

AN INTEGRATED APPROACH TO BUILD RESILIENCE AGAINST CLIMATE CHANGE THROUGH STRENGTHENING ECOSYSTEMS SERVICES AND PROMOTING WOMEN'S LIVELIHOOD IN MUNI-POMADZE RAMSAR SITE AREA, WINNEBA GHANA



Summary of Report

The Integrated Approach to Build Resilience against Climate Change through Strengthening Ecosystems Services and Promoting Women's Livelihood in Muni-Pomadze Ramsar Site Area, Winneba Ghana Project is a Seven months long partnership project between the Canada Fund for Local Initiative (CFLI) and A Rocha Ghana. The project was launched on the 20th of September, 2016 at the Good Shepherd Palace Auditorium in Winneba and successfully ended on the 28th February, 2017. The all-inclusive community-based project sought to empower communities (Woarabeba and Nsuakyir) especially women to sustainably manage their own Mangrove resources resulting in productive and profitable fisheries, coastal ecosystem conservation and/or resilience and rural improved livelihoods. Specifically, the project has and is promoting sustainable multiple land use approach for mangrove ecosystems, use of energy efficient chorkor fish smoking kilns, increase capacity of women groups in small business marketing and restoring the ecological integrity of the degraded mangrove stands and its adjacent ground marine biodiversity recovery.

Relative to project specific objectives and proposed activities, all project activities were successfully carried out and this report gives the major accomplishments, challenges, the way forward and prospects for future projects.

The major project outputs, outcomes etc include;

1. Four (consultative) meetings held;
2. Mangrove forests mapped, characterized and zoned into various regimes
3. Zoned map developed and Sustainable mangrove utilization plan developed
4. Mangrove tree nursery established (over 7000 seedlings was nursed)
5. 6500 mangrove seedlings planted on about 6 acres of degraded mangrove areas
6. 40 Energy efficient chorkor kilns constructed for 40 recruited women who were also trained in kiln construction
7. 80 fish smoking sieves and 40 each of fish processing knives and fish carrying basins supplied to 40 women
8. 40 Women beneficiaries trained in fish processing and marketing as well as in small scale business protocols
9. Twenty (20) community volunteers recruited and trained
10. Grassroots conservation education and awareness creation organized; 8 local radio programs, 6-night video shows and 5 monthly doors -to- door campaigns.
11. Four internal monitoring and evaluation carried out
12. An estimated number of 3,500 educated and informed on the need to conserve environmental resources while mitigating climate change impacts

OUTLINE OF REPORT

This final report will highlight all the activities implemented as against the proposed objectives in the project terms of reference (i.e. this include activities executed in the first and second phases of the project implementation). Importantly, phase two implementation activities would be reported on first before that of phase one (earlier captured in progress report). Accordingly, section one will highlight the promotion and use of energy efficient chorkor fish smoking kiln, while increasing capacity of women groups in small business enterprise in fisheries through value-chain addition in processing (drying, smoking etc.) and marketing makes section two. The third section reports on restoring the ecological integrity of the degraded Mangrove stands and its adjacent ground for marine biodiversity recovery through habitat rehabilitation/restoration and manipulation. Promoting Sustainable multiple land use approach for Mangrove ecosystems (zoning and regularized use) underpins section four. The fifth section will highlight project beneficiaries, gender strategy, advocacy and communication. Finally, section six discusses monitoring and evaluation activities, challenges and recommendations by the Project Implementation and Management Team.

1.0 Section One: Promoting the use of energy efficient chorkor fish smoking kilns

1.1 Awareness creation and education on Mangrove Conservation and use of energy efficient kilns

The Project team in collaboration with the newly formed volunteer team successfully carried out eight (8) series of local radio campaigns and awareness creation on the importance of mangroves and the use of the energy efficient chorkor fish smoking kiln. In addition to the local radio campaigns, six (6) night video shows and mangrove conservation awareness campaigns were also organised i.e. three in each community. The newly established volunteer team also carried out four (4) community consultative meetings and awareness creation. These meetings were very necessary since it created a common platform for community members to also make inputs into the code of conducts and general functioning of the newly constituted volunteer team. With support and approval by the Muni-Pomadze Ramsar site office, volunteers have been empowered to regulate access and use of mangrove resources utilizing various regimes in zoned and mapped areas.



Fig 1.1 Radio and community awareness creation programmes

1.2 Recruitment, training and Construction of energy efficient kilns in communities

To promote sustainable utilization, reduce waste of mangroves and also reduce health hazards associated with fish smoking within the two communities, 40 individual women were recruited and trained in the construction of improved energy efficient chorkor smoking kilns. The three days hands on practical training program culminated in the construction of 40 energy efficient chorkor smoking kilns.

To properly maintain and sustain usage of the improved kilns, women groups greatly participated in the construction of these kilns i.e. women groups were involved at every stage of the construction to ensure their ability to independently maintain kilns as and when necessary and also being in position to construct new ones among others. In addition to the kilns, supporting fish processing accessories, two (2) each of smoking sieves and one (1) each of aluminium pan and knife were also handed over to the 40 women beneficiaries.

Outputs/Outcomes/Impacts

1. Acquired knowledge in mangrove conservation and use of energy efficient ckorkor kilns by women groups and community members
2. 40 women trained in energy efficient chorkor kiln construction
3. 40 energy efficient chorkor kiln constructed
4. 80 smoking sieves, 40 fish haulage pans and 40 fish processing knives supplied
5. In the long term, healthy women groups with increased income and sustainable environment envisaged



Fig 1.2a Project team distributing sieves and pans



Fig1.2b Improved energy efficient kiln

2.0 Section Two: Increase capacity of women groups in small business enterprise in fisheries through value-chain addition in processing (drying, smoking etc.) and marketing.

A three days program was organized to train participants in (a) Small business enterprises and value addition (b) Fishing processing, packaging and marketing.

Mr. Anthony Appiah (Fisheries expert) took participants through fish processing, packaging and marketing while Mr. Philip Kofi Addo (Business expert) spearheaded the small business enterprises and value addition training

2.1 Small business enterprises and value addition training for women groups

Fifty participants comprising (40 women and 10 men) were recruited for the program. A total of 45 individuals (37 women and 8 men) attended the program.

The training objectives include:

- Understanding entrepreneurship
- Understanding how to start and develop local related business
- Preparing and implementing business action plans while managing risks
- Understanding and applying best business management skills to ensure sustainability and profitability.
- Identifying community and business resources that support fisher groups and farmers.

2.2 Fish processing, packaging and marketing

A total of 40 women were recruited for the training. All recruited women participated in the training. The fisheries expert utilized the manual of the Fisheries Commission in the training program.

Notable training themes are:

- Knowing more about fish processing (Gutting, Scaling, heading, cleaning, sorting and grading)
- Knowing more about post-harvest loss (What it is? causes, types of loss etc)
- Knowing more about fish preservation (salting, smoking, curing, cold smoking and hot smoking) and packaging.

The training activities were tailor made, well structured, practical and carefully translated into the local Fante dialect as practically as possible to ensure thorough understanding and smooth running of the respective sessions.

Outputs/Outcomes/Impacts

1. 45 individuals capacity built in Small business enterprises and value addition
2. 40 women capacity built in fish processing, packaging and marketing

3. In the long term, income levels of women would increase through good business protocols and proper fish processing, packaging and marketing procedures.



Fig 2.2a Business venture training



Fig 2.2b Fish Processing training

3.0 Section three: Restoring the ecological integrity of the degraded Mangrove stands and its adjacent ground for marine biodiversity recovery through habitat rehabilitation/restoration and manipulation.

3.1 Mangrove Nursery Training and Establishment

A One day mangrove nursery training and establishment was carried out for 50 participants (25 each from Woorabeba and Nsuakyir respectively) on the 27th of September, 2016. Participants were taken through hands-on activities comprising potting, viable seed identification, seed nursing and nursery management. At the end of the day, the team and participants contributed to potting and nursing seven thousand mangrove seeds. Due to water availability, management and maintenance, the seeds were raised at the nursery site of the Forest Service Division, Winneba. Mangrove planting and restoration begun in late November and continued through to December, 2016. Planting team constituted mainly the stakeholders who were present at the project launching. Particularly, volunteers from the two communities (women groups and fishermen) led the planting activity.

3.2 Land preparation, planting and restoration of degraded mangrove habitats

Following an on ground situational assessment by the project implementation team, local community leaders, chiefs and women groups, priority degraded areas (sites close to the river and critical for biodiversity enhancement) were selected for planting. Land site preparation was carried out by community members within a period of three days. A total of 6,125 mangrove seedlings were planted to restore degraded area of about 6.5 acres area (see pictures below).

Outputs/Outcomes/Impacts

1. 50 individuals from two communities' capacity built in mangrove nursery and establishment
2. 7000 mangroves nursed
3. 6,125 mangrove seedlings planted on 6.5 acres of degraded mangrove stands
4. Climate mitigated
5. Acquired knowledge in mangrove nursery, management and planting protocols
6. In the long term, the ecological integrity of the site would be restored thereby enhancing the persistence of mangrove flora and fauna species as well as fish stock.



Fig 3.1a Mangrove seedlings ready for transplanting



Fig 3.1b Planting of mangroves



Fig 3.1c some community volunteers



Fig 3.1d Excerpts from mangrove sites

4.0 Section Four: Promoting Sustainable multiple land use approach for Mangrove ecosystems (zoning and regularized use)

4.1 Project Launch and Consultative Meetings

After detailed consultative processes involving the stakeholders, the project was launched by the Project Team on the 20th of September, 2016 at the Good Shepherd Palace auditorium in Winneba. An estimated number of 85 participants were present out of the proposed 100 participants that were to attend. Key dignitaries (names captured in the progress report) in attendance addressed the gathering and affirmed their institutional support for the project—something that was evidenced throughout the project implementation



Fig 4.1a A group photograph after the launching b. Municipal Manager (FSD) addressing stakeholders

4.2 Consultative Meetings

The beginning of the project witnessed some key consultative processes to design action plans, ascribe roles and responsibilities for project objectives and activities (details captured in the progress report). However, during the project implementation, different consultative meetings ensued between stakeholders to address some key identified issues (detailed in challenges). The different processes aided the smooth implementation of the project and also contributed to the communities owning the project.



Fig 4.2 Consultative meetings with local communities and stakeholders

4.3 Mangrove Zonation and sustainable management planning

4.3.1 Mangrove Zonation

The project team led by Ing. George Ashiagbor did an onsite mapping and characterization. The teams traverse the mangrove area to pick GPS points within the various land use forms and land cover forms within the Muni-Pomadze Ramsar site catchment area. GPS Coordinates were characterized and analyzed in ArcView GIS to zone the areas into key areas of interest as detailed below;

i. Core Zone- Area for Conservation and Restocking

Agreed area within the mangrove stand where strict management activities will be concentrated. These are areas where the mangrove forest and riverine vegetation are still in a relatively intact condition based on field assessments. After successive consultation meetings, it was agreed that, management interventions are necessary to maintain the continuous existence for the different animal species particularly breeding and spawning sites. So, these core zones will maintain current mangrove resources (total cover and quality), while preventing human activities especially tree extraction from these patches.

ii. Buffer Zone (Sustainable use)

The immediate land area between the core and transition zones as identified during mapping and characterisation has been classified as a buffer zone. According to the current agreed management plans underway, this area will support and allow sustainable utilization through guided regime cutting and extractions. Particularly, a key sustainable use in this area may include Beekeeping farming.

iii. Transition Zone (Regularised Use by Communities)

The land area mostly between the buffer zone of the mangrove stand and other land forms was also classified as the transition zone. Access and use of resources within these zones will be regularised to ensure its sustainability by the newly instituted community volunteer group.

The developed map has been discussed with communities and subsequently accepted. Pillaring of zoned areas has taken place.



Fig 3.1 Project team getting ready to map the mangrove

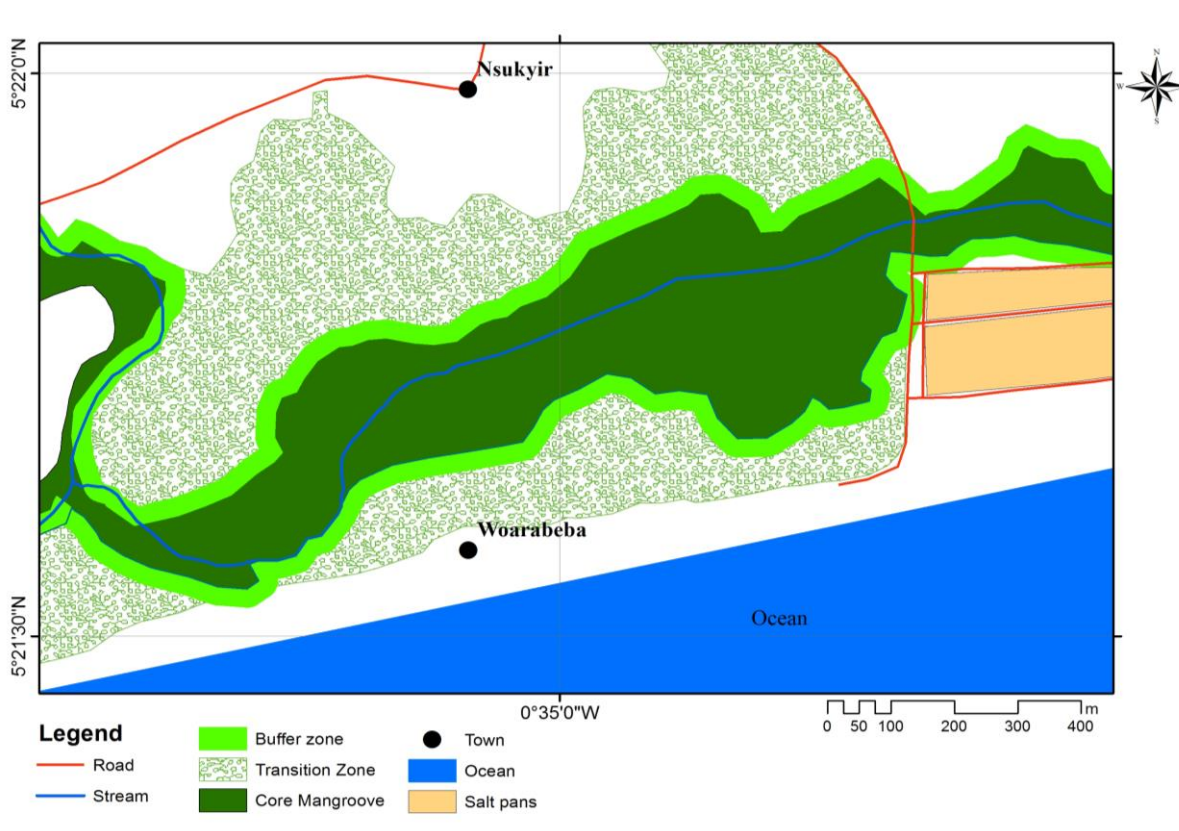


Fig 3.2 Management Map of Project Sight

4.4 Community Volunteer Team

Through a detailed consultative process involving the two local chiefs (Woarabeba and Nsuakyir), women groups, unit committees and with the help of management authority of the Muni-Pomadze Ramsar Site area, a total of twenty (20) volunteers, ten (10) each from each participating community were recruited to constitute the Community Volunteer team.

Capacities of the team members have been built to prepare and equip them with the key relevant skills to enable them carry out their new mandates (Major mandate of the volunteer team includes; frequent monitoring, regulating access and use of mangrove resources, set cut regimes in collaboration with the Wildlife Division and A Rocha Ghana, Manage and sustain the community nursery to ensure continuous supply of seedlings, spearhead and mobilize community members for occasional restoration planting activities, Educate and create awareness on the sustainable management of mangroves etc) (See progress report for details).

Outputs/Outcomes/Impacts

1. Community participatory processes and collective action enhanced
2. Volunteer team instituted
3. Zoned areas (Pillared) with regime utilization plan
4. Map developed for the area
5. 20 each of Wellington boots and cutlasses supplied to all volunteers
6. In the long term, local self-governance would be enhanced thereby promoting socio-economic wellbeing and environmental sustainability.



Fig 4.4 Volunteers share their experience and build consensus during training sessions

5.0. Section Five: Project Beneficiaries, Gender Analysis, Advocacy and Communication

5.1 Project Beneficiaries

The direct beneficiaries of the project are mostly women in two fishing communities (Woarabeba and Nsuekyir) in Muni-Pomadze Ramsar Site Area. These are very impoverished areas with household incomes well below national averages.

The direct project beneficiaries include:

1. 40 women trained in kiln construction and supplied with constructed kilns and accessories
2. 20 Volunteers (10 each of men and women) trained and overseeing the management and conservation of mangroves and other marine resources
3. 45 persons (37 women and 8 men) trained in small business and value addition
4. 50 persons trained in mangrove nursery and management

Overall, the project directly benefitted more than 1,500 people in the beneficiary villages (Woarabeba and Nsuakyir). These people participated in different awareness creation and education programs, as well as having increased access to sustainable mangrove conservation trainings through word-of-mouth, observation of their neighbors' etc.

The project will indirectly benefit over 4,500 individuals in the surrounding villages in the districts where the project has been implemented. The indirect beneficiaries will have increased access to popular knowledge through the wide-spread adoption of improved practices by participating actors. Indirect beneficiaries will also receive site specific benefits from mangrove restoration, purposely because of the long-term impact on fish stock and other marine resources. Importantly, actions including improved approaches to fish smoking, best business practices (increased income generation and market opportunities etc.), would be shared among women groups in the district. Additionally, the introduction of improved smoking kilns is anticipated to expand to the district towns greatly improving air quality.

5.2 Gender Analysis and Strategy

While both women and men play important roles in Woarabeba and Nsuakyir, there are fundamental differences in the nature of their work, the way it is valued, the allocation of financial and social power and the access to and control over resources. All of these tend to disadvantage women in the two communities who have challenging difficult lives (They are responsible for all household duties and caretaking, including family health concerns and nutrition, are solely responsible for the provision of food, water and fuel for the family throughout the year).

Given the important role of women, the advancement of sustainable fishing business is of great importance to improving their quality of life in the area. Accordingly, the project has developed a gender strategy which is closely aligned with both A Rocha Ghana and CFLI's strategy to promote gender equality. Gender concerns have been mainstreamed throughout the project as more than 80% of direct beneficiaries of this project are women.

Importantly, men also received support in trainings and were also part of the volunteer team. The project engendered bridging the economic, social disparity between genders, and integrated equity in decision-making into all project activities aimed at encouraging and institutionalizing the important role of women in the home, and the community.

5.3 Advocacy and Communication

This projects Advocacy and Communications contributed to the following:

(I) identified key stakeholders influence on institutional and behavioral change on the importance of women and sustainable fishing business vis-à-vis mangrove linkages for economic and social development.

(II) Promoted a strategic vision for self-governance by women groups aimed towards economic growth, sustainable development and poverty reduction – as well as increased investment in environmental services (mangrove restoration) that address the needs of particular women groups and the larger community as a whole

(III) Facilitated information sharing and lessons learned about good practice on sustainable fish business protocols and environmental mainstreaming both at individual and local community decision making;

(IV) Ensured effective participation by all stakeholders (including non state actors and private sector) etc.

Accordingly, A Rocha Ghana utilized different communication tools and/or media. Notable amongst them are:

- Three short videos, distributed to all local and international members and partners through our E-line web program
- 3 Articles in our E-magazines
- More than 6 radio programs at Winneba
- More than 8 face book posts
- Two interview sessions by Samuel Hinneh (Daily Dispatch)

The above awareness and communications in a way has contributed to influencing people's knowledge and attitudes and, hence, the actions that they take. Given the integral role humans play in conserving biodiversity, the advocacy, awareness and communications strategy employed by the project has engendered a powerful means to help women and two communities achieve their socio-economic and conservation goals respectively.

6.0 Section Six: Project Monitoring, Evaluation and Challenges

6.1 Project Monitoring and Evaluation

To ensure that, the various project objectives were met, two key strategies were employed for assessing project activities and success (i.e. process and outcome evaluation methods). Importantly this project adopted a participatory monitoring and evaluation approach where the project implementation monitoring team (comprising the Project Manager, Deputy National Director of A Rocha Ghana, two representatives of the two communities and Manager of Muni-Pomadze Ramsar Site Area) were members. The team made a total of four field visits during the project implementation. Specifically, the visits sought to monitor and assess the various project activities. Importantly, A Rocha Ghana's internal monitoring and evaluation team (comprising the national Director, Deputy National Director of operation, Scientific Director and Project Manger) visited the project on two occasions (for monitoring and evaluation).

For the process monitoring and evaluation, the team utilized the project implementation plan to ensure that activities were duly followed. Also, there was continual debriefing sessions after every activity to ascertain positives and negatives to inform actions relative to activities that are to follow (thereby enhancing the smooth processes of the activities).

As a Second and regular monitoring scheme, an outcome monitoring and evaluation was also adopted. The key performance indicators of each objective were used as the basis of evaluation (as reported under the various objectives, all key indicators were duly met and in some instances even exceeded). The team also utilized an initial baseline survey report of the two communities for the purpose of evaluation.

The project also witnessed two monitoring and evaluation visit by the funders. The first to visit was the Ghana Coordinator of Canadian Fund for Local Initiatives (Marian Tadeffa-Kubabon). She visited project communities, interacted with the women groups, chiefs and other stakeholders. Importantly, she visited the degraded mangrove habitat where restoration was on-going and had a wonderful interactive session with community members at the site.

The second was by:

Hon. Celina Caesar Chavannes and Her Excellency Heather Cameron visit to the project site

Honorable Celina Caesar Chavannes, Parliamentary Secretary to the Canadian Prime Minister (Rt. Hon. Justin Trudeau) together with a team led by Her Excellency, Heather Cameron and Canadian High Commissioner to Ghana paid a historic visit to the CFLI Community Mangrove Restoration project area within the Muni-Pomadze Ramsar site on Monday January 9, 2017.

The project implementation team led by the National Director of A Rocha Ghana (Seth Appiah-Kubi) and the Ramsar Site manager (Mr. Andrew Agyekumhene) of the Forestry Commission jointly hosted the delegation. The visiting team as part of their tour had the opportunity to assess progress made under the project's implementation phase and also visited degraded mangrove sites which have been replanted by communities with support from the Canadian Fund for Local Initiative (CFLI). Honorable Celina Caesar Chavannes and Her Excellency, Heather Cameron also made time during their visit to engage, dialogue and inspire the chief and community members especially, women groups who are direct beneficiaries of the project. Among the delegation were;

- Francis Bédros, *First Secretary (Development), High Commission of Canada to Ghana*
- Tina Guthrie, *Minister-Counselor and Senior Director (Development), High Commission of Canada to Ghana*
- Jenna Martinuzzi, *Legislative Assistant, Office of the Minister of Foreign Affairs of Canada*
- Vidal Chavannes
- Bill Osborne



Fig 6.1a Marian Tadeffa-Kubabon (Coordinator of Canadian Fund for Local Initiatives) at the degraded site



Fig 6.1b Hon. Celina C. Chavannes and Her Excellency Heather Cameron interacts with Project team



Fig 6.1c Visiting and project team walks to the degraded site



Fig 6.1d Visiting team interacts with project team at the newly planted site



Fig 6.1e Excerpts from the site



Fig 6.1f A taste of fishing at Woarabebe landing beach



Fig 6.1g A traditional welcome to Woarabebe Community



Fig 6.1h Visiting team interacts with community members at Woarabebe



6.2 Challenges, Conclusions and Recommendations

6.2.1 Challenges

Just like any other community level project, this particular one was faced with various challenges. Notable among them were: recruitment of actors for energy efficient kilns construction training and types of kilns to be constructed. Most women wanted to participate but the project could only train 40 actors and also construct 30 kilns. The project implementation team in consultation with the chiefs, elders and women group adopted a set of criteria (e.g. No two women of the same family will be recruited, participation rate of an individual in mangrove restoration programs, length of time an individual has been involved in the fish business, how long an individual has lived in the community etc.) for actor selection, recruitment and training.

The type of kiln to construct was also discussed over and over again until the final decision was made. The group kiln vis-à-vis the individual kiln was the main topic of discussion. After detailed back and forth discussions, the group agreed that, the individual kiln be constructed as the group kiln could rather destroy the purpose of the community working together for their resources- key reason cited was that, an earlier group constructed kiln for the women resulted in different quarrels and loss of fish by some women group (Importantly, the more domineering women claim supremacy and monopolize the kilns to the disadvantage of the quiet ones)

Also, certain project activities coincided with other community or individual activities (daily or livelihood chores). This was however rectified as stakeholder and community interests were factored into the project implementation plan.

5.2.2 Conclusions and Recommendations

The Canadian Fund for Local Initiative funded project “An integrated approach to build resilience against climate change through strengthening ecosystems services and promoting women’s livelihood in Muni-Pomadze Ramsar site area, Winneba Ghana” capitalizes on utilizing local community governance systems and structures to enhance sustainable use and conservation of resources within the Muni-Pomadze Ramsar Site Area. In achieving its goals, the project

adopted very unique approaches that increases community support, participation and collaboration, strengthens collective action of women among others.

Generally, the project has been successful as against the proposed goal and specific objectives. Activities were carried out as planned except rescheduling of implementation dates for some few activities to enable local community participation. Also, kilns were constructed for recruited individuals instead of groups or communities. Even though these changes were made, they did not in any way affect the intended outcome of the project.

Considering the high level of cooperation and participation of communities, especially the women (who are the major beneficiaries of the project), a sense of ownership has been created for the project and this gives positive signals for project sustainability and continuity particularly the newly established local structures put in place.

The project has since its launch instigated a sense of awareness and consciousness among community members on the need and urgency to collectively contribute to the sustainable management and utilization of mangrove and other coastal and / or marine resources in the catchment area.

Looking forward, there is the need to source for more funds to upscale the project to recruit more women group for training, build more kilns, restore more degraded mangrove areas, and also to introduce conservation agriculture farming to most community members of Nsuakyir who are more into farming than into fish business.

A Rocha Ghana and the people of Woarabeba and Nsuakyir communities are very grateful to the Canada Fund for Local Initiative and her Excellency Heather Cameron for the support and contribution to this project. It is our uttermost hope that, this project will foster a long-term partnership to continue to finding pragmatic and locally oriented solutions to the pressing challenges in especially marginalized communities in Ghana.