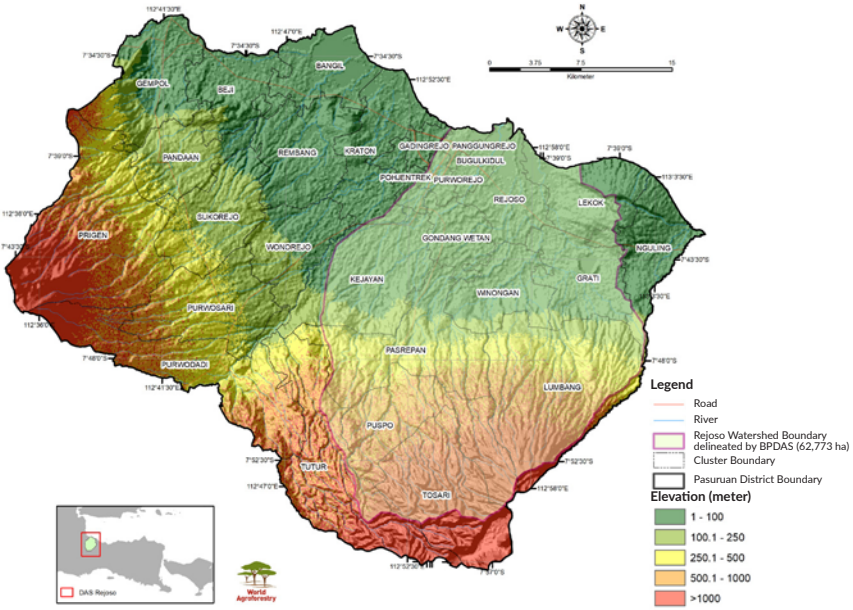
REJOSOKITA

Save **Water**, Preserve **Life**

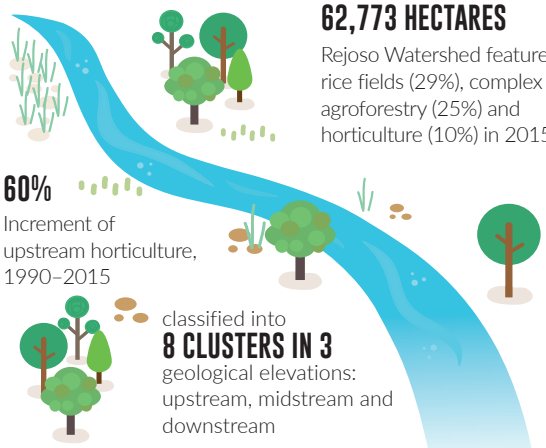
A multi-stakeholder collaboration for the preservation of the Rejoso Watershed in Pasuruan, East Java, Indonesia through research-based activities, such as land-conservation techniques, growing trees in agroforestry systems, sustainable-agricultural practices, efficient water use, community capacity building and institutional strengthening.

Rejoso Watershed



The Rejoso Watershed provides vital livelihoods for the communities in 16 sub-districts in the eastern part of Pasuruan District, East Java Province.

The watershed strategically functions as the source of clean water for Pasuruan City and its surrounding areas, such as Sidoarjo and Gresik districts, and Surabaya City; the latter the metropolitan capital of East Java and the second-largest such area in Indonesia.



62,773 HECTARES

Rejoso Watershed features rice fields (29%), complex agroforestry (25%) and horticulture (10%) in 2015

60%

Increment of upstream horticulture, 1990–2015

classified into

8 CLUSTERS IN 3

geological elevations: upstream, midstream and downstream

Gondang Wetan
- Rice fields and 'sengon' (*Albizia chinensis*) agroforestry
- Artesian boreholes and rivers
- Industry

Winongan
- Rice fields and sugarcane
- Artesian boreholes and rainwater
- Craftsmanship

Grati
- Sugarcane and rice fields
- Wells and rainwater
- Home industry

Puspo
- Agroforestry and pine plantations
- Springs and rainwater
- Dairy products

Tosari
- Agroforestry and horticulture
- Springs and rainwater
- Dairy products

Pasrepan 1
- Agroforestry and sugarcane
- Springs and rainwater
- Agricultural products (post-harvest processing), rocky outcrops

Lumbang
- Agroforestry
- Springs and rainwater
- Rock mining

Pasrepan 2
- Agroforestry and rice fields
- Springs and rainwater
- Agricultural products (post-harvest processing), rocky outcrops

Note: Upstream Midstream Downstream

Population growth and economic pressures are causing dramatic changes in the Rejoso Watershed. The most common environmental problems are floods, droughts, erosion and landslides.

Soil erosion occurs on sloping land on which farmers do not apply conservation-agricultural techniques. Land-use changes are dominated by continuing conversion to horticulture and settlements.

In the downstream, water availability for irrigation and domestic needs is threatened by excessive water boring, inefficient use of water, and lack of drilling regulation.

Research shows increasingly reduced underground water discharge, poorly maintained irrigation systems, pest attacks, and declining quality and quantity of agricultural yields.

Program

Piloting co-investment in ecosystem services' schemes

Conservation auctions for protecting water resources

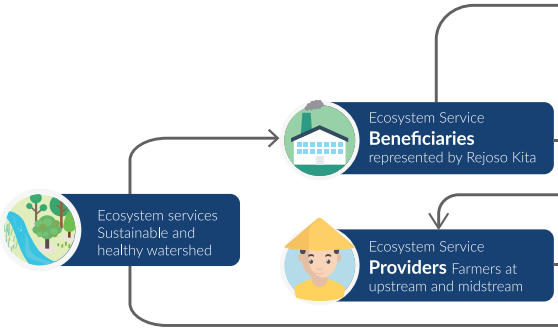
2016-2018

From 2016 to 2018, Gerakan Rejoso Kita conducted biophysical research to study the watershed in terms of its hydrological conditions, land-cover changes over time, and carbon-storage potential. A socioeconomic study was also carried out to learn about the communities in the watershed.

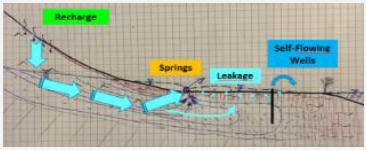
The results of the research served as guidelines to determine the programs to preserve Rejoso Watershed.

1. Piloting payment for environmental services' schemes: upstream and midstream farmers are encouraged to grow more trees and to preserve existing trees on their land. For their efforts, farmers can receive financial rewards determined through a 'conservation auction'.
2. Facilitating the establishment of multi-stakeholder platforms and forums at appropriate jurisdiction levels to protect and preserve the watershed.

The payment for ecosystem serv



Research-based approach

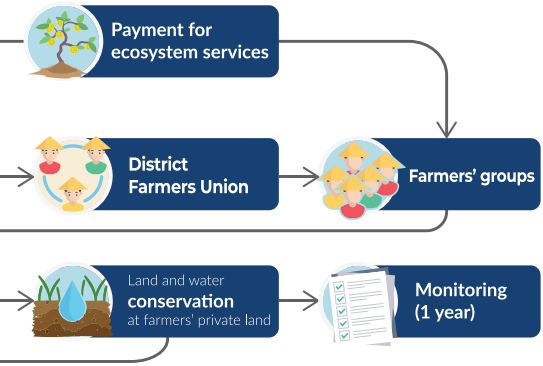


The characteristics and conceptual models of the aquifer defined

Negotiated changes in awareness, behaviour and co-investment in watershed protection

Carbon-stock baseline

vice scheme in Rejoso Watershed



Institutional strengthening

Establishment of multi-stakeholder platforms and forums

Institutional capacity strengthening

Behavioural changes, transformations and co-investment governance

106.6 HECTARE, 174 FARMERS, 12 GROUPS, 7 VILLAGES

Sustainable agricultural practices in the mid- and up-streams

2019-2022

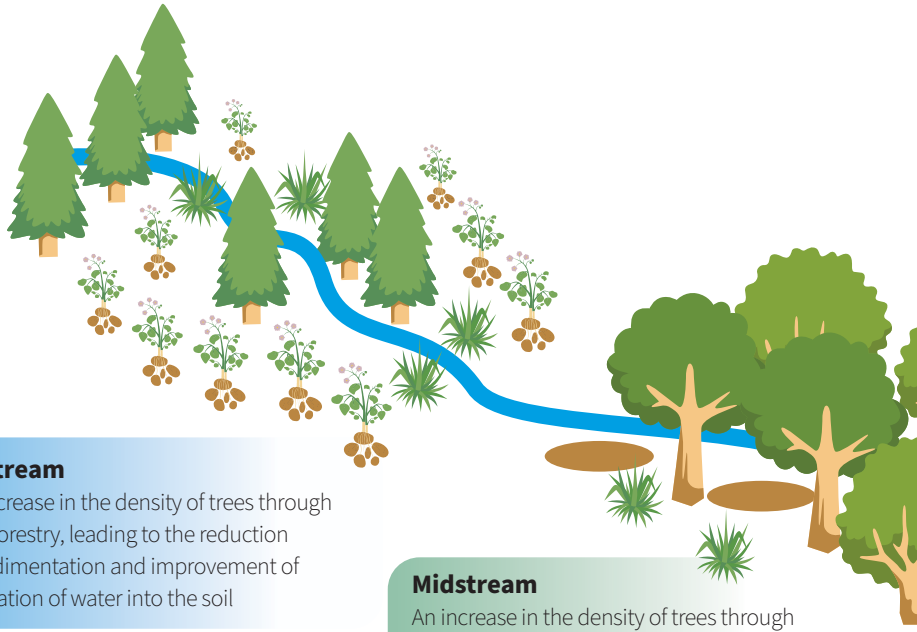
Gerakan Rejoso Kita will help downstream farmers to increase rice production through the application of climate-smart rice-cultivation technologies.

To address inefficient use of water, Rejoso Kita will introduce improved well-drilling techniques and increase community awareness of the importance of obtaining legal permits for drilling. The aim is to create more responsible use of water. Farming communities will be involved in supervising their members' use.

Rejoso Kita will help farming communities organize themselves to obtain the necessary capital to support their agricultural businesses.

Special efforts are also planned to improve the institutional capacity of multi-stakeholder platforms and forums at various jurisdiction levels, including through supporting planning and programs to better manage the watershed.

Impact



Upstream
An increase in the density of trees through agroforestry, leading to the reduction of sedimentation and improvement of infiltration of water into the soil

Midstream
An increase in the density of trees through agroforestry, leading to the reduction of sedimentation and improvement of infiltration of water into the soil

Reduced gap in the water balance in Rejoso groundwater basin

Water as investment for catalysing behaviour-change towards water efficiency

- **Increased infiltration rate** through maintaining surface roughness by maintaining the presence of litter and rocks.
- **Decreased sediment and run-off through soil conservation** and increasing basal area, strip grasses and sediment pits.
- **Increased carbon stock** through tree enrichment (increasing the number and quality of trees).
- **Improved efficiency of water use** by closing unused wells and installing valves.

Note: Upstream Midstream Downstream

Ecologically, socially and financially beneficial rice cultivation.

Integrated governance implemented of water resources and watershed management.

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www.worldagroforestry.org/project/rejosokita

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