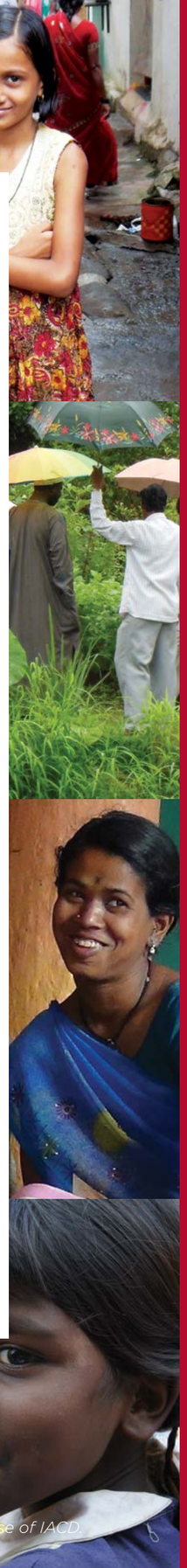
Issue 20

Practice Insights

Community Development and the Climate Crisis

IACD
International Association for Community Development
Association Internationale de Développement et D'Action Communautaires



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The International Association for Community Development is the global network for professional community development practitioners. We promote shared understanding of community development as a practice-based profession and an academic discipline that promotes participative democracy, sustainable development, rights, economic opportunity, equality, and social justice, through the organisation, education, and empowerment of people within their communities, whether these be of locality, identity or interest, in urban and rural settings.

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We facilitate learning and practice exchange, both virtually and face-to-face. We work with partners to deliver regional, national, and international events, study visits, and conferences. We document the work our members are doing worldwide by collecting case studies, tools, and materials on community development, and sharing these through our website, publications, and e-bulletins. We undertake specific projects and carry out research, drawing on international experience.

IACD aims to give its members a voice at the global level, advocating for community development principles and practice in international forums and consultations. IACD has consultative status with the UN and its agencies.

Contributing articles

Our international *Practice Insights* publications are issued three times a year, each one focusing on a particular theme of relevance to community development. If you would like further information or to contribute to future editions, please contact **membership@iacdglobal.org.** Alternatively, IACD members are welcome at any time to contribute news items, research, case studies or other materials to our members' Facebook site and to the IACD website.

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- Opportunities to share your work and experiences with a global audience, through our regular members' e-bulletin, YouTube channel, social media sites, and other publications;
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Our next AGM will be held 26th July 1pm BST

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Contents

From the Editors 4

Women-led organic agriculture practice: Developing community climate resilience and changing gender norms
Ratna Mathur, Naseem Shaikh, and Upmanyu Patil 6

'Araw ng Martrees/ Tree-Planting Tuesdays': Community-led Actions to Reverse Environmental Degradation in the Rural Philippines
Elvis Gatchalian, Rosemarie Conel, Ami Dasig Salazar, Krizza Velasquez & Elene Cloete 12

Garvagh People's Forest Project: A Trojan Mouse
Karin Eyben 16

Disability and climate change: Reflections from Community Based Inclusive Development
Dr. Shaun Grech and Dr. Joerg Weber 20

Project Pet House: An Eco-Innovative Intervention To Plastic Pollution In Nigeria
Sodiq Jinad, Erioluwa David, Abubakar Rofiyat, Abdul Salam Abdulqudus & Abdul Hamidu Abdullahi 24

Building Economic Resilience Through Environmentally Sustainable Models: South Asia Women Foundation India's Economic and Environmental Justice Fellowship Programme
Debdatta Purkayastha, Anuradha Rajan 28

Just transition champions: Reflections on climate justice-focused Continuous Practice Development for community development workers
Chris Nolan and Dr Jamie Gorman 32

Will Cooperative Extension provide community leadership in translating research into climate action?
By Dakoeta Pinto, Sarah Klain, Roslynn McCann, and Paul Lachapelle 36

Springs as integral to community food security and climate resiliency efforts
Dr. Prem Bahukhandi 40

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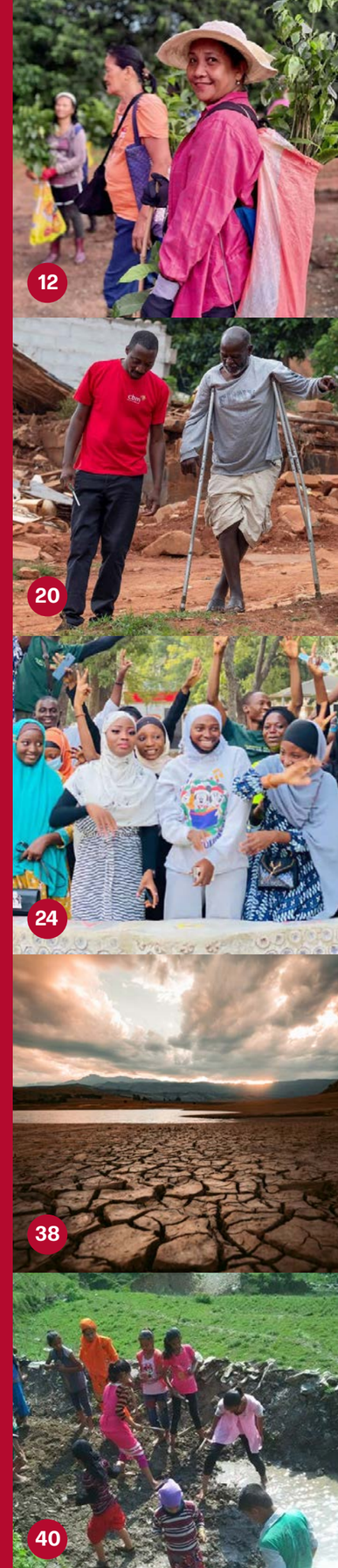

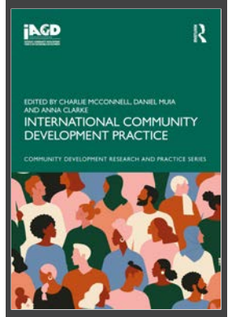

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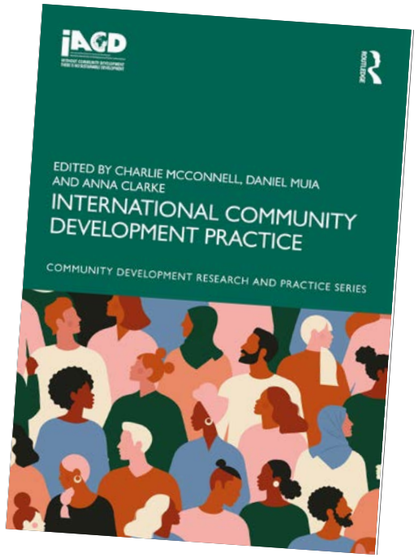

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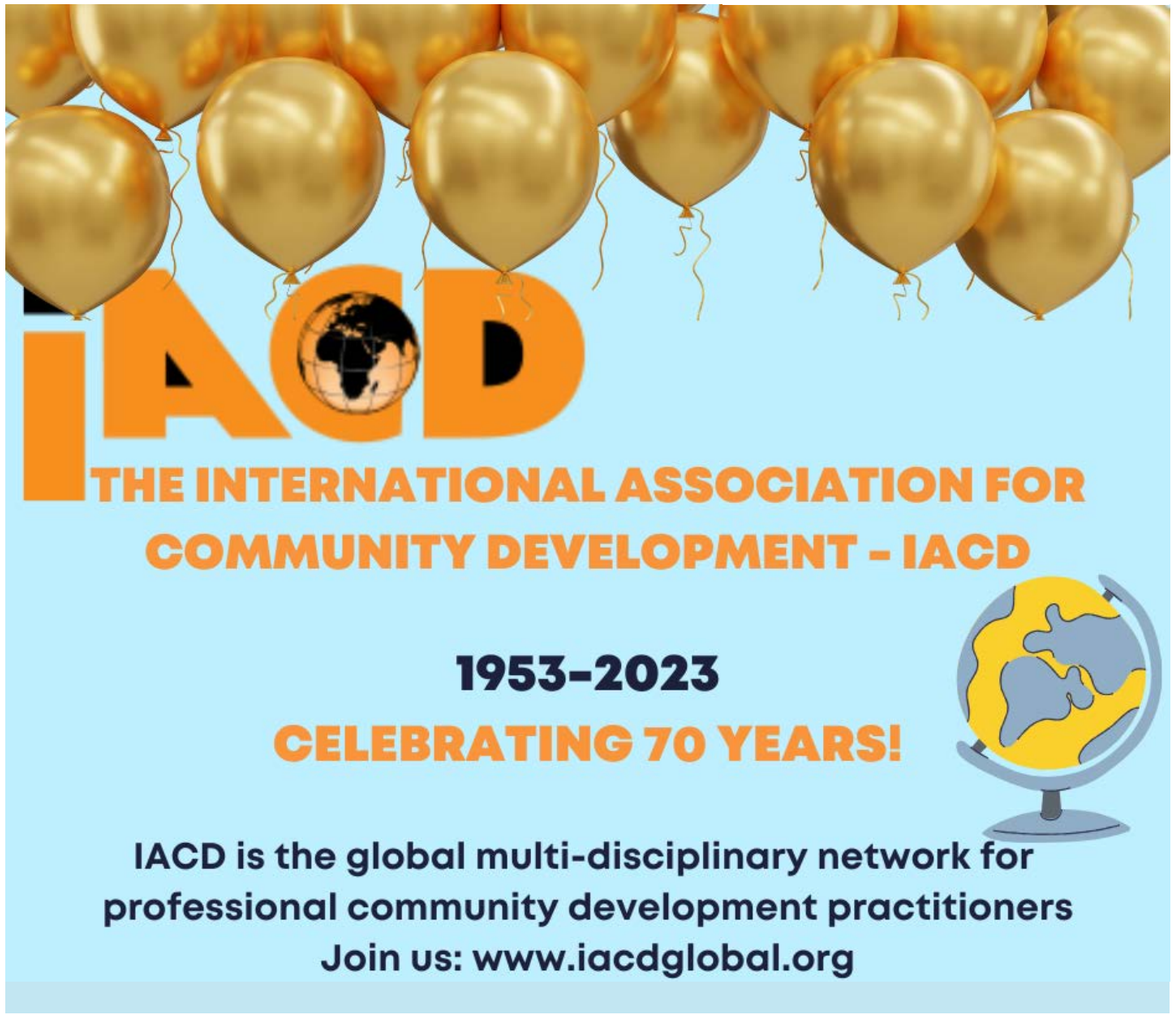


From the Editors

The need for action to combat the climate crisis and its impact on people across the world continues to be an inescapable priority for society at large, and specifically for community development.

At the political level, however, even where the climate agenda is widely recognised, it can be repeatedly crowded out by issues that have a more immediately apparent effect on people, or are more appealing to political leaders as a means of mobilising support. At the same time, the first concern for many communities, in particular those that are most immediately affected by climate change, is often the maintenance of basic livelihoods, or simply survival. In more affluent parts of the globe, climate action can appear as an option rather than a necessity, with other priorities seen as more important both by communities and by funders of community development.

In this context, responding to the impact of climate change on vulnerable communities is both a pressing issue for community development, and a complex and challenging one. We are delighted to present a range of creative and often urgent responses to the challenge in this edition of Practice Insights. All these articles show how community development can link effective action on climate change to the other issues faced by communities:

- "Women-led organic agriculture practices: developing community climate resilience and changing gender norms" shows how the empowerment of women in their families, the local economy, their organisations, and in local governance has driven community reconstruction and climate-resilient farming strategies.
- 'Araw ng Martrees/Tree Planting Tuesdays': Community-led Actions to Reverse Environmental Degradations in the Rural Philippines" describes the community development support that enabled a local women's group to lead a reforesting project, which has had a positive impact on many of the challenges faced by the communities.
- Practitioners from the Garvagh People's Forest Project in Northern Ireland describe how their project worked towards its ambition to create an "integrated citizen-led development plan for forest, river and people".
- "Disability and climate change: reflections from Community Based Inclusive Development" shows how persons with disabilities in the global south are often most at risk from the impact of climate change and explores their role as leaders in community development responses.
- Colleagues in Nigeria present a project using over 35,000 waste bottles to construct an eco-friendly building, while facilitating new income sources and skills for women and young people, and using the project to shift perceptions about waste and to foster climate action.
- The South India Women's Foundation focus on "building economic resilience through environmentally sustainable models". Their fellowship model is "enabling practitioners on the ground to impact the lives of women and trans persons in their communities with economically and environmentally sustainable solutions".
- "Just Transition Champions: reflections on climate-justice focused Continuous Practice Development for community development workers" highlights both how community workers were supported to address the implications of the climate crisis, and the need for more work to build capacity for this across the community development profession.
- Colleagues in the USA explore how the work of the Cooperative Extension System can advance climate adaptation and mitigation in communities by supporting engagement in science-based solutions towards a low-carbon society.
- The Friends of the Himalayas comment that "we never thought we were doing something called climate resilience activities". However, they highlight how their work with communities to rejuvenate springs and develop rainwater harvesting ponds has enabled both food security and climate resiliency.

Paul Lachapelle

Colin Ross

These inspiring examples of practice make clear that community development can have a vital role in enabling communities to mitigate the impact of climate change, adapt to the growing risks, build climate resiliency, and develop sustainable solutions to other fundamental issues that confront them. Notably they highlight ways in which community development practitioners can make links between addressing inequalities, whether economic or related to gender or disability, and strategies for climate action.

The particular value of several of the articles is that they describe work in progress and highlight the challenges practitioners are grappling with. More generally the contributions make clear that continuing to share experience and learning is key to maintaining, widening and deepening the role of community development in supporting climate action. We would like to thank all the authors, and we hope that this edition of Practice Insights will stimulate further reflection and dialogue among practitioners, managers, researchers and teachers of community development.

Colin Ross, IACD Trustee for Europe

Paul Lachapelle, IACD Trustee for North America and the Caribbean Islands

Women-led organic agriculture practice: **Developing community climate resilience and changing gender norms**

Ratna Mathur, Naseem Shaikh, and Upmanyu Patil

Women leaders return after training in Osmanabad district, Maharashtra, India

This paper examines local solutions to the climate crisis developed with women farmers in the Marathwada region of Maharashtra in India. Chronic stress for small and marginal farming communities results from new recurring cycles of droughts and floods; depletion of water and soil quality due to chemical farming; and indebtedness of farmers, outward migration and farmer suicides. Community resilience is reduced by social distress layered on structural social and gender exclusions, and low levels of trust with governance systems. These complex challenges, particularly for women in the community, were severely tested by the Covid pandemic-related lockdown and resulting loss of livelihoods, food security, and health.

Originating in the reconstruction programs after the massive Latur earthquake in Maharashtra in 1993, Swayam Shikshan Prayog (SSP) evolved to promote sustainable community development by empowering women as farmers and agri-entrepreneurs. SSP has reached over 6 million people and empowered over 300,000 women from farming communities to revitalise agriculture and to become decision makers in their households, communities and local economies. The organisation has developed a network of 150,000 women in Self Help Groups and Federations that go beyond savings and credit groups to creating large scale livelihood opportunities in sectors such as agriculture, health and nutrition, water and sanitation, and clean energy.

SSP and its founder, the late Ms Prema Gopalan's work on women's empowerment and climate resilience is widely recognised, and received the Global Local Adaptations (CGA) Local Adaptation Award for Capacity and Knowledge (Women Led Climate Resilient Farming Model) at COP27 in 2022; Government of India NITI Aayog's Women Transforming India Award 2021; Schwab Foundation's Outstanding Social Entrepreneur of the Year (World Economic Forum) 2019; Schwab Foundation's Social Entrepreneur of the Year India 2018; UNDP Equator Prize 2017; and the UNFCCC Momentum for Change Award in 2016.

Swayam Shikshan Prayog (SSP) evolved to promote sustainable community development by empowering women as farmers and agri-entrepreneurs.

SSP trained and mentored women to be recognized as farmers within their own communities and in the local markets from 2014 onwards, and extended and consolidated these strategies for community resilience during the multiple disasters from 2020 onwards. This paper, based on the evaluation reports and internal documents of SSP, examines the changes resulting from the shift to organic farming in income security, CO^2 emissions, and public recognition of women's leadership in the area. It shows how learnings from community reconstruction and Women-led Climate Resilient Farming (WCRF) strategies were scaled to facilitate local solutions during the Covid pandemic crisis and social development challenges facing the communities.

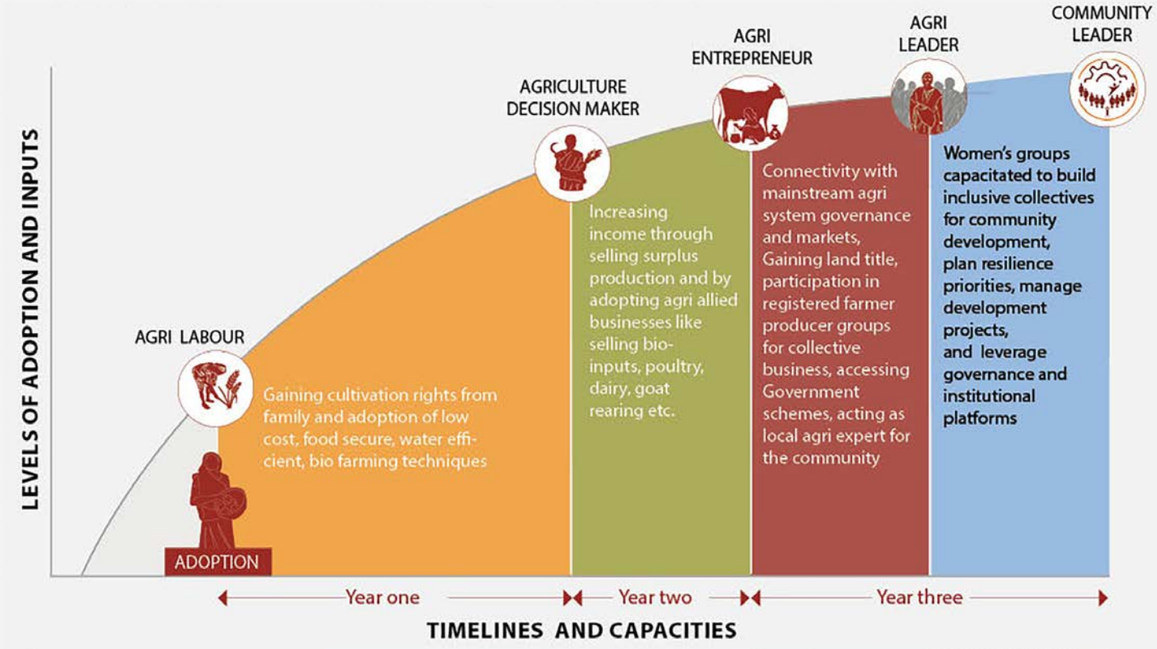
Women and community development

SSP repositioned women farmers to take on new roles as community leaders and decision-makers in agriculture and related enterprise to navigate the climate, economic and social crisis (Graphic 1). Its Women-led Climate Resilient Farming (WCRF) model (also called One-Acre farming model) provides an alternative to chemical and water-intensive farming methods. It systematically scales-up organic cultivation practices for multiple indigenous food crops, with diversified livelihoods for agrarian communities, and development of Farmer Producer Organisations and clean energy initiatives, expanding from one to eight districts.

These strategies for improving food security, health, nutrition and income security were tested and adapted during the Covid lockdown. The key transformative approach that recognizes women's leadership as local champions of organic agri-innovators formed the basis of their enhanced role in the public domain during the Covid crisis, when local governments partnered with the community women's groups to reach distressed households from all socially excluded communities.

This partnership between community groups led by women and the governance systems required innovations in the delivery of social protection services and means of communication. The rural women, engaging with the government system for the first time in large numbers, gained self-awareness and confidence, used technology and social media for local communication, and consolidated their farming practices to focus on

Graphic 1: Transformation journey from agri labour to agri leader and community leader Swayam Shikshan Prayog



health, food and nutrition security for their households and communities. SSP's Women's Initiative to Learn and Lead (WILL) program facilitates mentoring and support for women farmers, and invests in building the capacities of farming communities by expanding their inclusive approaches to socially marginalised and landless groups.

Women farmers' leadership during the Covid crisis

The WILL process has evolved since 2019 as a result of changes in the operating environment as well as the organization's decision to transfer core functions of its Women-led Climate Resilient Farming (WCRF) model to the local women leaders, while professional staff develop the market linkages for the agri-enterprises. Finding new markets for organic food products, the WCRF model also expanded significantly in the post-COVID situation to have more trained women leaders in decision-making positions as directors and office bearers of the social enterprises (Graphic 2). These advances were based on the development of women-led initiatives and decision-making roles in community mobilisation, relief distribution, basic services, and evaluating losses, during the COVID crisis of 2020-2021.

SSP implemented the changes across its projects resourced through restricted funding on rural livelihoods, agri-enterprises, health, nutrition, and women's leadership. Community-based organisations, women's self-help groups, farmers cooperatives, and producer companies are being structured at community level through Village Action Groups, which primarily focus on social inclusion, leadership training and community engagement; and the Farmer Producer Organisations serve as the economic wing of the women's collectives. Both sets of organisations are being consolidated, and formal leadership being transferred to the women leaders of farming and other marginalised community groups. The creation of the system, fondly called 'Mini-SSP' by the women, triggered a greater sense of ownership, accountability, pride in their achievements, and faith in their own power as decision-makers.

During this phase of increasing climate risks, the focus of the trainings is shifting to values and skills, in addition to imparting technical information about organic farming methods. This process has been complex, as it requires significant shifts in the approach and communication methods used by SSP's team of agri-professionals. Organisational processes and a training curriculum are being designed to enable this transfer of management in a gradual process.

Triggering organisational changes to enable women's leadership

This challenging process is aligned with the vision of SSP's founder Prema Gopalan, that women farmers can evolve the most effective local solutions. SSP is expanding its agro-ecology based Women-led Climate Resilient Farming (WCRF) model in other parts of the country in partnership with civil society networks and government institutions, as part of India's efforts to develop effective climate-change resilient strategies for improving food security.

To understand the ways in which SSP is transferring decision-making to women leaders, it is important to reflect on some of the ways in which communities have navigated the changes triggered by the Covid crisis.

- *Participatory management at the first mile* - Covid-related processes rapidly shifted the local contours of accountability and participation. The women community leaders led effective implementation of access to entitlements, food security, and risk reduction, by bringing first mile connectivity for excluded groups. New best practices on partnerships and reporting on social protection and public services were initiated.

- *Building local collaborative approaches led by women* - The widespread distress required innovation by governments and civil society groups: the untapped leadership of rural women engaged with the government system in local committees and shifted the responsiveness of local duty-bearers.

- *Bridging communication gaps* – Local adaptations of communication technology and information sharing processes, and a participatory process for Rapid Needs Assessments were used to overcome the challenges of lockdown.

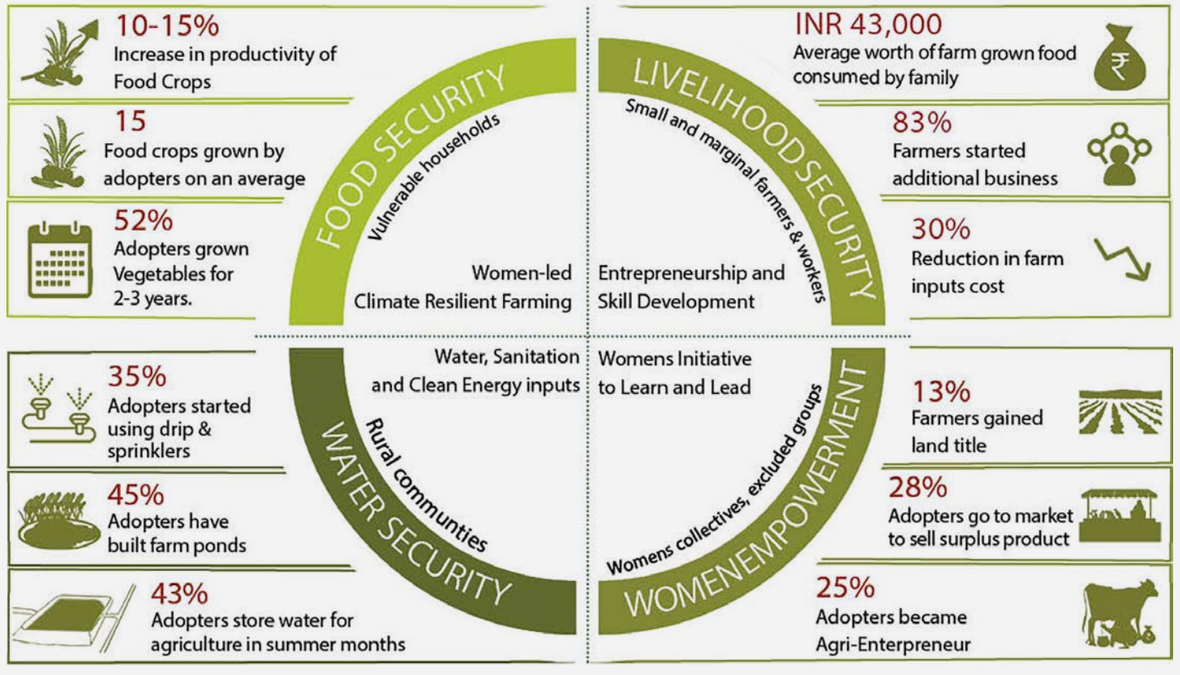
- *Alignment with government system* - Operational plans and monitoring systems had to be agile due to rapidly updated Government Orders and protocols. The emerging priorities of vulnerable communities required intensive monitoring and actions related to social protection, health services, and Covid prevention. This data was generated by the women leaders with the frontline workers.

- *Recognition and self-assessment* – the women leaders undertook Self-Assessment on changes they experienced, and in acknowledging their own perceptions, became more aware of their strengths and priorities, which is a step towards shifting decision-making to the local women leaders. Peer learning networks of local women became a critical part of the mentoring process and intergenerational bonding and sharing of knowledge.

Women entrepreneurs exhibiting organic products, Latur district, Maharashtra, India

The shift in the operational relationships is thus an integral process for the community leading its own development, with shared responsibility, though it has its own challenges, for instance the frequency of communication and reporting has increased time demands on the teams.

Graphic 2: Building Community resilience and changing gender norms with Women-led Climate Resilient Farming (WCRF)



Key learnings on supporting communities to be climate resilient

Changes in approaches are required at every level, and not just those related to agriculture practices or Covid relief. A collective reflection process was triggered through the women's skills and capacities to navigate the macro-level systemic issues, due to which more inclusive Social Protection programs, led by a strong cohort of women leaders, are being developed, based on its foundations of natural farming processes and farmers' collectives. The organisation was able to facilitate an enabling environment for women to be recognised as farmers within their families, agri-entrepreneurs in the markets, and now as project managers in the organisation, and as community leaders in the governance system.

While empowered women leaders had been key participants in local level decision making, it was after their effectiveness in disaster management during the pandemic that senior women leaders became part of the management board of Farmer Producer Companies and other local governance institutions.

Sunita Hude, Agri leader, Latur district, Maharashtra, India

The expansion in scope of the organisation's programs beyond climate-resilient agriculture to social protection, in which more women from non-agrarian communities can also participate and lead, is one of the most significant and potentially transformative shifts. While SSP had earlier included nutrition-sensitive agriculture in their framework, health and linkage with social protection entitlements were not major priorities. This shift has significantly increased their ability to work with vulnerable families, engage with emerging community priorities, aspirations, resilience processes, and institutional mechanisms.

The women farmers leaders also created spaces in the organisation as master trainers on the more technical aspects of the climate-resilient farming model, and have been recognised by the local government system. The organisation itself had not deeply engaged with the local governments earlier, and also had to internally re-orient its teams in order to leverage finance opportunities available in the government schemes for agriculture, water, seeds, organic fertilizers, extension services, and agriculture implements.

Changes in internal monitoring and assessment processes, stimulated by the

Women leaders practice mobile phone based monitoring, Ansurda village, Osmanabad district, Maharashtra, India

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FPO members and directors training and share certificate distribution, Osmanabad district, Maharashtra, India

disruptions, accelerated the process of integrating women's leadership across organisational structures. A notable advance has been the induction of more women leaders in direct management positions in agriculture, health, nutrition, and agri-enterprise related projects supported by institutional and corporate donors. This intentional process was set in motion through the formalization of SSP's Women's Initiative to Learn and Lead (WILL) program. While empowered women leaders had been key participants in local level decision making, it was after their effectiveness in disaster management during the pandemic that senior women leaders became part of the management board of Farmer Producer Companies and other local governance institutions.

Much of the analysis and learning process is still being formalized as the team is coping with the increasing needs for agrarian communities made more vulnerable after the pandemic disrupted rural livelihoods. Among the challenges in building community resilience and aligning Sustainable Development Goals at sub-national level, the SSP team was stretched to identify resources for the drought prone areas of Marathwada region. Post Covid, agrarian households have had to diversify into several agri-allied small and micro businesses for economic security. The financing priorities of the development banks require collectivization of the agri-entrepreneurs, which has added the need for building new internal capacities and robust local systems led by women across the organisation.

This localization has not had an even timeline, as climate related programming becomes increasingly complex with new government policies and international commitments. These require new approaches, models, tools, and competencies. As local climate finance opportunities are still limited, the organisation's team negotiated several short-duration climate linked livelihoods pilot projects to improve community resilience, for instance for organic food value chains. Experts and analysts have been inducted on emerging climate related outcomes valued by corporate organisations and governments, for instance on measuring carbon emissions.

Over the last three years, the organisation has been agile in reviewing its operational strategies, has expanded the cross-cutting indicators for tracking changes in women's agency and leadership at individual and systems level, developed foundational training curriculum for women leaders, developed a cadre of master trainers and mentors, and formed partnerships with climate and gender networks at national and global levels. The team itself has needed to gain new skills, knowledge, and gender inclusive approaches to match the transformative changes local women leaders have been able to initiate in the climate-risk Marathwada region and beyond.

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Suggestions for further reading

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'Araw ng Martrees/ Tree-Planting Tuesdays': **Community-led Actions to Reverse Environmental Degradation in the Rural Philippines**

Elvis Gatchalian, Rosemarie Conel, Ami Dasig Salazar, Krizza Velasquez & Elene Cloete

Over recent decades, large-scale deforestation has become common in San Isidro, a rural community in Nueva Ecija province, Philippines. Such deforestation resulted from wood-reliant livelihood activities including charcoal-production and furniture-making, along with kaingin (slash and burn) practices, used to clear areas for farmland. Because of these unsustainable processes, San Isidro residents increasingly suffer from the detrimental consequences of chronic environmental degradation. During the rainy season, people are frequently impacted by landslides, flash floods, silted rivers, and strong winds, especially during typhoons. During dry seasons, in turn, little tree coverage contributes to increased temperatures and humidity.

Considering these environmental stressors' impact on their community, a local women's group, *San Isidro Kaakibat sa Pag-unlad Association* (SIKAP), recognized that reforesting the surrounding hills can reverse many of their existing challenges. In 2022 and with the support of a locally based non-profit, Outreach Philippines, Inc. (OPI), SIKAP planned, implemented, and is currently managing a community-wide tree-planting initiative of more than 25,000 trees. In what follows, we elaborate on the activities and learning that emerged from SIKAP's Tree Planting Initiative.

OPI & Participatory Human Development

OPI has been facilitating community-led development since the mid-1980s, gaining their official non-profit registration in 1994. In 2022, OPI supported initiatives in 17 rural communities across Luzon, and Isabela, Masbate, and Nueva Ecija provinces. OPI's main goal is to empower rural communities, enabling them to resolve their poverty-related issues by themselves. OPI facilitators do this by following the Participatory Human Development (PHD) methodology. PHD is a systematic, comprehensive, and time-bound methodology that follows an often-cyclical process to learning that includes analysis, planning, action, evaluation, and reflection. Following this process, OPI practitioners support people to resolve their issues, establish community-managed projects, form sustainable community-based organizations, and establish support networks with other organizations.

Members of SIKAP clearing prior to tree planting

In 2019, OPI started working with San Isidro residents, assigning a staff member - a Human Development Facilitator (HDF) - to gather community members and support them in identifying and acting on their commonly experienced poverty-related problems. During their first community meeting, called the Problem, Identification, and Prioritization Meeting, residents identified deforestation as a serious concern among 12 other identified challenges. The group, however, chose to not prioritize it at the time, due to more pressing problems related to health and sanitation, food security, and livelihood. Residents also worried that the issue of deforestation was too big to tackle, especially since they had just started working together as a group.

In 2020, SIKAP gained formal registration as a People's Organization, under the Department of Labor and Employment. They have since developed into an organization with strong networks locally and abroad, diverse experiences on issue mobilizations and project management, capable leadership, and solid membership. To ensure SIKAP will become a self-reliant and sustainable organization, OPI's assigned HDF, Elvis, facilitated collective actions including on-the-job training. Such facilitation is typically informed by the PHD approach to learning, that is, first, analyze, then plan, act, and lastly evaluate and reflect on the process to consider challenges and formulate recommendations for future improvement. In practice, this involves guiding leaders through a logical process of addressing their community's needs, providing technical support where needed, and facilitating frequent evaluation and reflection sessions with both leaders and members to stimulate critical thinking, and recommendations for future activities.

SIKAP's Tree Planting Narrative

Considering their development as an organization, and feeling more confident in their capacity, SIKAP decided to act upon their community's deforestation concerns in January 2021. As a solution, SIKAP decided to reforest 25 hectares of their surrounding hills with 25,000 seedlings of fruit-bearing and non-fruit-bearing native trees. To secure the necessary funding, SIKAP submitted a project proposal called 'Back for the Future: A Reforestation

Brenda Silva- one of the members of SIKAP Association climbing San Isidro mountain

Launch of the tree-planting project

Project' to Outreach International, who was then able to secure funding from individual donors, Angie and Mathew Brand.

Following project approval, SIKAP led three major sets of activities. First, they mobilized to access training, seedlings, tree-planting volunteers, and secured government assistance to identify the land needing immediate reforestation. Second, SIKAP members received training on Reforestation and Nursery Establishment before the actual tree planting. Members prioritized such training since no SIKAP members had previous forestry experience. Finally, SIKAP started with tree planting in June 2022. This started a three-month tree planting effort, with SIKAP members and volunteers from 14 partner organizations (including government agencies, local government units, and civil society organizations) meeting on the mountain every Tuesday to plant together. This consistent Tuesday planting led to the project's nickname, 'Martrees' meaning more trees.

In November 2022, SIKAP exceeded their initial intentions, getting 31,450 seedlings into the ground, 6,450 more than planned. Of these saplings, 18,500 were produced by SIKAP Association members, 10,000 were accessed from the Municipal Mayor, and 2,950 from various individuals and organizations.

> ***SIKAP's conversations with the landowner drew directly from the group's in-depth knowledge of the issue at hand, and such knowledge, in turn, stems from sessions during which they, alongside Elvis, conducted deep analyses of the contributing factors and impact of deforestation in their area, all the way through to reflecting on the outcomes of their planning and actions.***

One of the major challenges during the project's implementation stage was the distance between some of the planting areas and SIKAP's village. Members need to walk, on average, two to three hours each direction from their homes to the reforestation site. With this challenge in mind, Elvis facilitated an initial project assessment session that focused on evaluating the project's challenges - evaluation being one of the key tenets of the PHD methodology's cyclical approach to human development. Their session resulted in a set of recommendations, which included adjusting the tree planting time frame, with planters leaving the village at around 4am in the morning instead of 5am. During this session, it was also decided that instead of SIKAP, the land owner will support in monitoring the trees' conditions going forward. The landowner agreed to such monitoring, after SIKAP leaders, with Elvis' support, illustrated to him how much he is already saving because of the group's actions toward reforestation. SIKAP's conversations with the landowner drew directly from the group's in-depth knowledge of the issue at hand, and such knowledge, in turn, stems from sessions during which they, alongside Elvis, conducted deep analyses of the contributing factors and impact of deforestation in their area, all the way through to reflecting on the outcomes of their planning and actions.

Tree Planting as a Platform for Collaboration

"We thought it was just simple: grow seedlings in potting bags and plant them in the mountains. We were not yet aware of the many steps we had to undergo to achieve our targets," Donita, a SIKAP leader, shared in 2021 when asked what she thinks about SIKAP's Tree Planting project. These unexpected steps mostly consisted of bringing other people and organizations in to collaborate on their tree-planting initiative.

Considering the project's scope, one thing was certain to SIKAP from the start - they needed local support from government offices. They began exploring what government support might look like (either seedling donations, or volunteer planters) and submitted requests to the Village Council, Office of the Mayor and Municipal Council and government agencies in charge of environmental concerns. As they talked to these offices, they were directed to local police offices and even the Armed Forces of the Philippines for additional support. They learned that police and soldiers were willing to help by participating in the actual planting of seedlings. Additionally, they found that some government workers belong to or knew of socio-civic organizations who may be interested to participate.

> ***"We thought it was just simple: grow seedlings in potting bags and plant them in the mountains. We were not yet aware of the many steps we had to undergo to achieve our targets"***

All of SIKAP's networking efforts paid off. At the project's launch on June 27, 2022, approximately 150 volunteers showed up to support the reforestation efforts. SIKAP created their own social media page after the launch, which proved to be another means of reaching more groups. One notable group was a non-government organization that focuses on microlending, wanting to join the tree planting activity. What started as a simple concept with a few good people branched out to include many other supporters who wanted to collaborate in addressing climate change.

Major Takeaways and Success Factors

This once-in-a-lifetime experience of SIKAP in combating environmental degradation locally has brought many lessons to the fore, not only for its members and leaders but also for its partners.

One of the most significant takeaways, expressed both by SIKAP leaders and OPI practitioners, is the importance of networking and collaborating with various stakeholders. The collaboration with government and non-government actors described in the section above resulted in the project's timely and successful implementation. In turn, a good track record in project implementation can attract more support not only locally but internationally.

Capacity (in this case, SIKAP's knowledge and skills) is another important factor ensuring project success. The tree planting project was launched when SIKAP leaders already had basic knowledge and skills in project development and management, gained over the years of implementing simpler, smaller scale projects. Such skills development then provided the platform for them to take on a huge tree planting initiative. Working together as a group has also made SIKAP aware of the value of teamwork, flexibility, and good time management.

In addition, SIKAP leaders claimed that having strong communication practices, using face-to-face interaction as well as online platforms, sped up the project's implementation. They emphasized the importance of solid support systems, including training from OPI, support from village officials and local government, as well as their families. The latter is especially important, considering the extra time leaders spent, often away from their homes, on ensuring the project's success. Other family members had to step in and take over their household and family responsibilities. Spouses also often accompanied leaders during tree planting and monitoring activities.

Elvis Gatchalian, the OPI facilitator assigned in San Isidro, emphasized that one of his major takeaways from this project was that people's interest, openness, and participation in any endeavor can be gained if they are truly affected by the situation they address. However, sustaining their interest and building deeper commitment will take a lot of time and patience from the side of the facilitator. Thus, the facilitator's commitment needs to be developed first before anything else.

Conclusion

The success of SIKAP's initiative is rooted in the group's dedication toward regenerating their natural environment; and the community-led processes OPI practitioners introduced to the group have provided SIKAP with the organizational tools and infrastructure to turn their dedication into impactful and sustainable change. It is these processes, we argue, that are essential to ensure the sustainability of climate-related interventions. Project sustainability is closely linked to local-level vision, planning, and ownership and depends upon strong social networks, such as those SIKAP has developed.

Members of SIKAP Association going to plant trees

Krizza Velasquez is the Program Coordinator for Outreach Philippines, Inc. (OPI), currently leading a 15-member team to facilitate development in 11 communities. She completed a bachelor degree in Sociology and Anthropology at the University of the Philippines, Baguio City.

Rosemarie Apolonia Luza Conel has worked with OPI since 2009, as a community development practitioner, and since 2013, as a Trainer-Coordinator. She is a cum laude graduate of Bachelor of Science in Development Communication.

Dr. Elene Cloete, is an Applied Anthropologist and Director of Research and Advocacy at Outreach International with more than 20 years experience in supporting, facilitating, evaluating, researching and investigating community development interventions.

Ami Dasig Salazar is OPI's Research and Documentation Officer, with experience also in community development, advocacy, networking, training, research, and publication. Ami is a BS Community Development graduate from the University of the Philippines-Diliman.

Elvis Gatchalian works as a Human Development Facilitator at OPI, and has been with the organisation for 12 years. He is an alumnus of Isabela State University under the Bachelor of Science in Development Communication program.

Garvagh People's Forest Project: **A Trojan Mouse**

Karin Eyben

Preamble – patterning something different

"When we speak of systemic change we need to be fractal." (Brown, 2017, p.59)
We have found ideas about fractals useful in thinking about the role of our project.

Fractals are the patterns that shape all living beings, from the micro to the macro level; the common patterns that have evolved as life affirming, whether these are the branches of trees, animal circulatory systems, snowflakes, lightning and electricity, plants and leaves, geographic terrain and river systems, clouds, crystals. The same spirals on seashells can be found in the shape of galaxies.

When we speak of change it is about creating patterns that are life affirming and cycle upwards. How and what we do at small scale can reverberate to the largest scale – this is where the Garvagh People's Forest Project was located; as a small fractal or 'trojan' mouse offering a different way of doing relationships and community development.

"Tune in to the prevalence of spiral in the universe – the shape in the prints of our fingerprints echoes into geological patterns, all the way to the shape of the galaxies. Then notice that the planet is full of these fractals – cauliflower, yes, and broccoli, ferns, deltas, veins through our bodies, tributaries, etc. – all of these are echoes of themselves at the smallest and largest scales. Dandelions contain an entire community in each spore that gets blown on children's breath." (Brown, 2017, p.51)

The Context

Garvagh (from the Irish Garbhach, meaning 'rough place' or Garbhachadh meaning 'rough field') is a village in Co Derry, Northern Ireland. This small piece of land has evolved over the past millennium through different forms of ownership and management. Under the Norman system, introduced following the Norman invasion in 1169, all land was held by the king. The king was the chief lord and landowners either held land directly from him or indirectly from persons who held from him. This system had largely broken down by the end of the 14th century and by that stage only remained in the Pale (around Dublin). Grazing rights for livestock and disputes between clans would have been governed by Brehon Laws. Garvagh village was developed in its current lay out by the Canning family in the 17th Century following the 1640s rebellion with land confiscated by the Crown from the O'Cahan clan. The Canning family built the 'big house' in the forest. It was then sold by the Canning family to the Forest Service in 1947 and has been owned and managed by them since then. Garvagh Forest today is approximately six hundred acres and is a mix of broad leaf and conifer.

Whilst the Plantation of Ulster is still the subject of much debate amongst historians and politicians there is no doubt that Garvagh, along with the rest of Ulster has been deeply affected by the colonisation brought via the Plantation. The structure of land ownership has changed over the centuries due to political and economic forces. Changes in ownership and management of land has changed the relationship people had with land and demonstrates the potential for re-adopting older systems of ownership and management as we recalibrate our relationships with the more than human world.

Read IACD's Daily News on community development from around the world

Garvagh today is a small rural town of around 1500 inhabitants; it is a farming community with a number of small family run engineering firms. The village itself is majority protestant/unionist surrounded by a catholic/nationalist hinterland. As with many places across Northern Ireland the legacy of the Troubles still shapes many relationships, and this conflict predates the Troubles. The forest itself can be seen as a natural interface between different political traditions.

Garvagh People's Forest Project

The Garvagh People's Forest Project has been a five-year journey (2017-2022) noticing, valuing and growing the relationships the communities surrounding Garvagh Forest have with their forest and with each other. The project has been hosted by Garvagh Development Trust and funded through the National Lottery Community Fund and was triggered by the closure of Garvagh High School.

The project's ambition has been to grow collective consciousness around the interdependence between the wellbeing of the forest and the wellbeing of the communities in its 'oxygen catchment area' and to begin exploring what it might take to reframe what we mean by 'community' in community development – the flourishing of all life's beings and not just human beings with community as the heart of decision making in the stewardship of the forest and village: an integrated citizen-led development plan for forest, river and people.

A Flavour of Some of the Work

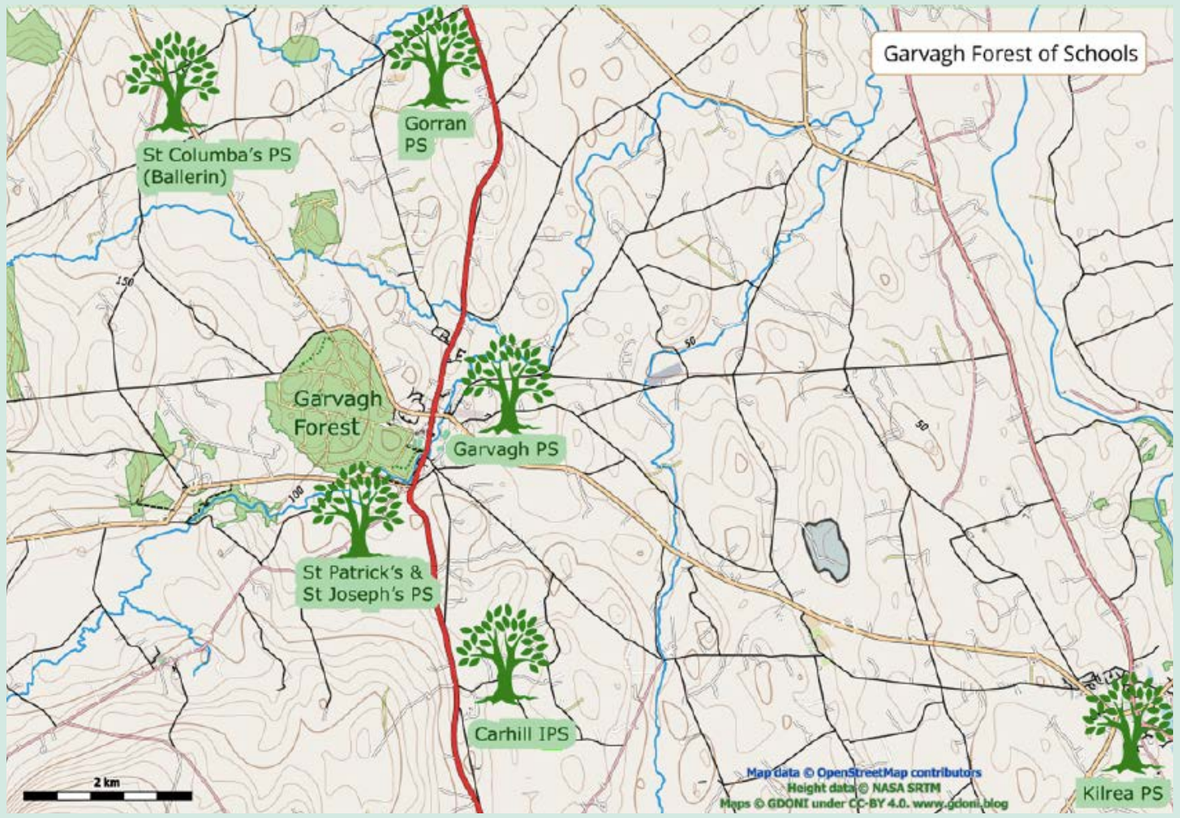
The project focused on the following key aims:

1. To develop and deliver A Forest People's Skills Programme;
2. To grow and sustain the Outdoor Learning Partnership between the six local primary schools as a core element of local education delivery;
3. To develop and deliver a range of activities and programmes that enhance people's health and well-being;
4. To organise a programme of creative Community Events to grow community and strengthen connections between people of all ages and their Forest;
5. To grow good community and cross-sectoral working relationships towards developing an integrated community-led plan for the Forest.

The Outdoor Learning Partnership with the six schools and three pre-schools in the Forest community catchment area evolved into a whole school approach to outdoor learning with resources and skills shared across the partnership. Alongside the formal education approach, we have also been running a Junior and Senior Forest Youth Club. A significant Outdoor Learning Resource manual has been collated by this partnership sharing collective wisdom and experiences. A culture of collaboration has been nurtured and embedded with and between teaching staff from across the schools.

Growing Wellbeing with a range of different partners including the Multi-Disciplinary Team (MDT) at Garvagh Health Centre, Women's Aid, Compass Advocacy Network, Northern Health & Social Care Trust, Causeway Neurodiversity Network, Department of Agriculture, the Environment and Rural Affairs, Cross Glebe Community Association, West Bann Development, the Migrant and Refugee Team at Building

Figure 1: Garvagh Forest of Schools



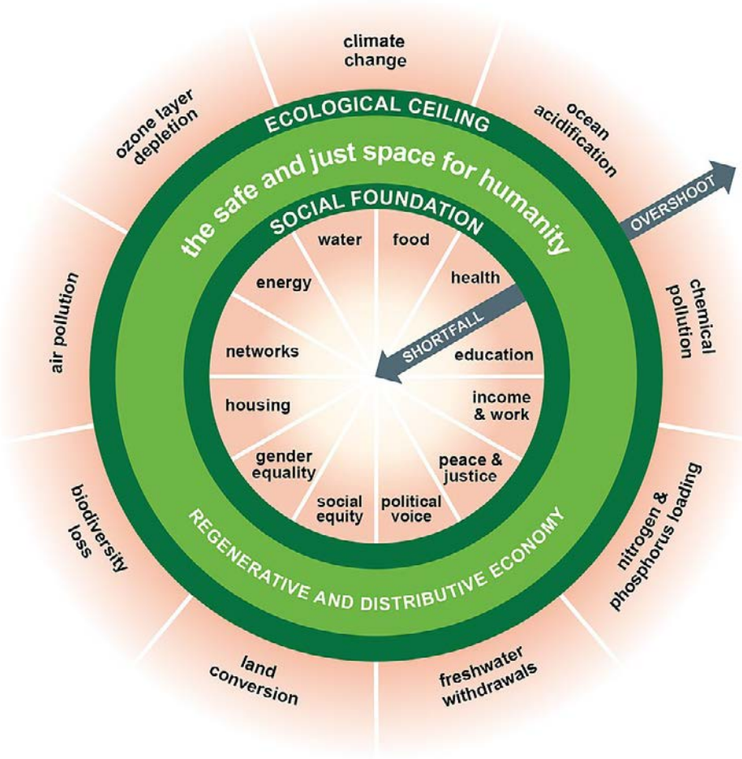
Communities Resource Centre. This has led to, for example, the development of the Forest Families Programme developed and delivered in partnership with the social workers as part of the MDT with families referred through GPs, Social Workers and the Health Visitor at Garvagh Health Centre. These have been families experiencing challenges and significant stresses and introducing them to the potential of green spaces around them has been an important contribution to their wellbeing.

Developing Forest Skills through delivering a variety of courses focused on learning about and sustainably using resources in and from the Forest. For example, the Unplugged Programme in Garvagh Forest working with mainly men in learning how to use hand tools to make simple household items such as spoons, egg cups and plates; an annual programme of Forest Walks learning the vocabulary, language and landscape of the Forest; and a vast range of wellbeing programmes shaped by the needs of different groups and citizens. "It is a long way from our heads to our hearts and an even longer way from our hearts to our hands". Finding ways to work with our hands grounds us as very difficult challenges and uncertainties surround us.

Growing Community through imagination and the arts in the Forest in a shared space. For example, the Time Travel Festival taking people through an interactive journey through the geological and historical time layers of the land; the Garvagh Quest based on the old story of the Glenullin Dracula Abhartach who had risen up again and captured the Christmas Elf! We have also recognized the shortest and longest days of the years through using music and the arts such as, for example, the old battles between the Oak and the Holly Kings. There is nothing that can't be improved with a bit of fun, and change becomes more possible when people are playing, laughing and imagining.

Advocating for greater Citizen Voice and Engagement in the management and care of the Forest. For example, convening a number of events for different citizens of the Forest with the Council and Forest Service, attempting to explore what it might take for both those statutory agencies and local people to start seeing people as citizens as opposed to 'subjects' or 'consumers' (Alexander, J., Citizens, 2022) and begin to lay the foundations for an integrated community-led plan for the Forest. Unfortunately, that is all we have been able to achieve: a very thin skein of relationships. We have been deeply grateful to those civil servants lower down the hierarchy who have used their discretionary power to the maximum to enable things to happen. However, until there is a cultural mindset shift within local government and Forest Service, a meaningful community-led integrated plan will not be achievable. As the saying goes 'culture eats strategy for breakfast'.

Figure 2: Doughnut Economics



Commoning Possibilities

One of the last projects in the journey of the Garvagh People's Forest has been the Commoning Possibilities initiative (www.commoningpossibilities.com): a participatory budgeting process in partnership with the Rural Community Network and St Columb's Park Reconciliation Centre testing where the ideas now sat across the Forest's catchment communities with regards the reframing of community and wellbeing. Thirty-nine 'commons' ideas were submitted from individuals aged 8 years and above as well as constituted and un-constituted groups on projects people were willing to deliver on with each other. Ideas included:

- Climate change/enhancing biodiversity/ environment;
- Practical equipment for groups;
- Food growing & waste;
- Mental health & mindfulness;
- Activities for clubs/groups;
- Cultural/natural heritage;
- Infrastructure improvements in Garvagh Forest and within the wider communities.

The total pot of £10,000 was part funded by a local donor, the Community Foundation for NI, and part funded through local crowdfunding. This incidentally has opened up the conversation with regards a small community endowment fund for the area to run an annual 'doughnut innovation and incubation of new ideas' process. More than 1000 people voted in December 2021, online and physical ballot papers, with 26 projects succeeding in accessing the money. Our exit poll showed that: 70.5% of those who completed the poll voted for people or groups that they had never heard of before; 94.3% said that being involved helped them find out more about what is happening in the community. However, it was the conversations after the voting where so much value was experienced by all the bidders, whether successful or not.

We had a series of facilitated conversations locating our bids within the doughnut economics model (K Raworth, Doughnut Economics, 2017) and practically experiencing what it means to expand our notion of community, wellbeing and development. [Figure 2]

What we give our attention to grows (Adrienne Maree Brown). The Garvagh Peoples Forest Project and its last initiative, Commoning Possibilities, allowed us to give our attention to how we might expand what we mean by community and hence development in a small rural village in Co Derry. We began to pattern something different, but it is only a very, very small fractal in a system that still intuitively places human beings as separate from the rest of the living world. And yet, we can't wait for all the stars to align; we have to start from where we are standing with the light that we have.

Karin Eyben was Development Lead with the Garvagh People's Forest (GPF) Project for over 5 years. She is now a proud member of the Hare's Corner Cooperative, set up to continue the GPF Project. She also works as an independent facilitator as well as a participatory budgeting practitioner.

Disability and climate change: **Reflections from Community Based Inclusive Development**

Dr. Shaun Grech and Dr. Joerg Weber

Climate related disasters are on the rise and with greater severity and reach in an increasingly globalised world (IPCC, 2022). Persons with disabilities are among those most exposed, because they are among the poorest of the poor, the bulk living in volatile rural areas in the global South.

Overall, persons with disabilities are said to be two to four times more likely to be injured or to die in a natural disaster (UNESCAP, 2016). When disasters strike, they are more likely to confront problems in evacuation, they may be left behind, and struggle to recover their livelihoods and rebuild their lives. Some more than others, including women, children, indigenous people, and people with psychosocial disabilities suffer more hardships as intersectional dimensions are factored into the complex web of discrimination. Climate change and extreme weather events are themselves major causes of impairments, meaning that disability and climate change are caught in a vicious cycle.

The need to actively address disability in climate change action has been echoed in multiple policies and declarations, including the UN Convention on the Rights of Persons with Disabilities (UNCRP) and most notably the Sendai Framework for Disaster Risk Reduction. However, in practice, persons with disabilities are often not included in climate adaptation decision making, relegated to the margins of discourse and intervention, including community-based disaster planning.

This article addresses the nexus between disability and climate change action in the global South via Community Based Inclusive Development (CBID). Defined as "a way of working that ensures persons with disabilities are respected and included in their communities on an equal basis in all areas of life" (CBM, 2021), the article situates CBID as an approach that is effective in critically articulating the role of communities and organizations of persons with disabilities (OPDs) in leading on inclusive climate action; and the necessity of decentralized, collaborative and cross-sectoral approaches in ensuring genuinely transformative disability inclusion.

One of the main principles of CBID is that communities should define and control their own 'development' on their own terms. Community development is most effective when it is steered by community members

Framing community mobilization: leading the process

One of the main principles of CBID is that communities should define and control their own 'development' on their own terms. Community development is most effective when it is steered by community members, articulating their own needs and demands and using their own strategies (CBM and HI, 2021). This is because they have in-depth, localized and contextualized knowledge. The role of those outside this context is therefore often simply that of supporting these agendas and strategies to mobilize in ways that communities deem fit (Grandisson et al. 2013). This helps ensure that responses are not only relevant and culturally sensitive, but also seen as genuinely legitimate and responsive.

Communities have for centuries adopted contextualized practices (e.g. in farming and construction) to respond to climate change. Many of these adaptations live on to the present. In a similar fashion, they have developed their own responses to disability, even if these may not neatly fit into global North framings of 'rehabilitation' (see for example Miles, 2018). Invested members of communities play a critical role in disability inclusive climate action:

- They provide the context within which disability is constructed and lived. It is here that barriers to food and equitable food production, poverty and inequality, enhance the vulnerability of persons with disabilities to climate change impacts. But it is also within these communities, that persons with disabilities ultimately survive, too often without any formal social protection (Grech, 2015).
- They play an active mediating role between people on the ground and other stakeholders involved in disaster risk management.
- They relay messages, for example early warnings of hazards to persons with disabilities and their families
- Importantly, they can collaborate in identifying and mapping persons with disabilities, especially those in remote areas, to make sure they are reached by disaster risk reduction (DRR) efforts and also evacuated on time in a crisis event.

Photo courtesy of CBM

CBM Project Officer assessing the impact of Cyclone Idai, Manicaland Province of eastern Zimbabwe

The role of Organizations of Persons with Disabilities (OPDs)

Persons with disabilities and their organisations are crucial partners in CBID, seen as genuine leaders in the community development process (Weber, 2017). Organisations of persons with disabilities (OPDs), in particular, fulfil multiple functions. They assess needs, lead on advocacy, influence and guide policy and practice, and monitor to ensure that the rights of persons with disabilities are respected at all times (Young et al. 2016).

The meaningful participation and leadership of OPDs within the disaster risk management and climate action spaces, serves multiple functions:

- They ensure that anything that is designed and implemented by states or other stakeholders on climate change action, is disability informed and inclusive.
- Inform and educate communities, authorities and also those working n community development about the barriers faced by persons with disabilities through first hand, legitimate narratives.
- Help identify disability inclusive adaptations that can remove these barriers.
- Ensure there is political will, commitment and a budget to implement inclusive climate action.

Organisations of persons with disabilities (OPDs), in particular, fulfil multiple functions. They assess needs, lead on advocacy, influence and guide policy and practice, and monitor to ensure that the rights of persons with disabilities are respected at all times

- Push for an intersectional approach to disability-inclusive climate action that recognises and addresses the needs and demands of different persons with disabilities.
- Monitor climate action responses that themselves may negatively impact persons with disabilities: for example, policies such as carbon pricing may accentuate the poverty and inequality of already impoverished persons with disabilities, intensifying their vulnerability to disasters. Another example are early warning systems that exclude deaf and blind people because they are exclusively sight or sound dependent. There is also much eco-ableism, for example in pushing to use bicycles as an ecological 'solution', which marginalises people with a range of physical disabilities. At the most basic level, it stalls the search for options that genuinely leave no one behind.
- Consult on the design and the rebuilding of key infrastructure using universal access standards to meet targets of accessibility and also resilience to future shocks.

Tackle attitudes about disability

One of the major components of CBID involves influencing and trying to shift attitudes towards persons with disabilities (Grech, 2014). It is indeed impossible to mobilize communities to advocate for and support persons with disabilities in making demands for inclusive climate action, if these same communities exclude and/or stigmatize them. The need to change attitudes is instrumental, also in the mainstream climate action and disaster risk reduction

Inclusive targeting in action: a committee set up to collaborate on a community gardening project established by CBM in Chiredzi district Zimbabwe, involving vulnerable persons.

Photo courtesy of CBM

(DRR) sectors, because these too often exclude persons with disabilities, including through previously described ableist practices. Even more basically, when there are competing demands and populations that may be more visible in community-based development and advocacy (e.g. women or children in disasters), disability can too easily slip out of focus. Instead, it is perpetually relegated to charity or medicalization, alleviating responsibility and shrinking further the resources required for responsive inclusion.

CBID provides some useful tips on how to address negative and exclusionary attitudes, such as:

- Supporting OPDs in leading on a process of education and sensitization on disability especially among those working on climate action,
- Garnering support for disability inclusion, for example by getting a known regional or local champion on board,
- Involving community, spiritual and religious leaders, who have much influence and reach within communities.

Much CBID work involves advocacy to affect changes in policy, including decentralization of key services to the local level. The need to decentralize climate action is necessary, because the impacts of climate change are most felt in impoverished rural areas in the global South.

Decentralize: Localising climate action

Much CBID work involves advocacy to affect changes in policy, including decentralization of key services to the local level. The need to decentralize climate action is necessary, because the impacts of climate change are most felt in impoverished rural areas in the global South. Without decentralization, climate change will remain an isolated concern, framed as someone else's problem and responsibility. Decentralization, using contextualized and culturally sensitive and responsive means, is critical in allowing the flow of knowledge to the local, while including indigenous knowledge and solutions, including those of persons with disabilities. Without this, all we are left with are top-down methods, emanating from urban areas that may be ill-informed, detached and possibly even seen as irrelevant.

Decentralization moves climate action services and projects closer to the community. This enhances awareness and reduces the costs involved in reaching them, including physical strain, especially for those with disabilities affecting mobility. It also provides a space to include traditional practices, for example using traditional crop varieties in farming that incorporate indigenous methods as well as innovative climate resilient ones. Overall, decentralization is key because it pushes for a sense of shared responsibility towards climate action.

Crossing sectors: Reaching the mainstream

To conclude, bringing disability and climate change action together is not something that will happen on its own accord. A CBID approach actively highlights the constant need for disability mainstreaming to normalize disability in non-disability specific sectors including international development and community development. It also pushes for the mainstreaming of disability inclusive disaster risk reduction and climate action across community development.

Mainstreaming is critically important because effective inclusive climate action is about alliances that work together to push for the inclusion of disability. For example, organisations working on women's rights can then support demands by the disability movement for disability-informed and adapted policies and practices. In turn, the disability movement can support the demands of other groups, for example refugees and asylum seekers pushing for a place within the climate action agenda. In the absence of such alliances, disability will remain a siloed sector, and inclusion dramatically weakened. Importantly, it will leave the mainstream itself unchanged, which is where practices and attitudes towards disability actually need to change, including ones that disable.

Even more basically, normalizing disability in a climate crisis context provides for the means to infuse a mentality that disability inclusion is an investment that does not need to be too costly, and which ultimately benefits everyone, and where persons with disabilities and their organisations can be active partners in the climate movement and their respective communities.

Dr. Shaun Grech & Dr. Joerg Weber (CBM Christian Blind Mission & University of Cape Town)

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Suggested further reading:

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Training of members of the Community Early Warning and Emergency Response System (SCAP-RU inclusive).

Photo courtesy of CBM

Project Pet House: **An Eco-Innovative Intervention To Plastic Pollution In Nigeria**

Sodiq Jinad, Erioluwa David, Abubakar Rofiyat, Abdul Salam Abdulqudus & Abdul Hamidu Abdullahi

The PET House

Photo courtesy of Godman Agbo

Over the turn of the century, rapid industrialization, resource exploration, and excessive product consumption have resulted in a plethora of environmental challenges ranging from increasing temperatures due to global warming to pollution and the depletion of resources originating from emissions, improper waste management, and deforestation, among others. This development calls for the efficient use, reuse, and recycling of waste towards ensuring resource conservation.

Consumption is a necessity in life. With consumption, however, comes the corresponding process of waste generation which when improperly managed, could pose graver environmental and human consequences than imaginable. As a lightweight hygienic and resistant material capable of being fabricated in various ways and exploited in a wide range of applications (UNEP, 2018), plastic pollution had particularly given cause for concern as it afflicts land, alters air quality, defaces oceans, and diminishes the quality of life. Plastic wastes also cause serious damage to the environment both during production and disposal (Saxena & Singh, 2013).

According to a report from the Guardian, an estimated 8.3 billion tons of plastic have been produced since the 1950s (equivalent to the weight of more than 800,000 Eiffel Towers). Despite this and the fact that plastics continue to be consumed daily, the UNEP reports that only about 9% of all plastics are recycled and just 12% is incinerated. If resource exploitation should continue unchecked at this rate, it is estimated that by 2030, 58.4 million tons of plastic will pollute the world's oceans every year - a practice unsustainable to the planet, as a result of Earth's limited resources.

Plastic bottles have given rise to severe environmental concerns as they are non-biodegradable and generated at a rate faster than they could be managed. It is estimated that 8.8 million tons of plastic waste get to the oceans annually – with the advent of single-use plastics, Styrofoam, plastic straws, and PET (polyethylene terephthalate) bottles for food packaging and other uses, this mode of product packaging has posed serious environmental challenges to our communities as the majority ended up littering the streets, clogging drainages and leading to the death of most marine species when the plastic wastes ended up in the oceans.

As a social-impact climate adaptation solution approach, the project is aimed at engaging women and young individuals in collecting waste plastic bottles from the environment, for the construction of an eco-friendly house.

Studies have shown that from all plastic wastes generated annually, only about 15 – 27% of PET and about 10% of High-density polyethylene (HDPE) plastics are known to be recycled (Saxena & Singh, 2013).

Over time, awareness about the dangers of plastic pollution has increased significantly, and people are beginning to intensify actions toward addressing the management of plastic waste and ensuring social development. In view of the foregoing challenges, several approaches had been deployed by various bodies and agencies towards complementing the efforts of the UN in addressing the plastic menace across the world. The advent of Project PET House is one of such localised youth-led climate action solutions aimed at creatively repurposing waste plastic bottles towards driving social equity and ensuring sustainable development.

Project Description

The Project PET House is an environmental social-impact initiative of Plogging Nigeria Club – Ahmadu Bello University, Zaria - Nigeria, aimed at retrieving an estimated 35,000 indiscriminately disposed of plastic bottles and other non-biodegradable wastes from the environment for the construction of an eco-friendly plastic house.

As a social-impact climate adaptation solution approach, the project is aimed at engaging women and young individuals in collecting waste plastic bottles from the environment, for the construction of an eco-friendly house. This project idea basically comprises significant plastic bottle retrieval, entrenching creative repurposing of wastes, raising a massive awareness about the dangers of plastic pollution, providing skills and capacity building for youths, and providing decent employment for women.

The success of the project would ensure (complementary) income generation and skill acquisition for women and young individuals who would be meaningfully engaged in the construction process through the supply of waste plastic bottles and compaction of such bottles respectively - thus providing them with sources of income generation, improved

The Seater is constructed with about 95% plastic bottles and other non-biodegradable wastes.

Photo courtesy of Plogging Nigeria Club - Ahmadu Bello University, Zaria

Photo courtesy of Plogging Nigeria Club - Ahmadu Bello University, Zaria

Collecting waste plastic bottles

livelihoods, climate-smart skill acquisition: working towards actualization of the global goals and ensuring overall environmental sustainability.

Seating Slab

The milestone Project PET House has been successfully prototyped through the construction of an eco-friendly seating slab using waste plastic bottles collected from the environment during campus clean-up activities. This prototype project was a massive success as it led to the permanent retrieval of over 1,300 units of waste plastic bottles and polythene wastes (black polythene bags, water sachets) for the construction of a seater at Love Garden, on the campus of Ahmadu Bello University, Zaria – Nigeria.

Amina was one of the women who participated in supplying bottles for this seater project. According to Amina, income generated from supplying waste plastic bottles was used in sending her kids to school and affording other basic social amenities. Similarly, young individuals who participated in the seater project were able to gain income and acquired the skills of 'bottle building' which they now utilize in earning elsewhere.

Social and Environmental Impacts

Participants realized that having identified the negative impacts of plastic pollution on the environment in general, it is of urgent importance to take pragmatic actions towards promoting proper waste management and lessen the number of plastic waste that goes on to litter the environment. Thus, some potential impacts of the project include:

i. Women and Youth Engagement:

The project would predominantly engage women with upcycling and soft management skills due to their participation in the collection of waste materials for the project. Youths would similarly get trained on compacting bottles as well as research and development around 'plastic bottle' buildings.

ii. Income Generation:

Women engaged in collecting the bottles will be paid above the standard cost of each bottle – thus encouraging them, improving their livelihoods, and affording them the needed extra income to send their wards to school.

iii. Waste Retrieval:

The PET House project will ensure the permanent retrieval of over a thousand waste plastic bottles from the environment, to be put into creative reuse for the benefit of members of the community. This will bring about serenity, and social development as well as improved health and wellbeing.

iv. Resource Reuse:

Laterites evacuated from the foundation are to be used in filling up the bottles. In a similar fashion, other wastes generated will be redeployed in the building process. This will ensure a closed-loop system and the reuse of waste materials as much as possible.

v. Perception Shift:

The project is expected to bring about a paradigm shift in the perception of people about 'waste' (especially PET bottles), as many women and youths will be exposed to the business opportunity in waste management - thus breeding waste-preneurs.

vi. Revenue Generation Potentials:

The building has an economic and revenue-generation strategy that would ensure its maintenance, sustainability, and replication elsewhere – such plans include manufacturing and sales of recycled materials, rental of the hall for green hangouts, and provision of workspace for researchers .

vii. Biodiversity Conservation:

The permanent removal of over 35,000 plastic bottles (for blocks) and an estimated 200kg of waste nylons (for tiles) for construction, would practically prevent these wastes from ever getting into the oceans nor harming aquatic habitats, fostering ocean protection and nature conservation.

viii. Environmental Advocacy:

The project is expected to bring about a reawakening of environmental consciousness of the people and members of the society, through practical participation.

ix. Alternative Affordable Housing:

This eco-innovative idea has the potential to proffer sustainable alternatives to the challenges of affordable housing for people (especially) in low-income communities – as the houses will be built from wastes collected from their immediate environment.

Proposed Building Functions

In view of the proposed intervention and potential solutions the project is bringing forth; the following are some of the functions of the proposed PET House upon successful completion:

i. Recycling Hub:

The structure is expected to serve as a recycling hub/centre for waste-preneurship through the collection of waste for upcycling/recycling into valuable items – thereby accelerating the circular economy and advancing creative reuse.

ii. Environmental Innovation Hub:

It is expected to serve as a hub for teaching and training young individuals (especially girls), and students (secondary school students) on practical waste management, creative repurposing, recycling, upcycling, and general environmental sustainability.

iii. Eco-innovation:

The structure is similarly expected to serve as a breeding platform for eco-innovative businesses which will help create a balance between climate action, economic growth, community development, and environmental sustainability without trade-off between people, profit, and the planet.

iv. Co-workspace:

It will provide individuals and partner organizations with an environment for research, working, networking, advisory services, and consultation services towards facilitating climate action and community development through workshops, seminars, internships, environment-based research, and practice-based research.

v. Exhibition Centre:

The building would also serve as an exhibition centre for the exhibition of recycled items from waste, dissemination of knowledge, and skills related to upcycling and circular economy.

Conclusion

In conclusion, we highlighted how Project PET House will help with climate mitigation and adaptation across several vulnerable communities. It will significantly reduce and repurpose plastic wastes which had been a menace to the environment, thereby helping fight plastic pollution and at the same time enabling income earning.

By utilizing waste plastic bottles from a certain environment in building for people in such an environment, the project is helping them adapt to transforming their challenges into opportunities and leading the environment onto the path of sustainable development.

Similarly, the idea of engaging predominantly women and young people for this repurposing project is one which would help bring a paradigm shift in the perception of the people about plastic waste and help drive awareness and advocacy around plastic repurposing as a sustainable mitigative approach towards combating plastic pollution and climate change mitigation.

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Building Economic Resilience Through Environmentally Sustainable Models: **South Asia Women Foundation India's Economic and Environmental Justice Fellowship Programme**

Debdatta Purkayastha, Anuradha Rajan

South Asia Women Foundation India (SAWF IN) is mandated to advocate for resource justice, through an equitable flow of resources to the Global South, reaching marginalized women, girls, and trans people.

The exploitation of natural and other resources, rising carbon emissions, and detrimental effects of human activities have led to changing global temperatures and a climate emergency. Research has shown that the adverse effects of the changing climatic conditions have exacerbated the life, livelihoods, and health of marginalized communities and widened the gender gap. As a women's fund, SAWF IN aims to address the imbalanced and skewed distribution of resources, natural and economic, through an intersectional lens.

Inhospitable and difficult geographical terrain is subject to larger environmental risks and threats, like the northern states of India in the mountains, dumping grounds in cities and villages where plastic and non-biodegradable wastes accumulate, deltaic regions like the Sundarbans that are facing a surge of the sea levels, among others. Tribal communities that used to be self-sustaining and had a harmonious relationship with nature, are now looking outwards for sustenance, etc. post globalisation. As a result, many traditional practices and livelihoods in these communities are lost. The climate emergency now impacts communities around the world living in vulnerable geographies. The effects of environmental emergencies and changing climatic conditions are different on women, men, and gender non-binary persons and they observe it with different perspectives, due to the difference in gender roles that they have in society. At the same time, the COVID-19 pandemic has impacted in widening of the gender gap leading women, girls, and trans persons to lose access to livelihoods, entitlements, education, and health. The existing gender pay gap was multiplied by the additional burden of care work at home during the pandemic. In fact, the pandemic has taken back communities by a few years in several developmental parameters. Against this backdrop, SAWF IN's fellowship addresses these two intersectional themes of enhancing women's economic participation and addressing ecological sustainability in their communities.

SAWF IN launched its Economic and Environmental Justice (EEJ) Fellowship Programme against the backdrop of the COVID-19 pandemic. The fellowship is funded by Microland Foundation, the Corporate Social Responsibility (CSR) arm of a leading technology company, Microland Limited. The fellowship aims to build economic resilience in vulnerable communities in a manner that is also ecologically sustainable. It was offered to five women and trans persons working independently in ecologically fragile or remote geographies in India. The initiatives of the five fellows offer innovative, viable, and efficient strategies with a focus on environmentally sustainable outcomes. These initiatives address the need for economic resilience of such vulnerable communities, while simultaneously working towards economic justice and gender transformative change.

The fellowship programme is working towards the following objectives:

- Strengthening responses that promote women's and trans people's economic participation, environmental concerns, and access to entitlements.
- Supporting initiatives that strengthen women's and trans people's collective struggles against inequality and discriminatory practices.

Through the fellowship programmes, SAWF IN envisages outcomes that include enhancement in income levels, expansion of economic opportunities as well as increased collective strength to seek entitlements and challenge discriminatory gender norms.

Description of the Fellows' Models of Change

Through this fellowship, SAWF IN supports committed individuals (women, trans persons, and gender non-binary persons) who belong to the communities they intend to impact and lead to drive a change agenda.

The fellowship idea is to work on a livelihood solution towards an established community problem in an ecologically sustainable manner and involves working closely with the local ecosystem, stakeholders, and community

A group meeting with transgender waste collectors

Photo courtesy of Debdatta Purkayastha

influencers. Therefore, the individual fellows bring in the experience of engaging with communities of women or trans people, facilitating their leadership, or have been active supporters of the Indian women's rights movement or activists themselves. The following section describes the background of the fellows, their communities, and the change ideas that they are implementing on the ground.

i. A self-sustainable, economic model aimed at improved solid waste management led by Bujji Pallepogu

Bujji Pallepogu is a 31-year-old Dalit woman from Somavaram village in Krishna district in the state of Andhra Pradesh in India (in the caste system in India, Dalit is the lowest class in the traditional Hindu social hierarchy - https://www.merriam-webster.com/dictionary/Dalit). Dalits continue to face various forms of discrimination due to caste in the Hindi society even today in both rural and urban communities. She is a young, widowed woman and a mother to two daughters.

Bujji proposed to work on solid waste management in two villages (Somavaram and Rudravaram villages in Krishna district). A solid waste management yard has been built in her village as part of the Swachh Bharat Mission, an initiative of the Government of India, launched in 2014, to ensure open defecation free behaviours are sustained and that solid and liquid waste management facilities are accessible to everyone (https://swachhbharatmission.gov.in/sbmcms/index.htm); but the yard is unutilized. Bujji's initiative makes efforts in using the waste in this dumping yard to convert it as vermicompost. This vermicompost made from the segregated waste is further sold to farmers, nurseries, and hotels, which would promote a local self-sufficient model. She attempts to engage the local functionaries and Panchayat members for this model effectively.

Additionally, Bujji has also wanted to advocate the practice of organic farming in her area, due to the evident effects of changing climatic conditions. Agricultural yield is slowing down and long term impacts of chemicals into soil and water tables have been negatively impacting the villages. Also, she reflects that the women in her area are only recognised as farm labourers and not farmers, they don't have ownership of land, and they don't have decision-making on the money they make. Bujji attempts to change that by using organic farming techniques, which are environmentally friendly, based on local resources and knowledge, and in the long term become economical. Sustainable organic waste management at the household leading to vermicomposting enables the reduction of the use of chemical fertilizers in farming and the release of chemicals in the yields.

Initially, Bujji faced a lot of backlash as she was a Dalit woman trying to make a change in the lifestyle and perspective of the community towards waste disposal and management. She will continue to face difficulties in building ownership of the community towards her initiative. Bujji's initiative is gradually enabling her to break the barriers of caste within the community as she is working towards establishing her leadership.

ii. An intervention led by Rehena Molla with women to adopt organic farming and animal-rearing practices in the Sundarbans.

Rehena Molla comes from a low-income Muslim family. She is a mother of three children. She lives in a village in Monirtat in South 24 Parganas. It is located in the deltaic region of Sundarbans, a biosphere reserve that has been heavily affected by climate change, with rising sea levels, depleting mangrove forests, and increasing the salinity of the water and soil. The communities living in this region face issues of high migration due to the absence of livelihood opportunities.

Rehena has identified 60 women to work with her as part of the fellowship. These women are either widows or single women, or women who are the sole earning members of their families. Ninety percent of the women engaged in her project are Muslim women. Rehena mobilised them through regular meetings, by encouraging them to become

Bujji with women from her village who are participating in vermicomposting initiative

Photo courtesy of Pooja Sanghavi

independent and engage in any economic activity and build their knowledge of organic farming techniques.

The women practiced organic farming on small tracts of land in their homestead area or pond embankments. After meeting their household consumption needs, which diversified the women's nutritional intake, the women started selling their produce in the local markets and started earning a regular monthly income from the sale of the produce. The women farmers are making efforts to engage in collective farming leading to a larger scale of production so that they can have a stronger united voice and space for negotiation in the local market.

Collective farming will also enable the potential of getting space in other local markets in the vicinity. There is a high possibility for women to receive loans from different government schemes for their businesses, which they have not yet applied for. There is also a need for skill building on leadership in such an initiative, to surface more leaders among the women who can take up different roles.

Rehena's initiative is enabling the women to farm sustainably, have access to a diverse, nutritious, and organic food basket, and most importantly, enhance their economic security in such an environmentally threatened geographical terrain.

iii. A handicrafts-oriented enterprise, 'Bargat', managed by a women's collective in Kangra district in Himachal Pradesh, led by Manisha Chaudhary

Manisha lives in a village in the Rait block of Kangra district in the state of Himachal Pradesh in India. Living in the community and having worked in the mountains with women's groups made her familiar with gender issues faced by women and girls in the mountains. Manisha felt strongly that women should be economically independent.

The women in her villages and nearby have been concerned about how dry pine leaves collect inflammable saps and catch fire in the summer season. Forest fires are a huge threat to the local environment as they destroy acres of topsoil while endangering thousands of species of flora and fauna.

The collective 'Bargat' led by Manisha, has actively engaged annually in collecting dried pine needles from the forest floor. The products that they are making using pine needles are ecologically sustainable and completely organic. They are marketed in local markets, through social media, exhibitions, and events. An efficient business plan and marketing strategy building up the value chain of the initiative is essential for it to sustain. The project currently faces the need of sustaining economic returns through diversifying products, using eco-friendly raw ingredients, enhancing the finishing of the products, and tapping the right market linkages. In addition to combating forest fires, Manisha works towards raising awareness of the communities on imminent environmental dangers posed by pine trees that impact the ecological balance in the area.

iv. An initiative led by Kirti Vartha that promotes Warli women's social and economic leadership within their communities by reviving women-led traditional livelihood practices in Maharashtra.

Kirti is an activist advocating for the rights of Warli tribal women for over 15 years. Traditionally, women in the Warli tribal communities were regular earners in their families and had a very high social status for being the gatekeepers of Warli traditions. Women would become priests, advocates of Warli medicines and health tips, and also very well-known as founders and promoters of Warli art. Kirti has noticed how Warli women are losing their own decision-making spaces. Once a more egalitarian society, the women in Warli tribes today have lesser access to economic activities and livelihood.

Kirti has worked extensively this past year towards consciousness-raising within the Adivasi community, especially women, to recognize the importance of these tribal practices as their own and lead towards its restoration. She has reached out to over 150 women in Dahanu and Palghar blocks with the aim to collectivize them and has trained 30 women in Warli painting and traditional Chauk painting, using natural colours. With Kirti's advocacy in the community, Dwaleri women (widowed marriage priests) now perform rituals during the Warli marriages.

The handicrafts market in India is a crowded space when it comes to Warli art, as many male artists have taken over the space in the past decades. It is a popular form of art therefore there are commercial replications too. Therefore, Kirti is yet to establish her entrepreneurial narrative which is likely to be a combination of finding a niche product(s), use of natural colours, and the story of the revival of women's traditional livelihoods.

v. An initiative on working with transgender waste collectors in Dhapa garbage dumping ground near Kolkata city, led by Raina Roy.

Raina is a transwoman, who has led a very troubled life. Ousted by society and her family, she has faced a lot of violence. As an activist, Raina is part of many local and national networks and groups that advance trans persons' and LGBTQ rights.

Raina is working with a group of transgender waste collectors residing in the villages around the Dhapa dumping ground in Kolkata. The transgender waste collectors are informal workers and therefore do not receive daily wages. Their earnings are entirely dependent on the weight of garbage collected by them every day.

Through this fellowship, Raina is collectively designing an initiative with a group of transgender waste collectors (TGWC) living in these villages. A collective has been formed by the TGWC that engages in regular group meetings on diverse topics related to their economic and social security, safety measures during waste collection, gender, sexuality, etc. Further, the group has been exposed to many skills, related to learning handicrafts out of recycled waste and plastic bags, and techniques of organic farming. One of the practical challenges on the ground has been finding a dedicated time for capacity-building meetings with the community, as they are heavily dependent on their daily earnings from waste collection.

In SAWF IN's learnings, given the layers of marginalization faced by this community, the establishment of a viable and marketable product using recyclable waste could take up to several years to show sustainable economic gains. Additionally, there are hardly any models of reference of such economic models led by trans communities or collectives in India that have successfully run for many years.

Conclusions: Learnings of the fellowship model

The fellowship model is enabling practitioners on the ground to impact the lives of women and trans persons in their communities with economically and environmentally sustainable solutions that tackle the issues of environmental threats and lack of livelihoods. It is enabling women and trans persons to have access to economic resources through ecologically sustainable means. These are innovative, viable, and efficient strategies that simultaneously challenge gender norms and address the gender gap in communities, enabling gender transformative change. SAWF IN believes that the fellows are leaders and changemakers in their own community. Therefore, the fellowship model encourages flexibility and innovation at all stages. It follows a feminist participatory approach in project implementation, where the fellows drive the change agenda and design the solution to the problem they have identified.

While running the fellowship for the past 18 months, a few learnings have surfaced:

- SAWF IN believes that financial support through the fellowship alone is not sufficient for the fellows' initiatives to reach their desired outcomes. Capacity building, exposure visits, peer-to-peer learning, and networking are crucial to enable the strengthening of the fellows' capacities and their ecosystem. Resources for such important pillars of the fellowship model need to be adequately integrated.
- Furthermore, during the course of the fellowship, fellows may have certain emergent asks or needs to take their project forward in an effective manner, like infrastructural support, networking support, etc., that need to be taken into account. Such needs may not be articulated by the fellows clearly. The fellowship management team surfaces these needs through critical conversations around assumptions made by the fellows on the strategies designed and the challenges faced.
- The fellowship aims at establishing locally resourced models of change led by women and trans persons in partnership with and long-term commitment from ecosystem actors. Therefore, the identification and strengthening of their ecosystems are crucial for the environmental sustainability of the initiatives, maximization of economic gains, and for replication in adjacent areas.
- Capturing the journey of change of the fellows' initiatives, of both their individual growth in leadership and other capacities and that of the communities is essential. In addition to finding out what change has been achieved, questioning how it has been achieved, what strategies have worked and what has not worked, and what should they continue doing is done through learning meetings individually and in groups, and narrative reporting during the course of the year and through an annual participatory review process.

Taking these learnings to build robust strategies, SAWF IN aims at mobilising resources to support more such intersectional fellowships that amplify the voices of women and trans practitioners at the grassroots, to build a sustainable and resilient community.

Debdatta Purkayastha and Anuradha Rajan, Programme Team, South Asia Women Foundation India

A group meeting with transgender waste collectors

Photo courtesy of Debdatta Purkayastha

Just transition champions: **Reflections on climate justice-focused Continuous Practice Development**

for community development workers

Chris Nolan and Dr Jamie Gorman

Community development workers can play a vital role in a just transition to a decarbonised and climate resilient future, but often require training and support to identify how to use their professional skills to address the challenges of the climate crisis. In this article, we offer a case study example of Continuous Practice Development (CPD) which upskilled Irish community development workers around climate justice. We suggest that with support, community workers have considerable expertise to offer in support of a just transition to a decarbonised and climate resilient society.

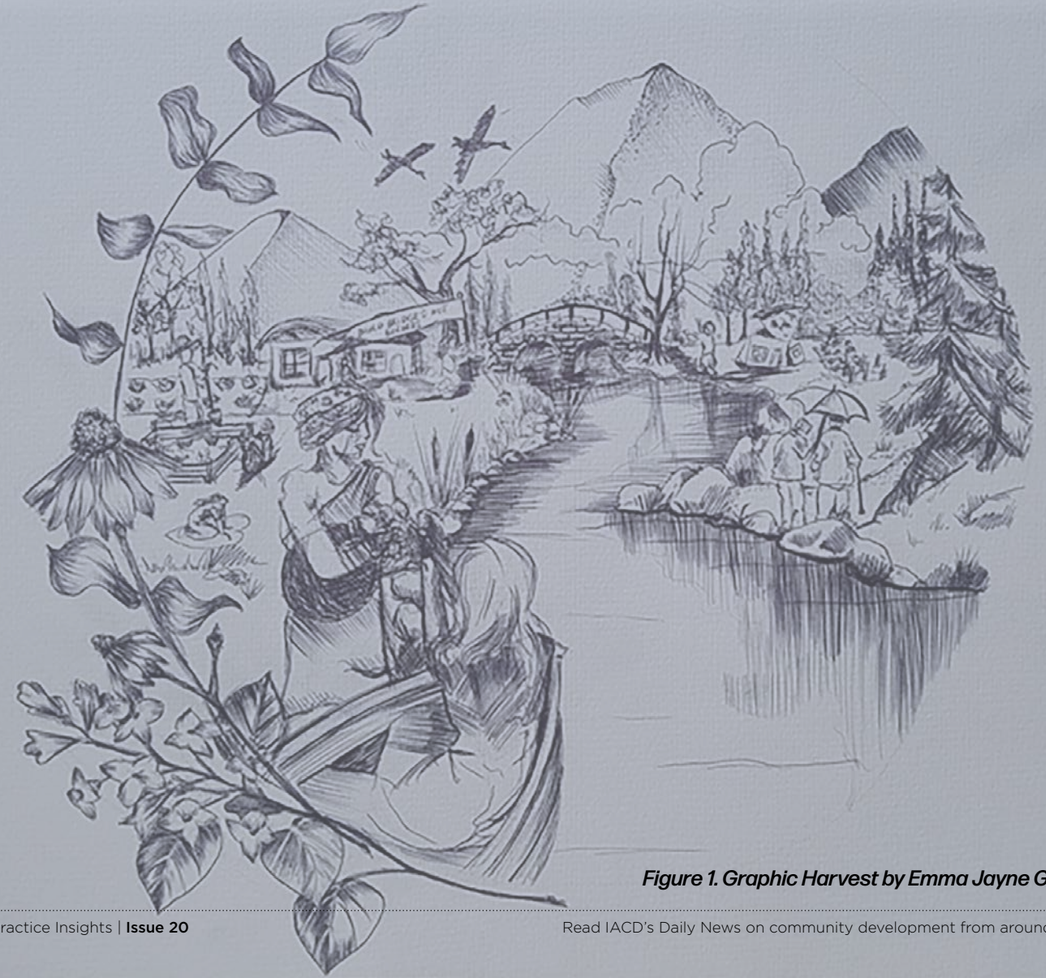

Figure 1. Graphic Harvest by Emma Jayne Geraghty

Rationale for the programme

Community workers are working with the most marginalised communities in Ireland to support their participation and empowerment. Such communities, in Ireland and globally, will be disproportionately impacted by the climate crisis, facing a 'triple injustice (Gough, 2017):

1. **They have often done least to cause the problem in terms of emissions;**
2. **Their marginalisation exposes them to climate vulnerability;**
3. **They have the least means to respond to the crisis with resilience.**

The concept of just transition emerged from the trade union movement in the 1970s and today focuses on protecting workers rights in the shift away from carbon intensive industries (Pinker, 2021; Wang and Lo, 2021). The concept is supported by the International Labour Organisation (2016) and recognised in the 2015 Paris Agreement. A just transition emphasises justice and equity in climate policy making, placing the rights of workers and the most marginalised front and centre in the energy transition.

Overview of the Just Transition Champions programme

The programme was delivered by Community Work Ireland and Friends of the Earth Ireland in 2021. It supported community workers to understand how climate justice relates to their practice and equipped them to contribute to just transition policies, plans and projects. Two cohorts of practitioners from a range of settings (18 in total) undertook a five-week programme online (due to COVID-19).

Creative and participatory methods (Table 1) and a 'visioning' approach playfully imagined more hopeful futures and identified pathways and solutions beyond the status quo. In each session participants engaged in 'visioning dialogues' (Table 2) with experts and community voices at the forefront of the climate crisis who have been driving innovative campaigns, projects and programmes. Participants' creative visions were captured in a graphic harvest by Emma Jayne Geraghty (Figure 1).

Core areas of competency

The training was focused around four core competencies which we suggest are important to consider when developing climate justice related CPD for community workers:

- Strengthening **practitioner personal resilience** in the face of climate crisis.
- Fostering **collective community resilience** by focusing on food, energy and economic systems;
- Building powerful and inclusive **participatory democracy** for environmental planning and decision making;
- Supporting **justice and solidarity** in the transition locally, nationally & globally.

To explore these competencies, we adopted the Work That Reconnects (WTR) framework, a systems theory methodology for generating collective agency and building resilience in

Table 1: JTC Methods

Method	How we used it
'Visioning dialogues'	Practitioners, scholars and activists engaged in a dialogue on key themes.
Photo storytelling	Photo stories of environmental justice struggles introduced participants to community-based movements. Participants were invited to 'write the positive story of what happened next'.
Practice case studies	Case studies of groups and communities working towards a just transition were used to generate discussion.
Theatre of the Oppressed	Participants acted out a story of an unjust transition in a community, before inviting other participants to jump in and shift the narrative.
Music and poetry	Music created a convivial atmosphere and poetry sparked discussion and reflection.
A 'living library'	We created a read & watch list and invited participants to contribute, creating a shared bank of crowdsourced resources.
'Multiplier workshops'	We created a seed fund which resourced participants to undertake a workshop putting their learning into practice and facilitated spaces to check in and reflect on the experience.

response to the climate crisis (Macy and Johnston, 2012; Macy and Brown, 2014). It works through a 'spiral' framework leading from analysis to action (figure 2). Harding (2021: 16) summarises the stages:

'The first is gratitude, in which we experience our love for life. Next is honouring our pain, in which we learn how to suffer the pain of the world with others and with the world itself. Then, in seeing with new eyes, we experience our connection with life in all its forms through all the ages. Finally, in the last stage we go forth into action in the world as open human beings, aware of our mutual belonging in the web of life, learning through feedback in our social and ecological domains'

Our first and second competency focused on practitioner and collective community resilience in the face of the climate crisis, as well as proactively addressing issues of injustice in the just transition. These sessions explored case studies of local food production, energy systems and economics. Through dialogue with food sovereignty, community energy production and community-wealth building practitioners, we considered how climate action can also address issues of poverty and inequality in communities. Central to just and equitable climate action is the effective participation of marginalised communities in climate policy making, which was the focus of our third competency.

Figure 2: The Work that Reconnects Framework (image by Chris Nolan)

Table 2: Visioning dialogue guests

Speaker	Organisation	Topics
Linda Sullivan	Communities Against the Injustices of Mining	The Work that Reconnects Framework
Rebecca Keating	Community Law and Meditation: Centre for Environmental Justice	Local environmental justice
Fergal Anderson	Talamh Beo	Just and sustainable food systems
Mary McManus	Independent researcher and activist	Community wealth building and local economic development
Molly Walsh	Friends of the Earth Europe	Community-owned renewable energy systems
Sinead Mercier	Independent expert	Trade Unions and the just transition
Karen Bell	University of Bristol	Working class environmentalism
Eddie Mitchell	Love Leitrim	Community resistance to fracking
Eurig Scandrett	Queen Margaret University	Environmental community development

The penultimate session positioned participants to synthesise the shared knowledge over the preceding weeks by reflecting on how they might take action in their community supported by seed funding for activities. Practitioners were invited to offer feedback, and explore potential for collaboration on each other's projects. This work continued into the final session, where participants considered Russell and Moore's (2011) think structurally, act strategically as an alternative to the adage to think locally, act globally. In doing so, practitioners were invited to consider the potential for local organising to affect structural change through alliances and campaigns.

Impact and outcomes

A survey evaluation of participants had a response rate of 66.6%. Practitioners were asked about what they gained and invited to consider their role in a just transition. Two themes emerged:

Community workers as just transition advocates

Practitioners reported enhanced understanding of the concept of just transition, and how it relates to the social justice and equality issues in their work. One practitioner stated that the course developed their:

"understanding about how big the problem is especially for people in poverty, disadvantaged communities and the need for government intervention to reduce the cost for positive changes.''

Most practitioners expressed confidence in 'opening conversations about climate change' in their communities and identifying issues and generative themes (Freire 1996) in their locality, emphasising 'that a more creative approach can have more impact'' at a community level. Practitioners felt equipped with 'examples of best practice and ideas for projects' to work with marginalised people in their efforts. Similarly, workers felt they were in a position to be a champion for a just transition perspective and engage in dialogue on climate related issues in the community and their organisations. Practitioners felt confident to apply a:

"variety of methods and processes that support potential actions and projects to create improved environmental opportunities, unheard voices to be listened to or educate more people to understand we have power to change the current situation.''

Challenges of being a just transition advocate

Following this course practitioners reported seeing clear intersections between climate solutions for a just transition and local concerns. However, participants also recognised a key challenge facing them in their practice is creating spaces to incorporate and prioritise just transition work when:

"...there are so many other pressing issues and concerns that take precedence i.e poor living conditions, mental health, racism, poverty etc."

To address this, it is necessary to identify and build on the links between social and climate justice. Practitioners also need the support of their organisations to explore these connections in the context of the needs of the communities they work with. When discussing this training with the head of their organisation, one participant was told:

"'I see no relevance between that course and your role as a community worker.' That is a mindset that is pervasive in my view."

This participant suggested that unless funding was made available, their organisation would not be able to support this work. Likewise, many participants noted that funding constraints prevented practitioners from fully exploring the relevance of this work within the scope of their organisational missions and work-plans.

Similarly, organisational capacity building was identified as a key support. One respondent identified the need to share resources, approaches and information to support culture change in organisations because "some people view climate change as a huge thing so don't go near any of it, so it can be difficult engaging people." Finally, one respondent suggested that local coordination could support enhanced ambitious climate action:

"A coherent framework in each county driven by a worker/s qualified and experienced in the field could be another way in which the issue could be addressed and barriers removed."

Concluding reflections

Feedback from participants in our programme demonstrates that the training helped practitioners to think through the role they can play in supporting a just transition locally. Community workers recognised how their existing knowledge-base and skill-set can be adapted to address the social justice, equality and human rights implications of the climate crisis. However, workers found it challenging to embed their learning across the organisations, highlighting the need for additional support to build capacity across organisations and within the profession more broadly. This suggests that community workers seeking to realise a just transition may find it helpful to build alliances and networks among local stakeholders to support them in this work.

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Climate change has made forest fires increasingly common and severe. Forestry Extension programs have begun to address ways to reduce the likelihood of catastrophic fires.

Will Cooperative Extension provide community leadership in translating research into climate action?

By Dakoeta Pinto, Sarah Klain, Roslynn McCann, and Paul Lachapelle

Overcoming challenges to implementing climate solutions is arguably among the most pressing issues facing society today. We focus on the United States (US) Cooperative Extension System (herein Extension), a well-established outreach institution with offices and programs in nearly every US county, parish, and burough.

Extension's mission is to provide science-based solutions to contemporary issues for the people who need it, such as agriculturalists, ranchers, families, communities, and organizations, through educational training, tools, and outreach programming (Raison, 2014). Extension has a 100+ year history of connections with communities, municipal governments, state governments, and federal agencies as well as access to science-based solutions. Recently, Extension has begun offering assistance in community climate resiliency through education and community engagement and has the potential to lead US climate mitigation and adaptation efforts. This study explores the potential for Extension to take a climate action leadership role in communities while recognizing the numerous challenges encountered by Extension faculty when trying to prioritize climate change programming.

Cooperative Extension's Purpose

Extension is the largest educational-outreach system of its kind in the world (United States Government Accountability Office, 1981). Established through the Smith-Lever Act of 1914, Extension has used science-based research to primarily help various communities in the US, traditionally focusing on agriculture interests. The organization has since evolved to expand into renewable energy, conservation, environmentally responsible practices and more, albeit the central focus remains in agriculture (Farm Bill, 2018). Extension agents are educators who work with federal, state, and local governments as well as community-based institutions and individuals to implement programming and obtain funding (McDowell 2001; USDA NIFA 2021).

Based at Land Grant Universities, Extension translates research in agriculture, health, and human sciences into practice (USDA NIFA, 2021). A small subset of Extension programs focus on climate adaptation and mitigation (Comer et al. 2006; McCann et al. 2020; Susko et al. 2013). If appropriately leveraged, we argue that Extension could play a transformative role in advancing climate solutions in communities throughout the US, particularly related to agriculture. Reducing emissions associated with agriculture is critical for transitioning to a low carbon economy. Agriculture is responsible for 10.5% of US greenhouse gas (GHG) emissions but also has potential to sequester large amounts of GHGs (EPA, 2020).

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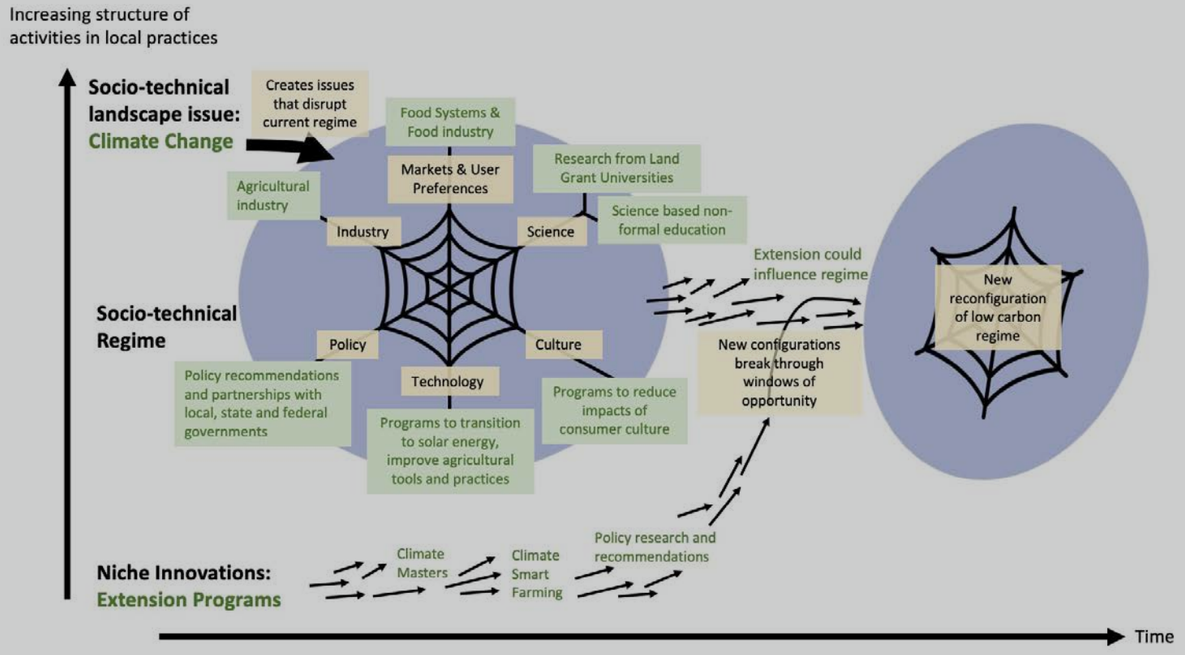

Figure 1. The Multilevel Perspective (MLP) Framework applied to Extension's Climate Programming. Black text and orange boxes denote the MLP. Green text and boxes denote our application of this theorized framework. Adapted by the authors from Geels, 2020

Methods and theoretical framework

Our research investigated the potential of Extension to advance climate adaptation and mitigation in communities. From 2020-2021, we interviewed 21 Extension professionals and leaders, and reviewed 44 current Extension climate mitigation or adaptation programs to better understand their potential to address the climate crisis.

We conducted in-depth qualitative interviews with Extension professionals working in climate and/or extreme weather programming and leaders in state Extension systems. We asked questions about their work within Extension climate or extreme weather programming, the challenges they faced with various community members and colleagues, and where they believe more funding should go if they were given more resources.

We used the Multi-Level Perspective (MLP) to elaborate on Extension's potential role in translating climate mitigation and adaptation research into practice at the community scale. The MLP is used to analyze multiple levels of society, including communities, during a socio-technical transition (Geels, 2014). This framework, applied to Extension's climate programming as shown in Figure 1, has proven useful in guiding the investigation of interconnected complex large systems in various contexts (Geels, 2014). The MLP has often been used to investigate low-carbon transitions.

Results & Discussion

Using the MLP allowed us to identify elements that affect Extension and the elements of Extension that could influence higher levels of the MLP. The first level, niche-innovations, occurs when new technologies emerge due to changes and pressures from the two higher levels in the MLP. In this study, niche innovations are Extension programs, e.g., Climate Masters and Climate Smart Farming, and their policy recommendations through science-based research. The second level, the socio-technical regime, represents the compilation of established practices and associated rules that enable and constrain actors in relation to existing systems. Some of these Extension programs may become more popular and influential, which could slowly influence a socio-technical change. In the highest level, the socio-technical landscape, social and technological relationships co-evolve. Disruption to the regime opens windows of opportunity for niche organizations (e.g. Extension) to solve new problems at the regime level. Solutions are then created, tested, and evaluated at niche organizations. Only a few of these solutions emerge as the ones that become widely implemented. Those are then adopted into a newly configured regime that is then able to influence the landscape level, which is the hardest level to influence.

Analyzing these elements of the MLP gives insight into the structure, barriers, challenges, and advantages to Extension being a key player in a major socio-technical transition. The process of socio-technical change is usually slow. Depending on the size and complexity of the system, change could take anywhere from 10 years to over a century, typically meeting a lot of resistance from the existing regime (Geels, 2020; Kivimaa et al., 2019; Schot et al., 1994; Schot & Geels, 2008; Seyfang & Haxeltine, 2012; Smith et al., 2010).

There are many reasons socio-technical change happens. This research focuses on climate change as the landscape pressure that is causing a socio-technical transition away from carbon intense practices and technologies (EPA, 2020; Hatfield et al., 2020; Johnson et al., 2007; Oliver et al., 2017; Climate Emergency Act of 2021, 2021).

Photo Marek Piwnicki via unsplash.com

Extension has helped increase crop yields. Currently, industrial agriculture is a major contributor to carbon emissions. Farming practices that build soil carbon and electrifying this industry could help reduce the overall emissions of this sector.

Photo Scott Goodwill via unsplash.com

For over a century, Extension has impacted the US food industry through providing technical assistance on agricultural tools and techniques that have improved yields; some examples are the introduction and expansion of crop rotation and the development of more efficient pesticides. One way Extension addresses climate change through agriculture is by educating consumers and farmers about the benefits of organic foods and climate smart agricultural techniques.

Some Extension programs involve working with other audiences to mitigate and adapt to climate change. Although Extension may not have had a part in creating state or federal climate goals, this one interviewee described what it would look like to have Extension help in reaching those goals:

"Our state passed the climate change community leadership act which sets the highest greenhouse gas emissions reduction goals. And so, that's going to be a huge challenge for our state to meet that goal. Unless there's change in the agricultural sector and much more solar brought on. Much more solar power installation, much more effort at the community level." (Participant 11)

Extension's climate programming has faced a lack of funding, often preventing it from expanding. Consistency of funding is a concern among the professionals we interviewed who are not sure if their position would continue if they lost the current sources of their funding. Some Extension educators rely on federal grants, so if there is a change in federal policy on climate change, they could lose their position in Extension. An interviewee said:

"I feel supported in that I'm not questioned and they're like, hey, if that's what you want to do, do that, but if I was to say, do I feel supported and if my funding went away from the USDA? Do I think the university would try to find a way to continue to fund a position like mine? I don't think so." (Participant 10)

Extension's climate leadership potential lies largely in the influence they have had on the agricultural sector. According to our research, Extension is a niche organization under the scope of the MLP that could help the US in reaching climate goals. In order for Extension to lead efforts in climate mitigation and adaptation in the US, one interviewee recommended that all Extension professionals be required to embed climate mitigation and adaptation goals into their programming. Accurate information on climate change is the first step towards engaging more people in climate action. Additionally, there is a need to require accountability in progressing towards these goals.

Conclusion

Our results indicate that Extension has the potential to substantially expand the implementation of climate solutions in communities. Extension's niche innovations could impact many elements of society according to the MLP. However, widespread implementation of community climate resiliency is hampered by social challenges like having to change language surrounding climate change due to political beliefs or communities that may not see climate change as a priority.

Community engagement in science-based solutions to climate change is how Extension can expand their programming and influence socio-technical change towards a low-carbon society. Increased engagement with communities around the US could increase demand for implementing climate adaptation and mitigation programming. More funding for climate programming could provide more stability for Extension professionals who currently conduct climate programs.

Strategies to increase Extension's focus on climate action include increasing professional development programming, increasing collaborative efforts with partners that focus on climate action, strategic funding focused on long-term programing, improving climate literacy among Extension professionals and their target audiences, and addressing the reticent culture in Extension's leadership with an aversion to directly confronting the climate crisis.

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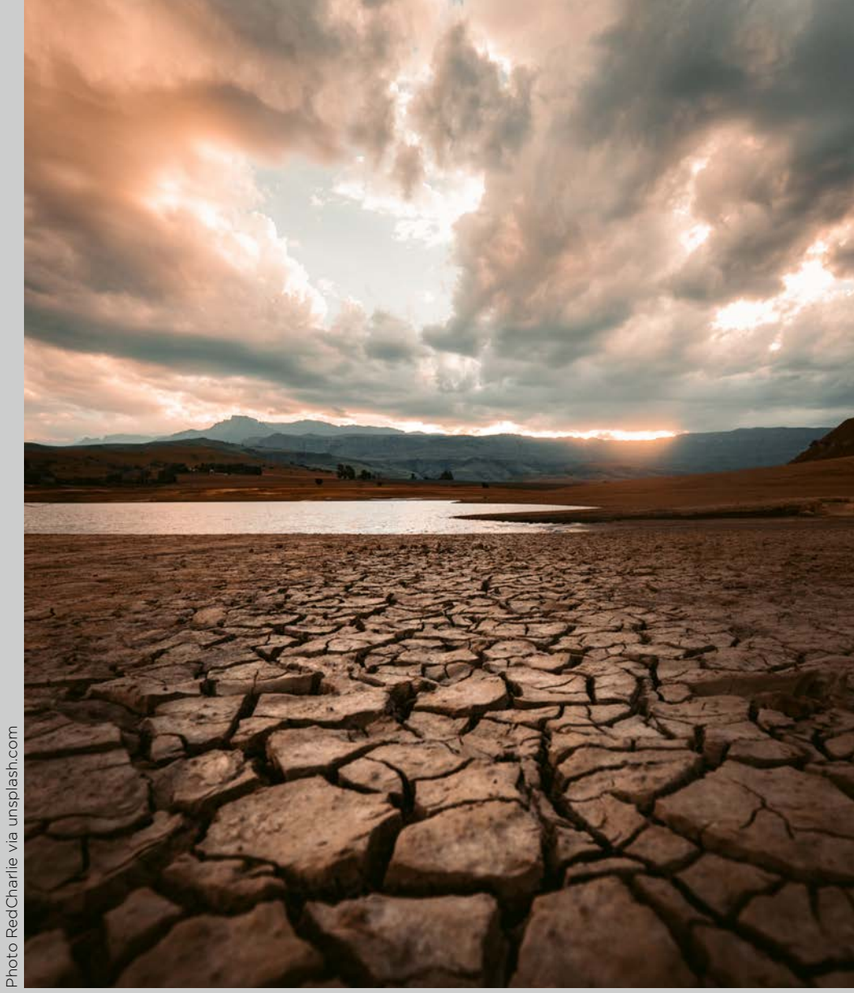

Photo RedCharlie via unsplash.com

Extension has begun providing programs to assist farmers in managing drought conditions. It remains to be seen if Extension programs can meaningfully contribute to reducing greenhouse gas emissions driving the increased intensity and duration of droughts.

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Photos courtesy of: Sudheer Sundriyal, Trustee Feel Good Trust

Springs as integral to community food security and climate resiliency efforts

Dr. Prem Bahukhandi

Springs are the primary water source for the people in the Indian Himalayan region (http://dst.gov.in/sites/default/files/NITI-Aayog-report-Springs-29Dec2017-FINAL.pdf). A spring is a component of the hydrosphere and an outlet point to release the groundwater. It is where groundwater from an aquifer flows over the earth's crust (pedosphere) and becomes surface water. Springs are of diverse types and governed by various natural forces such as hydrostatic pressure and gravity. In the Himalayan terrain, these are steered mainly by gravity.

It is estimated that more than 75 percent of the population depends on springs for their water needs. It is because glacier-fed rivers like the Ganges and Yamuna form deep gorges, making it difficult to access water for domestic uses or irrigation, whereas the spring-fed rivers flow nigher to the villages and farms, which are easily accessible to fetch water for daily needs, including irrigation. As a result, most people in this part of the Himalayas depend on springs or shallow wells. However, due to various factors (forest policies and climate change are the main culprits) these springs have dried up in the recent past.

Background

The NITI Ayog, the government of India's policy think tank, in its 2018 report, declares nearly 50 percent of the springs in the Indian Himalayan Region (IHR) are drying up (https://www.downtoearth.org.in/news/water/crisis-in-the-himalayas-nearly-50-perennial-springs-in-the-region-have-dried-up-61482) & (http://dst.gov.in/sites/default/files/NITI-Aayog-report-Springs-29Dec2017-FINAL.pdf:p-96). This has affected thousands of villages that depend on natural spring water for domestic and livelihood needs like drinking water and irrigation.

The NITI Ayog, in June 2017, constituted a working group on 'Inventory and Revival of Springs of Himalaya for Water Security.' Besides estimating the magnitude of the problem (drying of springs, quality of water from springs), it aimed to review the policies that directly impact it across the IHR to ascertain their adequacy and gaps. By evaluating all the data and information, the scientists reported that approximately 60% of the springs are reported to be classified as low-discharge in the last couple of decades (ibid).

During its work in the field, the organization has observed that the correlation between barren land and its effect on the drying of springs is forming a vicious cycle. One directly affects the other; people are keeping the land barren as there is no water available for irrigation as the springs have dried up, and in the absence of irrigation, agriculture production has gone down. However, on the other hand, the water percolation and moisturization process have slowed down in the absence of regular ploughing. Therefore, in collaborated efforts, the organizations mentioned above have worked to address the issue.

Community involvement to Rejuvenate Springs

Understanding the seriousness of the situation, the Friends of Himalaya (A Dehradun-based think tank) and its local partner Feelgood Trust, started its seven-point agenda to rejuvenate the springs in the Pokhra block of District Pauri Garhwal, Uttarakhand (India). This area is situation in the middle Himalayas at N 29.9167033, E78.9174771. The primary strategies include:

1. Acknowledgement of the issue:

It was the most challenging task to make people understand the severity of the drying up of the springs and the importance of rejuvenating their springs. People generally are interested in tapping water from far away water sources through pipelines rather than developing their traditional water source. Interestingly, capital-intensive projects suit the politician-contractors nexus, so they always favor capital-intensive projects instead of labor-intensive or community mobilization projects. It is easy to suck money from capital-intensive projects. Whereas, in this project, the role of financial capital is minimal, and the central part is community involvement (detailed below). So, it took considerable time to convince people and mobilize the community, especially in the first year.

2. Identification of the problem area:

The second part of the project was to identify the problem area using a PRA (Participatory Rural Appraisal) approach. In the PRA exercise, it was highlighted that in the spring shed, the problem starts with the barren land and foreign-breed bushes like lantana, parthenium, etc. These non-indigenous grass and bushes have replaced the indigenous bushes, which were the primary source of water retention.

3. Demarcation of the spring shed with the help of experts and feasibility survey:

Twenty locations for making medium size ponds were identified with the community's help. These ponds are called Chal-Khal in local Garhwali dialects. The locations were identified, keeping in mind their importance for direct benefits like irrigation water and drinking water for cattle. However, the micro-watershed (or spring shed) area of springs was also considered, and it was marked with the help of experts. A detailed feasibility survey for the probable activities was conducted, keeping in mind the government policies. A hydrogeological survey was done with the help of outside experts, but at the same time, we trained local youth to make them para-hydrologists. These people, primarily young men and women were introduced to monitoring the water discharge, basic hydrology, water quality testing, slop designing, identification of location for making ponds, bund making, basic masonry, and safety of the ponds.

All photos: making of ponds in the Pokhara block of Pauri Garhwa.

These people were also trained to monitor the impact of these ponds and activities.

4. Spring Users Committee:

A water (spring) users committee was formed, bringing together those able to take part from across a scattered community affected by out-migration. We gave them training and exposure through the audio-video presentation, and success stories of the project activities were shared with them.

5. Capacity Building:

The capacity-building exercise is the most important activity in the making of success to any project. Once the community understands the nitty-gritty of the projects and their components, the chance of success doubles. Now they have a good understanding and knowledge of spring-shed management, and are ready to present and disseminate with the larger community, especially with other villages. So, this project spends good quality time in capacity building of the community for spring shed identification, developing small water ponds, and identification of plants & trees that can increase water retention capacity in the spring shed. However, our primary focus was on making small ponds.

6. Direct use of water:

The villagers were not very interested in waiting for years to see the impact of these ponds; the water collected in these ponds was channelized through pipes for irrigation in the horticulture farms. This motivated villagers to make and take care of ponds and also gave them extra income to plough other barren lands. The cumulative effect of these activities recharged the well and springs.

7. Advocacy and Awareness:

In this area, the out-migration in search of better life opportunities has reached the point of no return. This has impacted agricultural activities; the land has been left barren for many years or decades. Due to the slopy barren land, the rainwater retention capacity has decreased. In this activity, people were made aware of the direct relation of barren land and its impact on the drying up of springs. So, we motivated people to at least plough their terrace farms that fall in the spring-shed area and made small ponds to keep moisture.

We started this project in the village Choubattakhal with the community's help. This was challenging work as people were suspicious of its success or direct effect. Nevertheless, once a newly constructed pond at Choubattakhal started giving direct water to the nearby farmers for horticulture activities through drip irrigation technique and the pond became a source of drinking water for domestic and wild animals, the community mobilization became easy.

Initially, we focused on mobilizing people to build such ponds for direct use. Recharging springs were kept as secondary benefits. We motivated people to plough their barren land and sow cash crops. We initially supported 20 farmers and gave them better-quality seeds, saplings, drip irrigation facilities, and protection wire. This center became a showcase for motivating other farmers in the area.

We started conducting meetings and awareness programs at this pond. Within a year, we formed youth groups in nearby villages and started training, awareness, and exposure to hydrology, spring sheds, and the role of these ponds in rejuvenating these springs. The success of our first pond gave momentum, and within three years, we made 11 ponds with the community's help. Interestingly, the forest department, which was otherwise always confrontational to this kind of activity, has not only allowed making ponds in the forest land but also helped in this regard.

Interestingly, community members people were often unaware of what they were doing as climate soldiers. However, of course, we knew that saving water, creating moisture in the dried barren land, and rejuvenating barren land through horticulture would generate employment and extra income for the community. Though the community and we never thought that this could rejuvenate the springs, fortunately, we could see the result within three years.

Lessons Learned

Now the cumulative effects of these activities are visible in the form of rejuvenated springs, moisture in the fields, extra income to the community, and reverse migration to this area. Furthermore, this made us realize that we could do wonders in climate resiliency efforts with community involvement.

This project deepened our understanding that people, in general, particularly the poor, do not want to listen to jargon like climate resiliency efforts. Their main struggle is generating food for their families. So, the activities or the program should be designed in a way that could forge direct benefits to the community in a brief period. This project did this; we never thought we were doing something called climate resilience activities. The community was saving some rainwater for use in the horticulture field. Nevertheless, the cumulative results were remarkable; the springs have rejuvenated, or in some cases, the water availability has increased. Now the people have started making their rainwater harvesting ponds, which were part of a traditional system in the Himalayas. Most importantly, community members were integral to protection and enhancement of springs, thereby increasing food security and climate resiliency in the future.

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