

SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Environmental Mitigation and Monitoring Annual Report



OCTOBER 1, 2016 – SEPTEMBER 30, 2017





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Cover photo: Monitoring of the DAA fisheries training center (Credit: Hen Mpoano)

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| Daasgift: | https://www.facebook.com/pages/Daasgift-Quality-Foundation- |
| - | FNGO/135372649846101 |
| Friends of the Nation: | http://www.fonghana.org |
| Hen Mpoano: | http://www.henmpoano.org |
| SNV: | http://www.snvworld.org/en/countries/ghana |
| SSG Advisors: | http://ssg-advisors.com/ |
| Spatial Solutions: | http://www.spatialsolutions.co/id1.html |

ACRONYMS

| DEO | |
|---------|--|
| BEO | Bureau Environmental Officer |
| CEWEFIA | Central and Western Region Fishmongers Improvement Association |
| CFR | Code of Federal Regulations |
| CSLP | Coastal Sustainable Landscape Project |
| CRC | Coastal Resource Center |
| CSLP | Coastal Sustainable Landscape Project |
| DAA | Development Action Association |
| DFTC | DAA Fisheries Training Center |
| ECO | Environmental Compliance Officer |
| ESDM | Environmentally Sound Design & Management |
| EIA | Environmental Impact Assessment |
| EMMP | Environmental Mitigation and Monitoring Plan |
| ESDM | Environmentally Sound Design and Management |
| FCMCBSP | Fisheries and Coastal Management Capacity Building Support Project |
| FY | Fiscal Year |
| HM | Hen Mpoano |
| IEE | Initial Environmental Examination |
| IP | Implementing Partners |
| MEO | Mission Environmental Officer |
| REA | Regional Environmental Advisor |
| SFMP | Sustainable Fisheries Management Project |
| SMEs | Small and Medium Enterprises |
| SNV | Netherlands Development Organization |
| UCC | University of Cape Coast |
| URI | University of Rhode Island |
| USAID | United States Agency for International Development |
| | |

TABLE OF CONTENTS

CONTENTS

| ACRONYMSiii |
|---|
| TABLE OF CONTENTSiv |
| LIST OF FIGURESiv |
| LIST OF TABLESiv |
| OVERVIEW1 |
| Inspection and Regular Monitoring1 |
| USAID Environmental Compliance and Environmentally Sound Design and Management (ESDM) Training workshop |
| Environmental Compliance training for SFMP and other USAID Implementing Partners 3 |
| ENVIRONMENTAL MITIGATION AND MONITORING TABLE4 |
| PICTURES FROM MONITORING ACTIVITIES |

LIST OF FIGURES

| Figure 1 Picture collage from the Environmental Compliance training workshop at | |
|---|----|
| Akosombo | 2 |
| Figure 2 Picture collage from the Environmental Compliance training for partners in | |
| Takoradi | 3 |
| Figure 3 DAA fisheries training center | 13 |
| Figure 4 CEWEFIA fisheries training center at Elmina in the Central Region | 14 |
| Figure 5 Two double demonstration units at Tema New Town | 15 |
| Figure 6 Two double unit smokers at Ejisu-Kumasi (30%/70%) | 15 |
| Figure 7 A demonstration oven at Keta | 16 |
| Figure 8 CEWEFIA woodlot plantation site at Anlo | 16 |
| Figure 9 CEWEFIA woodlot plantation site at Anlo, Scene 2 | 17 |
| Figure 10 CEWEFIA woodlot plantation site at Anlo, Scene 3 | 17 |
| Figure 11 Mangrove nursery establishment and replanting site at Ankobra | 18 |
| Figure 12 Mangrove nursery establishment and replanting site at Ankobra, Scene 2 | |

LIST OF TABLES

| Table 1 | Environmental Mitigation and Monitoring Results4 |
|---------|--|
|---------|--|

OVERVIEW

Environmental Compliance is a mandatory requirement for all USAID-funded programs, to ensure project activities do not have significant impact on the environment. USAID Implementing Partners are obligated to consider throughout the life of project, environmental impacts arising from its activities.

During the FY 2017 of the SFMP, All USAID environmental requirements laid down in the project Environmental Mitigation and Monitoring Plan (EMMP) were complied with to ensure no significant impact on the environment from activity implementation.

Inspection and Regular Monitoring

There were follow up monitoring visits to the DAA fisheries training center and sites where improved fish smoking ovens were constructed. As at the end of FY 2017, the training center had not been completed as planned. This has been attributed to the delay in signing the addendum of the contract.

The site for the CEWEFIA Fisheries Center at Elmina in the Central Region was also inspected and the necessary protocols developed for monitoring its construction. The contractor was taken through the protocols to ensure the construction is in compliance with USAID environmental procedures. Although there was delay in the construction activities, construction of the CEWEFIA fisheries center is progressing steadily after its commencement in July.

Environmental mitigation and monitoring forms were prepared for SNV, DAA and CEWEFIA for monitoring their activities.

USAID Environmental Compliance and Environmentally Sound Design and Management (ESDM) Training workshop

In January, 2017, the Environmental Compliance officer and 4 other officers from selected SFMP partners benefited from a training of trainers workshop organized by USAID. The five-day training workshop on Environmental Compliance and Environmentally Sound Design & Management (ESDM) was organized for USAID/Ghana and West Africa staff and partners in Akosombo to strengthen environmentally sound design and management of USAID funded activities. (See Figure 1)

This training was highly useful since participants were exposed to the USAID environmental compliance procedures and given an overview of environmentally sound and management principles, USAID environmental compliance regulations and procedures and skill in Environmental Impact Assessment (EIA). The combined approach of classroom training and field exercises provided the potential trainers practical skills in the development of Environmental Impact Assessment and Environmental Mitigation and Monitoring Plan. The skills acquired has enhanced monitoring of project activities.



Figure 1 Picture collage from the Environmental Compliance training workshop at Akosombo

Environmentally Sound Design and Management (ESDM) Trainer of Trainers workshop in Akosombo in January 2017. (See Figure 1).

Environmental Compliance training for SFMP and other USAID Implementing Partners

Based on recommendations that came up during the training, a two-day Environmental Compliance training workshop was organized to train personnel working on the SFMP, Coastal Sustainable Landscape Project (CSLP) and the University of Cape Coast Fisheries and Coastal Management Capacity Building Support Project (FCMCBSP).



Figure 2 Picture collage from the Environmental Compliance training for partners in Takoradi

Beneficiaries of the ToT, led by the Environmental Compliance officer of SFMP, facilitated this SFMP organized training workshop. (See Figure 2) Eighteen participants from SFMP partner organizations, CSLP and University of Cape Coast's Fisheries and Coastal Management Capacity Building Support Project were provided fundamental skills in the development of USAID Initial Environmental Examination (IEE), Environmental Impact Assessment (EIA) and EMMP. These officers are now more environmentally aware in project implementation and monitoring.

ENVIRONMENTAL MITIGATION AND MONITORING TABLE

Most activities that partners implementing had negative determination with conditions. Activities conducted in the FY 2017 that had conditions and required monitoring and /or mitigation plans are included in the table below

Table 1 Environmental Mitigation and Monitoring Results

| Mitigation Measure | Responsi- | | | | Estimated | Monitoring Log | | |
|--------------------|-----------|------------|------------------------|-----------|-----------|----------------|--------|-----------|
| | ble Party | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up |

Activity 4.3 Integrated Community Fisheries Management and Resilience Plans for the Ankobra River Estuarine and Mangrove Ecosystem

4.3.4 Early actions for community resilience - Pilot Mangrove Forest Restoration effort

| 4.5.4 Euriy uctions for community resulted | | 0 | 33 | | T | | Duning | The |
|--|----|--------------------------|--------------|-------------|----|----------|---------------|---------------|
| Section 3.3 Fisheries Extension and Coastal Forests: | HM | Review and screening of | Review and | During | NA | | During | The nursery |
| | | all documents, advocacy | screening of | mangrove | | Oct 2016 | nursing of | establishme |
| Identify appropriate reforestation techniques | | materials, and training | materials | establishme | | to Sept | the | nt and |
| • MUST be monitored to assure that promoted techniques | | curricula to ensure they | | nt period | | 2017 | mangrove | replanting |
| are appropriate to the specific local context. | | are environmentally | | | | 2017 | seedlings, it | activity will |
| • Evaluation must be conducted with full attention to | | sound and follow the | | | | | was ensured | be extended |
| potential adverse impacts, | | points outlined in the | | | | | that no | in FY2018. |
| Promoted species must be endorsed for use by the | | mitigation measures | | | | | chemicals | |
| relevant governmental authority; | | | | | | | (fertilizers | It will be |
| 6 | | | | | | | & | ensure that |
| Promoted/utilized biologic agents for soil fertility and the approximate of the | | | | | | | pesticides) | all the |
| enhancement (if any) must be approved by the cognizant | | | | | | | were used. | points listed |
| GoG entity and must be used/ promoted in conformity | | | | | | | The species | out in the |
| with the directives and restrictions attached to such | | | | | | | nursed were | mitigation |
| approval. | | | | | | | the | measures |
| • Use pesticides only in conformity with the provisions of | | | | | | | dominant | are followed |
| a duly approved PERSUAP specifically designated as | | | | | | | mangrove | are followed |
| covering the activity in question. In the absence of such | | | | | | | species of | |
| a PERSUAP, pesticide use is NOT permitted. | | | | | | | the area and | |
| • Seed distribution (if any) and input provision must be | | | | | | | the area and | |
| consistent with the above requirements. Treated seed | | | | | | | preferred | |
| must be dyed and seed distribution must be | | | | | | | species by | |
| | | | | | | | | |
| | | | | | | | the | |

| Mitigation Measure | | Responsi- | Monito | Estimated | Monitoring Log | | | | |
|--------------------|---|-----------|------------|------------------------|----------------|------|------|---------------------|-----------|
| | | ble Party | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up |
| | accompanied by education regarding appropriate | | | | | | | community | |
| | handling and non-edibility. | | | | | | | (Rhizophora | |
| • | Demonstration and extension activities may not use/promote genetically modified cultivars. Such support can only be undertaken in conformity with USAID's biosafety procedures and requires an associated amendment to this IEE. Integrate significant stakeholder consultation, including | | | | | | | and Avicenia Sp) | |
| | customary users of resources | | | | | | | | |

Activity 4.4 Integrated Community Fisheries Management for the Pra

Activity 4.4.1 Training of youth and women on woodlot management/maintain the woodlot plantation in Anlo

| IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA / 3b-Fisheries: CEWEF. During training of the youth and women on woodlot management activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land mgt. plans. Fisheries chapter of USAID's Sector Environmental Guidelines. htm). | TA Review and screen all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures | g of trainings are NA 2/5/2017 | Training curricula and materials reviewed and screenedTraining curricula developmen tDuring the training the facilitator was monitored to integrate the environment al issues stated in the training curricula |
|--|--|--------------------------------|--|
|--|--|--------------------------------|--|

| | Demensi | Monito | oring Scheme | | - Estimated cost | Monitoring Log | | |
|---|------------------------|--|--|---|---------------------|----------------|--|--|
| Mitigation Measure | Responsi- ble Party | Indicators | Data source/ method | How often | | Date | Result | Follow-up |
| Activity 4.5 Value Chain Improvemen | ts | | | | | | | |
| Activity 4.5.4 Training of MSMEs in fish | processing | g business developn | nent in Great | er Accra | | | | |
| IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA/ 3b-Fisheries:During training of MSME's in fish processing business development, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land mgt. plans.Fisheries chapter of USAID's Sector Environmental | SNV | Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures | Review and screening of materials | When trainings are provided and as to when documents, advocacy materials and training curricula are developed | NA | 8/12/2016 | Reviewed design for IEC materials Reviewed | 25/07/2017 Design for new IEC materials were also reviewed with sound messaging 12/05/2017 |
| Guidelines ((http://www.usaidgems.org/sectorGuidelines. htm). | | | | | | 25/4/2017 | training guide and included environment ally sound concepts | Also reviewed design on record books printed |
| Activity 4.5.6: Construction of 100 impro | ved stoves | | | - | | | - | <u>.</u> |
| IEE Section 3.5 Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2. 1. Site Selection Average slope of less than 5% and is not heavily forested, in an otherwise undisturbed local ecosystem, or in a protected area. The site is not within 30m of a permanent or seasonal stream or water body | SNV | Field reports during and after construction by the Environmental Compliance Officer. | Regular field visits during construction period | During construction activities | NA | 20/3/2017 | Monitored 6 demo Ahotor ovens All six ovens were constructed to the listed specificatio ns. | 09/08/2017 Monitored retrofitted oven at James Town. Oven is among other chorkor stoves in a demonstrati on facility. |

| | Responsi- | Monito | ring Scheme | | Estimated |] | Monitoring Log | | |
|--|-----------|------------|------------------------|-----------|-----------|---|---|--|--|
| Mitigation Measure | ble Party | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up | |
| Construction IPs must desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas IPs must identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well- managed sources. Construction must be managed so that no standing water on the site more than 4 days; Refurbishments of drying shed and the training on use and maintenance of the smoking ovens IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks). Safety and health • The contractor will: Be required to have a Health and Safety Plan. Be required to train the construction staff on the Health and Safety Plan. Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks). Provide training on proper use of equipment. Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks). Provide firefighting equipment/measures. Provide firefighting equipment/measures. Provide medical services (access to a first aid kit). | | | | | | 24&25/05/ 2017 25/10 /2017 24 &25/08/ 2017 | Monitored 3 double Ahotor ovens in Kumasi. Some level of bush was cleared, but not a heavily forested area. All materials were acquired from certified suppliers. Monitored a demo oven at Tema New Town. It was built to environment al specificatio ns Monitoring of retrofitted Morison stoves in the | Sanitation issues may be of concern | |

| | Responsi- | Monito | oring Scheme | | – Estimated cost | Monitoring Log | | | |
|--|------------------|--|--|---|---------------------|---|--|--|--|
| Mitigation Measure | ble Party | Indicators | Data source/ method | How often | | Date | Result | Follow-up | |
| Activity 4.5.7: Training of Trainers on ste During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans. <i>Fisheries chapter of USAID's Sector Environmental</i> <i>Guidelines</i> (http://www.usaidgems.org/sectorGuidelines.htm). | ove use | Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures | Review and screening of materials | When trainings are provided and as to when documents, advocacy materials and training curricula are developed | NA | 11/10/2016 | Central Region. Ovens are already within standard; our focus was the safety aspect for the builder. Reviewed training guide and other documents and made needed inputs | | |
| Activity 4.5.14: Construction of DAA Fisheries Training Center | | | | | | | | | |
| IEE Section 3.5 Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2 1. During construction, IPs must ensure that contractors: Desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas | ECO, SNV, DAA | Completed review and screening form to ensure that the construction activity is environmentally sound and follow the points outlined in the mitigation | Environmental and monitoring forms for the construction of the DAA Fisheries Training Center | Monthly visits during construction work | NA | Dates site were visited include: 23/12/16 06/01/17 01/02/17 | The contractor was taken through the USAID Environmen tal | Completion of the center has delayed, at the roofing stage. | |

| VIIIIdation Vieasiire | Responsi- | Monitoring Scheme | | | Estimated | Monitoring Log | | |
|--|-----------|--|---|-----------|-----------|---|---|---|
| | ble Party | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up |
| Identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources. Minimize the use of heavy machines Construction must be managed so that no standing water on the site persists more than 4 days; Prevent dumping of hazardous materials. Burn waste materials that are not reusable/readily recyclable, do not contain heavy metals and are flammable Concentrate noisiest types of work into as short a period as possible, and during least disruptive times of the day. Take measures to keep dust to a minimum Bore hole to be dug for domestic use should be tested for arsenic, coliform, nitrates and nitrites. 2. No lead-based paint shall be used. When lead-free paint is used, it will be stored properly so as to avoid accidental spills or consumption by children; empty cans will be disposed of in an environmentally safe manner away from areas where contamination of water sources might occur; and the empty cans will be broken or punctured so that they cannot be reused as drinking or food containers. | | measures in the IEE/EMMP Field reports of physical inspection during and after construction by the Env. Comp. Officer | Field Reports during construction | | | 17&24/03/ 17 28/04/17 05/05/17 20/06/17 01/08/17 16/09/17 | procedures and the monitoring protocol developed to ensure the construction activities do not have significant impact on the environment Continuous monitoring of DFTC construction process. Construction n firm has a Health and Safety Policy, and provided | A well has been dug out yet to be treated There will be one final monitoring to ensure proper lead free paints are used |
| 3. Waste handling equipment and infrastructure. USAID intervention must result in the facilities' possessing adequate provision for handling the wastes they may generate; including human wastes. | | | | | | | PPE's for all personnel and visitors. | |
| 4. In terms of safety and health risks; The contractor that will be responsible for the rehabilitation works will be required to have a Health & Safety Plan. The contractor will train the construction staff on the Health & Safety Plan. | | | | | | | Waste is managed well and no pool of water has | |

| Mitigation Measure | Responsi- ble Party | Monitoring Scheme | | | Estimated | Monitoring Log | | |
|--|------------------------|--|---|--|-----------|-----------------------|--|---|
| | | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up |
| The contractor will be required to provide training on proper use of equipment. The contractor will provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks). The contractor will provide firefighting equipment/measures. The contractor will ensure proper storage of building materials. The contractor provides medical services (access to a first aid kit). Prevent access to site at all times by unauthorized persons | | | | | | | been spotted. Area well fenced to prevent intrusion of people and animals Constructio n was advised on how best to manage and place tools to ensure safety. | |
| Activity 4.5.17 Two- day Training on Hys | gienic Fish | Handling | | | | | | |
| IEE Section 3.3 Fisheries Extension/3a. Institutional strength., training/TA / 3b-Fisheries: During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans. | CEWEFIA | Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures | Review and screening of materials | When trainings are provided and as to when documents, advocacy materials and training curricula are | NA | 12/01/17- 13/01/17 | Training documents reviewed | The facilitators were monitored to integrate environment al issues in the training |

Fisheries chapter of USAID's Sector Environmental Guidelines ((<u>http://www.usaidgems.org/sectorGuideli</u> <u>nes.htm</u>). developed

| Mitigation Measure | Responsi- ble Party | Monitoring Scheme | | | Estimated | Monitoring Log | | |
|---|------------------------|--|---|--------------------------------------|-------------------|------------------------------------|--|---|
| | | Indicators | Data source/ method | How often | Estimated cost | Date | Result | Follow-up |
| Activity 4.5.20: CEWEFIA FISHERIES | FRAININ | G CENTER | | | | | | |
| IEE Section 3.5 Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2 During construction, IPs must ensure that contractors: Desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas Identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources. Minimize the use of heavy machines Construction must be managed so that no standing water on the site persists more than 4 days; Prevent dumping of hazardous materials. Burn waste materials that are not reusable/readily recyclable, do not contain heavy metals and are flammable Concentrate noisiest types of work into as short a period as possible, and during least disruptive times of the day. Take measures to keep dust to a minimum Bore hole to be dug for domestic use should be tested for arsenic, coliform, nitrates and nitrites. No lead-based paint shall be used. When lead-free paint is used, it will be stored properly so as to avoid accidental spills or consumption by children; empty cans will be disposed of in an environmentally safe manner away from areas where contamination of water sources might occur; and the empty cans will be broken or punctured so that they cannot be reused as drinking or food containers. Waste handling equipment and infrastructure. USAID intervention must result in the facilities' possessing adequate provision for handling the wastes they may generate; including human wastes. | ECO, CEWEFIA | Completed review and screening form to ensure that the construction activity is environmentally sound and follow the points outlined in the mitigation measures in the IEE/EMMP Field reports of physical inspection during and after construction by the Env. Comp. Officer | Environmental and monitoring forms for the construction of the CEWEFIA Fisheries Training Center Field Reports during and immediately following construction | During construction activities | NA | 11/04/17 25/5/2017 19/7/2017 | Initial site visit of the CEWEFIA training center. The contractor met all the requirement s Meeting with the contractor to take him through the USAID Environmen tal procedures and the monitoring protocol developed to ensure the construction activities do not have significant impact on the environment | Monitoring visit to check progress of work and observe if they are following the environment al compliance procedures |

| Mitigation Measure | Responsi- ble Party | Monitoring Scheme | | | Estimated | Monitoring Log | | |
|---|------------------------|-------------------|------------------------|-----------|-----------|----------------|--|-----------|
| | | Indicators | Data source/ method | How often | cost | Date | Result | Follow-up |
| In terms of safety and health risks; The contractor that will be responsible for the rehabilitation works will be required to have a Health & Safety Plan. The contractor will train the construction staff on the Health & Safety Plan. The contractor will be required to provide training on proper use of equipment. The contractor will provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks). The contractor will provide firefighting equipment/measures. The contractor provides medical services (access to a first aid kit). | | | | | | 8/8/2017 | Workers in proper protective gears during construction activity | |

PICTURES FROM MONITORING ACTIVITIES



Figure 3 DAA fisheries training center



Figure 4 CEWEFIA fisheries training center at Elmina in the Central Region



Figure 5 Two double demonstration units at Tema New Town



Figure 6 Two double unit smokers at Ejisu-Kumasi (30%/70%)



Figure 7 A demonstration oven at Keta



Figure 8 CEWEFIA woodlot plantation site at Anlo



Figure 9 CEWEFIA woodlot plantation site at Anlo, Scene 2



Figure 10 CEWEFIA woodlot plantation site at AnIo, Scene 3



Figure 11 Mangrove nursery establishment and replanting site at Ankobra



Figure 12 Mangrove nursery establishment and replanting site at Ankobra, Scene 2