Sustainable project

DESIGN GUIDE

2020

An initiative contributing

One planet
live with care

This material belongs to the project "Encourage young specialists to boost agri-food value chains and build sustainable business models"
And it was designed by

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Introduction

The project "Encourage young specialists to boots agri-food value chains and build sustainable business models" defines among its objectives to promote healthier lifestyles and enhance the agri-food value chain by developing sustainable business models and encouraging young specialists to build capacity together with rural Armenian communities.

Under this premise the following guide is born, which consists of a simple methodology that will support the design of sustainable projects. In addition to annexes that will facilitate the implementation of the various tasks. It is important to point out that this guide is a reference and can be adapted according to the context and the population.

It is expected that this tool will be a real support to ensure the sustainability of various projects. Such success requires appropriate design and participation of the communities through a process of joint construction of resistant socio-technical systems, in which the communities manage to appropriate the technologies that allow them to improve their living conditions in a lasting way over time.

Roles and responsibilities

To successfully introduce a project, the interest and commitment of the Stakeholders who will participate in the intervention is fundamental.

For this it is necessary to identify the roles and interferences that people will have during the development of the project. Having a transdisciplinary team, composed of technicians and local key actors (community, authorities, NGOs, etc.) will be fundamental to maintain the balance within the intervention.

The following Stakeholders can be identified within a project:

- Municipality and government
- Non-Profit Organizations
- Specialists and technicians
- Manufacturers and suppliers of clean technology
- The energy distribution companies
- Schools and Universities
- Social groups

Once the Stakeholders have been identified, they should be assigned their roles to ensure the smooth development and implementation of the intervention.

It should be noted that the description and identification of roles will vary according to the type of project, geography, population, etc.

Therefore, the following is a generic description of the main functions and responsibilities of the individuals or organizations that will participate in the project.

INTERESTED ORGANIZATION

A group of people who wish to implement a project to improve the quality of life within the community.

It is responsible for supporting the project coordination team in the decision-making process. Its members act as project advisors.

Members of the organization must have an authority to facilitate communication channels.

Other responsibilities include approving the objectives of the project, to ensure the availability of resources, support and promote the project within the organization.

COORDINATING TEAM

He is the project leader

He appoints the team members and organizes the work to make it effective.

He is responsible for supervising the execution of the project according to the established requirements by the organization concerned, so that the objective is met with the resources and in the predetermined times.

It manages the project team, for which it must have technical, personal and social skills appropriate.

TECHNICAL TEAM

It is composed of experts, such as: civil, mechanical, electrical, control and automation, structural and cost engineers, among others.

Execute the project according to the requirements established by the coordinating team, so that the objective is met with the resources and time Default settings.

Develops job specifications

It fulfills the function of technical counterpart of the project.

MANUFACTURERS AND SUPPLIERS OF CLEAN TECHNOLOGY

Manufacturers are included in the roles because of the expertise they have in their equipment technology. In some cases, the same supplier of the equipment provides the engineering service of the associated project.

OTHERS

Depending on the type and size of the project and the company there may be other actors. Some examples would be: auditor, investment companies, teachers, lawyers, etc.

Methodology

The proposed methodology is a transdisciplinary approach that considers, in addition to formal knowledge, local knowledge. It is necessary to emphasize that the methodology goes beyond social validation, since it involves the community from the beginning of project design, through the implementation and operation stage, to the final evaluation phase, betting on its active participation in relevant decisions during all phases of a project.

The objective is that the resulting product is elaborated and adjusted to local conditions, respecting their cultural, social, environmental and economic particularities, thus promoting the appropriation of the new socio-technical system generated.

The proposed methodology considers four stages, (1) Socio-technical diagnosis and team formation; (2) Design of the socio-technical system and sustainability plan; (3) Implementation and start-up, and (4) Operation, evaluation and dissemination.

The four phases, focus on knowledge and collaborative learning, considering a flexible design, involving both the specialists in charge of the initiative and the community to which the project is addressed.

PHASE 1

The socio-technical diagnosis and team formation, considers the development of several elements that allow to delimit a general framework of action, as much for the implementing technicians as for the organizations involved in the project.

First of all, it is necessary to define the technical margins, that is, to identify the elements that will remain flexible to change and those that must remain fixed due to the basic requirements of the projects.

Secondly, the work teams are formed and the functions are designated. Consider the previous chapter to identify the stakeholders and their responsibilities.

Thirdly, carry out a participative socio-technical diagnosis that allows the identification of critical conditions, whether socio-cultural, environmental, economic and technical for the implementation of the project, together with the elaboration of an initial proposal for the sustainable solution, considering alternatives of possible scenarios.

PHASE 2

The socio-technical design and sustainability plan, is installed as the most relevant and complex phase of the process: here the flexibility of the technical teams is tested in terms of openness to the local knowledge of the communities involved.

The expected result in this stage involves having a co-developed technical design, highly relevant to the local productive and cultural characteristics, the design of a management model that organizes the activities it intends to promote the solution and a sustainability plan that allows the project to be sustained in the long term.

The joint development of the design facilitates the appropriation of project by the communities involved, understanding the complexity of the technology used, the definition of the business model required to maintain project in time, among other relevant issues.

Once the characteristics of the socio-technical system, it also gives way to the joint elaboration of a sustainability plan for the system and a strategy is developed for implementation of the design.

PHASE 3

The implementation and start-up, the definitions established in the previous stage are put to the test. The project is developed taking into account the implementation strategy, considering the participation of the community in its different dimensions. Later, in its implementation phase, it is key to record the first impressions of the actors linked to the project, to make the necessary adjustments and adaptations, which allow a better adoption and operation of the technology. At the same time, it is in this stage where the trainings for the operation and maintenance of the socio-technical system is carried out (including technology manipulation and development of the management system).

PHASE 4

The operation, evaluation and diffusion, has as objective the self-learning of the installed socio-technical system; here the sustainability indicators are measured that will give as result the strategies and plans to continue with other processes.

At the same time, it is expected to implement dissemination strategies that connect the technological project with its local environment less close and with the regional environment, with the aim of promoting the replicability of the proposed energy solution in its territory, connecting the community involved with other similar experiences.

Although the stages are successive, it is necessary to clarify that the limits between them are not are rigid and that, on the contrary, must be adjusted according to the particular characteristics of the projects where it is used.

Phase 1	- Define the scope of the co-construction - Identify and define roles for work teams - Promote the knowledge of the project - Participatory diagnosis - Generate conditions to face the defined challenges
Phase 2	- Generate conditions for informed community participation in decisions. - Identify desired scenarios. - Define the characteristics of the socio-technical system: technological application and design of business and management model. - Planning the sustainability strategy of the project and its implementation.
Phase 3	- Implementation of the project with active community participation - Registration of first impressions during start-up - Development of technical and organizational capabilities for the management of the energy solution
Phase 4	- Monitoring of the operation - Evaluate the project according to indicators - Develop strategies to address weaknesses - Dissemination of the project

Summary table of objectives by phase

Example

The project "Encourage young specialists to boots agri-food value chains and build sustainable business models" was developed by the following team

Role	Name
Coordinating team	Armenian Women for Health and Healthy Environment
Technical team	Center Energy
Interested organization	Produced in Solak
Other	National Polytechnic University of Armenia

Once the team was formed. The socio-technical diagnosis of the community of Solak was started. In this instance the problem and theme were identified. For this specific project, the agri-food chain was addressed because it is desired to generate sustainable products that improve lifestyles

During phase two various solutions were presented. These proposals were described with their respective main technical and economic characteristics. Finally, after several meetings and evaluations, one was selected. The final proposal was detailed, presenting the methodology and specific calculations of the related technical and economic issues.

Phase 3 of the application and start-up, which ranged from the cleaning of the land to the installation of solar panels on the roof, replacement of the water pump, installation of new piping and electricity network, among others.

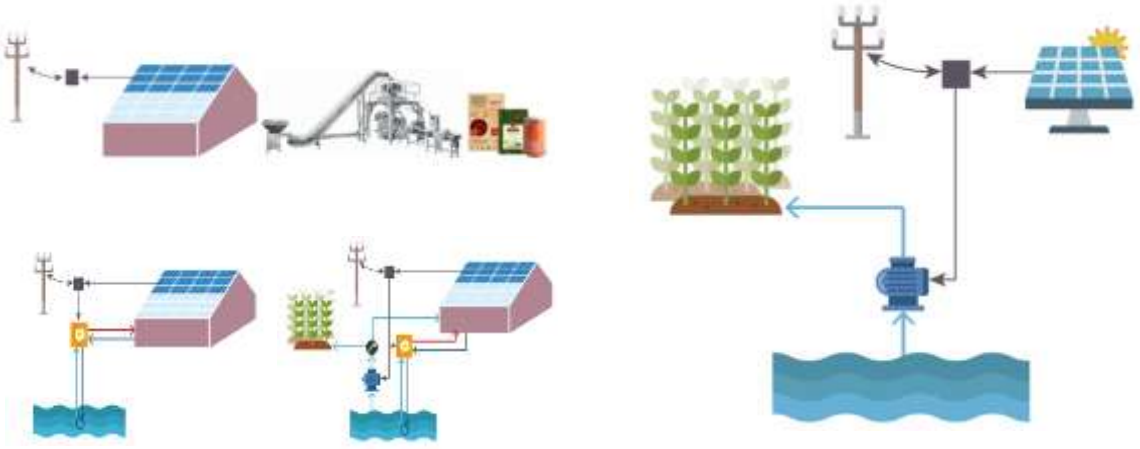
Finally, phase three considers a monitoring plan and different guidelines to continue improving the project both in its technical and economic part.

REMEMBER THAT ALL PROJECTS MUST BE SUBJECT TO LEGAL REVIEW, I.E., NATIONAL OR LOCAL REGULATIONS IN FORCE IN THE CORRESPONDING FIELD. FOR EXAMPLE, IN THIS PROJECT, WATER, CONSTRUCTION AND ELECTRICITY PERMITS WERE REVIEWED. FOR MORE INFORMATION CONTACT A CONSULTANT

Below are some images of the First Solak's Sustainable Irrigation Station process

visit to Solak

Working meetings with Community, Universities, AWHHE and CE



Proposed solutions: Packing room, Multi-functional space as greenhouse, Water pump and Greenhouse and Micropilot final solution "Sustainable Irrigation"

Before and after the sustainable irrigation project

Annex

CHECK LIST

GENERAL BACKGROUND

Participants' Contact Details	Organization	Coordinating team	Technical team
Social reason			
Identification number			
fantasy name / acronym			
name of person responsible			
Position			
ID			
Address			
Phone			
e-mail			
Site web			

PRODUCTION BACKGROUND

Sector / Activity	
Products produced / Task	
Production levels	
Operation regime	
Seasonality	
Energy consumption	
Other relevant aspects and problems related to the production process	

PROJECT DESCRIPTION

Location	
Current situation	
Problem/necessity	
Project name	
Relevant indicators	
Objective of the project	
Specifics objectives of the project	
General description of the project	
Schematic of the solution	
Technology description	
Calculation of the electricity demand	
Costs of the project	
Savings	
Project benefits (social, environmental and economic)	
Legal information	
Financial information	
Construction time	
Pictures	
Conclusion	
Source	

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