

# ECO-FRIENDLY AND SUSTAINABLE REFUGEE SETTLEMENTS

TÜBİTAK 2022

Hamzah Alhalabi  
Ribbal Zehra  
Ghita Elmtiouï  
Mahneen Sohail Khan



## PROBLEM

People fleeing impoverished nations to adjacent countries, such as refugees entering Turkey, wreak havoc on a country's environment.

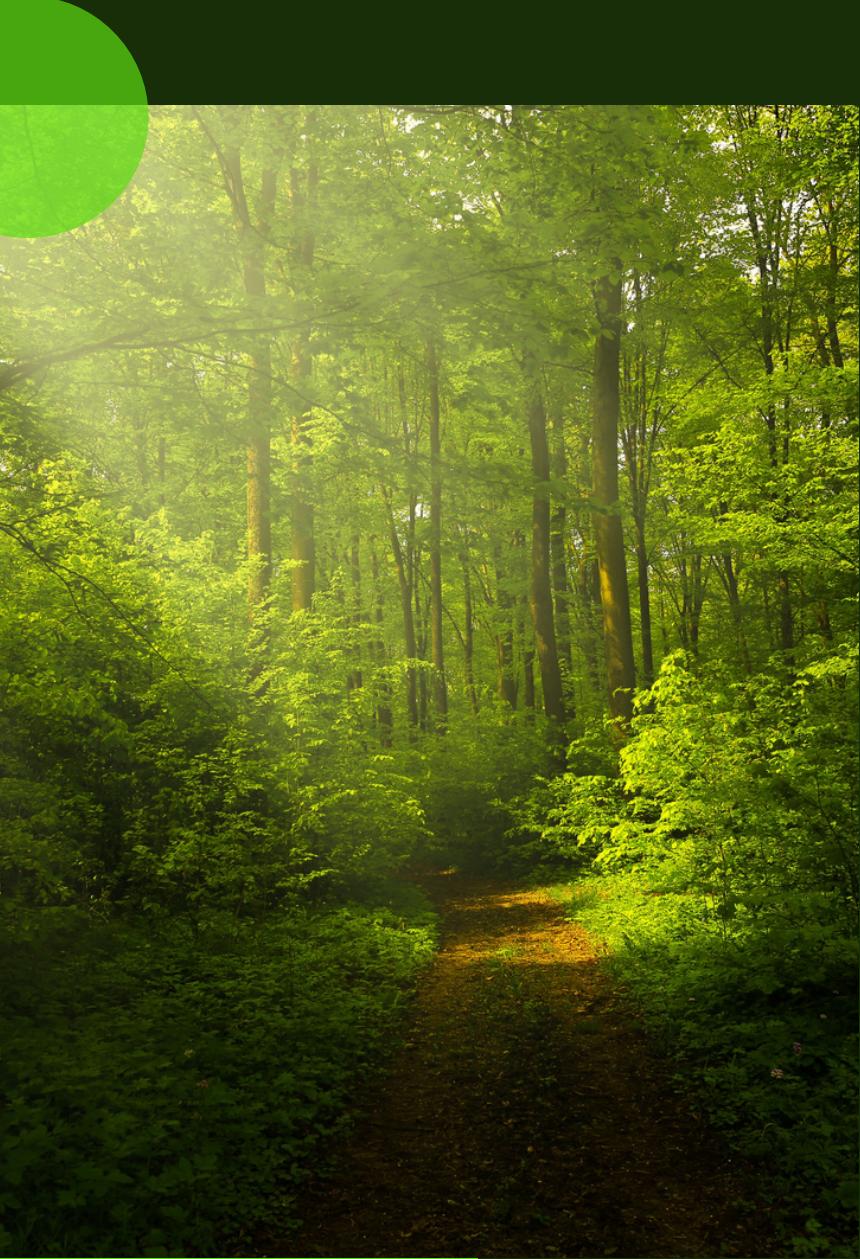
As a result, many refugees have been displaced and forced to live in slums and unsanitary areas on the fringes of towns. The migrants lack adequate garbage disposal and clean water facilities, and they dump trash unlawfully, posing a major threat to the environment.



SAVE ENVIRONMENT

# INTRODUCTION

Our study aims to offer refugees with basic necessities such as food and water, as well as clean sanitation, and health care through the adaptation of sustainable living in the form of eco-friendly sustainable settlements.





SAVE ENVIRONMENT

## OUR CONCEPT INCORPORATES

**Long-lasting and  
sustainable settlement  
structure**

**Settlements powered  
by renewable energy  
sources**

**interconnected to form  
an automated  
irrigation system**

**soil depletion control,  
economic savings, self  
sufficiency**



SAVE ENVIRONMENT

## OBJECTIVES

With our project titled " Sustainable refugee camp" , we aim to provide refugees;

- work opportunities related to their abilities,
- a suitable living environment that meet their essential needs in an eco-friendly way
- enables their adaptation and Integraton Into their new environment
- Teaching the Turkish language
- Social programs
- ITaming program
- Providing work opportunities



# RELATION TO INDUSTRY 4.0

## IoT based Smart Irrigation Systems



Our study is aimed to develop a smart irrigation system that could be used to collect, process, and store disseminated data in the form of information required to execute the refugee settlements farming operational functions. Some of its benefits include.

- Optimization of agricultural processes and water consumption
- Cost reduction, waste reduction
- Increased productivity and profitability
- Real-time remote control/monitoring of the system (local or remote)
- Sending commands
- Maintenance

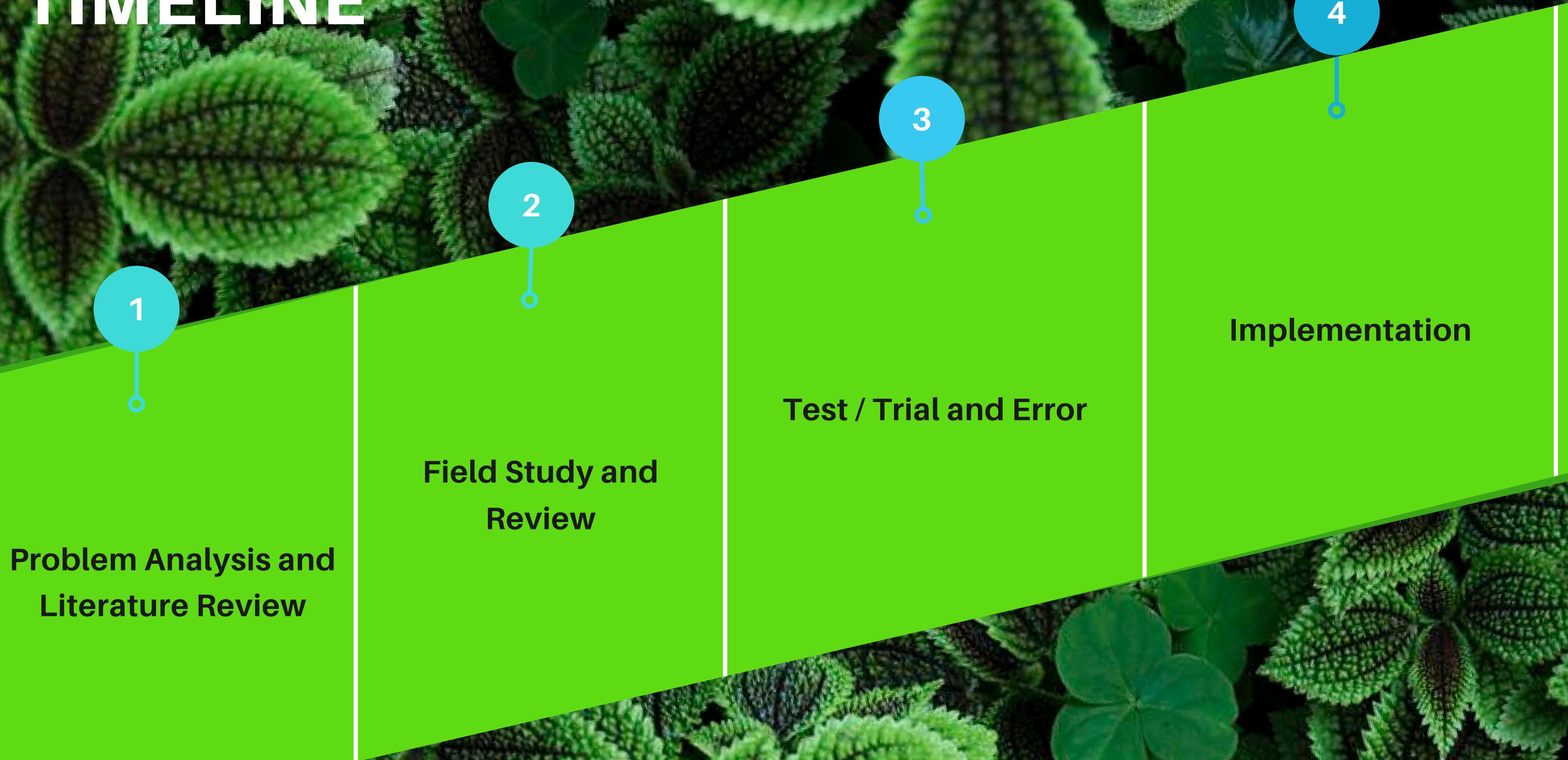


SAVE ENVIRONMENT

## RELATION TO UN SDG'S

The project's defining characteristic is that everything has been designed to be environmentally friendly and in relation with United Nation Sustainable Development Goals including Goal 5, gender equality, Goal 8, economic growth, Goal 13, climate change management, and Goal 15, environmental protection can be achieved.

# TIMELINE





# Risks

## 01. Overcrowding

We can resolve the issue by using quota based admission

## 02. Language Barrier

We can solve the problem by establishing a base language: Turkish  
Hiring Translators





# REFERENCES

- 1-AYHAM D., AMER D, PHILIPP M. AND ANNAS.(2018). PLANNING THE IDEAL REFUGEE CAMP? A CRITICAL INTERROGATION OF RECENT PLANNING INNOVATIONS IN JORDAN AND GERMANY. URBAN PLANNING (ISSN: 2183-7635), 3(4), 64-78, 10.17645/UP.V3I4.1726.
- 2-BASE, F.(2021, MAY 22). WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF SUSTAINABLE AGRICULTURE? -. FARMING BASE. [HTTPS://FARMINGBASE.COM/WHAT-ARE-THE-ADVANTAGES-AND-DISADVANTAGES-OF-SUSTAINABLE-AGRICULTURE/](https://farmingbase.com/what-are-the-advantages-and-disadvantages-of-sustainable-agriculture/)
- 3-FARM SMALL, THINK BIG: HOW AGRICULTURE CAN HELP IN TODAY'S GLOBAL. (2020, NOVEMBER 20). WATER, LAND AND ECOSYSTEMS. [HTTPS://WLE.CGIAR.ORG/THRIVE/2017/10/16/FARM-SMALL-THINK-BIG-HOW-AGRICULTURE-CAN-HELP-TODAY%E2%80%99S-GLOBAL-REFUGEE-CRISIS](https://wle.cgiar.org/thrive/2017/10/16/farm-small-think-big-how-agriculture-can-help-today%e2%80%99s-global-refugee-crisis)
- 4-BUILDING A GREEN REFUGEE CAMP | URBAN AGENDA PLATFORM. (N.D.). RETRIEVED 2017, FROM [HTTPS://WWW.URBANAGENDAPLATFORM.ORG/BEST-PRACTICE/BUILDING-GREEN-REFUGEE-CAMP](https://www.urbanagendaplatform.org/best-practice/building-green-refugee-camp)
- 5-DAVIS, M.(2021, SEPTEMBER 30). 7 CLIMATE CHANGE PROJECTS THAT ARE CHANGING THE GAME. BIG THINK. [HTTPS://BIGTHINK.COM/THE-PRESENT/CLIMATE-CHANGE-PROJECTS/](https://bigthink.com/the-present/climate-change-projects/)
- 6-DEVELOPMENT PROJECTS : CLIMATE CHANGE ADAPTATION PROJECT - P153301. (2012, FEBRUARY 12). WORLD BANK. [HTTPS://PROJECTS.WORLDBANK.ORG/EN/PROJECTS-OPERATIONS/PROJECT-DETAIL/P153301](https://projects.worldbank.org/en/projects-operations/project-detail/P153301)
- 7- [HTTPS://WWW.SENECA.IT/EN/SETTORI-DI-APPPLICAZIONE/ACQUE-DEPURAZIONE/IRRIGAZIONE-AUTOMATIZZATA-CON-TECNOLOGIA-40/](https://www.seneca.it/en/settori-di-applicazione/acque-depurazione/irrigazione-automatizzata-con-tecnologia-40/)



**THANK YOU**