

Water for Resilience: Sustainability in Action

Building Resilience Through
Sustainable Resources
Management



Flowless Impact Report 2022

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Flowless' Impact Journey Towards Sustainable Future

Flowless is on a mission to improve the way we think about water, energy, and resources consumption. Our goal is to provide individuals and communities with access to a sustainable and reliable water supply. And the results of our efforts are nothing short of amazing.

In this report we showcase the impact of our work, from improving farmers' profitability, to reducing water losses, and all the way to contributing to reliable water supply for local communities.

Utilizing a combination of smart tech, innovative financing, and social responsibility, we're continuously working with our partners to generate more impact. The results are optimized processes, improved efficiency, and responsible management of our precious resources. Using this approach we continue to help our partners make financial benefits while improving communities' welfare and environmental sustainability.

With help from Flowless, utilities and farmers are effectively managing water resources, reducing contamination, and increasing profitability. The impact is improving economic development, promoting social well-being, and ensuring future generations have access to sustainable water.

01

Impact Figures: Flowless Impact in Numbers

Quantifying the impact:
Flowless impact in numbers

- Sustainable water
- Climate resilience
- Communities welfare



A photograph of two children in a dry, dusty environment. The child on the left is a girl wearing a light-colored t-shirt with a graphic and dark pants, carrying a large silver metal pot in her right arm and another in her left hand. The child on the right is a boy wearing a red shirt and red pants, carrying a large silver metal pot on his head and a yellow plastic jug in his right hand. In the background, there is a red motorcycle parked on the dirt ground, and some sparse trees under a clear sky. The text "Improving health and promoting sustainability by ensuring access to a sustainable water supply for all!" is overlaid in white on a dark semi-transparent band across the middle of the image.

Improving health and promoting sustainability by ensuring access to a sustainable water supply for all!



WATER SAVINGS

300,000 m³

of water saved through active leak detection and water losses reduction in water networks

RESILIENT FARMING

21% savings

in water and energy for farmers utilizing Flowless smart farming and operations automation solutions

IMPROVED SUPPLY

23,000 people

served with more reliable water supply, with higher quantities & quality through improved water supply operations

CLIMATE RESILIENCE

54,000 kg CO₂

emissions reduction by improving operational efficiency and optimizing processes in farms & water facilities

02

Flowless Approach: Thriving Through Impact Generation

Here is how we generate
positive impact:

- Environmental Impact
- Economic Development
- Social Impact





Reducing water losses to ensure sustainable water future for local communities



Environmental Impact

We empower farmers and utilities to reduce water losses, promote sustainability & conserve energy. Our solutions help them take control and generate a positive impact by optimizing their processes and actively managing operations to reduce waste and maximize efficiency.

For water utilities:

Flowless solutions support utilities to conserve water by:

- **Reducing water losses:** Conserving water resources by detecting leaks.
- **Improving supply efficiency:** by automating processes and optimizing operations.
- **Promoting water sustainability**

For farmers:

Flowless empowers farmers to adopt sustainable practices through:

- **Reducing water consumption:** through precision irrigation
- **Energy conservation:** by optimization operations in the farm to reduce energy consumption
- **Reducing fertilizers use:** by tacking the amounts of nutrients in the soil and providing just the right amount for each plant

Overall, we're working with our partners to help them generate impact for a more sustainable future and ensure safe access to water for future generations.

A photograph showing four people in a desert environment. In the foreground, a large black plastic mulch is visible. A woman in a blue vest and jeans is crouching down, looking at some equipment. Three men are standing nearby; one in a white shirt and cap is looking away, while two others in light blue and grey shirts are looking towards the equipment. The background shows dry hills and a clear blue sky.

**Helping utilities & farmers unlock
the hidden benefits of effective
operations: thrive financially &
create positive economic impact!**



Economic Feasibility

How do we help water utilities & farmers maximize productivity & feasibility?

Supporting farmers and utilities to improve their economic performance is at the core of our work. As a result of optimized operations and process automation, farmers and utilities are able to improve operational efficiency and thus improve feasibility and cutting down on operational costs.

For water utilities:

- **Reducing financial losses:** by reducing water losses.
- **Cutting-down operational costs:** by automating processes and optimizing operations.
- **Prioritizing interventions and capital investment:** based on insights from field data

For farmers:

- **Reducing operational costs:** by reducing water and fertilizers consumption
- **Reducing labor costs:** by automating operations and optimizing processes
- **Maximizing profitability:** by improving the yield as a result of precise irrigation and proper fertilization

A man with dark, curly hair and a beard, wearing a light blue t-shirt, is shown in profile, looking down at a small, clear object he is holding in his hands. He is standing outdoors in a dry, hilly landscape with sparse green bushes and a clear blue sky. In the background, there are some grey pipes or conduits on the ground. The text "Building resilience & financial stability for marginalized communities" is overlaid in white on a dark semi-transparent banner at the bottom of the image.

**Building resilience & financial
stability for marginalized
communities**



Social Impact

What role does the society play in building water security?

An intriguing question, isn't it? This should be the form of relationship between the water utility and the society: community members should actively participate in improving water supply to their houses and work places.

Utilities alone cannot continue to serve communities needs without active participation from the people.

We continuously work with utilities and key players in the water sector to generate social impact through:

- Empowering local communities to participate in decision making and **active governance**
- Providing a more **reliable water supply**, with better quality and higher quantity
- Building more **resilient infrastructure** through local partnerships and capacity building

Bottom line: The society plays a fundamental role in building a water secure future. The community can – and should– contribute to active water management.

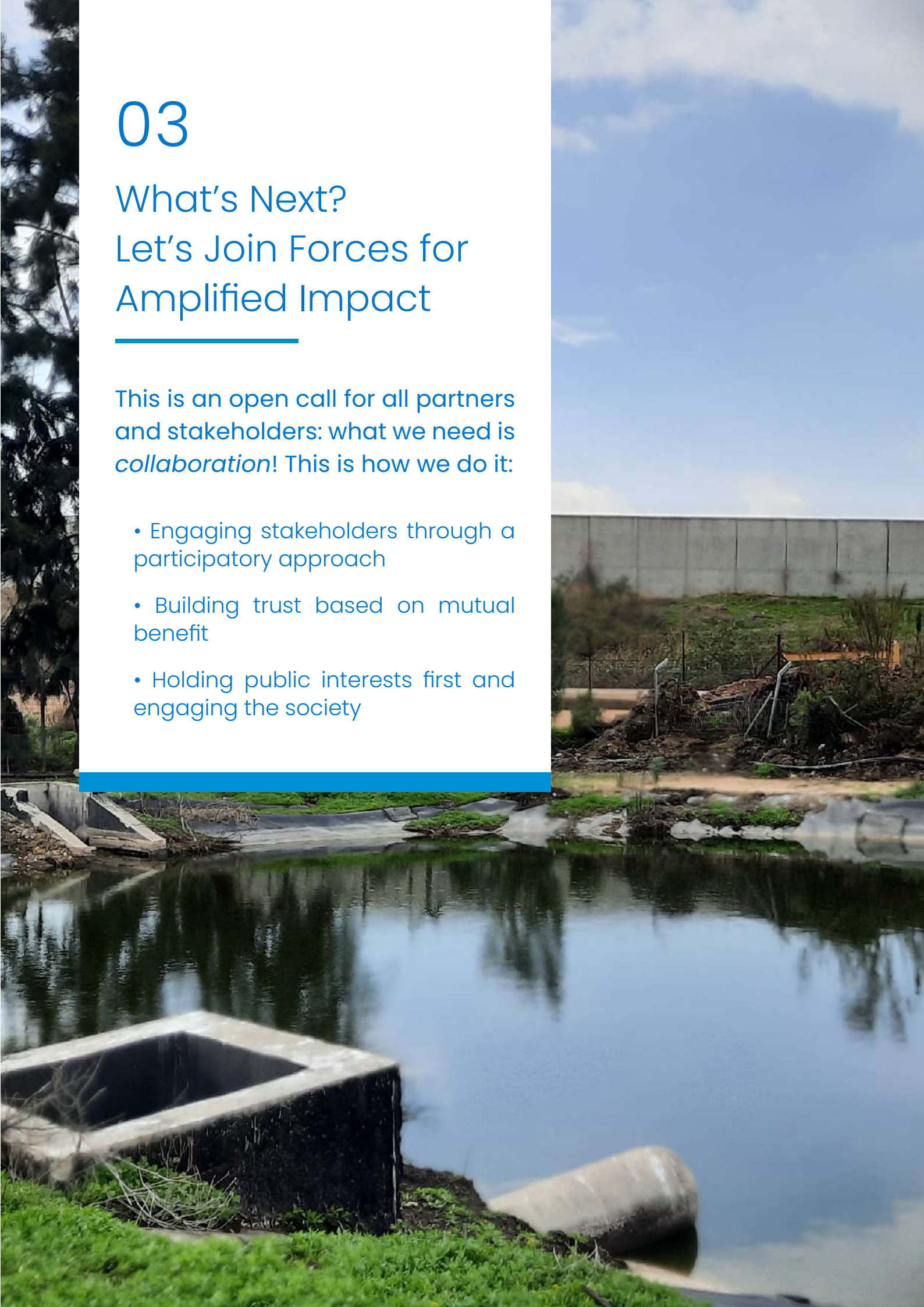
Simple contributions like leaks reporting and raising claims have the potential to significantly improve networks operations. This is the essence of social infrastructure: promoting sustainable management by engaging the society.

03

What's Next? Let's Join Forces for Amplified Impact

This is an open call for all partners and stakeholders: what we need is *collaboration*! This is how we do it:

- Engaging stakeholders through a participatory approach
- Building trust based on mutual benefit
- Holding public interests first and engaging the society





Improving Water Sustainability: Unleashing The Power of Active Management

Our goal is to help communities build resilience through resources sustainability. We know that we cannot do it alone, and this is why we always work with partners for scalable and sustainable impact. This approach us built on three pillars:

- **Active governance:** ensuring better performance of water utilities through accountability and increased sense of ownership.
- **Solid organizational structure:** well-structured procedures and continuous improvements through active monitoring and evaluation.
- **Integrity & transparency:** engaging stakeholders in planning and inclusive decision-making process.

We're build a win-win situation for all stakeholders including communities and the planet! We're always on the lookout for operations and development partners, and would be open to build trust and relations based on mutual benefit.



Making Sustainable Agriculture Mainstream: Where Do We Stand?

Conventional farming is resource-intensive, prone to climate risks, and compromises feasibility. More farmers are starting to realize these facts. The question is: how to scale-up sustainable agriculture practices and make them the new norm? Here are some insights from Flowless' journey:

- **Leading by example:** farmers work in clusters, where they learn from each other. Start working with early adopters, then the rest will follow.
- **Piloting & progressive scale-up:** aim big, start small. Introduce as much value as possible for the farmer through simple interventions, then start building up with more complicated interventions (also known as *agility*)
- **Making technology more affordable:** Innovative financing is *key*. Utilizing blended-financing & alternative mechanisms reduce the financial burden for the normal farmer, making impact much more scalable.

To put these insights into action, we're continuously working with our partners to scale our impact. Join forces and help us build resilience!

04

Impact Stories: Sneak Peak from Flowless' Journey

These are examples from our impact heroes:

- Senara Farm: empowering local communities through agriculture
- Water Losses reduction in Palestine & Jordan: the lean approach
- Resilient tech: smart farming in the Jordan Valley





Up to 50% water savings through
leak detection & operations
optimization



Water Losses Reduction & Water Supply Optimization

Losses Reduction: The Practical & Affordable Approach

Flowless team have been working with water utilities to help them actively manage their water networks.

We help utilities to start working on improving performance through the low-hanging fruit: simple yet powerful interventions that generate fast and tangible impact.

Technology can greatly help in simplifying this process. Flowless system helps to proactively detect and fix leaks, resulting in a massive reduction in water losses of %33. This not only helps to conserve valuable water resources, but it also leads to considerable financial savings for the utility.

Smart Water: Utilizing Artificial Intelligence for Leak Detection

Miyahuna Water Utility is on track for achieving huge water savings, currently saving 20 cubic meter per hour in a small area (~2500 house connections) in Amman, Jordan. Through active leak detection and data interpretation, Miyahuna utilized Flowless platform and the AI-aided analytics to achieve water savings of 18%.

Flowless web platform supports water management through:

1. Data analytics & actionable interpretations
2. Smart leak detection and leak localization
3. Customizable reports & alerts

21% Water savings through smart irrigation in the Jordan Valley, with Improved yield & financial gains





Building Resilience Through Smart Technology for Farmers in the Jordan Valley

Smart Irrigation in The Lower Jordan Valley

The Jordan Valley is identified as a fertile land, with warm climate and availability of ground water. Various types of agricultural activities prosper in the area, including vegetables and fruit.

Flowless deployed the precision irrigation system (AgriWise™) in four farms on both sides of the Valley.

In Palestine, the system helps local farmers in automating irrigation for tomatoes and cucumber cultivated in greenhouses.

In Jordan, farmers utilize smart irrigation to optimize irrigation for palm trees based on the need of each tree.

Technology for Social Good: The Future of Agriculture

Flowless system helps farmers automatically perform daily operations based on an innovative data-driven approach. System benefits include resources conservation, cost reduction, and improved agriculture yield.

- Real-time data collection is essential for efficient farming
- Automating processes in the farm supports farmers in improving their productivity and reducing operational costs
- Utilizing emerging technologies enhances operations and facilitates efficient resource allocation



**Food security & sustainable
income through rooftop farming
in refugee camps in Jordan**



Empowering Marginalized Communities Through Agriculture: Senara & Flowless Impact Model

Partnering for Impact: Flowless & Senara Joining Forces

Senara, our partner from Jordan, is disrupting traditional farming at the heart of the crisis, building on the very few resources they have in refugee camps to provide sustainable income for marginalized communities through rooftop hydroponics.

Flowless joined forces to grow and accelerate the positive impact. We're working with Senara on our combined smart hydroponics system to promote sustainable & resilient farming.

If there is one takeaway from our collaboration with Senara, then that would be how social enterprises can maximize their impact through partnerships!

Supporting Farmers to Utilize Sustainable & Resilient Farming

Flowless system helps in collecting data, monitoring, and measuring these concentrations and the ambient environmental conditions.

Based on this collected data, the system automatically pumps the nutrients into the water pipes. This facilitates controlling the hydroponic farm much easier and saves time and effort.

- Improved water efficiency: using Senara's hydroponics
- Automated operations: through Flowless system
- Enhancing the yield and improving productivity



Technology,
Sustainability,
Resilience.

Join forces to generate positive
impact for sustainable resources
and resilient communities. Let's
work together!

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