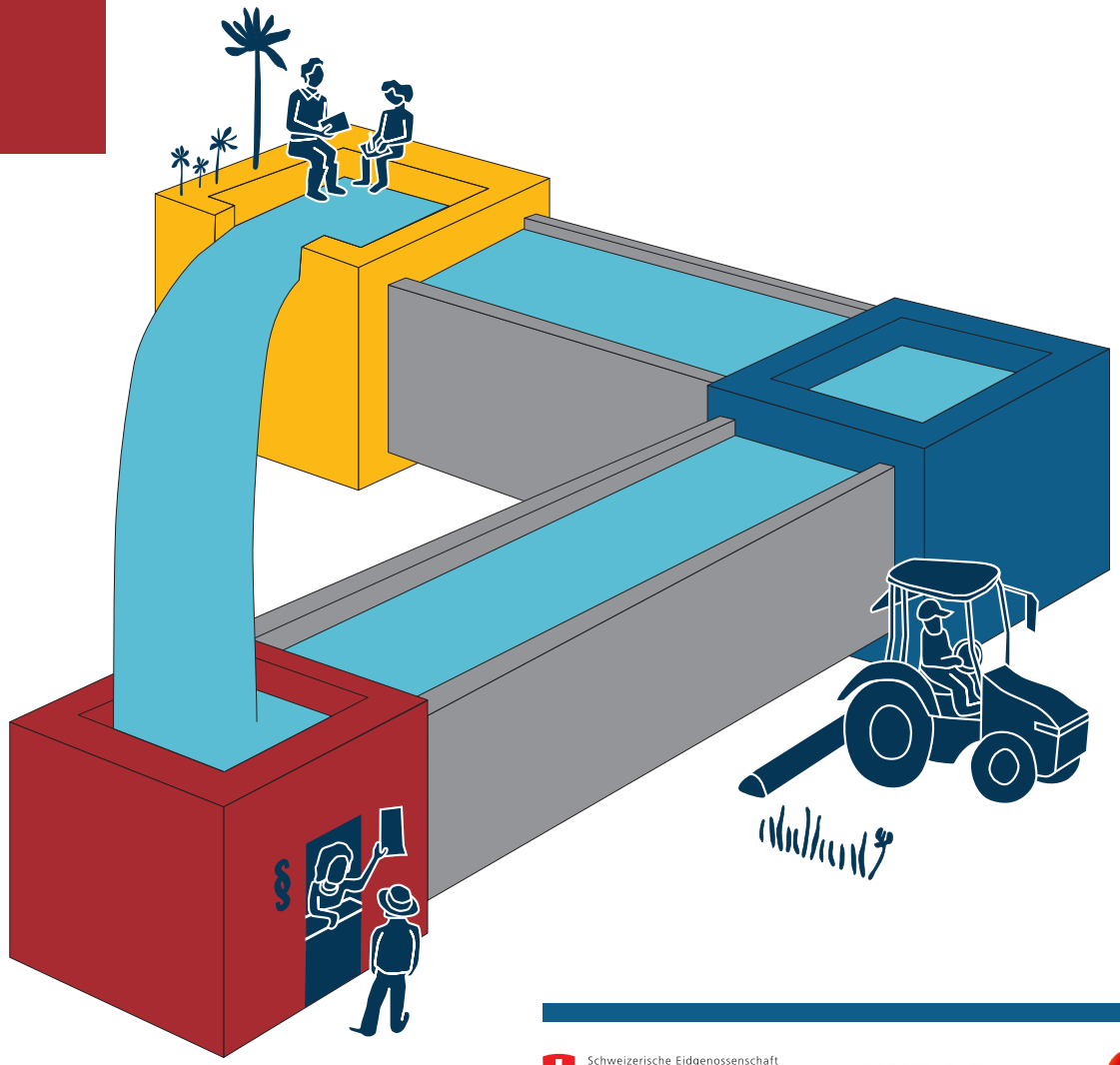
WAPRO

STAKEHOLDERS ACROSS THE WORLD JOIN FORCES TO INCREASE WATER PRODUCTIVITY



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HELVETAS

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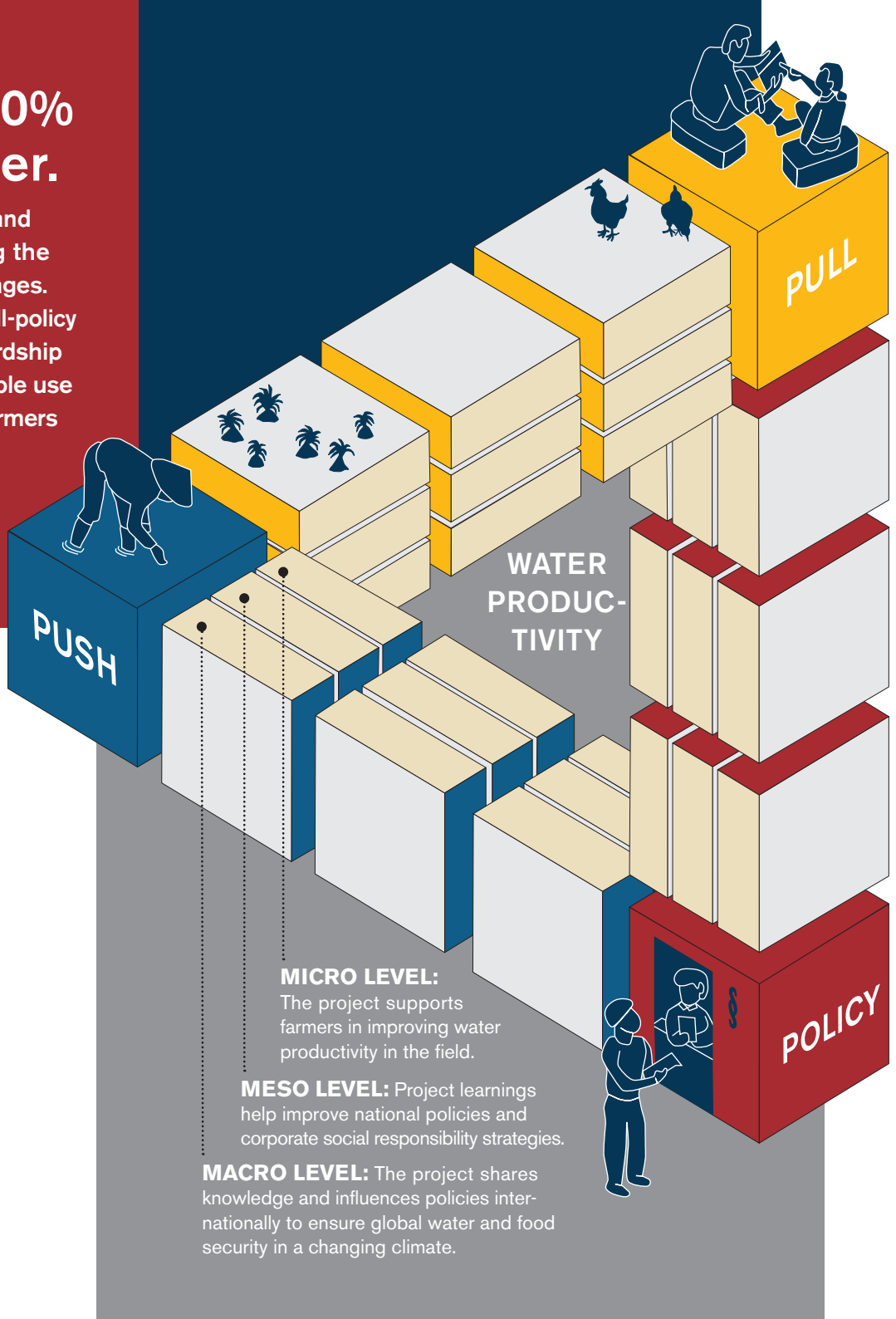
SRP Sustainable Rice Platform · BCI Better Cotton Initiative · TATA TRUSTS

bioRe Foundation HUMAN RIGHTS ORGANIC COTTON · Alliance for Water Stewardship · LT Foods · PIC Pôles Intégrés de Croissance · REIS Mühle Brunnen fair & good

Agriculture uses 70% of the world's water.

As the global population is increasing and the climate is changing, we are facing the growing threat of water and food shortages. WAPRO project offers a holistic push-pull-policy approach that encourages water stewardship – collective action towards the sustainable use of water. Diverse stakeholders – from farmers and local NGOs to corporations and governments – take joint responsibility for the precious resource from which we all benefit.



PUSH

PROBLEM: Lack of Knowledge
Farmers are the main consumers of global water reserves. They are also among the poorest citizens of the world. Poverty prevents them from accessing water-saving knowledge and technology to supplement their know-how.

SOLUTION: Learning
Farmers master water saving methods. For example, by switching to shorter furrows, which allow for more even water distribution, farmers in Kyrgyzstan and Tajikistan save 30-40% of water.

We also promote diversified crops that use water and other resources more efficiently than monoculture crops. For example, lentils planted into a rice field are first irrigated by the same water that's used as the last irrigation flow for rice.

We share the results with the national agriculture and water sector actors to encourage the replication of the technology that proved successful.

PULL

PROBLEM: Lack of Incentives
Even among farmers who are aware of water saving methods, only a fraction ends up adopting them. They are reluctant to make significant investments of time and money for an environmental benefit only.

SOLUTION: Financial Benefits
By promoting methods that not only save water but also increase production, we ensure that farmers have a financial incentive to save water. For example, the system of rice intensification allowed an increase in crop productivity in our project in India of 70% compared to traditional methods.

Private-sector actors create additional incentive mechanisms for farmers either by offering premium prices, prepayment of the crop, access to microcredits, secure access to enhanced markets or integration into agricultural extension programs (for example, showing how to save money by using fewer pesticides).

POLICY

PROBLEM: Lack of Governance
There are problems – such as water distribution and maintenance of irrigation infrastructure – that go beyond the reach of an individual farmer or company and require joint large-scale solutions.

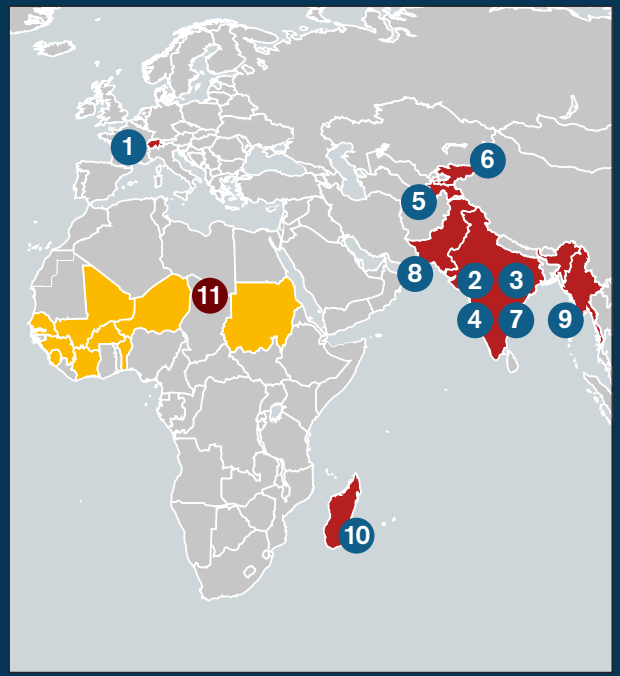
SOLUTION: Policy Dialogue Based on Evidence
Rather than waiting for top-down policy changes, farmers and other villagers jointly agree on a reasonable way to share water resources and create plans to improve the local water situation.

Farmers work with the local authorities to adapt the regulatory frameworks, for example regarding water distribution rights or water payment schemes. These changes on the local level help advance national agriculture, commodity and irrigation reforms.

WAPRO (Water Productivity Project) is a multi-stakeholder initiative to address water efficiency issues in agriculture.

It was first implemented between 2015 and 2018 in four countries in Asia by a consortium of nine partners with a budget of about CHF 6.76 million, and involving 23,600 farmers.

By 2019, the project has grown to 16 countries of Asia and Africa, 22 partners, and a budget of about CHF 16 million, aspiring to improve the lives of 60,000 farmers.



1 OVERALL DONOR AND PROJECT COORDINATION

Location (donor): Bern, Switzerland

The Swiss Agency for Development and Cooperation (SDC) is the main founder of the project, including its subprojects and is steering the project's overall strategic development.

Location (project coordination): Zürich, Switzerland

Mandated by the SDC, the independent Swiss development organization Helvetas leads the consortium, manages the project and supports each subproject with technical expertise.

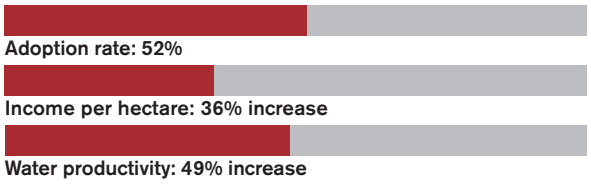
2 ORGANIC RICE INDIA

Applied standards: BIOSUISSE

Location: Selected districts in the states of Uttarakhand and Uttar Pradesh, India

Farmers in these northern Indian districts have completely transformed their practices. For the first time in this area, they have started to commercially produce high-value Basmati rice, which is also organic. Instead of farming only by hand, they have introduced machines. This has allowed farmers, for example, to save seeds and water, while increasing yields through line sowing. By intercropping rice with lentils and chickpeas, farmers use water and soil more efficiently. They spend the premiums from selling the product on community projects such as the restoration of irrigation infrastructure.

BEFORE: conventional agriculture and continued flooding
AFTER: organic standards, alternate wetting and drying



3 SUSTAINABLE RICE AND WATER STEWARDSHIP PROGRAM INDIA

Applied standards: SRP Sustainable Rice Platform

Location: Selected districts in the state of Haryana, India

The state of Haryana is the biggest producer of Basmati rice in India, despite taking up only 1.6% of the country's land. Because of intensive agriculture and climate change, groundwater is depleting at an alarming rate, a challenge that conventional practices can't address. Instead, our partner farmers are guided to adopt water-saving drip irrigation, alternate wetting and drying, laser levelling and other water-saving practices on a large scale. This method allows water to drip slowly to the roots, minimizing evaporation. For more efficiency, the operation of pumps and valves is partly automated.

4 ORGANIC COTTON INDIA

Applied standards: bioRe

Location: Selected villages in the state of Madhya Pradesh, India

Farmers in the project area have to rely on rain or partial irrigation rather than full irrigation to feed their crops. BioRe aims to motivate 1000 women farmers to breed and grow desi cotton (Gossypium arboreum L.) – a drought-resistant variety, native to India, which was abandoned decades ago in favor of higher-quality but water-intensive American varieties. Farmers are also supported through training, extension services, research and a purchase guarantee of 80% of their estimated yield. Cotton and other food crops are produced under organic standards.

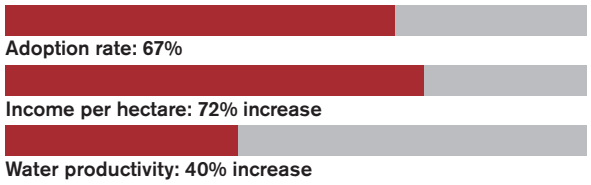
5 WATER EFFICIENT COTTON TAJIKISTAN

Applied standards: BCI, Organic, Fairtrade Cotton

Location: Ferghana Valley, Tajikistan

As many as 30% of farmers in the pilot areas have adopted water productivity methods, such as shorter furrows and intercropping. This allowed them to save 30% of water. Organic farming has improved soil quality, which has led to better water retention and therefore drought resistance. The government of Tajikistan has recently taken an active interest in saving water thanks to the promising evidence generated by this project.

BEFORE: long furrow irrigation, conventional agriculture
AFTER: short furrow irrigation, BCI standards



6 ORGANIC COTTON KYRGYZSTAN

Applied standards: Organic, Fairtrade Cotton

Location: Selected districts of Jalal-Abad Region, Kyrgyzstan

We are conducting several field trials of water-saving methods (such as mulching, enhanced crop varieties, intercropping and fertigation), and measuring their impact. In close collaboration with a national water policy project of Helvetas, we are using the field evidence on water productivity to enrich the national policy dialogue and reforms by the government, ensuring that local communities are equipped with the most adequate legal framework and research to save water.

7 BETTER COTTON INDIA

Applied standards: BCI

Location: Selected coastal districts of the state of Gujarat, India

Overuse of underground water in the past has salinized the soil in this water-scarce area. To ensure proper management of the groundwater, farmers collectively monitor and feed information into a joint database, which helps village authorities make the most adequate decisions on groundwater management. By diversifying farming systems and switching from red-labeled (dangerous) to green-labeled (least-hazardous) pesticides, farmers have decreased water pollution and improved soil quality. Finally, they have widely introduced drip and sprinkler irrigation, and other methods, to use water more efficiently.

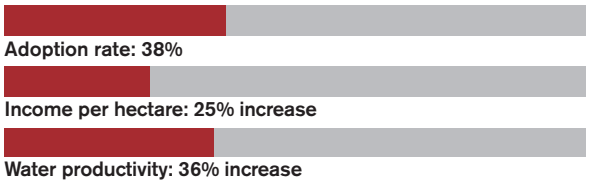
8 SUSTAINABLE RICE PAKISTAN

Applied standards: SRP

Location: Selected districts of Punjab Province and Sindh Province, Pakistan

As climate change rapidly melts the glaciers, the region that feeds off the water from the Himalayas is more and more in need of actions to ensure water security. To address the water challenge and ensure their supply chain, two major food manufacturers and two local rice mills have been motivating farmers to introduce advanced water-saving methods through a contractual farming program.
The stakeholders' involvement in water stewardship is also inspiring Pakistan's government to take a more active attitude to water-saving policies.

BEFORE: unlevelled field without alternative wetting and drying
AFTER: laser leveling and alternate wetting and drying



9 CLIMATE SMART RICE IN MYANMAR

Applied standards: SRP

Location: Shan State, Mandalay Region, and Mon State, Myanmar

The agricultural sector is the largest contributor to Myanmar's economic growth, and after being isolated from the world during 60 years of military dictatorship, it now has strong potential for expansion. Growth prospects are however constrained by climate change. In some areas, it is leading to water scarcity; in others, to floods; in coastal areas, to the salinization of soil. In addition to building climate resilience using smart irrigation and production technologies, we are promoting inclusiveness. For example, we are strengthening the capacity of rice mills to train farmers – mostly from very poor households without access to international markets – to produce better rice in a more efficient way.

10 DIVERSIFIED CROP ROTATIONS IN MADAGASCAR

Applied standards: BCI

Location: Selected districts of Atsimo Andrefana Province, Madagascar

In Madagascar, rice and cotton are competing for the country's scarce water resources. We are striving to harmonize this competition by increasing water efficiency. For example, we have partnered with a medical plant company to rotate cotton crops with artemisia, a highly valued plant used to produce medicines, such as to treat malaria. Crop rotation allows using water and soil more efficiently. Water losses are also reduced by investments in infrastructure and enhanced management.

11 REGIONAL RICE VALUE CHAIN PROGRAM

Location: Benin, Burkina Faso, Cote D'Ivoire, the Gambia, Guinea, Mali, Niger, Senegal, Sierra Leone, and Sudan

The Program aims to fulfill the strongly increasing demand for rice in Africa by leveraging domestic rice production and substituting rice imports. WAPRO's role is to foster South-South knowledge transfer from projects in Asia to 10 sub-Saharan member countries of the Islamic Development Bank, aiming to increase rice production while safeguarding social and ecological sustainability.

FREQUENTLY ASKED QUESTIONS

1. HOW CAN I USE THE PROJECT INSIGHTS IN MY WORK?
Contact us to learn more about 'push', 'pull' and 'policy' or to replicate our approach. We would be happy to share and support you in your water productivity journey!

2. WHAT IS WATER PRODUCTIVITY?
It is the ratio between the amount or value of a crop and the amount of water applied for its production. Increasing water productivity means

a) decreasing the amount of water for production while maintaining or increasing the level of yield/income from the crop, or
b) increasing yields/value of a crop, while maintaining or decreasing the amount of water.

3. WHY DOES THE PROJECT FOCUS ON RICE AND COTTON?
Globally, cotton and rice together account for more than 30% of irrigation water consumption and are mainly produced in countries with water scarcity. Not only is rice the world's most important staple food, both crops have a major impact on food security because they directly compete with food crops for water and other resources. That is also one of the main reasons why the project emphasizes the need for the diversifying agricultural systems.

4. WHAT WATER SAVING METHODS DOES THE PROJECT PROMOTE?

Diversifying the agricultural system includes crop rotation and intercropping. For example, intercropping a rice crop with soya increases the water productivity and at the same time offers higher income as farmers profit not only from selling rice but also soya.

Drip irrigation allows farmers to increase water productivity even in highly water-scarce areas, delivering water to the roots at a slow pace.

Shortening the furrows from over 100 meters to around 30 meters can increase water productivity by over 30%.

The system of rice intensification (SRI) involves a combination of measures, such as earlier transplantation of seedlings, alternate wetting and drying and spacing plants wider apart.

Direct seeding of rice and alternate wetting and drying (AWD) is a promising alternative to the transplanting of rice seedlings and continuous flooding of fields. AWD requires the installation of a simple tube in the soil to control water levels in unflooded periods.

Laser leveling increases water productivity thanks to the equal distribution of water on the fields. The repeated leveling of fields is required only every 3–5 years.

Refraining from or reducing the use of synthetic pesticides and fertilizers is an effective means of decreasing water pollution.

5. WHAT IS THE ROLE OF STANDARDS IN THE PROJECT?
Sustainable Rice Platform (SRP), Alliance for Water Stewardship (AWS) and Better Cotton Initiative (BCI) are project steering partners. They provide guidance to farmers on sustainable production and water stewardship. On the other hand, WAPRO's experience and evidence help the standard revision processes. For example, the project plays an important role in rolling out the new Water Stewardship Principle of the BCI standards globally, and its experience in implementing water stewardship at the farmer level is fed into the technical committee of AWS.

CONTACT US TO LEARN AND JOIN

Stefanie Kaegi
Senior Advisor
Sustainable Agriculture and Extension at Helvetas
Stefanie.Kaegi@helvetas.org

Jens Soth
Senior Advisor
Value Chains / Sustainable Commodities at Helvetas
Jens.Soth@helvetas.org

HELVETAS Switzerland
Weinbergstrasse 22a
8021 Zürich
Phone: +41 44 368 65 00
Fax: +41 44 368 65 80
E-Mail: info@helvetas.org