

# **Lessons Learnt**

## **Integrated Watershed Rehabilitation**

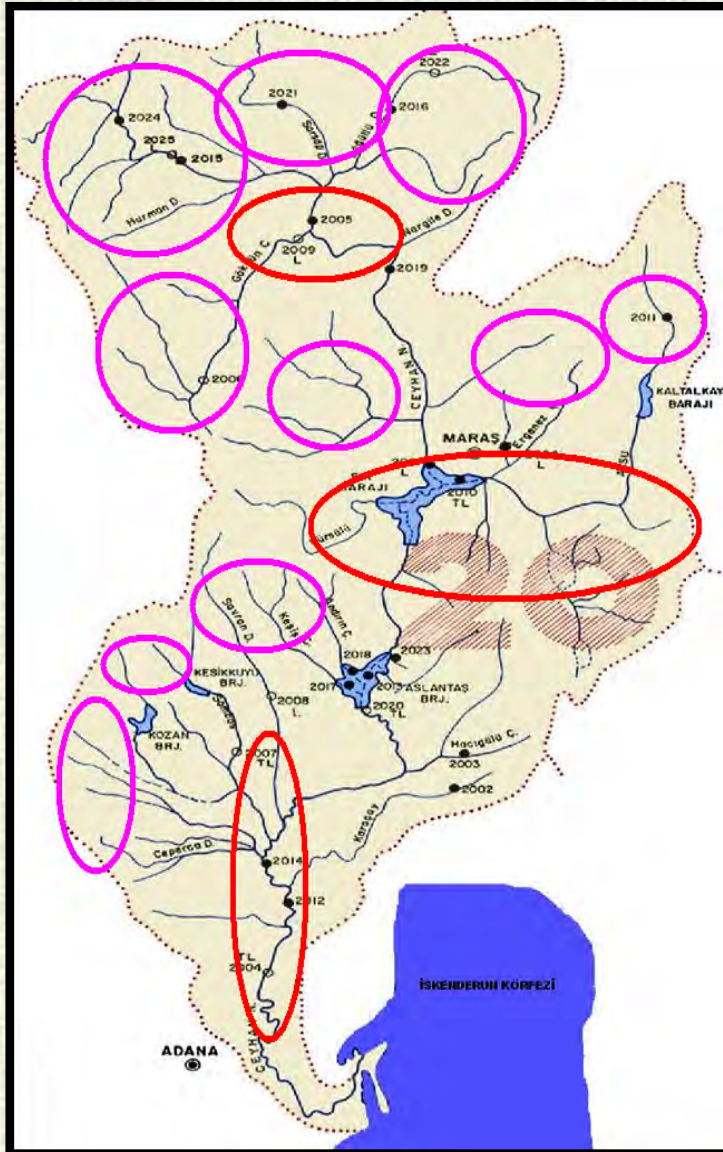
### **in Turkey**



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# Planning Unit.....



**Watershed; an area that supplies water by surface or sub-surface flow to a given drainage system (a stream, river, or lake) and includes all land and resources.**

**There is a unique ecosystem.**

# Resources in a Watershed

**Agricultural Land**

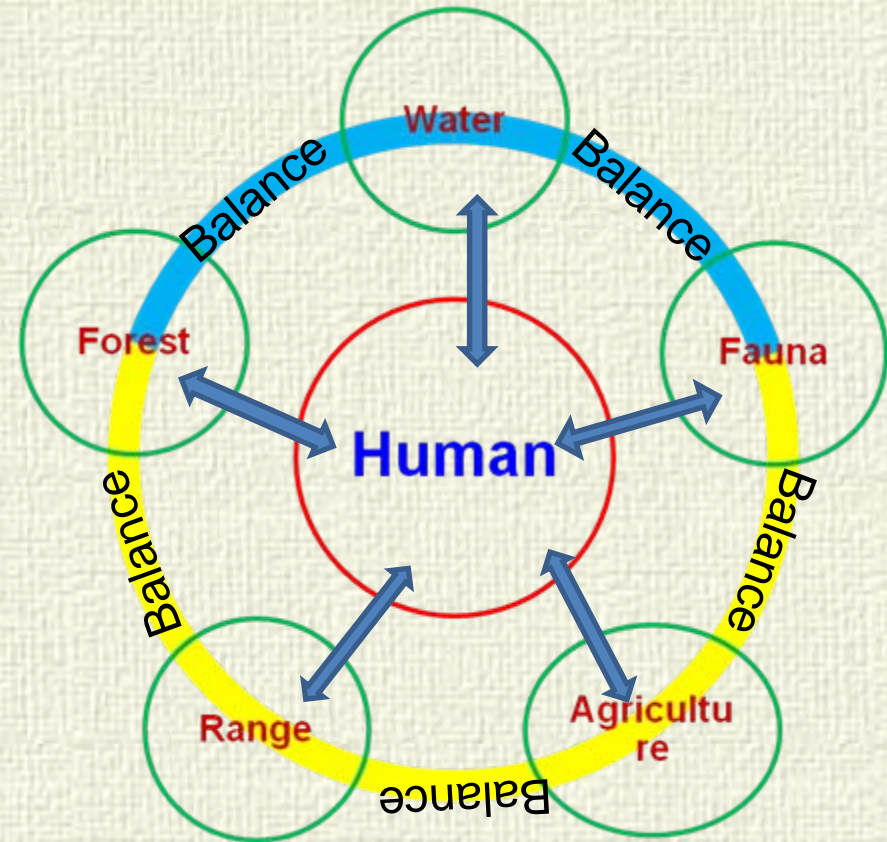
**Forest an Forest Land**

**Range and Pasture Lands**

**Water (Ground and Underground)**

**Biodiversity**

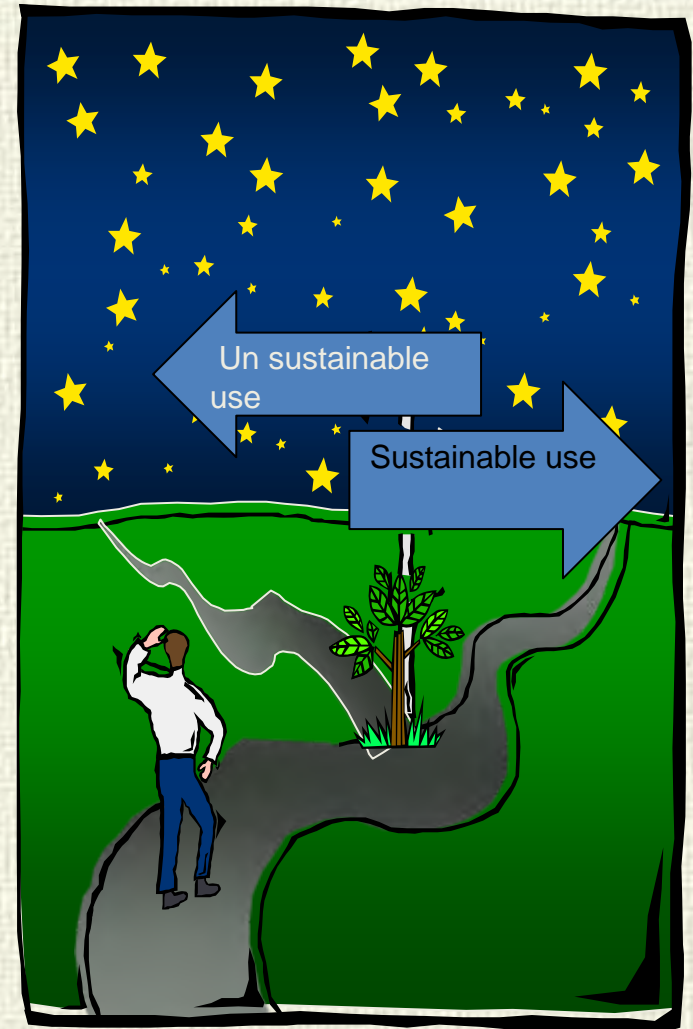
**People (Population in Watershed)**



**There is a balance with elements of ecosystem**

# Sustainability

**Un-sustainable use and interventions disrupt the balance in this sensitive ecosystems.**



# Un Sustainable Use of Forest and Forest Land

**Mis-management activities**  
**Illegal logging and use**  
**Forest Fires**  
**Overgrazing**  
**Over utilization of forest products**



# Un Sustainable Use of Range

**Overgrazing**  
**Early Grazing**  
**Long Grazing Period**  
**Using rangelands for**  
**Agricultural activities**



# Unsustainable Uses in Agricultural Land



**Inappropriate use of marginal agricultural lands (steep slopes),  
soil cultivation perpendicular to the contour lines,  
Inappropriate irrigation techniques,**

# Unsustainable Use of Water Resources



**Incorrect manure storage activities,  
Incorrect use of fertilizers, pesticides**

# **Result of Unsustainable Use of Natural Resources ?**

**Erosion threat increases, soil fertility is lost**

**Satisfactory incomes are not obtained from forest, pasture and agricultural lands**

**Sediment load shortens the economic life of the reservoirs, irrigation and drainage systems**

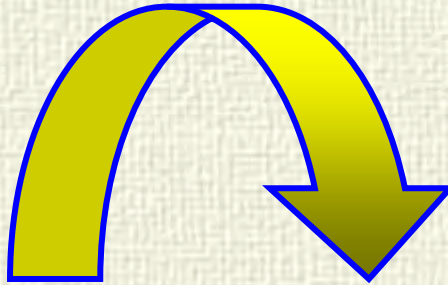
**Quality and quantity of water decreases**

**Threats to livelihood of people increases (floods and land slides)**

**Ground and Underground Water Resources Contaminated**

# RESULT ?

## Result of Degradations



**local communities and then the nation get**

**P O O R E R**

**NATURAL RESOURCES DEGRADATION INCREASES**

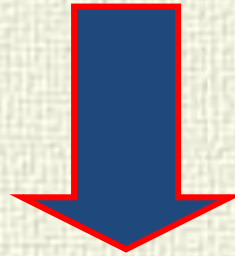
**SENSITIVE ECOSYSTEM IS BROKEN**

there is a **STRONG LINK** between  
*poverty*  
and  
*natural resource degradation*



# Watershed Rehabilitation

**If the human life is negatively affected from the degradation of ecological balance as a result of natural resources degradation**

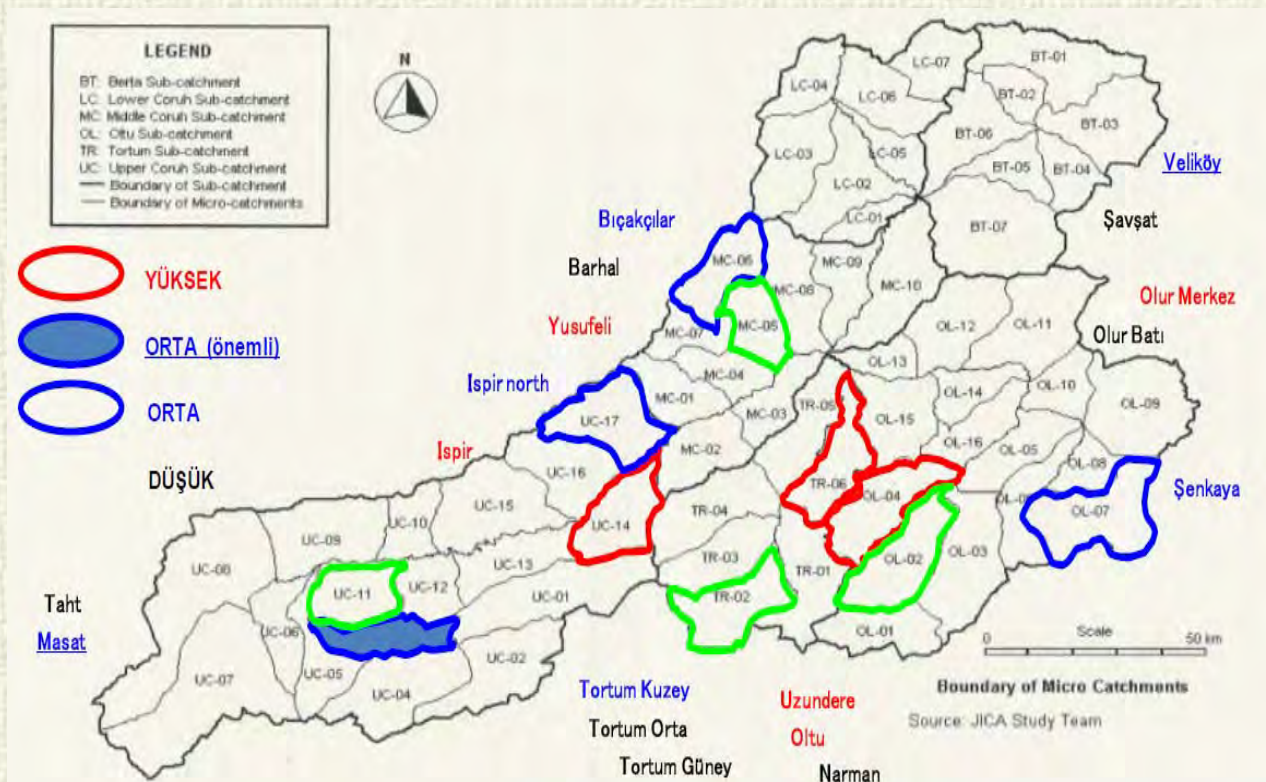


**Key Solution**

**INTEGRATED WATERSHED REHABILITATION**

# Watershed is Divided into Microcatchments

Watershed is divided into **small hydrological units** in watershed rehabilitation.



Planning  
Top - Down

Implementing  
Bottom - Up

# Working Unit is Microcatchment.



Working Unit is the **Microcatchment**  
for  
Watershed rehabilitation.

# Main Principles of Rehabilitation Projects

- ✓ Conservation, rehabilitation and improvement of natural resources,
- ✓ Participatory approach,
- ✓ Integration of conservation, rehabilitation and improvement of natural resources with income raising activities
- ✓ Human resources development
- ✓ Sustainability and expansion

# Microcatchment Planning Process

1. Confirm interest of local people/villagers
2. Collect / review data,
3. Conduct problem census and solving exercise (PRA)  
(SOR,SAP,ÇÖZ)
4. Decision for problem solving activities,
5. Share project activity menu,
6. Prepare microcatchment plan,
7. Implementation.

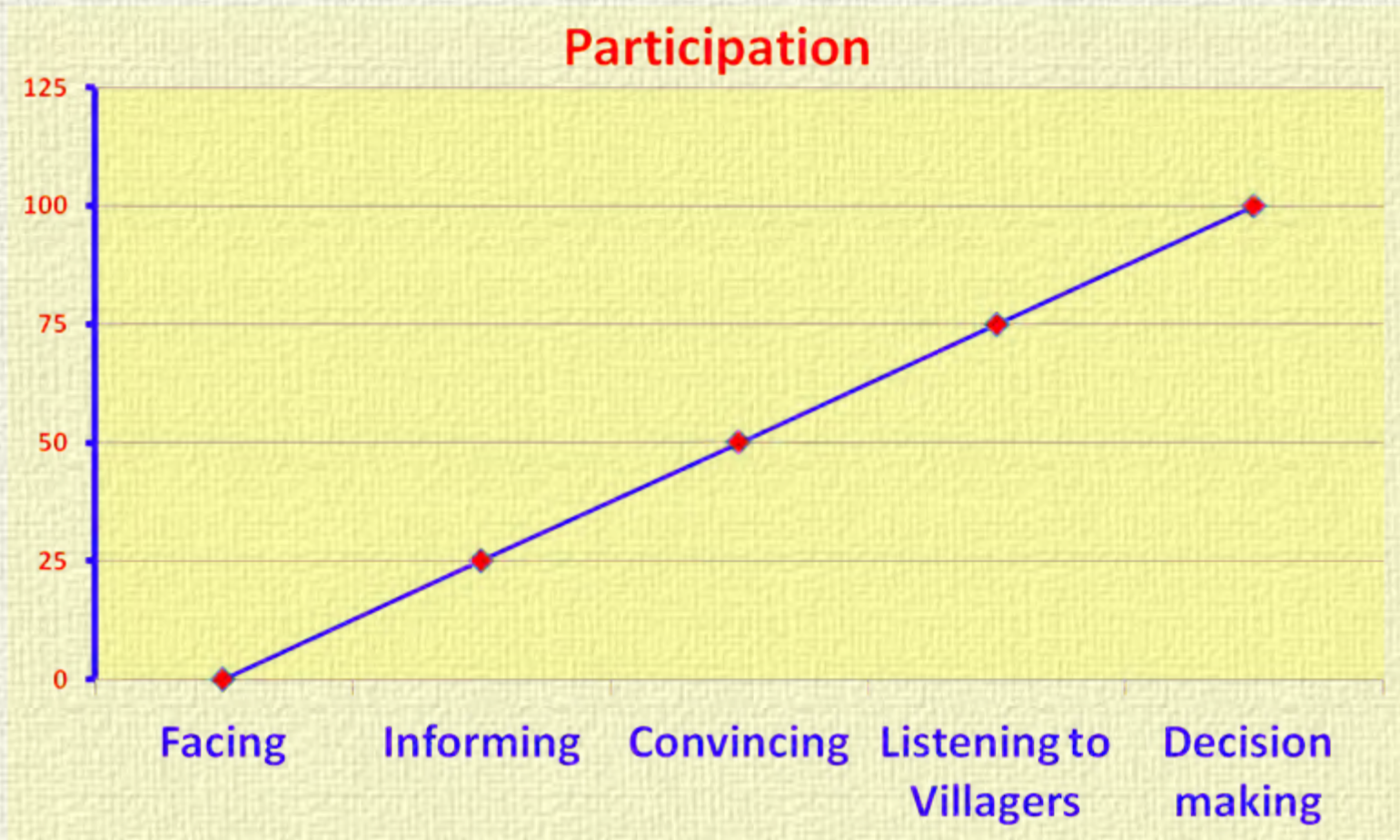
# Participatory Approach....

## Participatory Decision Making

- PRA Participatory rural appraisal  
Man  
Women  
Young
- Baseline assessment  
Household surveys  
Villager interests  
Social surveys
- Involving facilitates



# Participatory Approach....



**Rapid Rural Appraisal  
SOR SAP COZ**

# Planning

## Resources :

Settlement area

Agricultural land

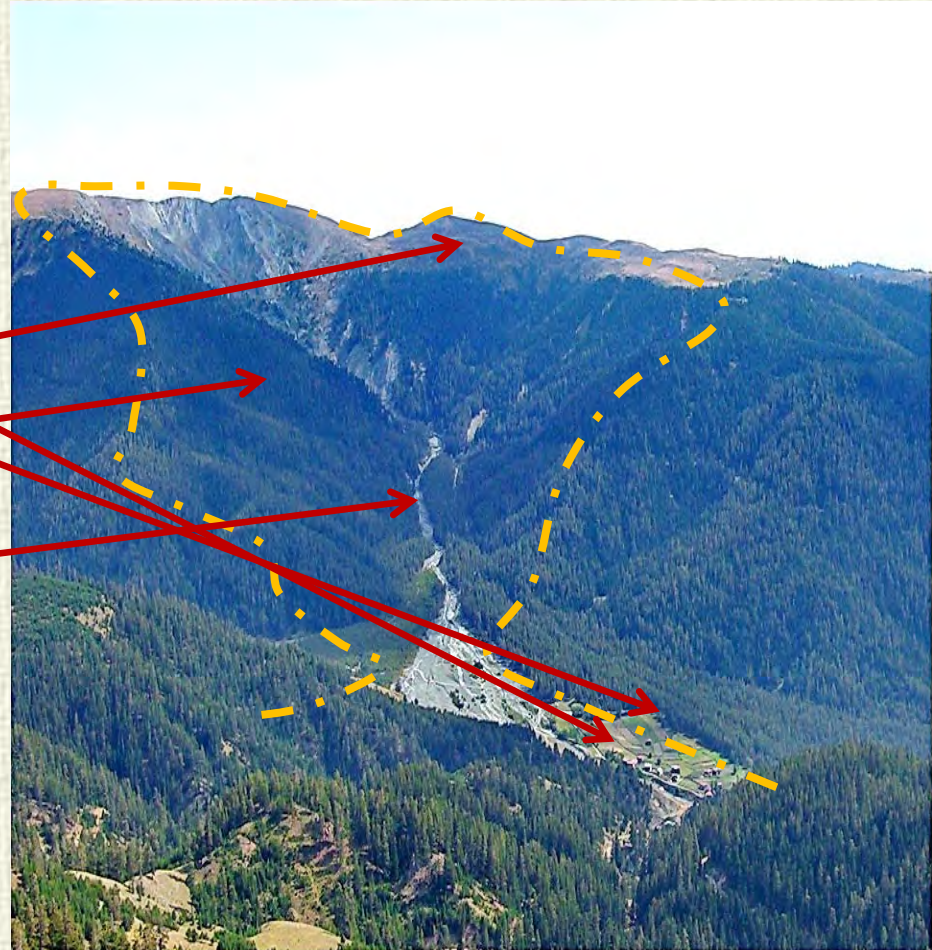
Range land

Forest

Water resources

**Pointed and identified  
baundry.**

Exercises solutions with  
villagers.



# Implementation

## **I – Rehabilitation of Degraded Natural resources.**

- ✓ Rehabilitation of forest and rangeland.
- ✓ Environment friendly agricultural activities.
- ✓ Measuring and monitoring water pollution.

## **II – Income raising activities.**

- ✓ Small scale irrigation,
- ✓ Agricultural terraces and production on these terraces,
- ✓ Increasing and developing product variety of agricultural products,
- ✓ Developing animal husbandry and bee-keeping activities.

## **III – Capacity Development**

## **IV– Training and awareness raising activities.**

# Rehabilitation of Degraded Natural Resources

## 1-Soil conservation activities



AKŞEHİR 1965



**AKŞEHİR 2011**





# Rehabilitation of Degraded Natural Resources



**Local community works for rehabilitation activities**

# Rehabilitation of Degraded Natural Resources



# Rehabilitation of Degraded Natural Resources



# Income Raising Activities



# Income Raising Activities



# Income Raising Activities



# Income Raising Activities



## Income Raising Activities



# Avereness Raising Activities



## **LESSONS LEARNT**

- 1. Regulating surface flow, water infiltration.**
- 1. Reducing water losses due to floods and erosion.**
- 2. Reducing sedimentation loss in to stream and reservoirs.**
- 3. Increasing water quality by reducing pollution causes by pesticides, fertilizers and other pollution agencies.**
- 4. Increasing people life conditions in watershed.**
- 5. Promoting new implementation and income generating activities.**
- 6. Increasing villagers capacity and agencies.**
- 7. Teaching \ Obtaining sustainable use of natural resources.**

Thank you....

