

CENTER FOR SUSTAINABLE DEVELOPMENT

Example Programs and Activities Developed in Conjunction with Students as Solutions to Underlying Causes of Their Communities' Challenges

Center for Sustainable Development: <http://www.csd-i.org/>

Here are a range of solutions in the form of programs and activities that past students have used successfully in addressing Project challenges. Feel free to use them, modify them, or develop your own solutions instead. Many of the programs are highly specific to one student's project and will need to be adapted to fit yours. Many of the programs have multiple activities; these are to give you options for customizing your own programs: edit the activities down as you see fit for your project.

Also, be sure to visit:

1. Community-Based Adaptation: 300 Hands-On Field Activities: <http://www.csd-i.org/101-hands-on-cba-field-activit>
2. 170 Student Project Challenges (bottom of page): <http://www.csd-i.org/field-partner-project-activity/>

Although many of the programs and activities below are cross-sectoral, they are loosely grouped into the following categories:

Water
Agriculture
Health, Hygiene and Nutrition
Income Generation
Disaster Risk Reduction and Preparedness
Advocacy
Forestry
Coastal Challenges
Social Programs

WATER

Water Use Management Plan [Solution to underlying causes: Lack of Water Use Management Plan.]

- [Activity 1] Community-based workshop and survey with community members to identify their knowledge of water use.
- [Activity 2] Consultation with water management expert to develop a participatory process and training program
- [Activity 3] Facilitate the Organization of a community based Water Use Management Committee
- [Activity 4] Community workshop on participatory mapping of water resources and uses (consciousness raising)
- [Activity 5] Prioritize water springs, rivulets, ravines and man-made waterways for protection/restoration
- [Activity 6] Investigate water sourcing alternatives for the community
- [Activity 7] Committee participatory workshop on developing a community based Water Use Management Plan
- [Activity 8] Investigate and develop an installation and maintenance program for appropriate water sourcing alternatives
- [Activity 9] Data collection to identify scientific baseline data and facilitate the organization of a community based Monitoring and Evaluation Committee

Water Use Management Plan [Solution to underlying causes: Lack of Water Use Management Plan.]

- [Activity 1] Community-based workshop and survey with community members to identify their knowledge of water use and management.
- [Activity 2] Consultation with water use management expert to develop a participatory process and training program
- [Activity 3] Facilitate the Organization of a community based Water Use Management Committee
- [Activity 4] Community workshop on participatory mapping of water resources and uses, and degraded watersheds (consciousness raising)
- [Activity 5] Prioritize water springs, rivulets, ravines and man-made waterways for protection/restoration
- [Activity 6] Investigate and develop water sourcing alternatives for the community
- [Activity 7] Investigate underlying causes of flooding and potential adaptation/mitigation actions
- [Activity 8] Committee participatory workshop on developing a community-based and implementable Water Use Management Plan

Land Use Management Plan [Solution to underlying causes: Lack of Land Use Management Plan.]

- [Activity 1] Community-based workshop and survey with community members to identify their knowledge of land use.
- [Activity 2] Consultation with land use management expert to develop a participatory process and training program
- [Activity 3] Consciousness-raising workshop for community members on land degradation and collective land management
- [Activity 4] Facilitate the Organization of a community based Land Use Management Committee
- [Activity 5] Community workshop on participatory mapping of forest, water and land resources and uses—and degraded hotspots
- [Activity 6] Committee participatory workshop on developing a community-based and implementable Land Use Management Plan
- [Activity 7] Consciousness-raising workshop for community members on improving the environment around their houses.

Water Harvesting Program [Solution to underlying causes: Lack of knowledge of Water conservation.]

- [Activity 1] Community-based survey with community members to identify their knowledge of water harvesting.
- [Activity 2] Evaluate results of participatory mapping of water resources and select appropriate water harvesting techniques
- [Activity 3] Share these techniques with Water Management Committee for feedback
- [Activity 4] Community participatory workshop on water harvesting techniques

Water Disinfection and Rain water harvesting and storage system program [Solution to underlying causes: flooding causing pollution of drinking water]:

- [Activity 1] Awareness workshops on simple water purification system and follow-up
- [Activity 2] Awareness workshops and demonstrations on establishment of rain water harvesting and storage system in the village
- [Activity 3] Work with local designers and material providers to design appropriate rainwater harvesting systems
- [Activity 4] Develop a program to facilitate the provision of these rainwater harvesting systems
- [Activity 2] Provide training workshops and follow-up in the construction, installation, use and maintenance of rainwater harvesting systems

AGRICULTURE

Improved water management and irrigation program [Solution to underlying causes: Climate variability, unpredictable rainy and dry seasons]

- [Activity 1] Facilitate the organization of an irrigation management subcommittee of the land management committee.
- [Activity 2] Consultation with irrigation expert to develop a participatory process and training program

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[Activity 3]. Community workshop on participatory mapping of water resources and uses

[Activity 4]. Work with committee members and irrigation expert to design and an appropriate system that can be managed by the community

[Activity 5]. Facilitate the formulation of a management plan for the newly-installed irrigation system.

[Activity 6]. Workshop in management and maintenance of the irrigation system with follow-up.

[Activity 7]. Establish a pilot community weather station.

Farmer Soil Conservation and Water Conservation and Management Program [Solution to underlying causes: Climate variability, extreme weather, and unpredictable rainy season have reduced crop harvests]:

[Activity 1]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 2]. Participatory mapping and identification of local soil conditions, natural water sources and water challenges

[Activity 3]. Farmer workshop on soil restoration and conservation techniques

[Activity 4]. Farmer workshop on water conservation and management techniques

Farmer Extension Adaptation Program [Solution to underlying causes: Unpredictable/late start to rainy season; mid-season drought/early end to rainy season have reduced crop harvests.]:

[Activity 1]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 2]. Participatory mapping and identification of local crop and buffering challenges

[Activity 3]. Farmer workshop and follow-up on early maturing and/or drought resistant crops/varieties for adapting to climate variability

[Activity 4]. Farmer workshop and follow-up on buffering against the late arrival of rain and/or an early end to the rainy season

Long Version:

[Problem 2] Vulnerability to climate change impacts and lack of adaptive capacity

Improved Agricultural Practices Program [solution to underlying cause: Inappropriate agricultural practices - loss of traditional agricultural knowledge]:

[Activity 1]. Surveys and interviews to collect traditional knowledge on agriculture, changes in agricultural cycles, vulnerabilities and coping strategies

[Activity 2]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 3]. Community workshop on participatory mapping of water and land resources and uses, agricultural challenges and vulnerabilities—and degraded hotspots

[Activity 4]. Extension agent visits most affected farmers to identify exact CC impacts to crop production and needs of farmers to adapt to the impacts (diseases, droughts and floods)

[Activity 5]. Develop plan that combines resilient and improved agricultural techniques with traditional knowledge for an overall improvement in productivity

[Activity 6]. Establish pilot plots demonstrating better cultivation practices

[Activity 7]. Farmer workshops on soil restoration and conservation techniques

[Activity 8]. Farmer workshops on water conservation and management techniques

[Activity 9]. Workshops on crop diversification and drought resistant crops.

Short Version:

Improved Agricultural Practices Program [solution to underlying cause: Inappropriate agricultural practices - loss of traditional agricultural knowledge]:

[Activity 1]. Surveys and interviews to collect traditional knowledge on agriculture, changes in agricultural cycles, vulnerabilities and coping strategies

[Activity 2]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 3]. Community workshop on participatory mapping of water and land resources and uses, agricultural challenges and vulnerabilities—and degraded hotspots

[Activity 4]. Develop plan that combines resilient and improved agricultural techniques with traditional knowledge for an overall improvement in productivity

[Activity 5]. Farmer workshops on soil restoration and conservation techniques

[Activity 6]. Farmer workshops on water conservation and management techniques

Climate Smart Agricultural Practices Programme 1 [Solution to underlying causes: Unpredictable/late start to rainy season; mid-season drought/early end to rainy season have reduced crop harvests.]:

[Activity 1]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 2]. Participatory mapping and identification of local crop and buffering challenges

[Activity 3]. Farmer workshop and follow-up on early maturing and/or drought resistant crops/varieties for adapting to climate variability

[Activity 4]. Farmer workshop and follow-up on buffering against the late arrival of rain and/or an early end to the rainy season

Climate Smart Agricultural Practices Programme 2 [solution to underlying cause: Inappropriate agricultural practices - loss of traditional agricultural knowledge]:

[Activity 1]. Surveys and interviews to collect traditional knowledge on agriculture, changes in agricultural cycles, vulnerabilities and coping strategies

[Activity 2]. Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 3]. Community workshop on participatory mapping of water and land resources and uses, agricultural challenges and vulnerabilities—and degraded hotspots

[Activity 4]. Extension agent visits most affected farmers to identify exact CC impacts to crop production and needs of farmers to adapt to the impacts (diseases, droughts and floods)

[Activity 5]. Develop plan that combines resilient and improved agricultural techniques with traditional knowledge for an overall improvement in productivity

[Activity 6]. Establish pilot plots demonstrating better cultivation practices

[Activity 7]. Workshops on crop diversification and drought resistant crops.

Climate Smart Agricultural Practices Programme 3: Farmer Field School [Solution to underlying causes: Climate variability and change (delayed, unpredictable start and ending of the rainy season and unusual dry periods), and extreme weather events—and—Lack of support for and knowledge of sustainable agricultural practices]:

[Activity 1]. Surveys and interviews alongside activity 2 above to collect traditional knowledge on agriculture, changes in agricultural cycles, vulnerabilities and coping strategies

[Activity 2]. Consultation with an agricultural expert (extension agent?) to develop a participatory process and training programme including Farmer Field School (FFSs) Approach

[Activity 3]. Develop plan that combines resilient and improved agricultural techniques with traditional knowledge for an overall improvement in productivity

[Activity 4]. Establish FFS(s) where farmers will set-up pilot plots demonstrating conservation agriculture practices paired with their cultural practices

[Activity 5]. Design program to equitably provide agricultural inputs (payments over time? Government support? Micro credit NGO? Village Bank Revolving Account?)

[Activity 6]. Conduct Farmer Field School leaders' workshops on soil restoration and conservation techniques

[Activity 7]. Conduct Farmer Field School leaders' workshops on water conservation and management techniques

Land Use Management Plan for Nomadic Pastoralists [Solution to underlying causes: Chronic malnutrition among livestock: Overall shortage of pasture, Climate variability (prolonged drought from five to ten months over a period of twenty years), and extreme weather events have reduced availability of pastures and water for the livestock]

[Activity 1]. Community-based workshop and survey with community members to identify their knowledge of land use.

[Activity 2]. Facilitate the Organization of a community based Land Use Management Committee for Nomadic Pastoralists

[Activity 3]. Community workshop on participatory mapping of pasture, water and land resources and uses (consciousness-raising)

[Activity 4]. Consultation with pastoral land use management expert to develop a participatory process and training program

[Activity 5]. Committee participatory workshop on developing a community based Land Use Management Plan for Nomadic Pastoralists

Animal Husbandry Program [Solution to underlying causes: Limited knowledge of the right numbers to keep, health, hygiene, nutrition and proper care for livestock.]

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[Activity 1]: Community-based workshop and survey with community members to identify their knowledge of animal husbandry.

[Activity 2]: A training program with a view to increase the training level of pastoralists in improving their know-how and skills in herd size, health, hygiene, nutrition, and proper care

[Activity 3]: Consultation with pastoral animal husbandry expert to develop a participatory process and training program

[Activity 4]: Periodic training sessions and 12 months of follow-up activities with pastoralists

[Problem 2]. Lack of sources of income generation in the population

Livestock Association and Production Increase Program [Solution to underlying causes: **Reduced cattle and agricultural production in the area**]:

Activity 1: Facilitate the creation of a Livestock of Association.

Activity 2: Survey local and regional businesses to determine product/services they need on a routine basis.

Activity 3: Establish a market link and ask businesses for their help in vocational training programs to develop the products/services they need.

Activity 4: Using this input, launch workshops on improved livestock practices for these products and services.

Agricultural Income Generation Program [Solution to underlying causes: **Lack of income generation opportunities**]:

[Activity 1]. Facilitate the organization of a community based Farmer Association

[Activity 2]. Survey local/regional businesses or markets that buy and sell agricultural produce in order to determine products they need on a routine basis

[Activity 3]. Establish a market link and ask the businesses for their support in training programs and inputs for farmers to grow the products they need

[Activity 4]. Using this input, launch vocational training workshops on improved agricultural practices for these new crops and markets

Garden Produce Income Generation Program [Solution to underlying causes: **Lack of income generation opportunities**]:

[Activity 1]. Facilitate the organization of a woman's garden produce Association

[Activity 2]. Survey local businesses/markets that buy and sell produce in order to determine products they need on a routine basis

[Activity 2]. Survey community members that buy produce in order to determine produce they need on a routine basis

[Activity 3]. Establish a market link and ask the businesses for their support in training programs and inputs gardeners to grow the products they need

[Activity 4]. Using this input, launch training workshops on improved gardening practices for these new vegetables

HEALTH, HYGIENE AND NUTRITION

Project Outline: Problem list combined with potential interventions/activities/solutions that I chose

[Problem 1]. Chronic diarrhea in small children

Health and Hygiene Program [Solution to underlying cause: **little knowledge of health and hygiene**]:

[Activity 1]. Consciousness raising health and hygiene workshop and follow-up

[Activity 2]. Hand washing workshop and follow-up

[Activity 3]. Point of use water purification system workshop and follow-up

[Activity 4]. Kitchen hygiene workshop and follow-up

[Problem 2]. Chronic under-nutrition of children

Family garden and nutrition program [Solution to underlying causes; **Seasonal food shortages in the months preceding the harvest**]:

[Activity 1]. Conduct a food security, food diversity and home gardening survey

[Activity 2]. Workshop and follow-up in family nutrition and home garden planning for nutrition

[Activity 3]. Forming beds and planting seeds workshop and follow-up

Alternatives:

[Activity 4]. Workshop on establishment of fish ponds/aquaculture and follow up

[Activity 4]. Workshop on small livestock (poultry, rabbits, guinea pigs) and follow up

Health and Community Awareness Program: Local Community Health Practitioners [Solution to underlying cause: **few health facilities and little knowledge of medical know how**]:

[Activity 1]. Community-based workshop and survey with community members to identify their knowledge health issues (consciousness raising).

[Activity 2]. Develop partnership with community health center expert (specialty NGO? Government?) to develop a plan and training program

[Activity 3]. Community workshop to receive feedback on health centers and facilities

[Activity 4]. Building/retrofitting health center and facilities

[Activity 5]. Training of local community health practitioners

[Activity 6]. Provide 12 months of follow-up, regular professional support, and regular supplies

Community Health Center Program [Solution to underlying cause: **lack of knowledge of health, hygiene, and nutrition**]:

[Activity 1]. Consciousness-raising workshop on the benefits of having a community health center

[Activity 2]. Facilitate the formation of a community-based health center management committee

[Activity 3]. Partner with an NGO/governmental organization with experience in training community-based health workers

[Activity 4]. Establish physical location of health Center

[Activity 5]. Solicit volunteers for receiving training and managing the health center

[Activity 6]. Establish fee structure for visitors to the health Center

Community-Based Solid Waste Management Program [Solution to cause: **poor solid waste management polluting standing water**]

[Activity 1]. Facilitate the formation of a community-based solid waste management committee

[Activity 2]. Community-based mapping of flow of solid waste

[Activity 3]. Composting workshop

[Activity 4]. Why recycling workshop

[Activity 5]. Establish a recycling center in the community

[Activity 6]. Develop a program for community members to separate waste from recycling materials, and to sort recycling products

[Activity 7]. Advocacy campaign to authorities for assistance in improving solid waste management

[Activity 8]. Design of plan for solid waste management and plan for implementation

INCOME GENERATION

[Problem 2]. Lack of livelihood opportunities.

Alternative Income Generation Program [solution to underlying cause: **Reduced need for land workers**]:

[Activity 1]. Facilitate the organization of a community based Income Generation Committee

[Activity 2]. Survey local/regional businesses and markets in order to determine products/services they need on a routine basis

[Activity 3]. Establish a market link and ask the business for their support in vocational training programs to develop the products/services they need

[Activity 4]. Using this input, launch vocational training workshops on building local capacity for new products and services for new markets

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Financial Literacy Program for Multicultural Women Entrepreneurs (solution to underlying cause of Lack of access to funds and poor knowledge of financial basic skills and Canadian financial system)

[Activity 1]: Budgeting and savings training course

[Activity 2]: Personal budget and saving plan creation

[Activity 3]: Creation of self-help-savings groups and monitoring

DISASTER RISK REDUCTION AND PREPAREDNESS

[Problem 3]: Insufficient resources and capacities to prepare for and respond to the consequences of recurring floods

Community-Based Disaster Preparedness and Risk Reduction Program [solution to underlying cause: Increase in the frequency and severity of floods triggered by the climate change]:

[Activity 1]: Community-based workshop and survey with community members to identify their knowledge of risk, vulnerability, and traditional coping techniques.

[Activity 2]: Organization of a community Disaster Preparedness and Risk Reduction Committee

[Activity 3]: Training program for committee leaders

[Activity 4]: Community workshop on hazard data collection and risk assessment techniques such as participatory mapping, Participatory Vulnerability and Capacity Assessments (consciousness raising)

[Activity 5]: Community workshop on risk reduction, prevention of, preparedness for and responses to disasters.

[Activity 6]: Program on access to timely and reliable information and forecasts on the possible occurrence of natural calamities.

[Activity 7]: Disaster Preparedness and Risk Reduction Committee develops a risk reduction and disaster preparedness plan

[Problem 3]. Flood

Community-Based Flood Mitigation and Adaptation Program [Solution to underlying causes: Climate variability, rise in sea level and floods]:

[Activity 1]: Community-based workshop and survey with community members to identify their knowledge of risk, vulnerability, and traditional coping techniques for floods.

[Activity 2]: Form Flood Preparedness and Risk Reduction Committee to coordinate activities during flood disaster

[Activity 3]: Training program for committee leaders

[Activity 4]: Community workshop on hazard data collection and risk assessments techniques such as participatory mapping, Participatory Vulnerability and Capacity Assessments (consciousness raising)

[Activity 5]: Community workshops on participatory flood early warning and flood contingency planning.

[Activity 6]: Program on access to timely and reliable information and forecasts on the possible occurrence of natural calamities

[Activity 7]: Community workshop and training on life saving skills

[Activity 8]: Community workshop and training on water hygiene

[Activity 9]: Flood Preparedness and Risk Reduction Committee develops a risk reduction and flood and preparedness plan

[Problem 1]. Villagers are suffering from the impact of flash floods and landslides

Community-Based Flash flood and landslide prevention Program [Solution to underlying cause: Deforestation]:

[Activity 1]: Use of bio-engineering methods for slope stabilization and minimization of runoff on degraded land prone to landslide and flash flood

[Activity 1]: Training

[Activity 1]: Field implementation and follow-up

ADVOCACY

Advocacy Program for Government Flood Response Support [solution to underlying cause: Lack of knowledge and support on the ways to claim for compensation for the damages]:

[Activity 1]: Facilitate the organization of a community Advocacy Program committee (and feasible activities to do by the community)

[Activity 2]: Consultation with advocacy expert to develop a participatory process and committee training program

[Activity 3]: Advocacy Program committee develops an advocacy plan in order to work together with the authorities on the provision of basic flood response support.

[Activity 4]: Advocacy program: Make an official claim to the local authorities asking to include on the budget the provision of basic flood response support

Advocacy Program for Government/INGO Housing Support [solution to underlying cause: Lack of knowledge and support on the ways to claim for compensation for the damages]:

[Activity 1]: Facilitate the organization of a community Advocacy Program committee (and feasible activities to do by the community)

[Activity 2]: Consultation with advocacy expert to develop a participatory process and committee training program

[Activity 3]: Advocacy Program committee develops an advocacy plan in order to work together with the authorities on the provision resilient housing.

[Activity 4]: Advocacy program: Make an official claim to the Government/INGO authorities asking to include on the budget the provision of resilient housing

Land Rights Program [Solution to underlying causes: Lack of secure rights to land; Poor land policies and laws in place to protect the poor indigenous people]

[Activity 1]: Workshop on procedures of land acquisition

[Activity 2]: Awareness programs on importance of developing pro poor land laws and policies

[Activity 3]: Facilitate the organization of a community Advocacy Program committee

[Activity 4]: Advocacy Program committee develops an advocacy plan in order to work together with the authorities

[Activity 5]: Advocacy program: Make an official claim to the local authorities asking for assistance in Land Rights

FORESTRY

Participatory Forest Management Program [Solution to underlying causes: forest encroachment and poaching]:

[Activity 1]: Workshop & follow-up on consciousness raising about environmental services and forest stewardship

[Activity 2]: Facilitate the formation of a participatory forest management committee

[Activity 3]: Community workshop on participatory mapping of water resources and uses (consciousness raising)

[Activity 4]: Development of Participatory Forest Management Plan

[Activity 5]: Assessment of appropriate species for planting and locations for planting

[Activity 6]: Establish tree-seedling nursery

[Activity 7]: Workshops to plant trees in strategic areas

[Problem 2]. River erosion

Participatory Community Afforestation Program [Solution to underlying causes: cutting of trees and river sedimentation and sea level rise]:

[Activity 1]: Workshop and consciousness raising about environmental services, participatory community afforestation, and forest stewardship

[Activity 2]: Participatory forest management committee formation

[Activity 3]: Development of Participatory Forest Management Plan

[Activity 4]: Assessment of appropriate species for planting and locations for planting

[Activity 5]: Forming groups for establishment and management of tree nurseries, planting seeds workshop and follow-up

[Activity 6]: Planting trees along the riparian zones, catchment rehabilitation, protection and conservation

[Activity 7]: Riparian/riverbanks soil stabilization, dyke construction and rehabilitation

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Agroforestry Income Generation Program [Solution to underlying causes: Declining soil fertility and lack of income generation opportunities]:

- [Activity 1]. Introduction of community members to agroforestry concepts
- [Activity 2]. Survey local/regional businesses that buy and sell agroforestry agricultural produce in order to determine products they need on a routine basis
- [Activity 3]. Establish a market link and ask the businesses for their help in training programs for farmers to grow the products they need
- [Activity 4]. Using this input, launch training workshops on improved agroforestry/agricultural practices for these new crops/products
- [Activity 5]. Deliver seeds
- [Activity 6]. Establishment of village tree nursery

[Problem 1]. High unemployment rate

Non-Traditional Forest Products Skills and Microenterprise Program [Solution to underlying cause: lack of Microenterprise skills and market opportunities]:

- [Activity 1]. Introduction of community members to NTFP concepts
- [Activity 2]. Facilitate the formation of a participatory community NTFP committee/association formation
- [Activity 3]. Non-timber forest products and markets assessment
- [Activity 4]. Association sales and marketing strategy
- [Activity 5]. Participatory vocational skill needs analysis
- [Activity 6]. Non-timber forest products skills development training program
- [Activity 7]. Microenterprise skills development workshops

[Problem 2]. Reduction in vital environmental services of the forest in providing food, medicine and water catchment

REDD+ with Forest Stewardship program [Solution to underlying causes: forest encroachment and poaching]:

- [Activity 1]. Workshop & follow-up on consciousness raising about environmental services and forest stewardship; forest buffer zone and wildlife protection
- [Activity 2]. Participatory community forest stewardship committee formation
- [Activity 3]. Assessment of appropriate monetization programs for environmental services - rewards and incentives scheme for forest stewardship and buffer zone workshop and follow-up
- [Activity 4]. Committee plan for participating in monetization program

[Problem 3]. Low productivity of food and tree crops (cocoa and banana) in an agroforestry system

Climate Smart Agroforestry, Farmer Soil and Water Conservation Program [Solution to underlying causes: Climate variability, extreme weather, unpredictable rainy season and prolonged drought have reduced crop harvests of cocoa and banana]:

- [Activity 1]. Farmer workshop on soil restoration and conservation techniques in an agroforestry system
- [Activity 2]. Farmer workshop on water conservation and management techniques in an agroforestry system

COASTAL CHALLENGES

[Problem 1]. Lack of a mangrove forest management plan

Mangrove Forest Management Program [Solution to underlying causes: lack of alternative energy source]:

- [Activity 1]. Facilitate the organization of a community-based Forest Management Committee
- [Activity 2]. Workshop on alternative energy sources and the importance of mangroves to the health of their fisheries
- [Activity 3]. Mapping and Identifying degraded mangrove systems
- [Activity 4]. Launching a localized program for restoration of degraded mangroves and mangrove afforestation

[Problem 1]. Increasingly stressed mangrove ecosystem

Mangrove protection Program [Solution to underlying causes: variable weather patterns and rising sea levels]:

- [Activity 1]. Workshop on community involvement for mangrove's restoration or reforestation
- [Activity 2]. Facilitate the organization of the community-based mangrove forests management committee
- [Activity 3]. Mangrove's restoration (by a "put into action" workshop)

[Problem 1]. Increasing erosion of shoreline caused by increase wave actions

Coastal Ecosystem based adaptation program [Solution to underlying cause: wave impacts at high tide and rising sea level]

- [Activity 1]. Workshop on values of the ecosystem as natural buffers and coastal processes
- [Activity 2]. Land use management workshop and follow up
- [Activity 3]. Workshop on habitat restoration technique - mangroves and artificial reefs
- [Activity 4]. Coastal management planning workshop and follow up

[Problem 1]. Diminishing amount of fish catch

Sustainable Fishing Program [Solution to underlying cause: indiscriminate mechanized fishing]:

- [Activity 1]. Facilitate the organization of a community-based committee for improved fishing and disaster management
- [Activity 2]. Advocacy/Awareness program among legislators against indiscriminate fishing and need for stringent regulations against mechanized fishing by big trawlers
- [Activity 3]. Awareness raising and data collection workshop on the benefit of sustainable fishing with pilot group
- [Activity 4]. Training workshops on specific techniques for increasing the fishing catch sustainably

[Problem 1]. Decline in income

Strengthening local community managed rules related to net size, time and distance to be travelled in sea, type of fish to be caught [Solution to underlying cause: a reduction the fishermen's fish catch]:

- [Activity 1]. Focus Group Discussions with the traditional institutions of community to establish resource management rules
- [Activity 2]. Participatory community fishing stock stewardship committee formation
- [Activity 3]. Training for local fishing authority on importance of surveillance for sustainable resource management
- [Activity 4]. Production and distribution of an informational flyer.

Improving fishermen capacity for commercial activities [Solution to underlying cause: needing to work through a middleman to reach the local market]:

- [Activity 1]. Participatory community fish sales and distribution committee/association formation
- [Activity 2]. Fish products and markets assessment
- [Activity 3]. Association sales and marketing strategy
- [Activity 4]. Installation and training on maintenance of a community owned cold storage facility

[Problem 1]: Depletion of traditional fishing stock -- fish and octopus

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Fisheries management program [Solution to underlying cause: Overfishing and destructive fishing]

[Activity 1] Facilitate the organization of a community-based fisheries management committee

[Activity 1] Launch an advocacy campaign with local authorities for the Designation of a marine protected area & an update to fishing area zoning

[Activity 2] Community based marine resource management training, including information on destructive and improved fishing practices

SOCIAL PROGRAMS

Community Youth Activity Program [solution to underlying cause: leadership institutions / community groups]:

[Activity 1]. Community consciousness-raising meeting on the importance of activities for youth in the community

[Activity 2]. Facilitate the organization of a community youth activity committee or subcommittee

[Activity 3]. Youth town-hall meeting to identifying activities and a place for holding them.

[Activity 4]. Develop a plan for funding, organizing, and maintaining youth activities