complement Worldfish Center's interventions in raising awareness in selected Ramsar villages, using the conservation skills of the Community Fisheries' (CFi) members in training, and by joining and supporting the establishment of the CFi network.

III. PROJECT DESCRIPTION

CRDT has received funding from CEPF (Critical Ecosystem Partnership Fund) for the "Changing Perception for Active Biodiversity Conservation in Ramsar site" project. The project runs for two years, starting in July 2015 and finishing in June 2017 with total budget of \$79,959.00.

Supporting the Cambodian Government to achieve its commitments under the Convention on Biological Diversity, CRDT to actively engage local communities in biodiversity conservation while helping them to raise their voice to protect the Ramsar Site and their heritage. More specifically, an estimated 266 people (177 women) in nine villages of the Ramsar site to directly benefit from project interventions. An estimated 1,500 people (family members and others villagers) will also indirectly benefited.

The nine villages were selected, as they are located around the main fishing pools and dolphin pools. High rates of illegal activities occur in these villages and the communities are among the poorest in the location, with very limited awareness on natural resource management.

- The project's Goal is to contribute to the safeguarding of Cambodia's Ramsar Site's biodiversity in the Indo-Burma hotspot by empowering the local communities.
- The Purpose of the project is that by June 2017, 9 local communities in the Ramsar Site, in Stung Treng Province, Cambodia, are informed and aware of the need for the conservation of the area, and are engaged in its protection.

The project will consist of the following components:

Component 1. Increasing target groups' appreciation of the value of the Ramsar site.

Local communities in Ramsar Site need to be informed about the importance of biodiversity conservation. Through the current legislation on protected areas, communities will learn about their rights and the restrictions on benefit-sharing of the natural resources, the impacts of land clearance, the keys to mitigating climate change and, the potential impacts of the future dam construction activities.

A recent WWF survey established that village meetings along with signboards are successful ways to raise awareness. CRDT will convey the information through various interactive means. The Team will hold "Night Shows" (a local Environmental Art group performs in villages, illustrating natural resource management whilst linking it to the lives

of villagers) and environmental training sessions. This program will be integrated in training courses for CBOs, discussions and distribution of awareness materials (e.g. posters, books and leaflets produced by CRDT or WWF) in local schools, pagodas, and other villages throughout the project area. CRDT team will receive the support of both the Department of Environment and the Community Fisheries, which will help facilitate the training on conservation related law and fishery management.

1.1 Collaboration with WWF Outreach Team to develop an easy-to-understand management plan version (3 meetings): WWF and CRDT will develop a user-friendly version of the management plan to be easily understood by government representatives and villagers from the Ramsar Site.

1.2 36 Courses on biodiversity conservation regulations and laws (1 full day of training every six month per village): 266 CBO members will be provided with easy-to-understand tools on the regulation and laws enacted for the Ramsar Site protected area. Beneficiaries will be informed about fish, forestry and land regulations and learn about their rights to defend the area and sustainably use the available resources. School teachers will be invited to attend these courses as they will then be able to further disseminate the information to the younger generations. Joint events will be conducted in coordination with Worldfish Center (who are raising awareness to the CFI groups), so that different groups can learn and share their concerns from different perspectives.

1.3 18 Workshops on the impacts of dams (1 full day of workshop per year per village): Workshops will be provided for key members of the communities who will then be requested to pass the information on to their communities. Training topics covered will include basic information on dams (what is a dam, the benefits and disadvantages of dams), presentation on the potential future dams, and environmental and social threats, how can the populations be protected under the law, which solutions can be found by the population to preserve their communities and resources. Sessions will also be focusing on the specific threats posed by mainstream dams and in particular the planned Sambor and Stung Treng Dams on communities in the area and on the Ramsar site.

1.4 27 Environmental training on the impacts of climate change and mitigating it (1 full day of training every six month per village): One-day training per village, per year will be organized. CRDT team will introduce climate-resilient techniques and environmentally-friendly agricultural methods to support more sustainable yields for farmers. Topics covered will include information on the basic climate change definition, current climate issues, what causes climate change, and how local people can assist with climate change solution.

1.5 4 Night Shows (1 night show per commune every six month): Night shows to raise awareness of environmental issues will be held in the target communities. An

Environmental Art group from the Koh Pdhao Community trained and supported by CRDT, will be brought to targeted communities to perform night-shows about climate change, conservation and natural resource management linking it to the lives of villagers.

1.6 Production of 30 posters / 4 signboards and a booklet reflecting the stories of communities and danger of resource depletion: The production of these communication tools will support the dissemination of information on regulations in a protected area and raise awareness about the dangers of resource depletion. Additionally, a booklet will be published gathering stories of selected community members on the impact of the environment degradation on their lives and help raise awareness on a larger scale (to other provinces and outside of Cambodia through CRDT's partners).

This component will improve the knowledge of the whole community and provide them with an appreciation of the value of the Ramsar site.

The following short-term impacts are expected:

- At least 70 percent of beneficiaries are able to explain the drivers of forest and fishery degradation
- Increase in beneficiaries' negative perception on Ramsar site degradation
- Beneficiaries are aware of the impacts of dams on the Mekong mainstream and the threats posed by the Stung Treng and Sambor dams.

Component 2. Target groups actively promoting Ramsar Site conservation

CRDT will support communities to act and raise their voices for conservation. The CRDT team will further build the capacities of the CBOs' Executive Committees' members, teaching them how to take the lead in representing their communities. Then, meetings will be organized with local authorities. Communities will understand the legislation on biodiversity conservation and the management plan of the Ramsar site. The local authorities will acknowledge the Communities' needs and expectations in terms of the areas' safeguard. Beneficiaries will also receive guidance from the Network set-up by Worldfish Center. Lastly, each community will decide on a percentage of their income that will be provided to the CFI to support their work of fisheries' protection.

2.1 Capacity building in leadership for CBO members (3 training courses per village in year 1 and 2 per village in year 2): CBOs play a significant role in the community as they facilitate the control and management of the community's development activities, have a strong voice, unite the community around common ideas and mutual help, disseminate information and strengthen work effectiveness. They have shared responsibilities to achieve a common goal, and conduct joint decision-making. When people work together through CBOs it means they have a collective voice and are empowered to deal with any village concerns and issues. All CBOs under a stage of capacity development start building a

strong voice and sustainability after project completion. Collective voice, leadership and management, commune investment plan, sub-national development as well as emerging issues are integrated into 45 trainings to build trust, increase solidarity among the communities and increase knowledge on how to deal with these concerns and issues.

2.2 Link communities to key local authorities (3 meetings per year): 6 meetings will be organized between CBO representatives and key local authorities (the Department of Environment and Commune Councils). The beneficiaries will learn about the Ramsar Site management plan and how it will affect their lives and will in return be given the opportunity to raise their needs in supporting the Site protection.

2.3 CFi/CBO members rally to mobilize villagers for the Site protection: After meeting with local authorities, CFi and CBO representatives will pass on the information to their members. All of them will join and organize 1 rally per village per year to mobilize villagers for the Site protection. They will march in the villages, invite for meetings and discussions and be joined by the youth groups to rally all generations.

2.4 Mobilize youth through participatory activities (monthly activities): The Ramsar Site villages only have a small number of schools and a majority of teenagers end up dropping out of school at an early age, joining their parents in the farm work or doing illegal activities as a way to earn money fast. For this project, CRDT will implement a pilot activity targeting youth. Twenty youth will be motivated to join our project through dynamic activities such as role-play and theater classes. This is a new way to engage and share information and will allow youth to get a better grasp of the importance of biodiversity conservation and impending threats. Youth will also rally to mobilize others and CRDT will identify strong voices and individuals who can continue engaging within their own communities and more broadly.

2.5 Strengthen conservation, by increasing contributions to Communities Fishery and in the by-laws of beneficiaries' community-based organizations (1 meeting per CBO per year and quarterly follow-up): When established, each CBO drafts by-laws or internal regulations to define the roles and responsibilities of its members. Each CBO includes in its by-laws a community contribution to the conservation of the natural resources and environment of the area. This usually translates into a percentage of financial contribution to the existing Communities Fishery of the village or the commune. Communities Fishery helps protect the natural resources by doing patrolling and reporting any illegal activity to the Fishery Administration. The CBO supports the CFi in funding the patrolling activities such as costs for transportation, meetings, and allowance for the voluntary members. Having this statement included in their by-laws is a committed way for the members to engage in conservation activities and support the protection of natural resources.

The following short-term impacts are expected:

- Communication on conservation and relationship between local authorities and community members are improved
- Communities are able to raise their voice at the provincial level and meetings are organized with the Department of Environment
- 12 CBOs begin to contribute interest accrued from saving group into Communities Fishery to support their conservation work.
- Youth join along the rest of communities' members to engage in resource protection

In order for the beneficiaries to commit to the Site preservation, enforcing actions will be needed. Through its partnership, CRDT team will have the support of the CFI in monitoring any illegal fishing. WWF, will coordinate with the Ministry of Environment to develop the Ramsar Site Management structure and implement it while strengthening the capacities of the Law Enforcement units (training, fuel support, management tools).

The completion of this project will support the following long-term impacts:

- Reduction in threatening behaviors to natural resources by target communities.
- Beneficiaries take steps independently to actively protect or conserve the Ramsar Site.
- The community makes decisions with natural resource management and conservation in mind.
- Improved partnership in conservation between communities and local authorities.

Monitoring evaluation is an integral part of the project and will ensure that the outputs and impacts are achieved. Monitoring will be undertaken by the CRDT project team. The Team will monitor project progress through regular team planning meetings and through preparing internal monthly reports. Technical management staff will travel to the site regularly to ensure effective management and implementation, and to track progress against targets and indicators. A full progress report will be produced every quarter to monitor the evolution of the deliverables. A six-monthly evaluation will allow CRDT to assess progress toward long-term impacts and how activities contribute to the project's purpose.

Deliverables for training courses will include a baseline survey, pre- and post-training need Assessments, training attendance list/agenda/date, end of training evaluation forms and endline survey. Meeting minutes will be recorded and photographs will be taken of all activities.

IV. ASSESSMENT DESIGN

The purpose of the endline assessment project:

- To provide data from which the project's activities can be monitored and assessed and to evaluate the effectiveness of the project after completion.
- To evaluate the changing after the project intervention and sustainability of the activities.

CRDT team had conducted the endline survey in June 2017. In the endline survey 12 CBOs in 9 villages participated with a total 118 participants (79 women).

a. LIVELIHOOD PERCEPTION ANALYSIS TOOLS

Under guidance from WWF Greater Mekong Program, CRDT has begun to utilize a 'Livelihoods Perception Analysis tool' to monitor and evaluate projects. The tool is intended to be a simple, low-cost tool that reflects livelihoods, measured in terms that are relevant and comprehensible to local stakeholders and which assess the extent to which projects improve local livelihoods within a conservation landscape.

The tool uses the Sustainable Livelihoods Approach (SLA) of Carney et al[1]. This approach is based around 5 assets - natural, human, physical (or built), social, and financial (or economic).

The objectives of this project are focused on empower the communities through build the relationship with the local authorities and build the network of CBOs and raise awareness to the communities. These objectives come under the 'human capital', 'social capital' and 'natural capital' assets of the Livelihoods Approach. The other assets of the Approach will also be assessed to provide a complete livelihoods view of the communities.

The process of building the framework for the assessment consisted of 5 steps:

1. A number of workshops in late 2014 and early 2015 with local stakeholders identified a menu of indicators that represented improvements to livelihood circumstances appropriate to local context.
2. Appropriate ranges or 'steps' were determined for each indicator based on current conditions in the study area and likely changes to those values in the future.
3. The indicators and steps were organized under each of the 5 assets of the SLA.
4. For each indicator stakeholders agreed on a definition of what state the indicator would be in to get a score of 1-5 (1 at the lowest end).
5. M & E staffs selected indicators that aligned with the project objectives and added new indicators specific to the project. See Annex 2 for the Livelihoods Perception Analysis framework used for the baseline assessment.

For the endline assessment, the M&E Team then held group discussions with beneficiaries and used PRA exercises, such a ranking, to elicit information regarding the indicators within each project villages. The team gathered participants' opinions and

presented back the opinions as ranges of options or 'steps'. Then they voted for the step that individually applied to them for each indicator. A final step value was decided upon using the formula below:

To decide the corresponding step: if a quick agreement is not found, we write down the # of people in each step, and convert it into points (multiply the number of people with the weight for each step (Step 1=1 point, Step 2=2 points and so on) and decide by the total number of people). This will give us a number to guide the decision of which step to decide. E.g. 3 people in Step 3 and 2 people in Step 5 à $3*3+2*5=19/5=3.8$. We then discuss again with the group whether the calculated step is best representing the community status.

V. DATA

5.1 SAMPLING

The participatory livelihoods assessment tool was implemented by CRDT team. Nine villages were selected and nine meetings were organized to gather data. The criterion of this participation in this assessment was that participants were members of a pre-existing saving group, Chicken raising group, and vegetable growing group, including the young group. Although some villages had 2 CBOs, we conducted only one meeting because they had a similar situation. Each meeting had at least 30 percent of participants of total community in the CBOs. Meetings were held always in the morning or afternoon and took at least three hours per meeting. Some of the community members were village chiefs and members of the commune council. The number of participants from each village is shown in the list below.

Commune Name	Village name	Total participants	Women
Samaki	Thmey	15	13
Samaki	Koh Korndin	10	8
Koh Sneng	Koh Sneng	11	7
Koh Sneng	Koh Sralao	16	9
Koh Sneng	Koh Key	9	6
<u>O'Svay</u>	<u>O'Svay</u>	12	8
<u>O'Svay</u>	O'Run	10	6
<u>Preas Romkil</u>	Kralapeah	14	10
<u>Preas Romkil</u>	Anlong Svay	21	12

Total	118	79
-------	-----	----

Table 1: Beneficiaries of endline survey

5.2 ANALYSIS

- **Livelihoods survey:** The resulting steps for each indicator were entered into an Excel spreadsheet and a radar diagram was produced for each village. This allowed visual representation and comparison between villages.
- **Qualitative data:** The discussion groups in each village produced a step value for each indicator. However, the discussions also produced rich qualitative data that was recorded by two evaluation staff members. This data was separately analyzed using thematic analysis in a top-down, theory driven approach, based on the indicators and capital assets. Results of each separate analysis were then collaborated between each researcher.

5.3 METHODOLOGICAL LIMITATIONS

- Some participants spoke in a local language, Lao. Translation was used but this may have limited discussions and understandings.
- Some CBOs members were busy working on their farm during these assessments. Women were therefore the dominant participants (79 of 118 participants).
- The study design does not involve a comparison group. It is therefore not possible to make a definitive statement attributing changes to the project.

VI. RESULTS

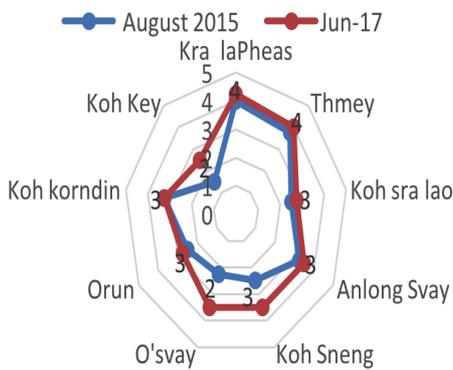
6.1 CHANGE IN LIVELIHOODS - 5 ASSETS OF LIVELIHOODS

- This section examines the assessment of the five capital assets. It also draws on the results of the thematic analysis.
- The capital assets that reflect the project objectives, 'human' and 'social', are presented and discussed first.
- A radar diagram illustrating the overall assessment of livelihood assets for all nine villages is then presented.
- Illustrating assets through the Livelihoods Framework helps conceptualize how livelihoods assets operate within a context shaped by different factors.

Human Capital

After the next two years of the implementation of the project activities in the human capital at nine villages. Overall, communities have been aware of the negative impacts of the hydropower dam, which is Don Sahong dam at Lao, PDR and the climate change adaptations that harmful to their livelihoods. According to the group discussion illustrated,

Human Capital 9 villages

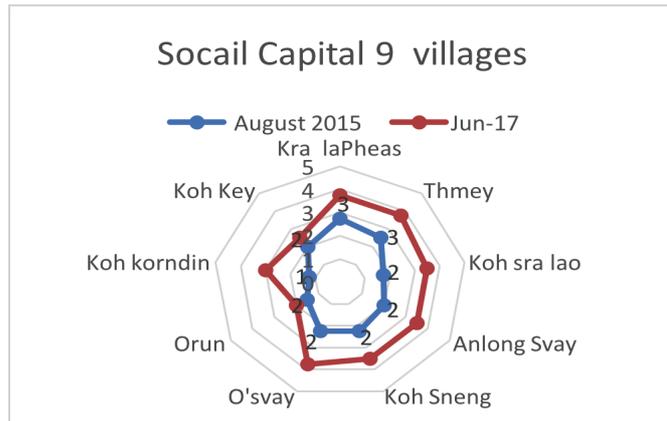


there was another proposed dam called Sambo and Stung Treng dam which will be located at the Mekong mainstream. The communities reported that the dam will have a huge impact on their food security, farmland, livelihoods, and cultural beliefs. It will threaten fish migrations and endangered species (Irrawaddy dolphins). The dam will cause enormous issues of water pollutions and there might not be enough water in the dry season for farming. The Don Sahong dam was under construction, and has an

immense impact on the downstream for the project target villages. The community mentioned that: they have less food security because the dam blocks the fish and decreases the water levels. At Koh Korndin village, the endline survey is similar to the baseline, because the participants rotated which household family members attended the trainings/meetings, and they would not share what they had learnt to the rest of their family. Overall, the targeted communities have increased their knowledge on climate change adaption on agriculture, maintaining food security, and biodiversity conservation, including regulation and laws at the Ramsar Site, Stung Treng.

Social Capital

After the focus group discussions were recorded, the communities were more active if compared with the baseline survey. The Koh Sneng village, which is one youth pilot groups on the conservation activities. The youths are the root cause for the positive changes in biodiversity conservation. The youths are more active on protecting, raising awareness, and raising their voices at the communal/village level meeting. The



youth activities include waste collection in the village, meeting and raising concerns about the illegal activities at the communal/village level. Moreover, they are the agents of change on the conservation through promoting the awareness to other villagers in the the Ramsar area. Another eight villages also have less youth member of CBOs to participants on the conservation activities. Besides, the CBO members have strongly attended and are involved with the conservation activities by their contributions about 609US\$ (Six hundred and nine dollars only) from July-2015 to Feb-2017. The saving groups were contributing from 2-5 percent of the interest of their saving. They are still contributing every month, but sometimes they would not give the community fisheries (Cfi) after Feb-2017, because of Cfi have got fund support from other organizations. However, the CBOs still keep the interest for the Cfi when they have no support from other organizations in the future. This is show about the sustainable community project on the conservation by their own ways.

In addition, the relationship between the young, communities, and local authorities are more widespread than when the project started. The beneficiaries have more say in the communal level during the workshop discussions on the biodiversity conservation at the Ramsar site.

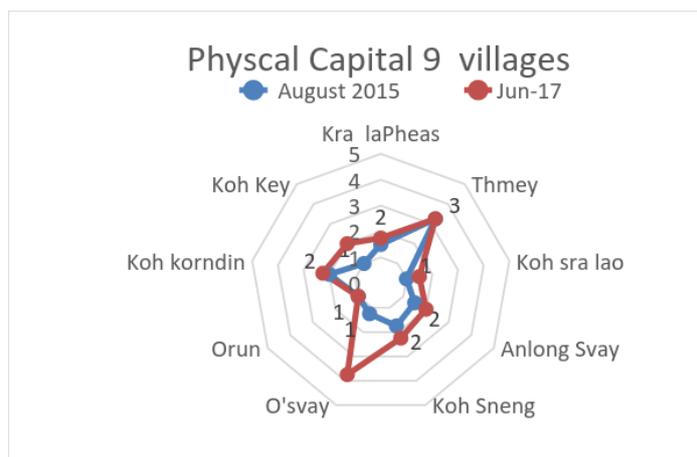
Financial Capital



All CBOs are living along the Mekong River, fishing and agriculture is the main occupation and income. They could earn over 1,000US\$ (one thousand dollars) per year from selling their livestock, vegetables, and rice. Under 50US\$ (fifty dollars) from NTFP because of the decreasing forest through the illegal activities (CRDT should focus more on working with Community forestry). However, the communities have increasing income through Eco-tourism and other small enterprises, around 30 percent.

For instance, they were growing different types of vegetables and selling together. The idea has given them more solidarity and power to sell at an increased price. Another thing, the community is finding it difficult to know how much they have earned for the year, because they do not record all the items sold, they just go fishing when they need fish, they go to the forest when they need some vegetables, and they are growing the home gardens. Some of the values they have earned could not be included within their income. This is the sustainable food security for the community. 70 percent of the beneficiaries have the knowledge on the costs and benefits to analyze the economic value between the natural resources and income. That is how to use natural resources in sustainable ways.

Physical Capital



The communities reported a lack of electricity and access to WASH (clean water and toilets); There are only 39 participants who have access to state electricity, 24 families have solar, two families have private electricity (generator), and 14 families are using lamps and batteries.

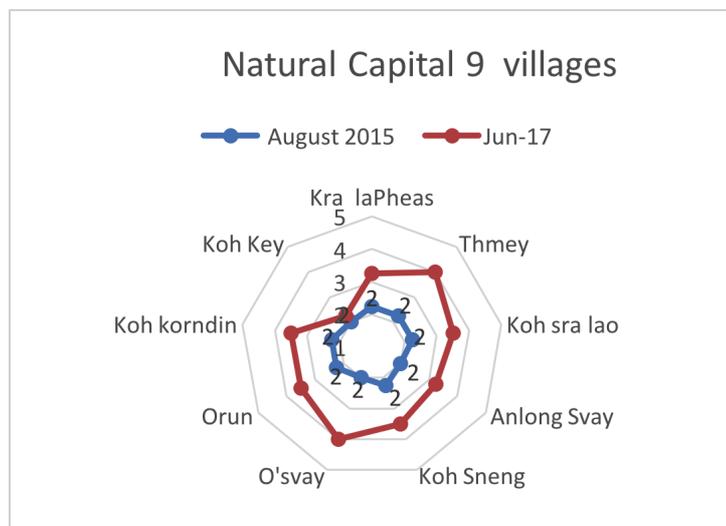
They might understand about hygiene and sanitation, but some of community have less understanding about the benefit of latrines. This is not the first prioritized to build the latrine. For example, at the O`run village, there is only one family who has a latrine. However, there are 44 of community members who have access to toilets. In the communities they do not have a large irrigation system, they could have rainwater collection and/or water jars to store the water in the dry

season, with using water filters and boiled water for drinking water. There are 42 families who have rainwater collectors, and participants had an average of 2 ha of land per family (1.5ha for rice field). However, for the agriculture productions, the communities depends on the rainfall and Mekong river.

At Koh Kondin, which is close to the Stung Treng town, but the physical still lower than other villages, with most of the villagers being migrants who work outside of the villages (young people), who have limited knowledge on the WASH issues.

Natural resource

After the project intervention, the data from the survey indicates that the natural resources in the area are increasing about 5 percent, because the communities have worked together to fight for conservation. CBOs members have not only joined to fight against conservation issues, but they have reported and raised their concerns with the local authorities to take serious action on illegal activities at the Ramsar site, Stung Treng.



The graph of natural capital of nine villages, after the project intervention. The communities have changed their behavior in regards to conservation activities, which has promoted the laws and regulations at the Ramsar site. Many participants reported they get 2 kg with the 80 meters of gill net, it is because of the Don Sahong Dam. Even they were trying to take action on conservation. However, they have got the same in the last two years about the amount of fish. They have to keep going on they job on the conservation activities.

In Koh Key, the natural resources have less increases than the other villages. There were less of the community involved in this project and some of them are migrants to other areas. The only things that the community could do was to observe and report on the illegal activities from the outsiders which is harmful to the pool conservation. However, this project was not effective in Koh Key as a significant portion of the population were elderly, and so had limited understanding of Khmer.

Besides Koh Key, the communities have more actives on conservation, which has seen a decrease in illegal activities and an increase of food security of about 5 percent, if compared to two years ago. The Irrawaddy dolphin, is almost gone in the Preah Romkil

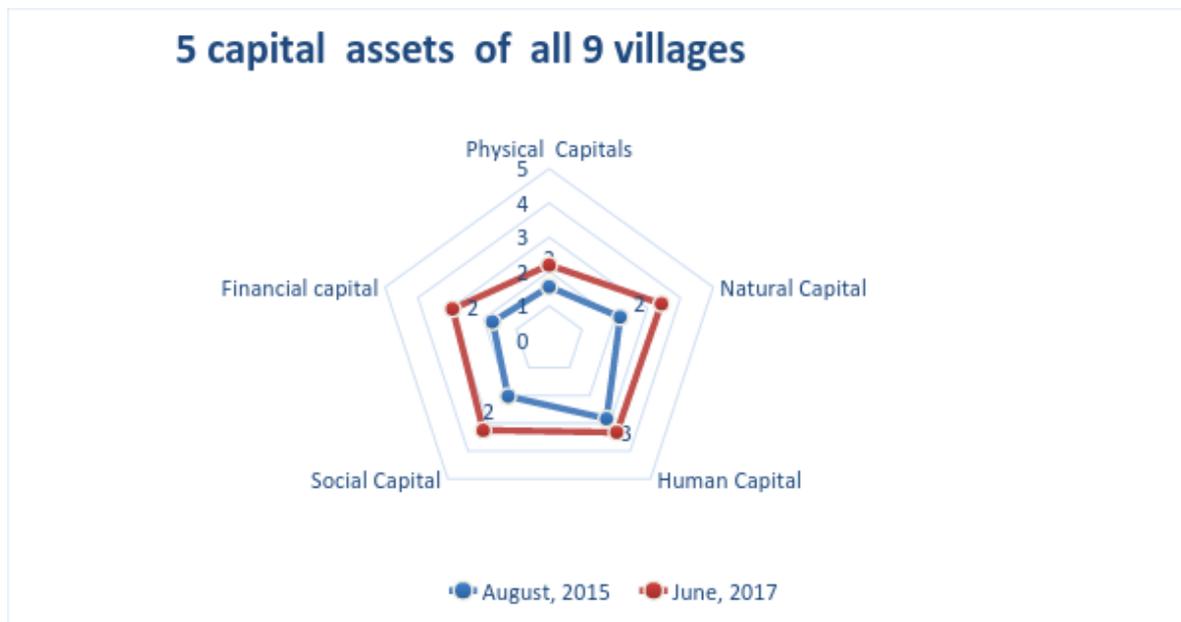
pool at Anglong Svay village, due to construction of the Don Sahong Dam 1.5km away from the village.

All the communities depend on the Non-Timber Forest Products (NTFP) to support their living conditions, for food security and earning an income. Due to the illegal logging and economic land concession, the forest has been destroyed and some villagers started to cut down trees. When the project was implemented, the communities had an awareness why the forest and biodiversity are important to their lives and to the future generations. They have started patrolling the forest areas, which is the same as the community-fisheries. If we are awarded the next project, CRDT would like to work with the community forestries and join them together with the Community fisheries, communities, and local authorities to work on the Ramsar site in the protect natural resources.

Overall assessment of livelihoods in all nine villages

This diagram shows that the livelihood situations in the communities is still limited. In terms of physical assets, we recognized that there was poor infrastructure to develop or expand the agriculture sectors. Communities still rely completely on rainfall and the Mekong River. They have less electricity and their access to toilets is limited as is their knowledge on sanitation. There are many pressures on natural resources such as fish, the forest, and biodiversity in the river, this is due to the illegal activities. There has been good collaboration between the authority and communities, however it was still limited.

However, it was better than two years ago. as the community has a better understanding and knowledge of the regulations and laws on natural resource management and with the young people joining to advocate and join conservation activities. The community are strongly trying to protect the natural resources and thinking



about the sustainable future use for the next generation. Moreover, the community has gained food security to support their families and they give their time to join the meetings and raise concerns on biodiversity protection. There are only 1-2 months per year where they are unable to grow enough food for their own subsistence, but they have enough surplus income to buy rice from another source. They have no loans from the bank or any microfinance institutions to buy rice like two-years ago. Their life is getting better after the implementation of the project and a range of more effective activities to help conserve their areas for the next generations - the Don Sahong Dam is out of the control of this project.

In addition, Most of the CBO members and youth groups have a voice to raise the concerns with the local authority and partipate in decision-making with regards to the planning of conservation activities, the women especially have a strong voice and commitment to talk in the village meetings about their ideas. This project is also showing the changes to the communities' perceptions through the enthusiastic contribution and the activities of the communities on conservation, including youth and women.

6.2 ANALYSIS OF ASSESSMENT

The summary of situation before and after the project implementation:

Project Indicator	Livelihood Indicator	Baseline (August 2015)	Endline (June 2017)
At least 70 percent of beneficiaries are able to explain the drivers of forest and fishery degradation	H4=1	Communities understood (40 percent) the threats on natural resources and they have started to reduce the activities which are threat.	Most communities reported about the forest and fishery degradation in their area for many reasons why the fish and forest are decreasing from year to year. The biggest challenges for forestry is land concessions to companies (coconut oil plantations) and it causes land to be taken from the communities (community forest). The population is also increasing and there is a need to clear the land for agriculture and trees to build houses. If comparing 2015 to 2017, 70 percent of the forest has been lost due to human activity. Moreover, only 20 percent of the 2015 levels of fish resource is remaining at present. The main reason is illegal tree-felling and fishing activities along the Mekong river and the Ramsar site.,However families are still able to get fish to support their families as much of the community has contributed to patrolling activities in order to conserve the community fisheries, and report the illegal activities to the Cfi and local authority. Moreover, the community is understanding more about the mating season and taking care of evergreen forest along the river and using the traditional equipment to catch the fish. For the IRRAWADDY dolphin pools, all the community said: "it is very rare to see the dolphin in the community, because of the illegal activities and hydropower dam construction that makes the dolphin does not want to stay in the community anymore."

<p>Increase in beneficiaries' negative perception on the Ramsar site degradation</p>	<p>H4=2</p>	<p>The community has limited awareness on the negative impact from natural resource degradation through training and night shows by local NGOs in the area.</p>	<p>Many problems are destroying the Ramsar site. The degradation impacts the livelihoods, and life of the communities. All of the communities had reported about the risks of the Ramsar site impacts on:</p> <ol style="list-style-type: none"> 1. Food security: fish, vegetable growing, NTFP, and livestock 2. Climate change impacts: more drought and flood 3. Income generation: tourism and sustainable livelihoods <p>80 percent of the community is aware and promotes the impact of conservation to the villagers and looks for income generation through community-based ecotourism, agriculture productions, and fishing by traditional ways.</p>
<p>Beneficiaries are aware of the impacts of the dams on the Mekong mainstream and the threats posed by the Stung Treng and Sambor dams</p>	<p>H1=3</p>	<p>Through prior trainings, communities have a limited understanding of the impacts of dam on their livelihoods. In addition, they used to join in advocacy with local NGOs on dam construction in Laos country in 2012.</p>	<p>80 percent of the beneficiaries have a good knowledge on the dam impacts, they have joined with many organizations such as CRDT, CEPA, WorldFish. Especially the Don Sahong dam at Lao PDR which is 1.5 km from Cambodia border. They reported that the dam will impacted the fish migration, fluctuation of water, loss of biodiversity and now their skin is itchy after using the water (water pollution from the dam construction).</p>

<p>Communication and relationship between local authorities and community members improved</p>	<p>S2=2</p>	<p>The relationship between community and local authority were still limited. Some CBOs said that sometime they feeling local authority seem to be ignoring the illegal activity of fishery. Some communities have good relationships and they join in patrolling with committee members at least two time per month and collaborated especially when they encountered illegal activities.</p>	<p>The relationship between the community and local authorities is increasing compared to 2015. They were working together with the same interest in conservation activities, but it is different activities. Cfi and local authorities are doing patrols every month and then report to the CBOs. They have met together every month and the communities provide the contribution of the interest to the Cfi.</p>
<p>Communities are able to raise their voice at the provincial level and meetings are organized with the DoE</p>	<p>S4=3</p>	<p>Through training with the local NGOs in that area, Committee members have raised their concerns about natural resource conservation every month and sometimes at the commune council the chef of police responded and sometimes their voices were not heard.</p>	<p>The linking activities have gathered all the stakeholders that are related to biodiversity conservation and the communities understand about the law and regulation of the Ramsar site. There were raised concerns and voices on biodiversity and asked the DoE, PDoA, and commune chief about the decreasing the biodiversity conservation. They recieved some response from them, that we have to work together following the law of the country.</p> <p>Youth and women (CBOs members) have a strong voice and raise the concerns to the local authorities, they had never done this before during the last two years. Over 70 percent of the CBOs members and the youth groups have a voice at the village level meeting and DoE, during the meeting about the biodiversity conservation at the Ramsar site.</p>

<p>12 CBOs begin to contribute interest accrued from saving group into Communities Fishery to support their conservation work.</p>	<p>S3=2</p>	<p>Through our baseline data we recorded that only five communities had contributed to CFI from 2- 5% per year</p>	<p>Nine CBOs have contributed their interest from 2-5 percent to community fisheries. It is about 605.25 US\$ to support community's fisheries to do the patrolling activities at the Ramsar site. Only Anlung Svay do not contribute because they do not have a saving group. They used to pay 500 riel per family, per month for supporting the patrolling activities and Koh Khorn Din, they do not trust the community's fisheries.</p>
<p>Youth participation in community life improved</p>	<p>S1=1</p>	<p>No youth in all the communities participated in community life to improve conservation activity</p>	<p>One youth group at Koh Sneng has done such a good activity for conservation, including a few young CBO members. They have been doing many activities and have created the saving group within the team for better connections and to discuss together about the biodiversity problems.</p>

VII. CONCLUSIONS AND CONSIDERATIONS FOR LEARNING

7.1 CONCLUSIONS

This endline assessment had 118 of participants from 9 villages who participated, 79 were women. According to the results, 60 percent of community in the Ramsar site could explain something about the natural resource degradation in this area, having observed and joined training with local authorities and NGOs. There was a lack of electricity and infrastructure for agriculture activities. It was considered that a dam construction would be negative, causing flooding or drought and biodiversity in the river would decrease.

Promoting the awareness of the law and regulation at the Ramsar site was really useful for the community who would be able to understand the laws of biodiversity conservation and the importance of contributing to conservation efforts. The beneficiaries' were able to address and analyze the root causes of the biodiversity impacts and gathered the villagers to advocate for their biodiversity in the village and communal level. Especially the young groups who are an agent for change, for the natural resources conservation activities. The youth groups had a dynamic for the conservation activities, such as waste collection along the river bank, strengthen awareness through writing the slogan in the public spaces, attending the meeting with the local authorities, raising their concerns and bringing up what they want to do for conservation

7.2 LEARNING AND RECOMMENDATIONS CONSIDERATIONS

In addition to providing a endline to which project activities can be evaluated, the assessment noted additional issues that CRDT need to consider in the future. These include:

- **CRDT need to help with renewable energy, toilets, clean water and small irrigation projects.**
- **CRDT need to help communities apply agriculture techniques to adapt to climate change to help them increase food security and income.**
- **CRDT would like to support the sustainable income generation through the community-based ecotourism, which could promote the ideas of working together between different stakeholders.**

ANNEX 1. PERFORMANCE INDICATORS FOR OVERALL OBJECTIVES

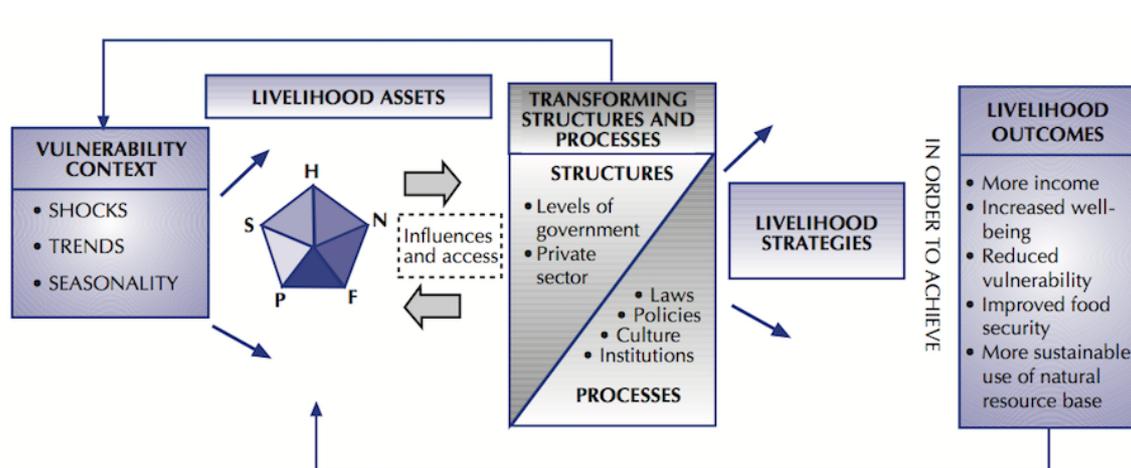
1. By June 2017, at least 70 percent of beneficiaries are able to explain the drivers of forest and fishery degradation
2. By June 2017, at least 75 percent of the beneficiaries perceive the degradation of the Ramsar site as negative
3. By June 2017, 266 beneficiaries are aware of the impacts of dams on the Mekong mainstream and the threats posed by the Stung Treng and Sambor dams
4. By June 2017, communication on conservation and relationship between local authorities and community members will be improved through increased number of meetings and case reported to the authorities
5. By June 2017, communities are able to raise their voice at the provincial level and meetings are organized with the Department of Environment
6. By June 2017, 12 CBOs begin to contribute interest accrued from saving group into Communities Fishery to support their conservation work
7. By June 2017, 20 youth join along the rest of communities' members to engage in resources protection every six months.

ANNEX 2 - THE SUSTAINABLE RURAL LIVELIHOOD FRAMEWORK

The Sustainable Rural Livelihood Framework is based around five capital assets – natural, human, physical (built), social, and financial*. The background and rationale for this approach is described in the 'Sustainable Rural Livelihoods' framework of Carney et al.¹ The frameworks set out to conceptualize:

- How people operate within a vulnerable context, one that is shaped by different factors
 - shifting seasonal constraints (and opportunities), economic shock and longer-term trends.
- How they draw on different types of livelihood assets or capital in different combinations which are influenced by:
 - The vulnerability context
 - A range of institutions and processes
 - How they use their asset base to develop a range of livelihood strategies to achieve desired livelihood outcomes.

The figure below illustrates the dynamics of the framework, and lists examples of features or indicators that might contribute to the value of a particular asset or capital.



- H** represents **human capital**: the skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies;
- P** represents **physical capital**: the basic infrastructure (transport, shelter, water, energy and communications) and the production equipment and means that enable people to pursue livelihoods;
- S** represents **social capital**: the social resources (networks, membership of groups, relationships of trust, access to wider institutions of society) upon which people draw in pursuit of livelihoods;
- F** represents **financial capital**: the financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options; and
- N** represents **natural capital**: the natural resource stocks from which resource flows useful for livelihoods are derived (e.g. land, water, wildlife, biodiversity, environmental resources).

Figure A2.1: The Sustainable Rural Livelihood Framework

¹Carney D. et. al. (1998) *Sustainable rural livelihoods: what contribution can we make?* Department for International Development, London