Organization of American States

Technical and Financial Project Proposal Template

Name of the Organization: Nicoya Peninsula Waterkeeper -NPWK	**Type of Organization:** NGO, Non for profit
Brief Description of the Organization: Nicoya Peninsula Waterkeeper -NPWK is a non for profit organization working for clean water in the Southern end of the Nicoya Peninsula, on Costa Rica's Pacific Coast. Nicoya Peninsula Waterkeeper is a member of the Waterkeeper Alliance (www.waterkeeper.org), a global network of over 200 Waterkeeper Organizations founded in 1999 by Robert F. Kennedy Jr. advocating for swimmable, drinkable, fishable waterways worldwide. NPWK's mission is to monitor, protect and restore water quality in the coastal watersheds and marine ecosystems between the Cabo Blanco Absolute Nature Reserve and the Caletas-Ario National Wildlife Refuge through research, field work, education and advocacy. NPWK implements innovative and sustainable programs in 4 main action lines: 1. Water quality monitoring; 2. Pollution mitigation and restoration of threatened aquifers; 3. Community education and awareness raising; 4. Law enforcement. Nicoya Peninsula Waterkeeper encourages long-lasting solutions benefitting marine life, local communities, and coastal economies while contributing to community empowerment regarding conservation, sustainable development and equitable use of water.	
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Project title: Promoting waste management best practices in the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo	
Project Objective: Improve solid and liquid waste management through the implementation of waste management best practices and thorough community education. **Expected outcomes:** • Sustainable waste water treatment system (biogarden and septic system) in the community's center as an educational community hands-on model; • Grease treatment and collection system created and functioning; • Anaerobic community-managed biodigestor built and functioning; • Recycling and organic waste composting stations built and functioning; • Educated community regarding waste management best practices.	
Target Population: The project targets the entire population of the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo in the southern end of the Nicoya Peninsula in the Pacific Coast in Costa Rica rising to approximately 5.000 persons.	
Amount Requested in USD: $40.000	**Project Duration in Months:** 8 months

2. Project Summary:

Nicoya Peninsula Waterkeeper works on the coastal environment between the Cabo Blanco Reserve and the Caletas-Ario Wildlife Refuge on the Southern end of the Nicoya Peninsula on Costa Rica's Pacific Coast. This is a beautiful highly rated touristic destination for its stunning beaches, surfing, yoga, relax and fun.

The coastal towns of Mal País, Santa Teresa, Hermosa, and Manzanillo have an approximate population of 5.000 inhabitants with an estimation of 11.000 tourists visiting the area per year. Pollution in these coastal towns is, to a great extent, due to inappropriate solid and liquid waste management: lack-of or inappropriate water treatment systems, draining of black and grey waters directly into the ground and/or nearby streams, rapid, uncontrolled and under-regulated urbanization which has generated pressure over the area's natural resources, and lack of community education regarding waste management.

A considerable amount of houses and businesses in these communities have deficient water treatment systems: many of them do not have grease traps; others have grease traps but are designed incorrectly; many others do have grease traps and well-designed systems but don't know where to dispose of the waste coming out of their grease traps when they clean them (there is no facility in the area that treats this type of waste). All this grease is ending up in the water polluting it or in the communitarian dump generating greenhouse effect gases. A big part of the population is not aware of the damage this is causing, to the environment, to our health and to the communities' income generation capacities of these tourism-dependent towns. Lack of education and awareness of how anthropogenic activities are harming the environment and causing climate change closes this pollution cycle.

This context motivated us to take action and promote changes correcting existing pollution practices showing the community that environmentally respectful practices exist and are available for everyone to implement. We promote behaviour changes that benefit present and future generations and all the beautiful invaluable natural resources that surround us.

This Project aims at improving solid and liquid waste management in the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo. We will achieve this by:

- Promoting sustainable waste water management in the Communitarian Center through the creation of a biogarden (to treat greywater) and an efficient septic tank (to treat blackwater) as educational hands-on models;
- Building a community-managed biodigestor which will create biogas out of the grease coming from the local restaurants grease traps which will feed the Community Center's cafeteria;
- Promoting sustainable solid waste management through recycling and composting of organic waste;
- Carrying out intensive community education and awareness raising regarding waste management best practices.

The Project targets the entire population of the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo in the southern end of the Nicoya Peninsula in the Pacific Coast in Costa Rica rising to approximately 5.000 persons.

The expected outputs of the Project include:

- Sustainable waste water treatment system (biogarden and septic system) in the community's center as an educational community hands-on model;
- Grease treatment and collection system created and functioning;
- Anaerobic community-managed biodigestor built and functioning;
- Recycling and organic waste composting system created and functioning;
- Educated community regarding waste management best practices.

2.b Resumen del Proyecto

Nicoya Peninsula Waterkeeper trabaja en las comunidades costeras entre la Reserva Natural Absoluta de Cabo Blanco y el Refugio Mixto de Vida Silvestre Caletas-Ario en el sur de la Península de Nicoya en el Pacífico costarricense. Éste es un destino turítico de gran renombre por su belleza escénica, sus playas, el surf, el yoga, relax y diversión.

Los pueblos costeros de Mal País, Santa Teresa, Hermosa y Manzanillo cuentan con una población aproximada de 5.000 habitantes y un estimado de 11.000 turistas que visitan la zona durante el año. La contaminación en estos pueblos costeros se debe en gran medida al manejo inapropiado de los desechos sólidos y líquidos, a la falta de sistema de tratamiento de aguas residuales, drenaje de aguas negras y grises en el suelo y/o ríos cercanos, urbanización rápida, descontrolada y sin regulaciones que ha generado gran presión en los recursos naturales del área y por último, falta de educación comunitaria sobre el manejo sostenible de los desechos.

Una cantidad considerable de las casas y negocios en estas comunidades tienen sistemas de tratamiento de aguas que no funcionan eficientemente: muchos de ellos no cuentan con trampas de grasa; otros tienen trampas de grasa pero mal diseñadas; otros tienen trampas de grasa y sistemas bien diseñados pero no saben cómo deshacerse de la gasa que sale de las trampas de forma sostenible (no hay en la zona opciones de desecho sostenible de las grasas). Toda la grasa termina actualmente en el botadero municipal, infiltrándose en el suelo, el agua y generando gases de efecto invernadero. Una gran parte de la población no está consciente del gran daño que esto genera para el medio ambiente, para nuestra salud y para la estabilidad económica de pueblos que dependen del turismo como su mayor fuente de ingresos. La falta de educación y de concientización de la población sobre cómo las actividades antropogénicas están dañando el medio ambiente cierran este ciclo nefato de contaminación.

Este contexto motivó a Nicoya Peninsula Waterkeeper a tomar acción y promover cambios que enseñen a la población que existen prácticas respetuosas del medio ambiente y que son accesibles para que todos las implementemos en nuestras casas y negocios. Queremos promover cambios de comportamiento que beneficien a generaciones presentes y futuras así como a los recursos naturales que nos rodean.

Este Proyecto pretende mejorar el manejo de desechos sólidos y líquidos en las comunidades costeras de Mal País, Santa Teresa, Hermosa y Manzanillo. Lograremos esto:

- Promoviendo el manejo sostenible de desechos en el Salón Comunal por medio de la creación de una biojardinera (que tratará aguas grises) y la instalación de un tanque séptico eficiente (que tratará aguas negras) como modelos prácticos educativos;
- Construyendo un biodigestor administrado por la comunidad que generará biogás a partir de la grasa proveniente de los restaurantes locales el cual alimentará la cocina del Salón Comunal;
- Promoviendo el manejo sostenible de desechos sólidos a través de reciclaje y de creación de abono a partir de desechos orgánicos;
- Llevando a cabo educación comunitaria y sensibilización intensiva acerca de mejores prácticas de manejo de desechos.

El Proyecto está diseñado para beneficiar a toda la población de las comunidades de Mal País, Santa Teresa, Hermosa y Manzanillo en el sur de la Península de Nicoya e la Pacífco costarricense que se estima en 5.000 habitantes.

Los productos esperados del Proyecto son:

- Sistema sostenible de tratamiento de aguas residuales (biojardinera y Sistema séptico) en el Salón Comunal como modelos educativos para la comunidad;
- Sistema de recolección y tratamiento de grasas creado y funcionando;
- Biodigestor anaerobio administrado comunitariamente construido y funcionando;
- Sistema de reciclaje y de compostaje de materia orgánica creado y funcionando;
- Comunidad educada sobre mejores prácticas de manejo de desechos.

3. Organization's Experience (300 words or less)

Nicoya Peninsula Waterkeeper is a member of the Waterkeeper Alliance (www.waterkeeper.org), a global network of over 200 Waterkeeper Organizations dedicated to cleaning up rivers, lakes and coasts through grassroots action. Founded in 1999 by Robert F. Kennedy Jr., the vision of the Waterkeeper Movement is for swimmable, drinkable, fishable waterways worldwide.

Nicoya Peninsula Waterkeeper is a non for profit organization working for clean water in the Southern end of the Nicoya Peninsula, on Costa Rica's Pacific Coast whose mission is to monitor, protect and restore water quality in the coastal watersheds and marine ecosystems between the Cabo Blanco Absolute Nature Reserve and the Caletas-Ario National Wildlife Refuge through research, field work, education and advocacy.

Nicoya Peninsula Waterkeeper's vision is to have fully functioning ecological, biological and hydrological aquatic ecosystems in the ocean and the coastal watersheds. We want these watersheds' water quality and scenic beauty maintained and restored for future generations to benefit from and enjoy. We establish broad-based community support aiming at fostering community responsibility for good stewardship of these aquatic resources. We fill a critical niche in the coastal area as the watchdog, steward, and voice of the ocean and coastal watersheds.

Nicoya Peninsula Waterkeeper has four **main action lines** to achieve its objectives:
1. Water quality monitoring;
2. Pollution mitigation and restoration of degraded riparian areas;
3. Water education and awareness raising;
4. Advocacy and law enforcement.

Nicoya Peninsula Waterkeeper has established collaborative working relations with the relevant government institutions, universities and other NGOs on a local and national level, as well as with community leaders. Nicoya Peninsula Waterkeeper is a member of the Global Water Partnership GWP (www.gwp.org), international network of organizations working towards integrated water resource management.

4. Project Narrative Description (Maximum 12 pages):

4.1. Rationale:

The coastal towns of Mal País, Santa Teresa, Hermosa, and Manzanillo have an approximate population of 5.000 inhabitants with an estimation of 11.000 tourists visiting the area per year. Pollution in these coastal towns is, to a great extent, due to inappropriate solid and liquid waste management: lack of or inappropriate water treatment systems, draining black and grey waters directly into the ground and/or nearby streams, rapid, uncontrolled and under-regulated urbanization which has generated pressure over the area's natural resources.

Costa Rica has international reputation for natural resources conservation. Nevertheless, the country is lagging behind regarding residual water management with only 5% of residual water receiving the appropriate treatment. Costa Rica dropped from position number 5 in 2013 to position 54 in 2014 on the Environmental Development Index EPI published every two years by the University of Yale due to the inclusion of indicators regarding residual water management and pesticide use.

Deficient water treatment is a problem that extends to and aggravates in coastal areas. Polluted waters not only flow in the streams and into the ocean but they also drain into people's wells which some use as only source of "potable" water. People seem not be aware of the fact that current bad management

practices are polluting the water we drink and swim in. Lack of education and community awareness aggravates the situation.

A considerable amount of houses and businesses in this zone have deficient water treatment systems: many of them do not have grease traps; others have grease traps but are designed incorrectly; many others do have grease traps and well-designed systems but don't know where to dispose of the waste coming out of their grease traps when they clean them (there is no facility in the area that treats this type of waste). All this grease is ending up in the water polluting it or in the communitarian dump generating greenhouse effect gases. A big part of the population is not aware of the damage this is causing, to the environment, to our health and to the communities' income generation capacities of these tourism-dependent towns. Lack of education and awareness of how anthropogenic activities are harming the environment and causing climate change closes this pollution cycle.

Regarding solid waste, Santa Teresa, Mal País and parts of Hermosa have a Municipal garbage collection and waste management service which started on 2011. The other towns hire private garbage collection, burn their trash, or dispose of it in the nearest river.

Coastal waters also suffer from solid wastes flowing in by the rivers or washing up from offshore mainly during the rainy season (May-October). It is important to note that in the case of rivers with long extension not all the solid wastes that wash up are produced or discarded by the coastal communities, they come all the way from inland.

This Project has been designed for coastal communities which are highly dependent economically on the tourism sector. The scenic beauty and natural resources in the area are the main attraction. The community needs to be aware of the fact that by polluting, they are currently destroying their very own source of income.

This Project will work in collaboration with other local initiatives with similar objectives, namely the local Tourism Chamber, the local Wellness Association and recognized community leaders.

In order to face the situation described above, this Project intends to improve solid and liquid waste management and to increase the community's knowledge about sustainable waste management practices.

The Project will design and build a **sustainable water treatment system** for the Community's Center. This system will include a biogarden to treat greywater and an efficient septic tank which will treat blackwater.

The Project will also address an essential environmental and health problem. As stated above, wastes from grease traps are not being handled properly. The Project proposes the creation of a community-managed biodigestor. With Project's funds and with the technical expertise of VIOGAZ, a company with the appropriate knowledge in the matter, we will build a **biodigestor**. The restaurants in these coastal communities will feed the biodigestor which will digest this waste anaerobically producing biogas which will feed the Community Center's cafeteria. The biodigestor will not only solve the current problem of lack of possibilities of proper disposal of grease waste, but will also provide gas for social interest activities, it will decrease the emission of greenhouse effect gases in the dumpster (where the grease would have ended otherwise) and will decrease pollution of natural resources, one of the main attractions for tourists that visit this highly tourism-dependent area and it will create jobs as the system needs a person who's in-charge of collecting grease, feeding the biodigestor and providing periodic maintenance.

A recycling and a composting of organic waste station will be built at the Center as well, **improving solid waste management**.

These improvements will not only provide the Center with efficient solid and liquid waste management systems but will also be used as educational hands-on examples so the community's population can learn

about these topics and implement them in their own houses and businesses. Individual commitment is needed to protect the community's resources, thus education and awareness raising are essential for the Project's success.

4.2. Baseline:

The Project has been designed for coastal communities which depend highly on tourism as source of income. These coastal communities have developed very quickly during the past decade in an under-regulated uncontrolled way lacking proper waste liquid and solid waste management systems. Furthermore, the population is not used to considering appropriate waste handling as a common responsibility.

The community center does not have a water treatment system so the Project intends to build a biogarden to treat greywater and a septic tank to treat blackwater. These will be a practical model for members of the community to learn how they can do these at home or in their businesses.

There is no appropriate way of disposing of waste coming out of grease traps from houses and restaurants. There are approximately 130 restaurants in the coastal area; 35% of these are small, 38% medium sized; and 27% are big with a total production of approximately 10.200 served dishes per day. As stated before, local businesses do not have adequate possibilities of appropriately disposing of the waste coming out of their grease traps which ends at the local dumpster potentially polluting the ground, water resources, and generating greenhouse effect gases. So the Project will create a biodigestor which will feed out of the grease, will generate biogas to be used by the Communitarian Center, will create jobs for the people in-charge of collecting grease from hotels, feeding the digestor and providing it with maintenance, will reduce natural resource pollution and will serve as an educational tool for the community to learn from "innovative" sustainable ways of disposing of waste.

The community's involvement in recycling and knowledge on composting of organic waste is rather low so the Project will build a recycling and a composting of organic waste station which will serve as educational tools teaching people how to recycle and how to compost.

The community, which rises up to approximately 5.000 inhabitants, is not aware of the importance of protecting natural resources so the Project will educate and raise general awareness on important sustainability topics.

4.3. Project Goals and Purpose:

4.3.1 Goal: Protect natural resources through the reduction of solid and liquid pollution in the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo.

4.3.2. Purpose: Improve solid and liquid waste management through the implementation of waste management best practices and thorough community education.

4.4. Project Outputs and Indicators:

4.4.1 Sustainable waste water management promoted in the communitarian center through the creation of a biogarden to treat greywater and an efficient septic tank to treat blackwaters;

Indicators:

- One biogarden built;
- One efficient septic system built.

4.4.2 Anaerobic biodigestor built and managed by a communitarian Committee;

Indicators:

- 1 anaerobic biodigestor built and functioning;
- Existence of grease collection & treatment system covering 35% of the food industry in the area.

4.4.3 Sustainable solid waste management promoted through the creation of a recycling and organic waste composting station;

Indicators:

- Recycling station built;
- Organic waste composting station built.

4.4.4 Intensive community education and awareness raising regarding waste management best practices carried out.

Indicators:

- 600 people participate in the fair;
- 80% of restaurant owners aware about the importance of sustainable grease handling.

4.5. Project Activities and Methodology:

1. Sustainable waste water management promoted in the communitarian center through the creation of a biogarden to treat greywater and an efficient septic tank to treat blackwater

1.1 Design and build a biogarden

Through the implementation of eco-friendly low-cost technologies we want to improve liquid waste management in the Communitarian Center. Grey water coming from washbasins, showers and the cafeteria will be treated using a biogarden (also known as bio-filter or wetland). The water passes through an excavation, with an impervious cover, filled with stones and plants that will filter the waters. Once the water meets the quality standards, it can be used for irrigation or other purposes which do not require potable water. We will design and build a biogarden with the appropriate dimensions to treat the expected volumes of waste water.

1.2 Design and build septic system

Regarding black water, we will install an efficient septic system in the Communitarian Center since their current system is not built accurately.

1.3 Design and create educational visibility

With the construction of the biogarden and the septic system we aim at correcting inappropriate water sanitation practices but also we aim at educating the population regarding sustainable water management practices. Educational visibility signs will be placed at the biogarden and the septic system for people to see how they should be built, how they work and what to take into consideration when building one.

2. Anaerobic biodigestor built and managed by a communitarian Committee

2.1 Create a restaurant database

Nicoya Peninsula Waterkeeper carried out an initial assessment analyzing the biggest threats water faces in these communities. Inefficient waste water management was identified as one of the major threats, thus one of NPWK's main action priorities. There are approximately 130 restaurants, big, medium and small. With this Project we will create a restaurant database detailing if they have or not grease traps, the maintenance they give to them, what they do with the wastes coming out from them and their level of willingness to be part of a grease management system. This information will be essential as a basis for the accurate design of the biodigestor and the functioning of the grease collection and treatment system.

3.2 Carry out meetings with restaurant owners – managers to involve them in the system

It is essential that restaurant owners and/or managers know about the dynamic and functioning of grease traps, septic systems and in general about sustainable residual water management. A considerable amount of the restaurant owners/managers do not know how drainage and septic systems work and how residual water should be managed. Some businesses do not have grease traps or they do have them but designed incorrectly. Some others have them, they understand how they work but locally there is not a sustainable way of disposing of this grease. It ends up at the local dumpster generating greenhouse effect gases and potentially polluting the ground and water. So, we will meet with restaurant owners and/or managers to involve them in sustainable residual water management.

3.3 Promote implementation of grease traps in restaurants

We will encourage businesses in the food industry to implement grease traps correctly to protect water resources and to respect national laws. We will provide advice to businesses to correct their grease management. We want them to take responsibility for their polluting practices and to facilitate that they correct them.

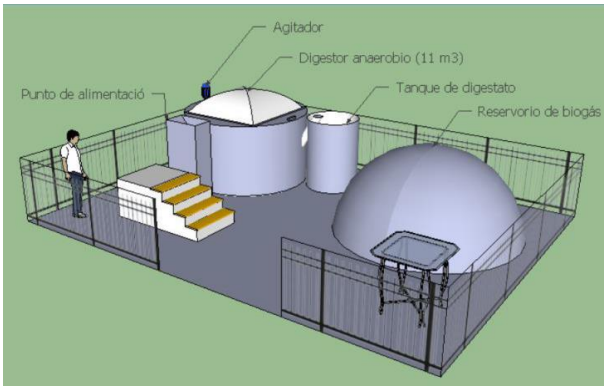
3.4 Train the person who will be in-charge of collecting the hotels' grease, feeding the biodigestor and providing maintenance to the system

It is crucial to thoroughly train the person who will be in-charge of collecting the grease, feeding the biodigestor and providing it with proper maintenance. He/she needs to know in detail how the biodigestor Works and the dynamics of the system. He/she will be in-charge of the daily functioning of the system and will alert the Management Committee when/if something is not working properly.

For operational purposes, the creation of a business matrix with the information of the involved businesses is necessary. A grease collection route in the 4 communities will be designed according to the volume and each business characteristics.

3.5 Design biodigestor with the accurate dimension and capacities according to expected volume

The process starts with the selection of the appropriate location for the biodigestor. We have permission to build the biodigestor next to the Community Center in the heart of Santa Teresa, near the school, high school and soccer field. This land is currently administered by the Asociación Probienestar, local nonprofit, who is aware of the need and support this Project.



Once location is selected, engineers from the Company VIOGAZ, which will be subcontracted to design and build the biodigestor, will proceed with the design's math regarding grease production projections coming from the grease traps of the involved food sector businesses. They will then list the necessary materials and equipment according to the design. Preliminary estimations indicate a capacity of 3.1 m^3 with a 75 day hydraulic retention time.

3.6 Build the biodigestor and adapt for gas usage

All the due permits will be obtained from the relevant institutions to start the construction phase. The land is then prepared to start building the structure, installing the biodigestor and the effluent reception tank. Then the roof will be built, the protection fence, electric and water installation, heating system and agitation unit and finally the digestor's cover. The biogas reservoir and equipment will be installed. Once built, the pipes conducing the gas to the Communitarian Center's kitchen will be installed as will be any adaptations needed for the system to be functional. All the system will go through a process of tests before its daily functioning starts.

3.7 Create the system's Management Committee

A Management Committee will be created to keep the system working properly and guarantee the system's sustainability after the Project's duration. This Committee will be composed by one representative of Nicoya Peninsula Waterkeeper, one representative of the Communitarian Center, 4 food industry's representatives (one per community) and one representative of the Ministry of Health.This Committee will be created at the beginning of the Project. Its members will be actively involved in the design and logistics of the grease collection system. A member of the community, previously trained and with vehicle, following a structured and detailed work plan, will be the person in-charge of collecting the greases from the involved restaurants. The work plan will include the collection route, periodicity of grease pick-up per restaurant, contact person at each restaurant. Each restaurant will have a bucket in which they will collect the grease from their grease traps and they will hand to the collector at pick-up. Once the pick-up is done, the collector will feed the biodigestor.

The Committee will decide on a cost for the grease collection service to be paid by the involved restaurants. This fee should be enough to keep the system going, pay a salary to the person in-charge (according to labor legislation parameters), and provide adequate maintenance to the biodigestor. The Management Committee has a key role to play in order to guarantee the proper functioning and sustainability of the system.

3. Sustainable solid waste management promoted through the creation of a recycling and organic waste composting station;

3.1 Design and build recycling station

Solid waste management is a big issue in these coastal communities. In 2011, Municipal garbage collection started for Mal País, Santa Teresa and parts of Hermosa; other communities burn their trash or dispose of it in nearby rivers or lots. We want to contribute to the area's solid waste management by encouraging people to reduce, reuse and recycle. We want all the population to know how to separate garbage and to understand the basics, the need and importance of recycling. We will install a recycling station with differentiated garbage bins in Santa Teresa's Communitarian Center.

3.2 Design and build composting station

We will build a composting station to produce compost from organic waste coming from the Communitarian Center. Composting is a natural recycling process that uses decomposition to break down organic waste—like food scraps, soiled paper, leaves, and grass. With the help of beneficial organisms, such as insects, worms, and bacteria, organic debris is decomposed to form a nutrient-rich soil enhancer. Compost will be used to fertilize gardens in a natural way avoiding the use of chemical fertilizers that pollute the ground and the water.

3.3 Design and create educational visibility

We will considerably improve the Community Center's handling of solid wastes while turning it into a solid waste management role model for the community to learn from sustainable solid waste management best practices and encouraging them to implement them at their houses and businesses.

4. Intensive community education and awareness raising regarding waste management best practices carried out.

4.1Carry out an educational fair for the general population of the coastal communities

An educational weekend fair will be organized in Santa Teresa's Community Center to show the community all the solid and liquid waste management best practices the Project created. It is essential that the community sees these improvements and understands how they work. We want to promote that the majority of them start adapting their households and their businesses to protect our natural resources. The fair will also include speeches on relevant topics as:

- Efficient residual water management systems for the general public;
- Efficient residual water management systems for local people in the construction business;
- Dynamics and general functioning of a biodigestor;
- Funcionamiento y utilidad de un biodigestor;
- Types of pollution and their effects on water and natural resources;
- Communitarian responsibility towards natural resource protection and sustainable use.

Experts will be invited so they can address these topics before the community. Sustainable products and services providers will also be invited to set up stands to offer their environmentally friendly products and services. Artistic and other recreational activities will be also held so that people will be attracted to the fair and see it as an interesting innovative event

We want this to be a fair in which we can show the community that environmentally friendly alternatives exist and that they are available for everyone to implement in their houses and businesses. We want everybody to be educated and aware of the current best practices regarding sustainable waste management. We want this fair to help change people's mentality and open up to new ways of doing things, new ways which respect and protect our natural resources.

4.6. **Logical Framework:**

Narrative Summary	Performance Indicators	Means of Verification	Assumptions/Risks
Goal Protect natural resources through the reduction of solid and liquid pollution in the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo	# of restaurants feeding the community-managed biodigestor. Reduction of grease going to the local dumpster Improvement in water quality	Project restaurant database NPWK's water quality monitoring data.	No other new major pollution issue starts in the zone.
Purpose Improve solid and liquid waste management through the implementation of waste management best practices and thorough community education	Blue Flag Program award (this program, measures water quality and solid waste management and gives the award to beaches which comply with sustainable standards)	Blue Flag Program database	Community interest and involvement
Outputs 1. Sustainable waste water management promoted in the communitarian center through the creation of a biogarden to treat greywater and an efficient septic tank to treat blackwaters 2. Anaerobic biodigestor built and managed by a communitarian Committee; 3. Sustainable solid waste management promoted through the creation of a recycling and organic waste composting station; 4. Intensive community education and awareness raising regarding waste management best practices carried out.	1 biogarden built; 1 efficient septic system built; 1 anaerobic biodigestor built and functioning; Existence of a grease collection and treatment system covering 35% of the food industry in the area; Recycling station built; Organic waste composting station built; 80% of restaurant owners aware about the importance of sustainable grease handling; 600 people participate in the fair.	Existence of biogarden; Existence of septic system; Existence of grease collection and treatment Management Committee; Existence of recycling station; Existence of organic waste composting station; List of restaurant participants in meetings; Pictures of the fair; List of participants in the fair; Project reports.	Good management of the project's workplan for objective achievement. Condition for success required to achieve the purpose and within control of the project management.

Activities 1.1 Design and build a biogarden 1.2 Design and build septic system 1.3 Design and create educational visibility 2.1 Create a restaurant database 2.2 Carry out meetings with restaurant owners – managers to involve them in the system 2.3 Promote implementation of grease traps in restaurants 2.4 Train the person who will be in-charge of collecting the hotels' grease, feeding the biodigestor and providing maintenance to the system 2.5 Design the biodigestor with the accurate dimension and capacities according to expected volume 2.6 Build the biodigestor and adapt for gas usage 2.7 Create the system's Management Committee 3.1 Design and build recycling station 3.2 Design and build composting station 3.3 Design and create educational visibility 4.1 Carry out an educational fair for the general population of the coastal communities	Budget for each output to be generated under the project (including co-financing) Output 1: $14.117 Output 2: $ 37.805 Output 3: $15.187 Output 4: $10.595	Project's periodical activity and financial reports.	Appropriate use and management of Project's resources; Positive response of the community.

4.7. Time frame / work plan:

Work Plan													
Activity	**Output**	**Months**								**Responsible**	**Indicator**	**Budget**	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**			**OAS Funds**	**Co-Financing**	**Total (US$)**
1. Sustainable waste water management promoted in the communitarian center through the creation of a biogarden to treat greywater and an efficient septic tank to treat blackwater												**5.465**	**8.652**	**14.117**
1.1 Design and build a biogarden	1 biogarden									NPWK	Existence of biogarden	2.276	2.914	5.191
1.2 Design and build septic system	1 septic system									NPWK	Existence of septic system	1.822	2.914	4.736
1.3 Design and create educational visibility	Visibility material									NPWK	Visibility material	1.367	2.823	4.191
2. Anaerobic biodigestor built and managed by a communitarian Committee												**23.535**	**14.270**	**37.805**
2.1 Create a restaurant database	Detailed restaurant database									NPWK	Existence of database	1.568	2.783	4.351
2.2 Carry out meetings with restaurant owners – managers to involve them in the system	Restaurants involved in the system									NPWK	Meetings' minutes	1.568	2.783	4.351
2.3Promote implementation of grease traps in restaurants	Restaurants with efficient grease traps									NPWK	35% of food industry covered by the system	1.568	2.783	4.351
2.4Train the person who will be in-charge of collecting the hotels' grease, feeding the biodigestor and providing maintenance to the system	Person in-charge capable of running the service									VIOGAZ	Person trained	1.568	2.783	4.351
2.5Design biodigestor with accurate dimension & capacities according to expected volume	Biodigestor's design									VIOGAZ	Existence of the design	1.881	178	2.060

2.6Build the biodigestor and adapt for gas usage	Biodigestor built									VIOGAZ	Existence of biodigestor	13.812	178	13.990
2.7Create and consolidate the system's Management Committee	Existence of Management Committee									NPWK	Existence of Management Committee	1.568	2.783	4.351
3. Sustainable solid waste management promoted through the creation of a recycling & organic waste composting station												**6.551**	**8.637**	**15.187**
3.1 Design and build recycling station	Existence of recycling station									NPWK	Existence of recycling station	2.451	2.868	5.319
3.2 Design and build composting station	Existence of composting station									NPWK	Existence of composting station	2.451	2.959	5.410
3.3 Design and create educational visibility	Visibility material									NPWK	Visibility material	1.650	2.809	4.458
4. Intensive community education and awareness raising regarding waste management best practices carried out												**4.448**	**6.147**	**10.595**
4.1 Organize an educational fair for the general population of the coastal communities.	Fair logistics									NPWK	Contacts with sustainable product services providers	1.719	3.053	4.772
4.2 Carry out the educational fair.	Fair									NPWK	600 persons attend the fair	2.729	3.094	5.823
Total:												**40.000**	**37.705**	**77.705**

4.8. Monitoring and Evaluation:

Monthly monitoring and Project follow-up meetings will be held with the Project's staff and Nicoya Peninsula Waterkeeper's Board to ensure that the Project is being carried out according to the work plan. These meetings are essential for orienting and adapting the evolution of the Project in case of unforeseen events.

A Management Committee composed by one Representative of Nicoya Peninsula Waterkeeper, the Community Center Manager, four Representatives from the food industry (one per coastal community: Mal País, Carmen, Santa Teresa and Hermosa) and a representative of the Ministry of Health) will be created to ensure the correct functioning of the biodigestor system during the life of the Project and once its financing is over.

4.9. Gender Sensitivity and Community Inclusiveness:

The Project has been designed not only to contribute to the improvement of solid and liquid waste management but as a means of generating valuable educational tools which will serve as hands on practical examples for the community members to learn about sustainable ways of disposing of their wastes. The Project is addressed and involves the whole community regardless of age, gender, social, economic or educational status.

The Project will include the participation of school teachers (most of them women) as knowledge multipliers. The majority of the population related to the food industry will be involved, of whom a considerable amount are women.

To ensure the sustainability of the biodigestor and its proper functioning, a Management Committee will be formed. This Committee will be composed by 1 representative of the food sector in each of the four communities, the Community Center's Manager (woman), and one Nicoya Peninsula Waterkeeper Representative (woman). So, gender equilibrium will be sought in this process as well.

4.10. Team Composition and Task Assignment:

Nicoya Peninsula Waterkeeper's (NPWK) team will look after the appropriate implementation of the Project. The Project's team is composed by two persons: one expert in design, management, monitoring and evaluation of international cooperation projects, who will be the Project Manager; and a biologist with ample experience in pollution mitigation and water resource conservation who will act as the project's technical support. Both their CVs are attached as annexes. Both have experience in project cycle management and respond to NPWK's Board of Directors. NPWK has an accountant who keeps the Organization's books in order.

Regarding the construction of the biodigestor, NPWK will contract VIOGAZ, a company with vast expertise in the design, construction and maintenance of anaerobic biodigestors. VIOGAZ was created as an initiative to promote anaerobic digestion technology as a renewable energy option. VIOGAZ strongly believes in producing energy from organic waste. A document with VIOGAZ's past experiences is attached.

4.11. CVs of Proposed Staff:

Please find the Project's staff CVs attached as annex #2.

5. Budget:

"Promoting waste management best practices in the coastal communities of Mal País, Santa Teresa, Hermosa and Manzanillo"						
Project objective: Improve solid and liquid waste management through the implementation of waste management best practices and thorough community education						
	Unit cost CRC	**Unit #**	**Total CRC**	**Total USD**	**Total OAS**	**Co-financing**
Project coordinator	1,375,000	8	11,000,000	20,000.00	-	20,000
Social security PC	467,500	8	3,740,000	6,800.00	-	6,800
Project technician	600,000	8	4,800,000	8,727	8,727	
Social security PT	297,000	8	2,376,000	4,320	4,320	
Office rental	260,000	8	2,080,000	3,782	-	3,782
Office costs (internet, phone, electric bill)	55,000	8	440,000	800	-	800
Computer	500,000	2	1,000,000	1,818	-	1,818
Total operational			**25,436,000**	**46,247**	**13,047**	**33,200**
1. Sustainable waste water management promoted in the communitarian center through the creation of a biogarden to treat greywater and an efficient septic tank to treat blackwater						
Build biogarden	800,000	1	800,000	1,455	1,273	182
Build septic system & drainage	550,000	1	550,000	1,000	818	182
Visibility and educational material	250,000	1	250,000	455	364	91
TOTAL 1			**1,600,000**	**2,909**	**2,455**	**455**
2. Anaerobic biodigestor built and managed by a communitarian Committee						
Transport for database survey and meetings	143	1,000	143,000	260	150	110
Meeting snack	40,000	4	160,000	291	200	91
Grease collection & digestor feeding equipment	500,000	1	500,000	909	909	
Design and legal paperwork biodigestor	379,830	1	379,830	691	691	
Construction advice biodigestor	379,830	1	379,830	691	691	
Per diem	137,500	2	275,000	500	500	
Materials and equipment	5,082,000	1	5,082,000	9,240	9,240	
Tubes	825,000	1	825,000	1,500	1,500	
Hand labor	1,689,600	1	1,689,600	3,072	3,072	
Maintenance	275,000	2	550,000	1,000	1,000	
TOTAL 2			**9,984,260**	**18,153**	**17,952**	**201**
3. Sustainable solid waste management promoted through the creation of a recycling and organic waste composting station						
Design and build recycling station	625,000	1	625,000	1,136	1,000	136
Design and build composting station	675,000	1	675,000	1,227	1,000	227
Design and create educational visibility	250,000	1	250,000	455	200	255
TOTAL 3			**1,550,000**	**2,818**	**2,200**	**618**
4. Intensive community education and awareness raising regarding waste management best practices carried out						
Transport meetings and fair	143	1,000	143,000	260	150	110
Meeting snack	45,600	4	182,400	332	221	111
Stands fair (chairs-tent- electricity)	650,000	1	650,000	1,182	1,182	
Educational & visibility material	250,000	1	250,000	455	345	100
Per diem speakers	100,000	3	300,000	545	445	100
Others	100,000	1	100,000	182	99	83
TOTAL 4			**1,625,400**	**2,955**	**2,441**	**504**
Mid-term and final evaluation	**1,500,000**	**1**	**1,500,000**	**2,727**	**-**	**2,727**
Sub-total			**41,695,660**	**75,810**	**38,095**	**37,705**
Administrative costs 5%					1,905	
TOTAL			**41,695,660**	**77,705**	**40,000**	**37,705**