



INNOVATIVE SUSTAINABLE AGRICULTURAL PRACTICES IN THE WEST BANK

Oxfam Case Study

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This 14-month pilot project was born from a call for innovative approaches to tackle systemic issues facing women and youth in rural Occupied Palestinian Territory (OPT). It provided participants with a range of training and inputs on an innovative method of sustainable permaculture farming. The project helped to address key risks and challenges identified by the communities involved – including unemployment, land confiscation and water scarcity.

This case study documents the project's positive impact on the lives of women participants, including self-sufficiency, increased incomes, improved family nutrition and enhanced wellbeing. It shows how their success influenced other villages and councils, increasing the women's self-confidence and their status in the community. The case study considers the potential for scaling up permaculture farming among both small- and large-scale farmers in OPT, and the role this could play in wider efforts to achieve women's economic empowerment.

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This case study was written by Nabila El-Ahmed with the support of Oxfam-Québec team. It is part of a series of papers written to inform public debate on development and humanitarian policy issues.

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Cover photo: Project participants in Raboud. Simon Trépanier/Oxfam

1 THE PROJECT

*Enhancing Palestinian Women and Youth Resilience through Innovative Sustainable Agriculture Practices*¹ ('the project') was a 14-month pilot project funded through Oxfam Quebec's Program ACCES Innovation and implemented by the East Jerusalem YMCA. Launched in September 2017, the project aimed to improve the economic and social welfare of marginalized communities in three villages in the Occupied Palestinian Territory (OPT).

The project enabled communities to use the Participatory Vulnerability Capacity Assessments (PVCA) tool to identify their vulnerabilities and risk factors, as: unemployment, lack of income-generating opportunities for women, insufficient water resources, and confiscation of unused agricultural land by Israeli forces. The project worked to address these challenges and gaps by implementing an innovative sustainable agriculture approach. It had three components:

- A training in permaculture with provision of inputs for 'lasagna' (raised-bed) gardening. In total, 126 people (75% women) from the three villages received hands-on training, and 21 women (seven from each village) received inputs to plant using the lasagna method.
- A training for agricultural engineers from the Ministry of Agriculture in gender-sensitive sustainable agriculture. In total, 39 people received the training (49% women).
- Technical permaculture course at the Jericho YMCA's Vocational Training Centre, attended by 158 students from across the West Bank and women from the community.

The project was implemented in three villages: Raboud in the Hebron governorate and Jubet Adh Dib and Wad Fukin in the Bethlehem governorates, all in the Jordan Valley in Area C² in the OPT.

2 PURPOSE AND SCOPE

This case study aims to document the results, lessons learned and recommendations that emerged from this initiative to inform the development and improvement of future innovative models of sustainable agriculture.

It is also hoped that this study can add new insights and encourage a sector-wide dialogue on community-based approaches that tackle the intersecting challenges of sustainable agriculture, conflict and fragility, and women's economic empowerment.

3 CONTEXT

Life for Palestinians under occupation is marked by a system of physical and bureaucratic restrictions as well as violations of international humanitarian law, limiting their freedom of movement and access to economic opportunities, education and healthcare.

The occupation adversely impacts all aspects of life in the OPT. Palestinians living in Area C, which is under total Israeli civil and military control, are under constant threat of land

confiscation, arbitrary restrictions of movement, and demolitions of property and forcible transfer of people.³

Gender

The political context is a key determinant of negative gender dynamics, as conflict and the humanitarian crisis reinforce patriarchal structures to further compound gender-based vulnerabilities⁴. For instance, a recent regional study on gender equality found a direct link between exposure to violence related to the occupation and gender-based violence.⁵ The real and constant threat of military and settler violence is often used as justification to restrict women's freedom of movement.⁶

In addition to the overarching negative implications of conflict and fragility on gender dynamics, the gender-based division of labour and land rights (the right to access, use, inherit, control and own land) is significant in defining women's lower status in so-called 'traditional' rural and agricultural communities.

Environment

Seasonal, rainfed agriculture is the predominant form of farming in rural OPT. Traditional rainfed agriculture uses various water-harvesting techniques such as terracing and cisterns to catch and store water during the rainy season. Overuse of chemical fertilizers has led to air and water pollution and serious soil degradation, with water scarcity and poor agricultural practices further contributing to soil erosion.

Lack of water is a major barrier to agricultural development and economic development.⁷ This is less an issue of scarcity as one of poor access due to Israeli policies and restrictions.⁸

Unemployment

Unemployment rates for youth and women are among the highest in the Middle East and North Africa region. In 2018, the unemployment rate among youth aged 15–29 reached 41% (33.7% young men and 66.7% young women).⁹ Job prospects for those with higher education are also poor: the average unemployment rate among youth graduates exceeds 55%.¹⁰ This is symptomatic of an increasingly precarious economic state and persistent political instability caused by the occupation.

Unemployment for women is further compounded by geographic isolation, lack of access to affordable transport, limited job or income-generating opportunities in their own communities, and restrictive gender norms that determine what is deemed 'acceptable' work for women.

Food insecurity

According to a recent survey, 12% of households in the West Bank are food insecure.¹¹ More rural households are food insecure (17.7%) than urban households (9.9%)¹² and the situation is also more severe among women, with 32% of women-headed households considered food insecure.¹³ While Palestinian rural communities' reliance on garden agriculture to augment their food supply has been weakened due to soil degradation and limited access to water and seeds, the main driver of food insecurity in OPT is conflict and a moribund economy, high rates of unemployment, low incomes and a high cost of living.¹⁴ In particular, Israel's

persistent policies of land and resource confiscation severely restrict people's right to control how food is produced, traded and consumed, and are a direct cause of food insecurity.¹⁵

Permaculture and lasagna gardening

Permaculture is a holistic, community-based approach to develop sustainable, self-sustaining and resilient agriculture ecosystems. It is a design system for the maintenance of agriculturally productive, diverse and resilient ecosystems. It is a multidisciplinary approach that utilizes agriculture, water harvesting, waste management and economic and community development.
<https://permaculturenews.org/what-is-permaculture/>

Lasagna gardening is a no-dig, no-till organic gardening method. Its name refers to the preparation of superimposed layers of organic materials (dead leaves, newspaper, food leftovers, etc.) in replacement of topsoil. The layers decompose over time, turning into a rich soil that provides nutrients to the plant. The upper layers (mulch) reduce water loss to evaporation and runoff, making lasagna gardening a perfect fit to arid environments. Lasagna gardening can be performed in raised beds, thus reducing maintenance efforts.
<https://www.instructables.com/id/How-to-Build-A-Lasagna-Bed/>

4 METHODOLOGY

A participatory, mixed-methods approach using qualitative and quantitative tools was used to gather data for this case study, with representation from all key participants in the project. Data collection was carried out over a period of five months after the end of the project. Four focus group discussions (FGDs) were conducted in four villages, with 35 women in total. Three of the FGDs were with direct beneficiaries from the three participating villages and one was with women from a neighboring village where the villagers had copied the permaculture raised-beds method. Participants who received agricultural inputs also completed a survey, and key informant interviews were conducted with three engineers from the Ministry of Agriculture, the project's permaculture trainer and the project management team.

After the FGDs had taken place, a sample of participants from the villages took part in a participatory validation workshop. Narrative analysis was used to analyse the collected data and project reports/documents to identify key patterns and results, and to capture lessons learned.

5 RESULTS

All the women surveyed reported positive impacts of the project on their own and their families' lives. These included improving their livelihoods and wellbeing, strengthening community linkages, increasing their knowledge and capacity on green agriculture, and enhancing women's leadership capacities.

Improved livelihoods

The project's tangible impact on participants' lives is evidenced by self-reported household self-sufficiency, increased food security and an increase in household incomes. Nearly 60% of those who took part in the permaculture training reported benefitting from additional income, while almost 100% of the 21 participants who received direct inputs were able to secure a supplementary income as a result; collectively they produced 11,486kg of vegetables for household consumption and for selling or trading in local markets.

Women from all three villages initially faced challenges accessing markets and negotiating a fair market price. However, with support from the YMCA, they developed skills to negotiate and deal with traders. Women from the village of Raboud said they were receiving orders from the fair-trade market in Ramallah, and one young woman had started a Facebook page which was attracting customers to come to the village. In Jubet Adh Dib, some women were selling directly to organizations working in the area in addition to the local market trader. The project also enabled six unemployed young graduates to benefit from taking part in an income-generating activity.

'I've never farmed before and did not know anything about it. I am a university graduate but was staying at home with nothing to do. This was an opportunity for me to do something productive with my time and support my family.'

Project participant, Raboud



Participant from Raboud. Photo : Simon Trépanier/Oxfam

Improved wellbeing

Improved wellbeing as a result of the project came up many times during the FGDs with women from the three participating villages. The main contributing factors were access to green spaces, self-sufficiency, ready access to quality food sources and an increase in

income. Many of the women expressed how having access to open green spaces gave them a refuge from the stresses of life.

Similarly, the ready availability of quality food, the additional income, and money saved by not having to buy foodstuffs lessened household economic burdens, in turn contributing to a reduction of stress. The majority of the women said that they felt more at ease knowing that the food they give their children is 'healthy' and free from harmful pesticides. The ability to provide food and income increased women's sense of self-worth, self-confidence and independence.

Increased knowledge and skills

All those who received training, including the Ministry of Agriculture engineers, reported an increase in knowledge. Improvement in skills was also reported by the 21 participants who received agricultural inputs, hands-on training and ongoing technical support. This practical approach was seen by participants as key for knowledge retention and application. Participants reported having greater knowledge of lasagna gardening, composting, simple intercropping, seed germination, timing of planting and harvesting, and water management.

Women gained respect in the community as bearers of knowledge and skills which are sought after by others who want to learn from their experience, including family members, neighbors and village councils.

Changing attitudes and behaviour

In the early stages of project implementation, many community members were skeptical about the new farming techniques. Women reported facing criticism and discouragement from neighbors and family members. This was largely due to a lack of awareness about permaculture and lasagna gardening; the new methods were perceived as misguided and foolish because they broke with long-standing farming practices. However, after the first harvest, mindsets began to change.

The women's experience has already positively influenced communities to adopt new agricultural and environmental practices. The YMCA reported that 14 non-participating households across the three villages have replicated the permaculture methods on their land. This change in attitudes and behaviour can largely be attributed to the dramatic transformations in practice and increases in yields that took place over a short period of time.

'When I was preparing the land, one of my neighbors would laugh at me as he passed by and tell me that I was foolish to put so much effort into it because it wouldn't work... but after he saw how much I was able to grow, and the high quality of the produce, he started to copy us.'

Project participant, Raboud



Permaculture parcels in Raboud. Photo : Simon Trépanier/Oxfam

When the effectiveness of the new approach became apparent, the women began to receive requests from public officials and local NGOs to provide trainings to women from neighboring villages.

Neighboring villages also learned of the women's achievements through word of mouth and awareness-raising activities. As a result, a women's group was inspired to mobilize and adopt some of these practices in their own village. Women began experimenting with the methods in their gardens, and women from Raboud offered support and guidance.

'The head of the village councils told me that the Governor made a special request to ask me to join the village council. He said, "We want you to make changes like you did in Jubet Adh Dib".'

Project participant, Jubet Adh Dib

The training course held at the Vocational Training Centre in Jericho also made strides in raising awareness and increasing knowledge on agroecology, recycling and upcycling. The center also delivered an advanced course in agricultural entrepreneurship. One of the graduates, a young woman, launched a nursery and agricultural start-up from an idea developed during the training, and has since been awarded a start-up grant for her innovation. The center also developed collaborative relationships with academic institutions; for example, Al Quds University is now running an accredited course in sustainable agriculture.

Potential for sustainability

While it is too soon to adequately assess the sustainability of the outcomes, the early signs are positive. The participants surveyed for this case study were all highly motivated to continue cultivating their land. Some have used the income they have generated to buy seedlings and germinate seeds to sustain their plots. However, access to inputs and water remain challenging, and participants expressed the need for further support with resources. This might only be necessary in the short term as the need for water will gradually decrease each year as yields improve.

6 KEY FINDINGS

Building community foundations and resilience increases a community's capacity to self-organize, adapt to change and work strategically.

The project's community-preparedness approach laid essential foundations for community mobilization in self-organizing, leadership and engagement that positively contributed to the project's success. It also enabled communities to identify their own vulnerabilities and risk factors, and as such was reflective of and responsive to their needs. Building a project to address tangible, self-identified community needs engenders community ownership and sustainable engagement.

This project therefore serves as an example of how long-term strategic community engagement and mobilization contribute to ensuring that practical and applied initiatives are implemented to address real needs in a systematic and concerted manner.

Participatory, 'hands-on' applied training is critical for the transfer of technical knowledge and skills.

Stakeholders stressed the importance of the direct, practical training of community members in the permaculture approach; this was a key factor of the project's success. Participants noted that understanding the process and learning about context-specific tangible outcomes (e.g. the trainer shared images of his own farmstead using permaculture) motivated them to continue with the project during the first stage of preparing the soil, which was physically demanding and labor-intensive.

The 21 participants who received inputs (all the materials needed to prepare and plant) gained greater knowledge and experience because they were able to put the methods into practice. Experiential learning builds expertise, confidence and self-sufficiency, and localizes transferable knowledge.

Potential for replication by both small and large-scale farmers, and in individual household gardens.

The relative long-term cost-effectiveness of the approach, its lower demand for water and the clear indications of communities' readiness to adopt these methods show promise for future expansion and scale-up of permaculture farming. However, this would require initial material and technical support through the provision of training, monitoring and inputs, including securing enough water to ensure sustainability.

Analysis of the interviews with engineers from the Ministry of Agriculture suggests that scaling up the approach would entail engaging and incentivizing 'influencer' farmers to serve as role models demonstrating the long-term return on investment and overall benefits of permaculture. The reasoning is that this would create a 'knock-on' effect through replication and scale-up. This strategy would also involve establishing specialized markets to promote permaculture farm produce and raising public awareness to encourage consumption. This would be possible if a case can be made for larger-scale financial viability in a reasonable amount of time, and if it is rolled out in stages.

Holds promise as part of a larger integrated approach to women’s economic empowerment.

Focusing on women as the first point of entry into a community provides opportunities to bring about change. However, it is not possible to draw any definitive conclusions with respect to the economic empowerment of women as a result of this intervention. The project’s short duration, the lack of gender-specific activities and the absence of an exhaustive evaluation to measure the achievement of women’s economic empowerment limits our ability to infer direct causality on this.

‘I love to be self-sufficient and independent.’

Project participant, Wadi Fukin

That said, the many positive anecdotal reports and observations captured in this case study are indicative of the potential for substantive women’s economic empowerment to take place within the framework of long-term permaculture initiatives.

‘I finally feel like I have a voice.’

Project participant, Raboud

7 RECOMMENDATIONS

- **Develop long-term initiatives** that include different tiers of technical and applied training and provide follow-up support/monitoring to ensure sustainability.
- **Provide supplementary training on marketing and packaging** to facilitate access to markets.
- **Assess level of needs for inputs** in participating communities and provide access to seed funding to encourage initial start-up permaculture farming.
- **Facilitate connections with the market.** Markets need to be engaged and willing to trade in products that are differentiated based on the farming practices involved. This entails connecting small-scale farmers with markets, regulating a fair market price and raising public awareness.
- **Engage and incentivize large-scale farmers** to use innovative sustainable agriculture practices for greater impact – large-scale farmers require different pull factors to address the risks associated with permaculture, namely the delayed return on investment.
- **Develop environmental mitigation strategies** in a participatory manner to ensure that they are realistic, context-specific and inclusive.
- **Facilitate stronger involvement of governments** both at the municipal and regional level – to support small-scale farmers and incentivize large-scale ones, increase public awareness, and support research and development.
- **Develop strong frameworks for the transfer of knowledge**, i.e. train-the-trainer, training in community leadership and mobilization, public awareness campaigns and partnering with academic institutions.

- **Integrate focused women’s economic empowerment components and principles to increase the voice of women, adopt a systems approach and build partnerships in local systems** to foster meaningful change. For example, work at household level to address gendered division of labor; develop initiatives that tackle formal policies and informal cultural norms; and invest in building women’s material assets and improving their access to resources.

CONCLUSION

The *Enhancing Palestinian Women and Youth Resilience through Innovative Sustainable Agriculture Practices* project was born from a call for innovative approaches to tackle systemic issues facing women and youth. Building on its long history of community mobilization and resilience building, the East Jerusalem YMCA embarked on this venture to work with communities using localizing mechanisms to identify needs and tangible solutions.

The experience was rewarding for both implementers and participants. It is hard to overstate the positive experiences of the women who participated in the project. One of its numerous unintended outcomes was communities increased awareness of the urgency of environmental issues. A good example of this is that, having learned more about the implications of water scarcity and soil degradation, the women of Raboud wanted to gain ‘Green Village’ status by promoting more environment-friendly practices across their village.

As a pilot project, this offers much that can be learned from and built on. This model of intervention, with its appropriate design, community engagement and follow-through, has the potential to create tangible change on a wide spectrum of issues ranging from community resilience to the environment, livelihoods and gender equality.

NOTES

¹ Please follow this link to view a short documentary of the project:

<https://www.youtube.com/watch?v=hthJUeMhLds>

² Area C makes up over 60% (including most of the agricultural land, water resources and underground reservoirs) of the West Bank.

³ United Nations Office for the Coordination of Humanitarian Affairs in the Occupied Palestinian Territories (OCHA OPT): <https://www.ochaopt.org/location/west-bank>

⁴ OCHA OPT (2018). *Addressing GBV in Area C communities in the West Bank*. Retrieved from: <https://www.ochaopt.org/content/addressing-gender-based-violence-area-c-communities-west-bank>

⁵ UN Women and Promundo (2017). *Understanding Masculinities*. Retrieved from: <https://promundoglobal.org/wp-content/uploads/2017/05/IMAGES-MENA-Multi-Country-Report-EN-16May2017-web.pdf>

⁶ Oxfam and Birzeit University, Institute of Women's Studies (2019). *Addressing the Needs of Palestinian Household in Area C*. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/Area%20C%20Summary%20FINAL13032019.pdf>

⁷ Amnesty International (2009). *Troubled Waters – Palestinians Denied Fair Access to Water*. Retrieved from: <https://www.amnestyusa.org/pdf/mde150272009en.pdf>

⁸ Al-Haq (2013). *Water for One People Only: Discriminatory Access and 'Water Apartheid' in the OPT*. Retrieved from: <http://www.alhaq.org/publications/8073.html>; Amnesty International (2019). *Troubled Waters*. *Op. cit.*

⁹ Palestinian Central Bureau of Statistics (2018). International Youth Day, Press Release. Retrieved from: http://www.pcbs.gov.ps/portals/pcbs/PressRelease/Press_En_12-8-2018-youth-en.pdf

¹⁰ *Ibid.*

¹¹ Palestinian Central Bureau of Statistics and Food Security Sector (2018). *Socio-Economic Food Security Survey 2018 Preliminary Results*. https://fscluster.org/sites/default/files/documents/sefsec_2018_-_food_security_analysis_preliminary_results.pdf

¹² *Ibid.*

¹³ World Food Programme: <https://www.wfp.org/countries/state-palestine>

¹⁴ OCHA OPT (2018). *Food insecurity in the oPt: 1.3 million Palestinians in the Gaza strip are food insecure*. Retrieved from: <https://www.ochaopt.org/content/food-insecurity-opt-13-million-palestinians-gaza-strip-are-food-insecure#ftn1>

¹⁵ PARC *et al.* (2016). *Food Security in Palestine: An Insight into Agroecological Tools and Practices*. Retrieved from: <https://www.pal-arc.org/uploads/english%20book%20full.pdf>



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