Capacity Assessment and Reflection on Pilot Project: PHG

By Vanessa Farr, Ph.D., consultant to PAIC

21/08/2022

Purpose of the Assessment

A field-based Environmental and Social Impact Assessment (ESIA) was conducted in early August 2022. This review, which is individualised for each partner organization that forms part of the Palestinian Agricultural Institutions Coalition (PAIC), examines how social inclusion and sustainability are understood, and addressed, in the pilot projects designed and implemented through the Environmental and Climate Justice Programme (ECJP) supported by We Effect.

For the purposes of the assessment, each pilot's baseline is the conditions in and around the site on the day of the field visit. The assessment considers variables such as the physical and material conditions of any infrastructure installed in the pilot site, conversations and interactions with the individuals and communities rights-bearers and beneficiaries of each pilot, and on-site discussions with project staff.

This report also draws from field-based interactions and focus group discussions with PAIC gender and advocacy officers, technical staff, and leadership, conducted both before and after the field visits.

A foundational purpose of the assessment is to consider what "sustainability" means in each pilot. Sustainability is not defined as the installation of "green" technologies. Instead, the focus is on the conditions in each site and what these say about how long any technological investment is likely to remain optimally functional.

This report regards the pilot projects as ongoing sites of learning. It offers practical advice on how each PAIC member's external investment into the pilot can realise the promise of sustainability. It also asks what internal conditions in each organisation might need to be rethought in order to advance the vision of implementing long-lasting projects.

Palestinian Hydrology Group

Pilot title:	"Integrate and Promote Clean Energy Education in TVET Centres"
Location:	An Nabi Elyas community east of Qalqilya Governorate
Thematic area:	Environmental and Climate practices
Gender and Advocacy Officer:	Nisreen Mansour

Project overview

Problem: The Principal of the An Nabi Elyas technical vocational and education training (TVET) school for young women and men with hearing and speech disabilities struggles each month to pay high energy bills needed to run workshop equipment and computer technology used in student learning.

Piloted solution: PHG has installed a small grid-tied solar system with no storage (batteries). The system is suitable for generating energy to run the school's classrooms, workshops and administration needs during daylight hours when most activities take place.

Added value: In addition, PHG has helped devise an Arabic-language teaching manual for solar energy installation. A basic training toolkit has been supplied for a new course on "installing solar systems" which will be taught from September 2022.

Immediate social impact:

- A significant percentage of the school's energy needs are being met.
- The manual and teaching equipment are in place for the new academic year September 2022 and the course is accredited
- Enrolment for the first course has so far attracted 14 male students. The school's hope is that their successful completion of the training course will enable them to enter the formal labour market, even with a disability.

Pilot Project ESIA

1) Does the pilot meet the needs of the beneficiary community?

Yes. The needs assessment resulted in the development of a project aimed at reducing energy costs.

The pilot has been well-designed and meets the TVET's immediate need. It is already reducing energy costs. The installed solar system is technically realistic and affordable. The principal stated: "I can

hardly express my relief at not having to find 2,000 NIS a month to cover the energy costs for the students' workshops."

Added value: PHG's technical team thought beyond the scope of the assignment. Through community engagement, they saw an opportunity to introduce a new course teaching a high-demand skills set to marginalised students who have difficulty finding paid employment. Accreditation has been granted by the appropriate PA Ministry. This is an excellent value-added element and strongly supports the sustainability vision of the ECJP.

2) Does the pilot make good use of technology and infrastructure?

Yes. The design of the solar system technology is modest and appropriate for the school's needs.

- The solar system runs only during daylight hours when most energy is drawn
- There are no batteries, reducing costs, waste and technical components that will break
- The rooftop solar panels were installed using an existing but unused metal structure, reducing costs and upcycling existing infrastructure
- The solar panels contribute to reducing heat radiation into the school by shading a large portion of open roof
- A seventy per cent reduction in energy costs has already been reported

3) Is the pilot sustainable?

Not yet.

- There is no planned follow up or long-term project management plan. What will happen if equipment fails?
- Necessary maintenance skills have not been transferred to the school's existing staff. PHG's project officer reported that a solar expert will be brought in to maintain the solar installation, but could not give details of how this expert would be identified and paid
- There is no indication of how management and maintenance of installed equipment will be funded and monitored in either the immediate or the long term (assuming a solar system can last 15-20 years)
- Apart from designing the Arabic-language manual, there do not appear to be a plan to follow the implementation of the solar installation training course. Will it be achievable as currently designed and equipped? How will its success and problems be monitored?
- The installed system's need for care and maintenance have been made invisible. There is no clear plan to mentor a nominated counterpart on regular (e.g. cleaning, checking connections) and long-term maintenance of the system
- This is a **missed opportunity** for PHG and the PAIC to keep learning from the pilot to ensure that its promise of sustainability is achievable
- It is also a missed opportunity to understand whether the project, as a pilot, can be replicated in other TVET centres

Recommendations:

- Installing a solar system is a beginning, not an end: the pilot project cannot be considered complete until an appropriate monitoring and management plan has been drawn up

- What else is needed to ensure that the technological equipment installed will be maintained at optimal efficiency for its full warranty life (15-25 years depending on weather exposure and upkeep)?

4) Can and should the pilot be scaled up?

Potentially. If a strong monitoring and evaluation process is set up for the pilot, including assessment of skills transfer for maintenance of installations, this project should be replicable in other TVET centres.

5) Can the project boost the profile and advocacy of the PAIC?

Potentially. The technical proof-of-concept exists. If its sustainability is proven, the PAIC partners can advocate for similar systems with rights-holders across Palestine.

6) Is the project politically pragmatic?

Yes. PHG's technical staff identified the challenge of what he called "solar settlement": by this he meant that a grid-tied solar system is always vulnerable to technical interference from the military occupier. In response, he designed an installation that should escape detection by not producing "too much" energy to draw the attention of the for-profit Israeli Electricity Company (IEC).

This is a realistic protection strategy and will hopefully help safeguard the installation from external harm.

Possible Advocacy Actions:

a) PAIC to undertake a research paper from which to design a lobbying and advocacy strategy with the Palestinian Ministry for Energy and Environment, to draw attention to the "settlement solar" challenge.
b) Devise an advocacy strategy to revise the PA's own restrictive laws on energy generation

7) Does the pilot meet the criteria of social inclusion, especially gender inclusivity?

No. Both the project designers and the recipient community failed to find ways to include women. Instead, they privileged stereotypes.

Everyone equated "technology" with "masculinity." When asked who should join the new solar installation classroom, the school principal did not want to change his belief that technology is only for men. Instead, he drew from another social stereotype to justify excluding girls. He argued that families of deaf-mute girls do not want their daughters to seek employment in public-facing jobs such as solar installation: girl students are vulnerable because they cannot shout or hear, so they cannot move away from danger. He himself shares this social belief, so he is not equipped to challenge it.

What about deaf boys? The principal believes their social exclusion can be solved by placing them in solar installation teams with boys who can hear. But he did not accept that this solution would be open to deaf girls, presumably because there would be no hearing girls to place them in teams with, because none would have joined a solar installation learning program.

PHG technical officers do have *some* of the skills required to address the social elements in a new project: the proof of this is that they also anticipated extending the project brief to support the development of a new educational program. But their internalised limitations meant they also did not think beyond the technical=male stereotype. As a result, PHG's technical team stepped into a closed argument at the TVET centre without the skills to challenge it. They **did not see the need to ask** whether and how young women could benefit from a proposed new skills-building and potential income-generating activity.

While there is no reason to pre-determine a new technology and accompanying TVET subject as appropriate for only young men, everyone, both in the TVET school and in PHG, **already knew and believed** solar energy installation is a career path open only to men. Only male technicians worked on the project, and they only worked with male leadership at the school. They did not ask: who else could benefit from this new learning programme? The gender officer was never involved in the pilot's design. Women at the TVET centre were not asked their views or proposals. An opportunity for innovation leading to greater inclusion was missed.

It matters who PHG talks to when conceptualising a new project, especially a pilot. If technical staff only speak to men, they will only hear about existing societal limitations that men believe in.

Yet even if the gender officer had been invited to co-design the project, until the field visit, she herself shared the technical=male viewpoint. She did not yet have the skills to look beyond the stereotypes that now risk limiting the pilot's potential to be inclusive.

The story told by the principal may seem reasonable at face value as it accords with shared social stereotypes. This is why PHG technical staff accepted it without question. But when we look closer, it is an argument heavily shaped by social stereotypes that doubly marginalise women with disabilities, even when a completely new field of study and work is being opened up.

8) How could a gender analysis in the project's design phase have anticipated and addressed these limiting beliefs?

PHG can learn the skills to proactively look for social inclusion opportunities in a project's design phase.

In fact, when we looked at the challenge collectively, we found that an answer was already available: the TVET offers a course in graphic design that is popular among girl students.

The below illustration is for a solar array on a private house. It shows that the installation of solar technology requires a high degree of visualisation and design.

An opportunity presents itself to include girl students who are following the graphic design programme into the exciting new field of solar technology. The opportunity is doubly important because girls can work as solar designers on a laptop in an office or from home. This addresses parents' immediate fears for their daughter's safety.

Over time, a well-designed **advocacy strategy** can open up possibilities for girls with design skills to learn the hands-on capacities needed for the technical installation and sustainability of solar systems. This is highly advisable because to function well, a solar system needs regular and committed maintenance: it needs to be cared for. Unfortunately, in Palestine as in the rest of the world, "caring for" is over-associated with femininity. If only men are equipped to work with technologies, they easily walk away from maintaining them. There is global evidence that when women are involved in technical teams for technologies that require maintenance and care, this work actually gets done.

Decades of evidence show that arguing with individuals about "gender equality" makes the problem of women's exclusion worse, not better. In communities that struggle to address social stereotypes, the best way to proceed is to look for ways to open up new spaces and possibilities that we have not seen before.

Solar technology is a new field in Palestine and no social stereotypes can be attached to the technology itself. What can happen, and what is already threatening to happen, is that previous social stereotypes about who can and should do what will be grafted onto this new field of work.

With careful design, and with a committed eye on promoting social inclusion, PHG could present solar technology as an exciting new field of work for anyone who wants to learn it. PHG could support the TVET centre to advance the training of young male and female Palestinians with disabilities, to provide excellent, timely and sustainable technical inputs. PHG can contribute to solving the problems of poor maintenance that so often kill a good project well before its time.

If male and female students, together, are offered the opportunity to learn skills associated with a new technology without attaching social stereotypes to the services provided, the next generation will be more open to the idea that women and men have equal capacity to benefit from training in scarce skills.

The analysis presented here can be incorporated into any plans within PHG or across the PAIC to upscale and implement this pilot in other locations.

9) Capacity-strengthening needs

PHG is not a gender justice organisation. This is not the focus of its work and to date, it has not prioritised gaining strong technical skills in devising and delivering socially just environmental projects. Internally, PHG could commit to reflecting on why overlooking gendered inequalities **undermines** and **prevents** inclusive projects for all potential rights-bearers, and **betrays the hopes of sustainability**.

Realistic and measured changes can be made to PHG's work; but it is neither possible nor desirable to build expectations that PHG or any PAIC member will become "gender justice" experts overnight.

10) What small, doable actions are possible?

1) **Stay connected to the pilot projects**.

In their FGD, PHG's staff requested more training on how to incorporate social inclusion and climate justice into their work. This assessment reveals why the pilot project is a rich site for internal PHG learning and for PAIC as a whole. This ESIA can help PHG re-commit to devising a long-term management plan.

PHG is invited to consider the following forward-looking steps:

a. Support the TVET centre to connect its new solar installation course with its existing graphic design course, so that girls also gain expertise in a new field, and a skill necessary for solar installation is supplied to the market
b. Devise advocacy efforts to tell the stories of both girls and boys in the program. These will help Palestinians overcome internalised ideas about what women, especially with disabilities, are capable of learning
c. Support the TVET centre to gain the skills and commitment to maintain its new solar installation. This has two positive outcomes:
    i. the system will keep the energy bills affordable for a long time.
    ii. A TVET centre for people with disabilities can become an example to the wider community of what can be done for marginal Palestinians, even under the constraints of military occupation
d. Maintain a relationship of care with the Centre: what are their ongoing needs and how can they be met? What resources are necessary and where will they come from?
e. Proactively look for new project ideas for the TVET centre and the community it serves, especially those that prove and promote the idea that women can learn about, design for and otherwise support the introduction of sustainable technologies

2) Hold an internal reflection on what social inclusion and sustainability can mean for PHG

a. What happens when PHG does not think broadly about social inclusion?
b. What beliefs had already pre-shaped the pilot design before its implementation?
c. How did this shape the pilot's delivery?
d. What opportunities were initially missed?
e. Who could have helped navigate around the blind spots?
f. How can teams communicate better across the technical/social divide inside PHG?

3) Question internal siloes in PHG

a. Whose technical expertise should have been included in the pilot design at inception? Even asking the question, "have we considered every potential rights-holder in this project?" will change the inception and the outcome
b. Conduct a short internal review of how PHG recruits and assigns its project teams. This can reveal the extent to which the technology=masculine stereotype may be shaping the work PHG undertakes with communities, shaping any intervention in a particular direction even before the first community consultation is held.

4) Devise an internal project design process or checklist

a. If men are found to be over-associated with technology, what tool can remind male technical staff to think beyond the technology, to ask who will use it, who will benefit from it, and who can be included.
b. How can male champions be encouraged to ask a new sustainability question: who will care for and maintain this project once it's delivered?
c. If women are over-associated with the social development aspects of PHG's work, what training can be offered to help them understand technologies PHGs uses – without needing them to become "experts" in those technologies?

5) Examine stereotypes and internalised beliefs, especially about the promise of "green" technologies

a. This is particularly important if a new technology, such as solar, is being implemented.
b. The first question to ask is: is a technological solution the best one? Is it likely to reach and benefit the widest number of rights-bearers?
c. Then ask: if yes, how do we find ways to design for all? How do we prevent existing stereotypes being attached to new ideas?
d. Then ask: who will look after/maintain the technology? To whom will these skills be transferred?
e. Then devise a long-term maintenance plan. What resources do you need?

6) Budget for inclusion and sustainability

1) Is the finance officer aware of their responsibility to include a targeted budget for women's inclusion?
2) Are earmarked resources available for use?
3) Can an inclusion budget be deployed at *inception* stage, not only on delivery?
4) How will maintenance and repair be funded?