



From Disaster to Development

A GRID Case Study in Mozambique



August 2021



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Picture on Cover: JDC and partners ADPP and ADRA meet with members of the local farmer's association in Nhamatanda



A Note from JDC

Dear friends,

Our world is not short on disaster and hardship. Nor is it lacking in hope—and those who care and act.

In March 2019, two cyclones devastated Mozambique in quick succession, taking lives and wiping out homes and livelihoods. As we have throughout our 107-year history, JDC responded, working with the local Jewish community and key aid organizations to identify where our help was most needed.

Over the course of 18 months, JDC mobilized resources and accelerated recovery in each phase of the disaster. Together with partners, JDC provided emergency medical supplies and care, trauma support, temporary shelters, and access to safe drinking water in the immediate aftermath. As the situation stabilized, we began to implement longer-term interventions, helping small-scale farmers and their local communities restore and diversify food production, fix water infrastructure, and harness cutting-edge agricultural technology to grow their businesses.

When others are in crisis, JDC acts. We have a long history of responding to communities in need around the world, including through agricultural initiatives, from Eastern Europe in the 1920s, to newer interventions providing agriculture technology (Ag-Tech) to Ethiopian farmers. Aligned with best practices, JDC GRID takes a community-based approach, working with Jewish communities and trusted partners to make our global expertise *local*. We map our response for each phase of the disaster—addressing urgent needs through material and technical support, identifying areas for rehabilitation and development, and integrating innovative solutions and technology.

We also think sustainably and nimbly about our response. We pride ourselves on our ability to reach and support the most vulnerable, hard-to-reach communities in a cost-effective way. In Mozambique, we matched Ag-Tech innovations with sustainable practices to improve collective farming operations. We provided access to clean water and markets, training farmers and partners along the way. New technology and skills are restoring livelihoods, increasing food security for their families, and building resilience for the future.

In short, this case study is an overview of JDC's response to help Mozambique build back better, with insights into *how* and *why* we respond. We are grateful to our partners, supporters, and the communities we serve around the world—and welcome others to join us in this work.

Sincerely,

Avital Sandler-Loeff
Executive Director, JDC GRID

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JDC GRID: Framework & Strategy

From Indonesia to Nepal, from the Philippines to Haiti, JDC is on the ground when disaster strikes, working with communities of all backgrounds and faiths to not just recover but truly rebuild — crafting innovative, sustainable solutions so that the most vulnerable people in the hardest-hit places come back even stronger. We also bring our century of expertise to poverty, food insecurity, health, and gender inequality, deploying the best of Israeli innovation to improve lives all over the world. Each disaster is different, depending on the type, location, economic and political context, existing challenges, and other factors. Disasters may occur suddenly or slowly, incur repeated shocks, and create new hazards. They may take place in urban or rural settings; in high, middle, or lower-income countries; and within functional democracies, transitional nations, fragile states, or conflict zones. When an international call for assistance is announced, all of these factors are taken into account while formulating a JDC response.

At its core, JDC's strategy relies on relationships with trusted partners to navigate local realities, complementing each other's strengths and areas of work. We aim to respond in the most effective, cost-efficient way by:

- Addressing gaps in relief efforts in coordination with NGOs, government entities, and community leaders
- Leveraging limited resources for large-scale impact
- Developing with local partners outcome-driven interventions to aid recovery and build resilience
- Adapting innovative technologies and training for local contexts
- Ensuring project sustainability by providing technical assistance, education, and market access and resources to communities and implementing partners



JDC-NATAN volunteers coordinate efforts around psychosocial aid.



Climate Change and Cyclone Idai

With its long coastline, large river delta, and shifting weather patterns, Mozambique endured increasing incidents of severe natural disasters long before the 2019 storms devastated the country. Flooding, heat waves, cyclones, and drought have grown more frequent and extreme over the last 20 years. Global climate change has placed a burden on local governments and leaders to assess and mitigate risk, build safeguards into community infrastructure, and advance climate resilience and disaster preparedness for the future.¹



A child presses clothing on a rock amid rubble and flooding from Cyclone Idai.

Those efforts were tested on March 15, 2019, when southern Africa was hit by Cyclone Idai, a severe storm that drove harsh winds and torrential rain through central Mozambique, as well as Zimbabwe and Malawi.

In Mozambique, the cyclone uprooted trees, damaged schools and healthcare facilities, including the emergency wing of Beira Central Hospital, and destroyed over 198,000 homes. The storm also toppled Mozambique's power grid and flooded land and fields, a significant economic loss for the 80% of the population that relies on agriculture to subsist.



A woman and child traverse flood waters with personal belongings.

Severe conditions and landslides heightened the risk of disease and slowed relief efforts in the most isolated, rural areas. With clinics destroyed, limited medical supplies were insufficient to meet growing demands for care. While searching for displaced family members, survivors struggled to recover from illness and injury, with many living in makeshift shelters across the region.

In Mozambique alone, Cyclone Idai left over 600 people dead, 1,600 injured, and 1.85 million people in need of support.² Five weeks later, Cyclone Kenneth, the strongest such storm to make landfall in Africa, hit

¹ Herscher, Rebecca. "Extreme Weather in Mozambique is Outpacing Efforts to Adapt." *NPR*, December 27, 2019, <https://www.npr.org/sections/goatsandsoda/2019/12/27/788552728/mozambique-is-racing-to-adapt-to-climate-change-the-weather-is-winning#:~:text=Mozambique's%20long%20coastline%2C%20sprawling%20river,as%20the%20Earth%20gets%20hotter.>

² UN Office for the Coordination of Humanitarian Affairs: <https://www.unocha.org/southern-and-eastern-africa-rosea/cyclones-idai-and-kenneth>, accessed June 26, 2020.



an area on the border between Mozambique and Tanzania, destroying livelihoods and raising the total of those affected to two million.³

JDC's Response

When the cyclone hit, JDC reached out to Mozambique's small Jewish community- Honen Dalim, which was not directly affected—to understand on-the-ground needs. In accordance with GRID's emergency plan, JDC reviewed the facts of the disaster and based on its criteria, decided to respond.

JDC's work in Mozambique took place over 18 months in multiple phases: immediate and short-term emergency relief in the first 3-6 months, mid- and long-term recovery from six months onward, and finally phasing out after 18 months in December 2020.



The JDC-NATAN team arrives with packages of medical supplies.



JDC meets with two humanitarian response experts and the Jewish community's president.

Immediate Response and Short-Term Emergency Relief

As soon as the decision was made to respond, JDC dispatched assessment experts and opened a fundraising mailbox to fuel its response. The team first met with the Jewish community, who served as the host for Jewish and Israeli aid organizations and helped coordinate communications, logistics, and translation support. JDC strategized with local humanitarian leaders to identify gaps in relief

³ Ibid., NPR article.



efforts, offer expertise, and determine the most effective intervention to undertake.

Within two weeks, JDC deployed a joint response team with NATAN, an Israeli international aid organization, to assess needs, administer supplies, and provide trauma relief. Working with other organizations in the disaster zone—such as the World Health Organization, World Jewish Relief, OCHA, ADRA Mozambique, and ADPP Mozambique—was critical to minimize overlapping activities.

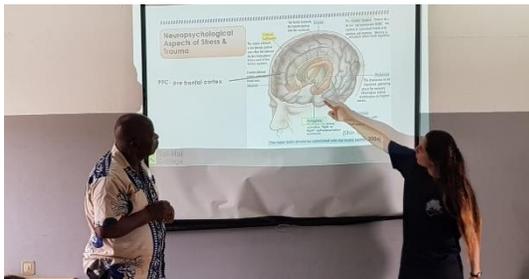
Immediate response measures over the first 3-6 months included:

- Dispatching a **JDC-NATAN medical mission** of half a dozen volunteer physicians, paramedics, and trauma relief experts to the disaster zone.
- Building **emergency response shelters** that afforded medical treatment to survivors, in partnership with NATAN.
- Delivering **4,393 pounds of emergency medical supplies**, including bandages, antiseptic soap, and blood collection kits to test for cholera and other diseases, provided by the AFYA Foundation and in coordination with ADRA Mozambique.
- Providing 800 homeless families with materials with which to build **temporary shelters, as well as non-food items**, such as blankets, seeds, and flashlights, together with ADRA Mozambique.
- Helping prevent disease by **increasing access to clean water** via distribution of water filtration and hygiene kits to 800 displaced families, with partners ADRA and ADPP.
- Addressing **challenges to emergency relief provision**, such as helping to reach survivors in remote villages and mitigate cases of malaria and cholera.



A JDC-NATAN medical volunteer bandages a woman's wounded hand.

Mid- and Long-Term Recovery Efforts



Experts explain short- and long-term neurological impacts of stress and trauma.

As Mozambique began to stabilize, JDC stayed on the ground in Nhamatanda after the first six months to implement a long-term recovery plan with local partners, focused on reviving farming and food production while fixing water infrastructure. Our goal was to empower farmers to earn more for their families, mitigate food insecurity in hard-hit communities, and strengthen local systems for the next disaster.



Building on expertise gleaned through the TOV program in Ethiopia (see side panel), JDC and our partners worked with subsistence farmers in four farming clubs in the Tica region in:

1. **Livelihood Diversification:** JDC and ADPP Mozambique worked with farmers from field to table, helping them develop new income streams. We supported value chain and business development, helping farmers find and access markets, increase sales, and diversify the way they grow their crops.
2. **Water Rehabilitation:** JDC and ADRA Mozambique supported fixing well infrastructure and boreholes to pump clean water for 4,000 people, creating access points in the center of hard-hit rural communities. We brought our expertise in Israeli infrastructure to develop their water management capacity.
3. **Climate-Smart Agriculture:** Together with ADPP, JDC introduced innovative agricultural technology (AgTech), installing four solar-powered irrigation systems and eight solar-powered pumps across four farming clubs. Beyond technology, we provided capacity-building, training, and technical support around the equipment and sustainable agricultural practices.

Key activities and outcomes included:



Providing **400 families with seeds** and assistance to replant their crops.



Installing **four solar panel irrigation systems and eight solar-powered pumps** while providing training in sustainable agricultural techniques. In this first phase, their installation **directly benefitted 100 subsistence farmers** in Tica and, indirectly, over 600 of their family members. Together with additional market improvements in the final phase of intervention, we reached additional individuals, contributing to the **recovery of 2,250 small-scale farmers in total**.

TIKKUN OLAM VENTURES (TOV)

Africa is home to JDC's flagship development program, Tikkun Olam Ventures (TOV), which leverages Israeli agricultural technology (AgTech), like drip irrigation and solar-powered pumps, to help lift Ethiopia's most vulnerable smallholder farmers out of poverty.

In its pilot, TOV launched seven demonstration sites and is expanding to provide loans to agricultural enterprises supporting over 100 farmers, together with new systems, hybrid seeds, and agricultural training.



Establishing **five-person committees across four farmer's clubs**, with at least two women serving on each committee, to receive **specialized technical trainings** on use and maintenance of the solar-powered irrigation systems and pumps.



Repairing three wells, providing **over 4,000 households with access to safe water**, and establishing local hygiene and sanitation groups, together with community education, to keep the well pumps safe and clean.



Improving market linkage in Tica with **value chain development** and the **construction of five new market stalls**, accessed by farmer's club members on a rotating basis.



Constructing two lavatories for market vendors and customers, now a source of **additional income for the farmer's clubs** by charging a small fee to cover cleaning costs and the attendant's wages. Other facilities include a **warehouse for produce and a borehole** that provides clean water for washing produce, drinking, and hygiene.



Training five Market Committee members—comprised of three women and two men—in the daily management and administration of the new market, such as maintaining clean and operational spaces, ensuring produce quality and price control, and resolving conflicts.



JDC, ADRA, and ADPP meet with local leaders to discuss hygiene and sanitation in maintaining the well pump.

After 18 months of work on the ground, JDC phased out our activities in Mozambique. Through our support, farmers have restored and enhanced their activities in the fields and local markets—and are more empowered in their ability to grow their businesses, support their families, and create a more sustainable future for their communities.

Measuring Impact

JDC's work in Mozambique utilized ongoing monitoring and periodic evaluation to ensure program oversight, efficiency, and effectiveness. Our approach aligned with best practices and measured impact at the *program* level—how individual services directly affect those who participate—and *community* level—how we and our partners create change for a specific population or region.

To evaluate the efficacy of our response in Mozambique, JDC employed three primary methods:



- Data collection
- Interviews with beneficiaries
- Monitoring visits to local communities

Through these methods, JDC and our partners found that our long-term development activities in Mozambique had an impact on the broader community, not just participating farmers. For example, providing four solar-powered irrigation systems to four farmer’s clubs and constructing five new market stalls contributed directly to the economic recovery of 2,250 individual small-scale farmers. These interventions have also benefited thousands of their immediate relatives and other community members who rely on fresh, quality produce to support their families’ health and well-being.

Micro Impact: Beneficiaries

At the heart of every intervention are the stories of the individuals, families, and communities affected by crisis and support. These profiles illustrate JDC’s impact on local farmers in the Nhamatanda district of Mozambique’s Sofala province. See Appendix for additional profiles.

Reducing the Caregiving Burden on Women



The mother of 12 children, 47-year-old **Ana Armando Macedo** lives in Tica Sede and is a farmer’s club member in nearby Nhamatanda. After watching her house collapse during the cyclone, she fled with her family to the local municipal shelter in Tica. Like the rest of the community, the crops that Ana grew in the fields for her family and farmer’s club were destroyed. This devastation placed a unique burden on local women like Ana, who traditionally shoulder domestic duties, especially the provision of food and caring for children, elders, and the infirm. “As a woman, I have the responsibility of feeding the family,” she shares. “I need to work in the fields, but when the land is dry, it is impossible to grow food.”

A JDC grant provided critical assistance to Ana and her farmer’s club as they sought to rebuild. Installing new irrigation systems with solar panels has contributed to increased agricultural production, enabling farmers in the region to cultivate larger fields more quickly and efficiently. With irrigation in place, the community began horticulture production throughout the year, ensuring a critical source of income and food security for the households working to restore their livelihoods.

Ana credits JDC and ADPP for helping to reestablish their irrigation system lost during the cyclone, introducing new agricultural technologies that improve food security and enable the community to address gender disparities at home. She explains that “using irrigation systems reduces the burden of care we have as women, and we work together



in the field with men now. We can have a much bigger farm to produce more food to sell—and for our children.”

Building Resilience and Passing It On

After losing everything in the cyclone, organic cabbage and onion farmer **Manuel Luís Guerra**, 32, found solace and motivation in the new AgTech irrigation systems that are helping small-scale farmers like him increase areas of production, harvest, and income. “Our farmer’s club already knew about sustainable agriculture practices through our work with ADPP,” he explains, “but the new irrigation system helped us produce more and expand our fields. I produce a lot of organic cabbages and onions, selling most but eating the rest. My neighbors and family have seen that my work is profitable, and I am passing on what I am learning.”



Macro Impact: Communities

The goal of our long-term development assistance was to help farmer’s club members to build back better. This was achieved on the community level through the **adoption of new technology** and **market linkages and improvements** that significantly increased outputs and expanded their customer base and income.

New Technology

The introduction and implementation of **four solar-powered irrigation systems** and **eight solar-powered pumps** contributed directly to the economic recovery of small-scale farmers in Tica. With additional training, farmer’s clubs reestablished and increased production in their fields, including the use of short-cycle crops, which help mitigate risk of low production or destruction due to extreme weather conditions.

This intervention now serves as a proven concept that can be scaled in Tica and beyond. Since piloting this technology, JDC’s partner, ADPP Mozambique, is **doubling its impact by expanding this model to four new farming collectives** that were not reached through the previous phase. They have developed criteria to identify and select new partner clubs, giving priority to those with fields near adequate water sources, access to a passable road, and a willingness to use irrigation technology as a group or individuals.



A JDC partner examines the solar pump in a farmer’s club field.



The mural outside the market lavatories provides WASH public health reminders. Mural translation: "Avoid diarrhea. Wash your hands after using the bathroom and before eating. Cover the water."

Market Linkages

In tandem with new technology, JDC and ADPP **improved connections to the market** in Tica, helping participating farmers access market space, increase sales, and grow their customer base to meet new levels of production.

On-site improvements and new management structures at Tica's market played an important role in market access, particularly through the construction of five new vendor stalls and two lavatory and wash stations. The **Market Committee**, which was established and trained to manage market operations, coordinates with farmers, collaboratives, and local authorities to promote new features of market infrastructure, including water access points like community boreholes that supply the market, irrigate plots, and support sanitation and hygiene efforts.

To ensure market linkages continue, participating farmers are supported by a field liaison, who provides cross-club guidance, collects production

and sales data, and monitors market improvements and training. ADPP's project coordinator in Lamego will supervise field activities and report ongoing activities and progress.

Local government leaders have also promoted and endorsed the efficacy of these interventions. In 2020, Sofala Province Governor Lourenco Bulha joined Nhamatanda officials to transition the market formally into the hands of local farmers, honoring the community's recovery and commitment to its future. This program model also contributed to national and international plans that target farmers affected by extreme weather.



Using Best Practices

As in all our programs, JDC GRID employs best practices in creating and implementing emergency relief and international development initiatives. Two of the most prominent examples are (1) our focus and reliance on partnerships, including local Jewish communities, and (2) concerns about financial and environmental sustainability.



The JDC-NATAN assessment team is oriented and briefed by local and international aid experts.

Community-Based Approach

At the heart of JDC’s mission and modus operandi is partnership to provide community-based, culturally-responsive support. None of our achievements are ours alone.

While we have vast experience conducting extensive rescue, relief, and recovery operations on a global scale, JDC relies on local communities, partners, and end clients to provide context and determine the most effective solutions. Together, we identify, prioritize, and address urgent needs, both in immediate disaster relief and

in long-term development. This person-centered approach enables us to focus on the most vulnerable communities and access hard-to-reach locations with services and aid.

As an example of our success, in the early aftermath of the cyclone, JDC’s Disaster Response Director traveled with our partners and a Mozambican translator, Kiven, to the most remote and devastated communities in Namatandha. After a long day visiting over seven communities at different sites in the area, Kiven expressed his disbelief that JDC managed to reach these locations. He explained, “I would never have imagined that these places even existed on a map—let alone how much they are in need. Without JDC, they would have been completely left behind.”



JDC-NATAN volunteers and partners listen to community members.

Local Jewish Community

Our history as the Jewish 9-1-1 also means that Jewish communities around the world turn to us for support. During natural disasters, it is often the local Jewish community that sends an urgent invitation to respond, acting as host and liaison to existing humanitarian relief efforts. In Mozambique, the local Jewish community played an active role in the



Jewish response to this crisis, providing JDC with local knowledge, logistical coordination, communications, and on-the-ground operational support.

Sustainable Solutions

JDC focuses on sustainable solutions, in terms of environmental impact and financial viability. In Mozambique, we provided water filtration systems as emergency relief, repaired water infrastructure like well pumps, and offered Water, Sanitation and Hygiene (WASH) education to ensure access to clean, safe water. Local leaders are now trained to monitor and maintain these structures as an integral part of their communities.

Likewise, in consulting farmers about restoring their fields, JDC leveraged its knowledge of solar-powered AgTech solutions that would harness Mozambique's position in the Global South to the benefit of community. This equipment is responsive and irrigates fields systematically, minimizing risk, over or under watering, effects of drastic weather events, and financial waste.



Investing in technology, sustainable agricultural practices, and training broadens skills and local knowledge. As evidenced by the story of Manuel Luís Guerra, farmers then feel empowered to share these new tools with other community members who could benefit from participating.

JDC's financial and technical support seeded this innovative pilot, established proof of concept, and unlocked new funding to sustain the model after we phased out. To that end, ADPP was awarded a significant grant from SUSTENTA, a national government program launched by Mozambican President Filipe Nyusi that invests in local agricultural initiatives to boost production as the country continues to rebuild.

The Macumba China Association's sign acknowledges JDC, ADPP Mozambique, and World Jewish Relief as donors of their irrigation system



Lessons Learned: Key Takeaways



JDC, ADPP, and ADRA representatives gather before embarking on monitoring visits.

After 19 months of relief and recovery work in Mozambique, JDC identified the elements of our strategy that allowed us to be nimble and effective in our response.

- **Importance of local responses to local issues:** JDC’s holistic approach to partnerships centers the voices and experiences of those impacted, e.g., pairing local knowledge of farming in Africa and Mozambique with JDC’s knowledge of innovative technology and market links.
- **Activation of Jewish community:** Maintaining relationships with Jewish communities, no matter how small, means JDC is uniquely positioned to arrive on the ground both as a local guest and as a global aid organization. Centering a Jewish response to a humanitarian issue can also build bridges to the broader community.
- **Broad areas of expertise:** JDC has a long history of developing and implementing agricultural initiatives, dating back to Eastern Europe in the 1920s, along with newer initiatives like TOV’s AgTech solutions for Ethiopian farmers. We have learned how to leverage and adapt our expertise for different contexts and geographies.
- **Sustainability in development phase:** JDC invests in sustainable infrastructure—from technology, market linkages, and marketing support for farmers, to fixing holes in community wells to ensure access to clean water. Participating farmers have also shared their knowledge with family, friends, and peers, potentially increasing demand for such interventions and commensurate funding to support expansion.
- **Cost-effective approach:** Despite not raising as much financial support as anticipated, JDC leveraged limited funding as an opportunity for big impact, finding nimble ways to streamline activities and reach more communities with fewer resources.



Conclusion

With over a century of experience partnering with communities and addressing global emergencies, JDC provides a Jewish response in the face of disaster. We use a community-based approach with partners, allowing us to adapt our expertise to meet local needs, develop innovative solutions, and support efforts for long-term development.

In the aftermath of Cyclone Idai, hundreds of survivors in Mozambique received clean water, medicine, and shelter. Upon phasing out, JDC has handed recovery programs back to local partners and communities, empowering thousands of farmers to care for their families and rebuild their lives for the future.



JDC and partners explore agricultural techniques and crop yields via new irrigation equipment.

About JDC

JDC is the world's leading Jewish humanitarian organization, working in 70 countries to lift lives and strengthen communities. We rescue Jews in danger, provide aid to vulnerable Jews, develop innovative solution to Israel's most complex social challenges, cultivate a Jewish future, and lead the Jewish community's response to crises⁴. For over 100 years, our work has put the timeless Jewish value of mutual responsibility into action, making JDC essential to the survival of millions of people and the advancement of Jewish life across the globe.

More information can be found at www.jdc.org.

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⁴ For a brief history of JDC's nonsectarian work, see JDC Archives: https://archives.jdc.org/project/jdc-international-development-program/?fbclid=IwAR1h3y6qnK_-my1Dh6JTc5ZQecfrafd3b7wK3oPkN6AHO7bMYaSdIriAHNk.



Appendix

Additional Personal Profiles of Local Farmers in Mozambique



Fueling Family Education with Pumpkins

At 49 years old, **Juliana Juliasso** is a widow and mother of four children between the ages of five and 15. Like so many others, her house was destroyed in the cyclone, as well as the crops in her personal field and the collective site of her farmer's club. She recalls that, without her livelihood and income, her situation became difficult, especially impacting her children, who rely on her to feed them and purchase books and school uniforms.

In the second half of 2020, Juliana noted a promising change in her family's life thanks to the reopening of her club's fields and the installation of new solar-powered irrigation systems, which help them plant and harvest vegetables to sell in their new stalls at the local market. She shares: "Because of this new technology, we spend less time irrigating crops in our collective field, and now I have more time to work in my own field to produce the pumpkins that I sell here in the market. The money I earn in the fields and market enables me to support, educate, and feed my children."

Dreaming Big and Producing More

A dreamer at heart, 41-year-old **Domingos José** is motivated by a hope for better days, especially in the wake of Cyclone Idai. Through ADPP and JDC, his farmer's club received support to install a new solar-powered irrigation system, which has enhanced and increased their agricultural production as a collective and individuals.



"We would not have been able to make such an investment on our own," Domingos notes. He and his farming collective view the new technology as their competitive advantage in providing water throughout the year to irrigate their fields, enabling them to produce, eat, and sell more.

Domingos also cites Tica's market improvements, including the new stalls, lavatories, and washing stations, as critical to his growing business. The market is promoted by the district, which drives traffic to his and the club's goods. He shares: "I take my produce there every week, and I feel prepared to implement further investments in my fields—to expand and become a recognized farmer in the whole province."