Using Ecosystem Approach as a Template Towards Adaptation to Climate Change in Arid Agricultural Lands of Central Anatolia

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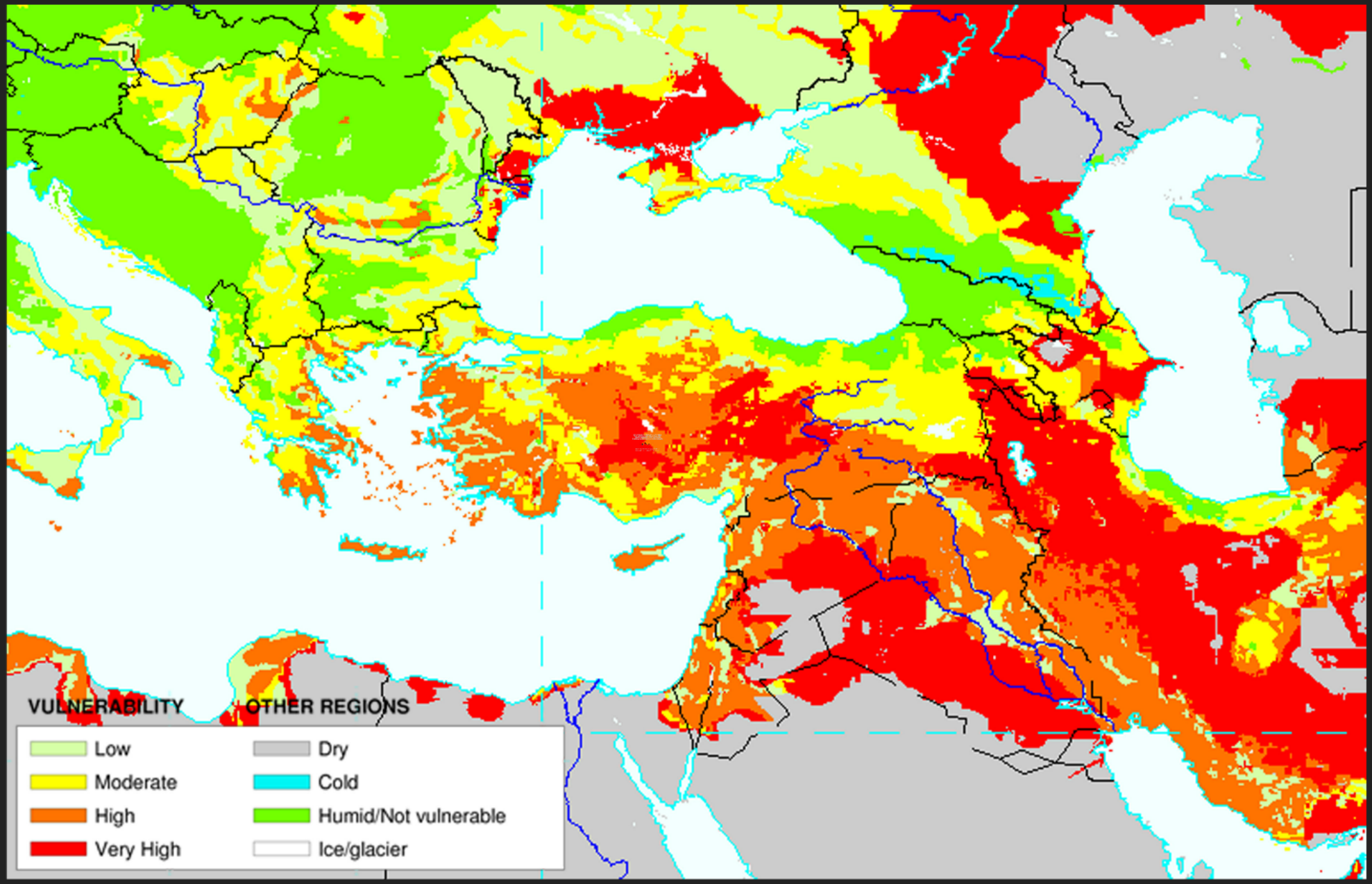
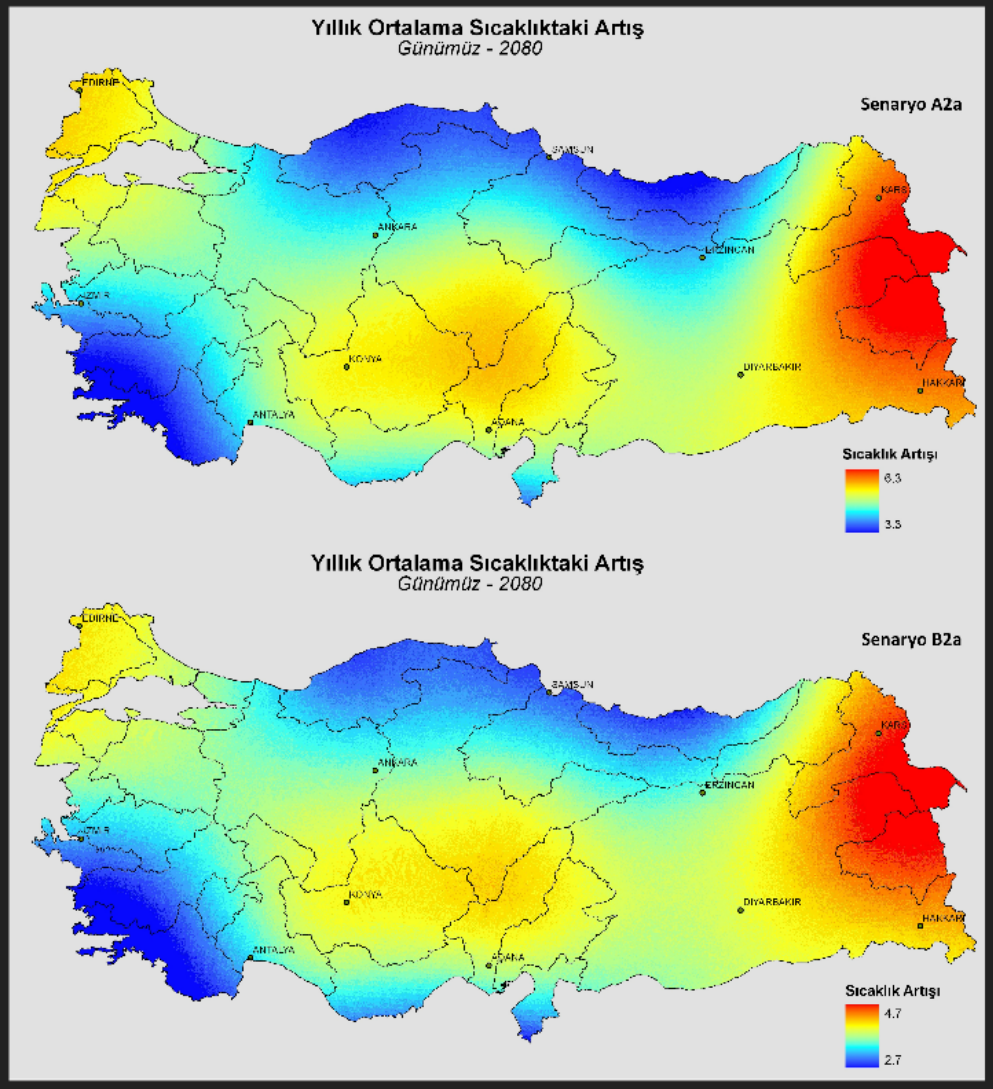
Desertification Vulnerability of Central Anatolia

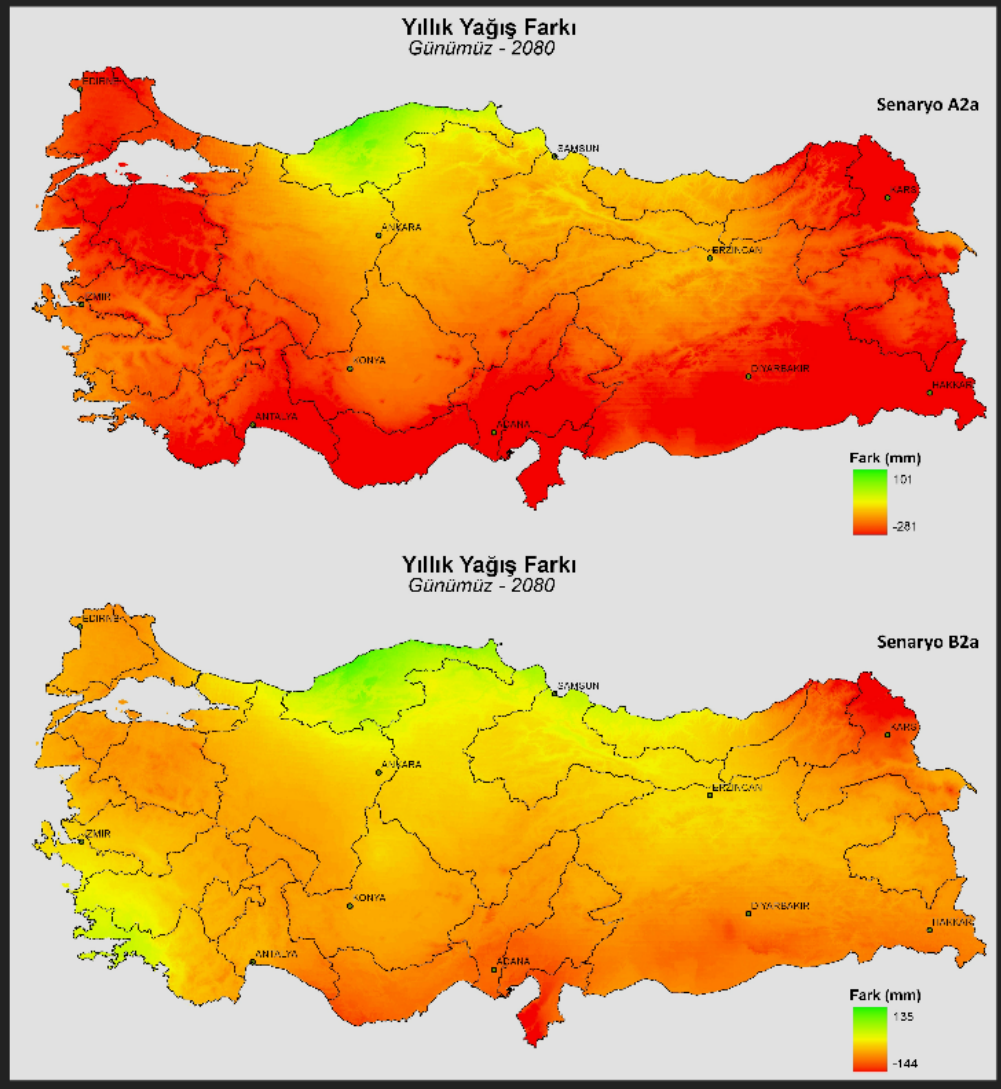


Derived from Global Desertification Vulnerability Map of USDA http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/?cid=nrcs142p2_054003

Erosion

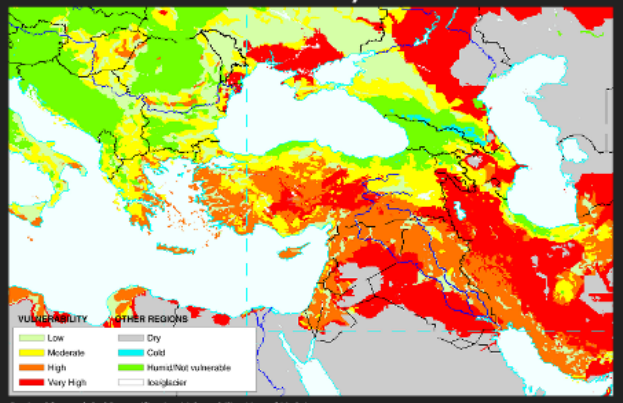
Climate Change Impacts





Projected changes in annual average temperatures and precipitation according to two CC scenarios (DKM, 2013)

Desertification Vulnerability of Central Anatolia



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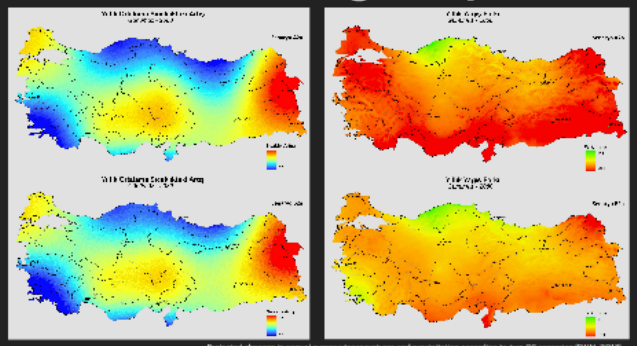

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Focus Area:
Konya Closed Basin

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Key Concept:

Conservation Agriculture

*a concept for resource-saving agricultural crop production that strives to achieve **acceptable profits** together with **high and sustained production levels** while concurrently **conserving the environment*** (FAO 2007).

Life Plus Environment Programme

Future's Agriculture Project

Coca-Cola

HAYATA ARTI VAKFI

T.C.
GIDA TARIM VE HAYVANCILIK BAKANLIĞI

DOĞA KORUMA MERKEZİ
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Project Purpose

To promote the use of Ecosystem Approach and improve climate change adaptation in agriculture.

Project Objectives

- To improve water holding capacity of soil; ensure the efficient use of land and water.
- To increase the capacity to use the ecosystem services in agriculture.

Expected Impacts of the Project

Climate Change Adaptation

Erosion Control

Climate Change Mitigation

Environmental Protection

Water Protection

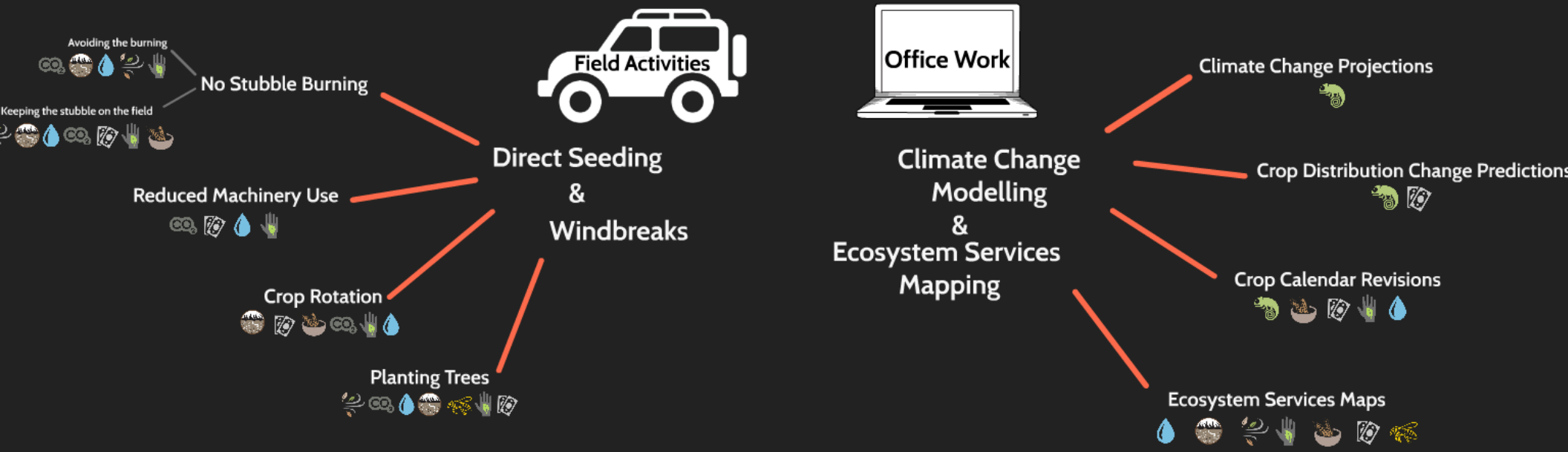
Soil Protection

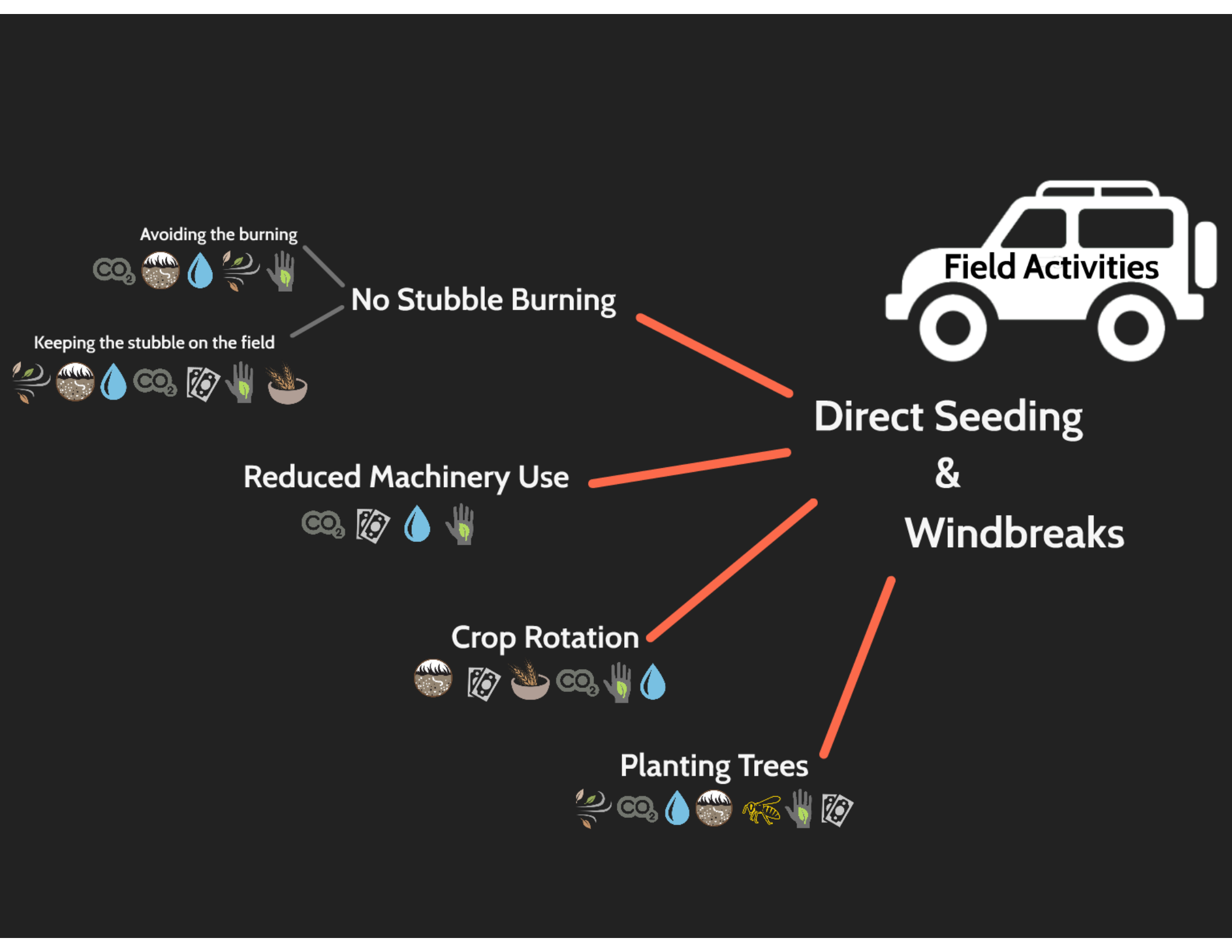
Food Security

Economic Benefit to Farmers

Pollination

Expected Impacts of the Project




Avoiding the burning
No Stubble Burning
Keeping the stubble on the field
Field Activities
Direct Seeding
&
Windbreaks
Reduced Machinery Use
Crop Rotation
Planting Trees

Climate Change Modelling & Ecosystem Services Mapping

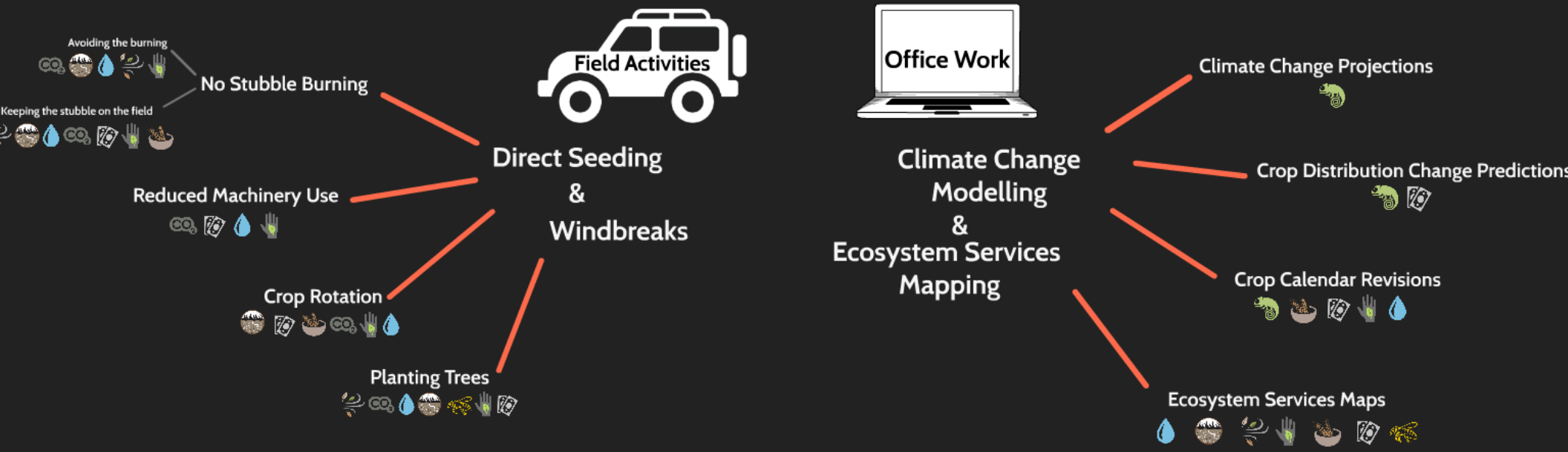
Climate Change Projections

Crop Distribution Change Predictions

Crop Calendar Revisions

Ecosystem Services Maps

Expected Impacts of the Project



Lessons Learned:

Strengths and Opportunities

- Direct machinery support to farmers via local institutions and NGOs
- Long term sustainability through planned governmental aids

Strengths and Opportunities

- Presence of previous positive windbreak examples in the region
- Positive perception of planting trees

Strengths and Opportunities

- Partnerships between NGOs, academia, private sector and the government
- Cutting edge scientific approaches
- Establishing the bridge between research and on the ground action

Strengths and Opportunities

- Focusing on the primary threats on agriculture in the region (water scarcity, erosion, climate change)

Obstacles and Solutions

- Resistance to adopting new agricultural techniques

- Collaborations with local institutions, NGOs and academicians for better communication and knowledge transfer
- Collaboration with pioneer farmers

Obstacles and Solutions

- Reluctance to allocating land for windbreaks

- Presence of established windbreaks in the region and their known contribution to erosion control
- Recognition of the urgency of erosion threat

Dissemination of the project as a model

- Integrated approach to climate change adaptation, biodiversity conservation, soil and water protection in arid landscapes
- Adapting ecosystem approach to agricultural practices
- Integrating ecosystem services into spatial management tools
- First example of promoting planting windbreaks in agricultural lands in Turkey

www.dkm.org.tr Doga Koruma Merkezi DogaKorumaMrkz