

ProSus

Promoting
Sustainability
Solutions

June 2019

Building capacity for
climate change adaptation
in semi-arid regions



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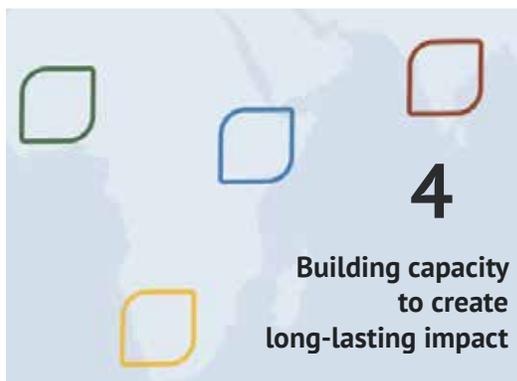
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Welcome

By Cheikh Mbow

Executive Director, START International

The Adaptation at Scale in Semi-Arid Regions (ASSAR) project has achieved outstanding results over the past five years.

At the heart of ASSAR's work is the recognition that understanding barriers and enablers to more effective climate change adaptation requires going beyond traditional scientific methods and embracing deeper principles of trust, transparency and mutual accountability. These principles informed the project's approach to investigating the multi-stakeholder/multi-sector responses needed to address climatic and non-climatic challenges in the semi-arid areas of Africa and India. Through the breadth of the work and the nature of these approaches, it is fair to say that ASSAR and its many partners have established an example for a new way of interacting, one that offers many valuable lessons.

ASSAR has set the pace for commitment and collaboration through establishing new communities of practice that center on cooperation and inclusion rather than on top-down streams of knowledge sharing.

In this way it has been more than a knowledge generation machine and has instead developed into a rich learning experience both for scientists and for users of adaptation research.

Since the beginning of the project, capacity building has been an important dimension of ASSAR, and has been envisioned as a tangible way to leave an enduring legacy in semi-arid regions. We at START are proud to have supported efforts to strengthen the capacity of both ASSAR scientists and external stakeholders, facilitating cross-regional connections, and enabling projects that engage local communities, including the most vulnerable groups.

This issue of ProSus magazine features research and reflections by some of the ASSAR colleagues involved in capacity building activities.

I would like to share my warm compliments to them and to all involved in the ASSAR project, for setting a new standard for creating and delivering adaptation knowledge in climate change hotspots and beyond.





The Adaptation at Scale in Semi-Arid Regions (ASSAR) project developed better understandings of barriers and enablers to effective climate change adaptation in semi-arid areas of East, West, and Southern Africa and India.

A five-year (2014-2018) effort, ASSAR integrated interdisciplinary scientific research, capacity building and participatory stakeholder engagement.

ASSAR is one of four research projects of the Collaborative Adaptation Research Initiative for Africa and Asia (CARIAA) consortium funded by IDRC and DFID.

Building capacity to create long-lasting impact

Together with ASSAR partners at the University of Cape Town, the University of East Anglia, the Indian Institute for Human Settlements, and Oxfam, START brought multiple capacity building dimensions into ASSAR, with the goal of advancing excellence in research and strengthening scientific leadership in semi-arid regions, and ultimately ensuring that ASSAR's impact would live on after the project's completion.

Specific capacity building activities included supporting students and early career researchers and awarding small grants aimed at sharpening skills of individuals and teams while also building capacities of local communities and vulnerable groups to adapt to climate change. Aside from these designated activities, the project also bolstered capacities of scientists from the study regions by opening pathways to participation in global climate change assessment efforts as authors and lead authors for IPCC report chapters and inclusion in high level expert meetings such as Adaptation Futures.

www.assar.uct.ac.za/

start.org/programs/assar/



ASSAR capacity building efforts in numbers



90

early-career
researchers
trained
(approx.)



30

writeshops
and training
workshops
(approx.)



18

grants
enabling
cross-regional
collaboration



6

grants to
develop
capacities of
vulnerable
groups



4

grants to
extend
work begun
during multi-
stakeholder
processes

Source: ASSAR Spotlight on Capacity Building



BUILDING RESEARCH CAPACITIES AND CONNECTIONS



Chandni Singh (Indian Institute for Human Settlements), Mark Tebboth (University of East Anglia), Dian Spear (University of Cape Town) and Adelina Mensah (University of Ghana) came together in Cape Town to work on an international, cross-cultural project that explores the methods and analysis of research on mobility as a livelihood strategy.



ASSAR Team members at the 2018 Annual Meeting. Photo: Nick Reay

Building research capacities and connections

From academic scholarships to training courses, and from exchange visits to peer-to-peer learning opportunities, ASSAR invested deeply in building the next generation of climate change leaders.

A key ingredient in ASSAR's success was the innovative, yet sometimes invisible, investment in long term relationship building through learning events such as their annual meetings. The connections forged during these learning events paved the way for younger project members to nurture the relationships that made mentorship and peer-to-peer learning possible later.

The learning events were key to raising awareness about the skills gaps within the project, and sources of knowledge within the project too. Out of these events emerged several proposals for capacity building – either in the form of requests for support, or in the form of offers by more experienced project members to give training or mentorship opportunities to others.

The fact that ASSAR had dedicated funds intended to enable the project to respond to such opportunities was a testament to foresight and adaptive decision making, both key to a successful project.

In the end, ASSAR's success in terms of capacity building speaks for itself. The numbers of young leaders who have been supported is impressive, as are their personal testimonies of the importance of the capacity building opportunities offered to them through this project.

Hopefully the relationships forged during this project will persist, and this new generation of leaders will make a difference in the lives of those most vulnerable to climate change.



By Georgina Cundill Kemp,
Senior Program Officer
International Development
Research Centre (IDRC)

How did the idea of the exchange with the ACIDI come to life?

With ASSAR, I was tasked with analyzing the likely impacts of 1.5°C and 2°C global warming levels on regional rainfall and temperature changes in India. During this work, it became clear to me that it will be crucial to understand the impacts of climate extremes that may occur apart from rainfall and temperature changes. Modathir Zaroug and Mark New had worked extensively on this topic for the African continent, and I thought that interacting directly with them would provide invaluable input to the study. A call for Small Opportunity Grants came into the picture, and I wrote a proposal, which was accepted.

What has been the advantage in participating in the exchange?

Exchanges like this always help you to grow and learn more as an individual. My interactions with Professor Mark New were highly enlightening; they were particularly useful in terms of structuring the study and choosing suitable data sets. Working with the communications team at ACIDI on infographics and other research into use products was new for me, and I found it fresh and informative. The learning sessions with Dr. Modathir Zaroug also helped me significantly in understanding CMIP5 model data processing and analysis. Thanks to Dr. Zaroug I was also able to attend a session on the IPCC at a CORDEX workshop, an unplanned and memorable experience. All of these connections helped me in broadening my knowledge base.

How has the exchange impacted your approach and career?

Before, my work was confined to technical aspects of research. Interactions with professors and researchers during the exchange broadened my view and equipped me to work on policy-oriented research and research into use as well. This opportunity enabled me to pursue my dream research, bridging the gap between the science of climate change and practice on the ground.

“Before, my work was confined to technical aspects of research. Interactions with professors and researchers during the exchange broadened my view and equipped me to work on policy-oriented research and research into use.”

What is next?

From the very first day we were determined to publish a research paper out of this study. Our initial proposal focused on understanding the impacts of climate extremes at three global warming levels (1°C, 1.5°C and 2°C), but gradually we decided to include two more warming levels, 2.5°C and 3°C. While the publication of the two papers is still in progress, an **information brief** and a **poster** are available on the ASSAR website.

Four findings of ASSAR’s work on 1.5-2 degree warming in India

Global warming of 1.5°C would bring severe impacts at the local level in semi-arid regions.

- 1 At different warming levels, moving from 1.5°C to 3°C, there is an increase in regional rainfall, temperatures and climate extremes in semi-arid regions of India, which are already hot places to live.
- 2 Warmer days and longer duration heat waves would be the new normal for semi-arid regions.
- 3 Partial increases in annual mean rainfall for semi-arid regions of India with intense and frequent wet spells are projected under 1.5°C and 2°C global temperature rise.
- 4 Health of communities residing in semi-arid regions along with agriculture and water resources would be threatened by the rise of global temperatures up to 1.5°C and beyond.

PERSPECTIVES

Experiences and highlights from a selection of ASSAR's capacity building activities around the world

Mark Tebboth (United Kingdom)
Lecturer, School of International Development,
Faculty of Social Science, University of East Anglia

“The most impactful legacy of the Small Opportunity Grant exchange on migration is, from a personal perspective, the friendships that we have developed and I hope that this will lead to further collaboration in the future. From a more professional/career development perspective, the knowledge and experience that we have in working well together and collaborating effectively is priceless. Through this project we have designed and implemented a standalone research project that was operating in four different countries leading to some high quality academic and non-academic outputs.”



The project

[Video: Small Opportunities Grant: Migration](#)



Rose Buabeng (Ghana)
Environment, Gender and Livelihood Expert, African Women's Development Fund (AWDF)

“From the work with women's groups in the Upper West Region of Ghana, I learned that despite the numerous challenges confronting rural women (social, economic, cultural, climate change impact, etc.) in the area, they always have the resilience to mobilize for solutions. They create safe spaces to engage on issues confronting them and their households and try as much as possible to develop alternative ways to support agriculture, which is their main source of livelihood, to provide for their households. They always look out for opportunities to provide for themselves and their families.”



The project

[Promoting climate justice and adaptation in semi-arid Ghana](#)



Oliver Wasonga (Kenya)
Senior Lecturer, University of Nairobi



“During the peer-to-peer activity in Kenya, it was interesting to see the power of learning among peers as the participants were able to learn by observing and asking questions directly to counterparts who were already undertaking camel husbandry. It was satisfying to see participants getting instant answers to many questions, more so the opportunity for effective knowledge and skills transfer - a process that would have otherwise required more time and resources under conventional extension.

On the spot observations and one-to-one interaction among herders gave the participants confidence in their capacity to undertake camel husbandry, and exposed them to some of the best practices, opportunities, as well as challenges and how to cope with them. In particular, peer-to-peer learning presented an opportunity for the camel keepers and non-traditional camel keepers to freely discuss the claim that camels are destructive to the environment. By looking at examples, the two groups came to the conclusion that there is no evidence to that effect, unless proven through research.”

The project

Video: From cows to camels: How pastoralists are adapting to climate change in Kenya's drylands



Prathigna Poonacha (India)
Consultant, Indian Institute for Human Settlements (IIHS)



“The workshop facilitated by the Grant for Local Adaptation Support has definitely helped non-governmental and civil society organizations working with rural communities in Karnataka and Tamil Nadu situate concerns of climate change and variability in their developmental context. This will enable them to broaden their scope of intervention and design responses in an integrated manner.”

The project

Building capacities in India through unlearning, training and sharing



Bernadette Shalumbu-Shivute (Namibia)
Project Coordinator at Desert Research Foundation of Namibia (DRFN)



“ASSAR capacity building activities were structured in such a way that we engaged on all levels: national, regional and local, and this approach ensured that no one was left behind.

Just to mention some examples, at national level an influencing workshop gave stakeholders a new perspective on how you can use your research to influence policy and practice through innovative and non-disruptive approaches.

At regional level, workshops and conferences allowed for improved collaboration among various key stakeholders, and this led to the co-production of a proposal for climate funding that was submitted by the regional council to the national funding institutions.

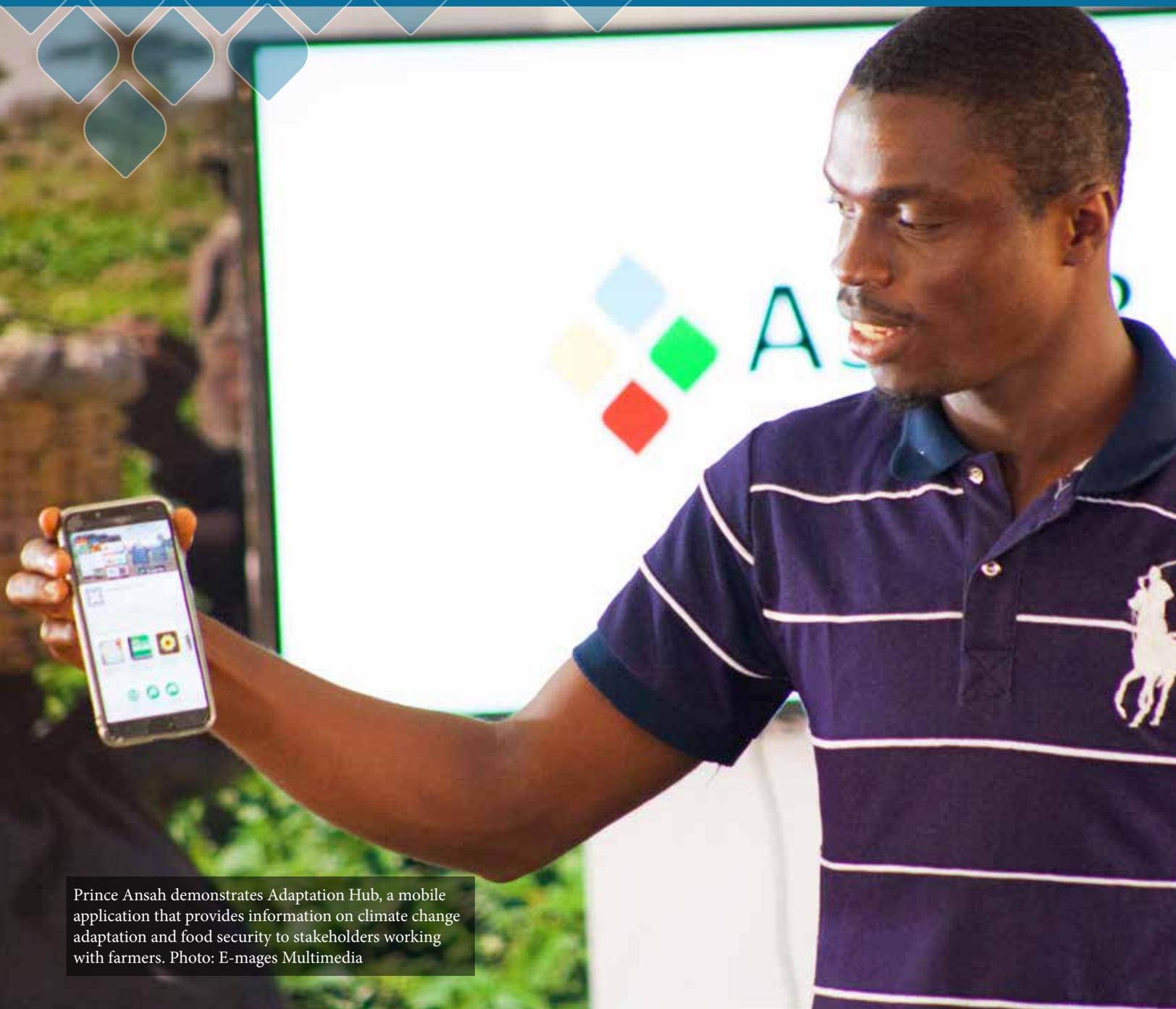
At local level, we hosted a radio series on climate change adaptation, reaching out to a wider population in their native language, promoting adaptation responses that work in conjunction with cultural and social norms.”

The project

ASSAR and Kati-FM launch climate change radio show in Namibia



SMALL OPPORTUNITY GRANTS FOR BIG IMPACT



Prince Ansah demonstrates Adaptation Hub, a mobile application that provides information on climate change adaptation and food security to stakeholders working with farmers. Photo: E-mages Multimedia

R4I - A framework for impact

By Jesse DeMaria-Kinney, Deputy Director, PlanAdapt

Research for Impact (R4I) is an approach to maximize the opportunities for research processes and findings to contribute to changes in policy, practice and behaviors.

R4I is a multi-scalar, transdisciplinary approach that involves co-production processes among diverse stakeholder groups (i.e. researchers, practitioners, and other societal actors) with the explicit intention of generating research impact

by engaging, communicating, and influencing, and throughout the research processes. As such, the approach goes beyond seeing conventional research uptake as a measure of success and the researcher plays an active role as an agent of change.

R4I is comprised of five interdependent and interlinked elements:



“R4I IN ACTION”

ASSAR researchers share reflections and experiences from adopting a Research for Impact approach.

The extracts below come from case studies featured in the Research for Impact online course offered by the University of Cape Town and Oxfam.

It has been quite a paradigm shift for me to engage with people to make my research relevant to them, and to ensure that my research output has an immediate uptake by those who can make decisions and change their livelihoods. (...) Then I can look back and say: this is happening because of part of my work and I'm part of that solution to people's lives. That's what makes this exciting. **From where I am now, I can't see how else one should be doing research.**

- Hillary Masundire, Botswana

It's so tempting to produce research and then papers out of it, and that ends it. But Research for Impact for me is crucial, (...) and especially for those of us who actually do a lot of research on the ground. Stakeholders always ask: "What impact are we going to get from you? What is the end result? So many researchers come and go and there seem to be no or less impact." **ASSAR, on the contrary, tries to find ways to make the research very relevant to the immediate people whom the research is about.**

- Prince Ansah, Ghana

I had never used a RiU (Research Into Use or Research for Impact) approach before, and even the tools which I was exposed to were completely new for me. As a researcher, you do use Twitter, or similar tools to communicate, but the RiU approach involved engaging with communities even prior to designing the research. (...) My role during engagement with the communities was to demystify the sciences, using a game developed by WOTR to bring up water management approaches and challenges (...) After sharing the research information, the communities came up with ideas and solutions. **We could have given recommendations, shared do's and don'ts, but we wanted them to come up with solutions, to maximize the uptake.**

- Renie Thomas, India

With a R4I approach you can't go to the community and just tell them: "This is a, b, c". You first have to go to them and ask what they want to know. That has really worked well for us and people were very engaged because we were working on issues they cared about. (...) **We don't build relationships just for the specific duration of the project - these are everlasting relationships that we can always look up for as we engage in other activities.**

- Ester Nangolo, Namibia



The Research for Impact MOOC (Massive Open Online Course) is offered by the University of Cape Town and Oxfam. On this six-week journey, Jesse DeMaria-Kinney and Mark New share their experience with ASSAR, where they developed and refined the Research for Impact approach. They are joined by researchers and practitioners who followed this approach in their research.

Join the next session at:

www.coursera.org/learn/research-for-impact

Bridging the gap between researchers and local communities to support farmers during the dry season

Thanks to a Research into Use grant, the ASSAR Ghana team developed platforms and tools to disseminate the knowledge produced under ASSAR to extension officers and other stakeholders working with farmers.



The dry season can last over 6 months in Nandom and Lawra, two districts of the Upper West region of Ghana. During these long dry spells, farmers struggle to irrigate fields and provide food to the local communities.

Past research efforts on water management in the region have failed to reach the local farmers and communities with knowledge and resources. Starting from this reflection, the Ghana team of the Adaptation at Scale in Semi-Arid Regions (ASSAR) program, with START's support, decided to adopt a new approach to bridge the gap between researchers and practitioners.

“When we started engaging with the local stakeholders, many expressed frustration for not having access to findings and resources from past studies. The few communications efforts that had been made were not adapted to their needs: for example, a project produced printouts that farmers never used” explains Prince Ansah, Technical Officer with ASSAR Ghana.

“So, we made it our priority to think innovatively about how to engage stakeholders and to make findings available to those who need them most, in the most convenient way” adds Prince.

Prince's team brought together for the first time farmer groups, agriculture extension officers (intermediaries who relay latest agriculture knowledge and technologies to the farmers) and agriculture input dealers (people and organizations selling agricultural products and equipment) to identify opportunities for improving water management during the dry season.

“We made it our priority to think innovatively about how to engage stakeholders, and to make findings available to those who need them most, in the most convenient way.”

The discussions, facilitated using the participatory scenario planning (PSP) process, led to the development of platforms that will enable farmers to access resources, including loans and technical assistance, in an easier and more structured manner. They also led to the establishment of four climate advisory resource centers (CARCs), in collaboration with the district's Department of Agriculture.

INFOGRAPHIC

“In response to the difficult climatic conditions in this region, the ASSAR team sought to strengthen the capacities of vulnerable communities in Lawra and Nandom Districts to practise dry season gardening through smart water management.” [View the infographic](#)



VIDEO

“The climate advisory resource centers are the first of a kind in Ghana's Upper West region. They provide audiovisual training in climate change adaptation and modern agriculture to farmers and extension officers.” [Watch the video](#)

“The climate advisory resource centers are the first of a kind in Ghana’s Upper West region” says Prince. “They provide audiovisual training in climate change adaptation and modern agriculture to farmers and extension officers.”

“Taking advantage of the strong smartphone penetration in Ghana, we also developed Adaptation Hub, a mobile application that provides information on climate change adaptation and food security” adds Prince.

“Adaptation Hub is targeted to stakeholders working with farmers (extension officers, community development workers, researchers and students) more likely to be familiar with internet and smartphones.”

Adaptation Hub was developed in partnership with VideDesk, a startup based in Accra, and the content was provided and reviewed

by institutions such as the Ministry of Food and Agriculture, planning offices of district assemblies in Nandom and Lawra, the Nandom Dinery Integrated Rural Development Partners (NANDIRDEP), and the Climate Change Office of UNDP, Accra.

“The project established strong linkages between the regional and local stakeholders, and we have received external funding to further the engagement in the next two years” concludes Prince. “All stakeholders agree on the need to continue working together to support dry season farming, key to improve both economic and social issues – from poverty, to unemployment, to migration – within the communities.”

Article first published on START’s website under the title [From research to action: how a project in Ghana is bridging the gap between researchers and local communities to support farmers during the dry season.](#)

Research highlights

Transformation, adaptation and development: relating concepts to practice

Roger Few, Daniel Morchain, Dian Spear, Adelina Mensah and Ramkumar Bendapudi

In recent years there has been a growing number of academic reviews discussing the theme of transformation and its association with adaptation to climate change. On the one hand this has stimulated exchange of ideas and perspectives on the parameters of transformation, but it has also given rise to confusion in terms of identifying what constitutes a non-incremental form of adaptation on the ground. What this article aims to do instead is help researchers and practitioners relate different interpretations of transformation to practice by proposing a typological framework for categorizing forms of change that focuses on mechanisms and objectives. It then discusses how these categorizations link to the broader conceptions and critiques noted above, with the idea that this will enable those who seek to analyze or plan adaptation to better analyze what types of action are potentially constitutive of transformation. In doing so, it should equally assist in the identification and specification of critical questions that need to be asked of such activity in relation to issues of sustainability and equity.



[doi: 10.1057/palcomms.2017.92](https://doi.org/10.1057/palcomms.2017.92)

Promoting peer-to-peer knowledge and skills sharing to tackle pasture scarcity in Kenya

In Isiolo County, Kenya, residents are largely reliant on extensive livestock production for their wellbeing. Here, research and intensive participatory processes conducted by the ASSAR East Africa team focused largely on the challenge of pasture scarcity and understanding various options available for dealing with this challenge and their associated implications.

Building from this research, Alemayehu Zewdie along with his ASSAR colleagues saw an opportunity to use the information learned to achieve greater impact. To do this, the team developed a proposal for an ASSAR Grant for Local Adaptation Support (GLAS) for a peer-to-peer (P2P) learning exchange to promote sharing of knowledge, skills, experiences and best practices around the issue of pasture scarcity. A diverse group of 21 participants (made up of different ages and genders) from three communities in Isiolo County took part in the exchange.

During the three-day exchange, participants learned about a customary natural resource management system known as Dedha that has been revitalized by the Borana

community. In this system, a council of elders regulates the use of grazing zones during different seasons. The exchange offered a time for the elders to share experiences, lessons learned, challenges and new opportunities with participants from other communities. Camel husbandry and camel value chains were also a key feature of the exchange and participants went on a visit to a fodder farm in Kajiado County where they learned about how fodder production in the drylands not only preserves pasture for sustaining herds during dry periods, but also diversifies incomes with selling of hay and seeds. Lastly, participants were introduced to representatives from the Kenya Camel Association (KCA) and the Kenya Agricultural and Livestock Research Organization (KARLO) as future technical resources.

The P2P exchange served as a way for peers from different communities to learn from each other and from experts about new strategies for dealing with pasture scarcity and associated challenges and for building new relationships that will live on after ASSAR.

Adapted from the article [Capacity building through peer-to-peer learning: a way to adapt to local changes in Kenya](#), published on the ASSAR website.



My learning experience on peer-to-peer (P2P) learning

By Alemayehu Zewdie, Rural Water Supply Utility Technical Advisor, Oxfam



This activity is one of my best experiences with ASSAR, because this was an opportunity to hear and learn from the local community on the different challenges they have encountered. Conducting the peer-to-peer (P2P) learning activity was a very good and informative process in large part because we communicated with the local community beforehand to hear their voices on different issues. There was clear communication throughout the process regarding their challenges related to pasture scarcity, and they raised many issues related to this problem.

In the P2P learning, we had three main focus areas: camel husbandry, pasture management and customary law of natural resource management (Dedha). What interested me most was to hear about the customary natural resource management designed for different grazing periods, and how farmers using this system are managing the pasture resources and moving to different grazing areas at different times. This is a kind of institution led by the local community themselves along with elder people who advise the community where to go to graze their livestock. So, this was a good experience for me to hear about the different grazing zones in different periods of the year.

The other interesting thing which I learned personally in the P2P activity is about the different methods used to grow grass and the commitment from the participants to test and grow grass in their areas. There was huge interest from the participants to take grass seeds and grow them in their areas. In addition to this, there were discussions on herd composition where we learned that grazers are adversely affected by climate change, but browsers are not as affected and that there can be benefits for shifting from grazers to browsers. Learning about this and how committed the participants were to it was another interesting lesson for me. Because the local community understands the impacts of climate change, they are committed to adapt to the shift. I think for me this is another huge lesson from the P2P learning.

Finally, what I learned from this P2P learning in particular and ASSAR in general is that consultation of local communities will give us a better chance to understand their challenges and also there is a huge opportunity to adapt solutions to climate change problems. Another important lesson for me is that there is no single solution to all the problems and that adaptation and customizing the solution according to the situation is also very important.

Research highlights

The effect of inter-organisational collaboration networks on climate knowledge flows and communication to pastoralists in Kenya

Chidiebere Ofoegbu, Mark George New and Kibet Staline

Sustainability 2018, 10(11), 4180



doi: [10.3390/su10114180](https://doi.org/10.3390/su10114180)

STRENGTHENING CAPACITIES FOR SUPPORTING LOCAL COMMUNITIES



Chandni Singh conducting life history interviews to understand how farmers in India cope with water scarcity and drought.

Engaging young people on environment and climate change issues in Ghana

Discussions with local and district level stakeholders during migration focused life-history research as well as during participatory workshops brought the important topic of youth vulnerability to the attention of the ASSAR Ghana team. Conversations highlighted how young people in the district are faced with combined challenges of low livelihoods opportunities and climate threats to farming systems and food security. These and other challenges prompt many to migrate to Southern Ghana in search of more stable work, a choice that can come with new sets of risks and stress. Further, this group is often left out of community or district level discussions and strategies relating to climate change and sustainability due to their age.

These identified challenges led Rahinatu Sidiki Alare and Prosper Adiku of the ASSAR Ghana team to seek an ASSAR Research into Use Small Opportunity Grant (RiU-SOG) with the aim of promoting dialogue and information exchange among young people from the districts of Lawra and Nandom on topics relating to their local environment and climate change as well as for enhancing the capacity

of the youth to identify and communicate about local environmental problems.

The core activity for this grant was a competition among six teams from three different schools in Lawra and Nandom who presented their ideas for innovative solutions to local environmental and climate related challenges. Presentations were judged on the validity of arguments made, linkages to specific environmental/ climate issues, relevance to ASSAR core themes, and inclusion of clear and innovative recommendations for dealing with the problem.

Members of the top two winning teams from Nandom and Lawra Senior High Schools had the opportunity to visit the Institute for Environment and Sanitation Studies (IESS) at the University of Ghana in Accra where the ASSAR Ghana team is based. During this trip students interacted with a variety of local high school and college students, various university departments and centers, executives from environmental organizations, and residents of a coastal Accra fishing village.

Adapted from the article [Climate change adaptation through youth innovation](#), published on the ASSAR website.



“THE FUTURE OF CLIMATE CHANGE ADAPTATION LIES IN THEIR HANDS”

A conversation with Prosper Adiku and Rahinatu Sidiki Alare

WHAT FIRST SPARKED YOUR INTEREST TO DO A SCHOOL COMPETITION?

Prosper - We developed the CATYI (Climate Change Adaptation Through Youth Innovation) competition based on the conviction that young people need to be actively involved in identifying environmental problems, and finding and communicating innovative solutions. The future of climate change adaptation lies in their hands!

WHAT IS ONE THING THAT SURPRISED YOU ABOUT THIS ACTIVITY?

Rahina - The high level of enthusiasm among students with regards to environmental issues. All participants were really looking forward to implementing their ideas on the ground.

WHAT WILL THE STUDENTS TAKE AWAY FROM THIS EXPERIENCE?

Prosper - Through the competition, the students have enhanced their communication and innovative capacities; they have also acquired enormous exposure on climate related issues as well as linkages to researchers at the Institute for Environment and Sanitation Studies (IESS) of the University of Ghana and youth based environmental organizations such as Greener Impact and Environment 360.

Teachers and environmental club patrons of the schools involved have also had the opportunity to benefit from the competition by participating in a collaborative capacity building workshop with our partners Nandom Deanery Integrated Rural Development Programme (NANDIRDEP) and Greener Impact International.

Rahina - The students have been included as key members of the Climate Change and Sustainable Development activities of Greener Impact International, a Accra-based NGO, and are expected to participate in next year's activities as well.

DID YOU PERSONALLY LEARN SOMETHING NEW OR IMPORTANT FROM OVERSEEING THIS PROJECT?

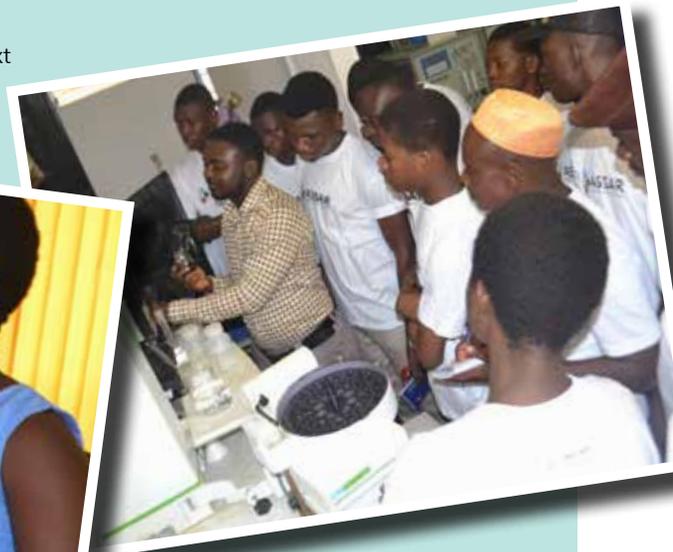
Rahina - While lecturing undergraduate students on climate change at the Department of Environmental Science of the University for Development Studies (UDS), I have used some of the ideas from the competition to highlight ways in which the youth can contribute to adaptation actions in their communities.



Prosper Adiku
Research Assistant
Institute for Environment and Sanitation Studies (IESS), University of Ghana



Rahinatu Sidiki Alare
Assistant Lecturer
Department of Environmental Science, University for Development Studies, Tamale, Ghana



Wells and well-being: Exploring agriculture and water through a gender lens

Q&A with Divya Solomon, PhD student, University of Michigan, Ann Arbor, School of Environment and Sustainability

A former ASSAR researcher with the Ashoka Trust for Research in Ecology and the Environment (ATREE) in Bangalore, Divya Solomon had the opportunity to explore gender dynamics in agriculture, irrigation and groundwater depletion in Tamil Nadu, India, thanks to a Small Opportunity Grant and an exchange with the University of East Anglia (UEA).



How is ASSAR's work on gender innovative?

There has been international attention on the adaptation of communities to climate change, however studies on the impact of adaptation on individuals within households remain scarce. Despite significant efforts from feminist scholars the household continues to be seen as a single homogenous unit.

ASSAR's work on gender has been pathbreaking in this regard. Using multiple methods including quantitative surveys and qualitative ethnographic field methods, ASSAR has strived to bring in a nuanced understanding of gender, not simply looking at gender binaries but probing further, teasing apart the role of intersecting variables such as caste, ethnicity, and age.

ASSAR's research has highlighted the differences between men and women in the ways they adapt and experience climatic changes. By moving past focusing solely on women ASSAR has brought to the forefront other important issues such as the vulnerability of young men in drylands.

ASSAR's multiple sites across India and Africa, along with an emphasis on knowledge sharing between sites and regions, allowed us to develop a multi-perspective approach to understand the gendered realities of the impacts of climate change.

What is your best memory from performing the field research on the impact of depleting groundwater on women's livelihoods?

The most interesting aspect of the field research was the co-learning that occurred during the focus group discussion with women in the region. My questions often facilitated these women to discuss issues helping them recognize their own vulnerabilities and, through discussion with the group, understand important characteristics of this vulnerability.

How do you foresee your research impacting the local communities?

Groundwater depletion has been studied extensively in India; however, very few studies recognize the multiple gendered effects of this depletion. My research has been presented to government officials in Tamil Nadu as a part of ASSAR ATREE's policy engagement strategy, helping to build awareness among of the impacts of the depletion on women's wellbeing. Hopefully the findings from this study will be taken forward in the form of tangible programs for these women.

Three findings of ASSAR research on the impact of depleting groundwater on women's livelihoods in India

- 1** The availability of groundwater has had positive and negative implications on gendered well-being, varying across class and caste. Groundwater has allowed for the spread of intensive cash crop-based agrarian systems, augmenting livelihoods and increasing gender-wage parity for agricultural laborers. It has also provided water for domestic usage, reducing women's domestic work burdens.
- 2** Farming households have indicated that household well-being, which in many ways is inextricably tied to groundwater, both in the domestic and the livelihood sphere, is seriously threatened by depletion of the resource in the region.
- 3** Failing borewells are severely affecting agricultural productivity and livelihoods, ensnaring communities in debt cycles. Indebtedness has resulted in increased work burdens on both men and women. While men have wider options for more remunerative work owing to their mobility, women often have to shoulder additional burdens of paid and unpaid farm work.

What have been the advantages in participating in the exchange with the University of East Anglia (UEA)?

The exchange was extremely useful as it helped me connect with other researchers working at UEA. Most importantly this was a time of learning and reflection under the mentorship of Dr Nitya Rao who not only provided me with resources to conduct my analysis but helped to enrich my thinking from her vast and unique repertoire of work on women in agriculture in South India. During this time I learned how to use a gender lens to look at a research problem moving beyond a superficial analysis of male headed vs female headed households.

“The exchange has strongly influenced my research direction and shaped my ideas. Taking my research forward I will be using a gender lens to analyze how agricultural adaptation practices impact men and women’s wellbeing.”

How has the exchange impacted your career and your approach?

My time at UEA has really shaped my path as a researcher. The exchange helped me develop a strong interest in gender studies within the adaptation and vulnerability research that I was already engaged in. This time made me realize the importance of understanding gender dynamics within households and the crucial role these dynamics play in the way resources and risks are managed - a household is not always an egalitarian unit but rather it is a site for bargaining.

What have you been up to since the exchange?

Since my time in ASSAR I have moved on to work on my Phd. The exchange has strongly influenced my research direction and shaped my ideas. Taking my research forward I will be using a gender lens to analyze how agricultural adaptation practices impact men and women’s wellbeing through labor allocations and agency.

Research highlights



Wells and Well-being in South India: Gender dimensions of groundwater dependence

Divya Susan Solomon and Nitya Rao
Economic and Political Weekly 2018, 53 (17). pp. 38-45



VIDEO: Wells and a lack of well-being
[Watch the video](#)



INFOGRAPHIC: A well does not always lead to wellbeing
[View the infographic](#)

Empowering women in Mali through business resources and training

Through their research on decision making and food security in Southeastern Mali, the ASSAR Mali team found that young women are often the most vulnerable to the impacts of climate change due to their limited access to education, financial services and other assets, and also due to socio-cultural structures that restrict their decision making options.

The team used these findings to inform their work on an ASSAR Grant for Local Adaptation Support (GLAS) aimed at expanding young women's access to resources through identifying opportunities for women's businesses. The project team proposed that creating reliable market opportunities for young women could inject much needed income into some of the poorest food-insecure rural households and increase their resilience.

A group of 14 women from seven villages in Mali's Koutiala District came together in August 2018 for a workshop to explore ways to improve their living conditions through the increase of business revenue across the agricultural value chain.

The workshop was organized by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), ASSAR's partner in Mali, and the NGO Association of Awakening to Sustainable Development (AMEDD). During this workshop, two business cases were selected for piloting: 1) the promotion of enabling conditions for vegetable production and 2) small-scale trading in the agricultural sector.

At the end of the one-day workshop, the group agreed to test an integrated business case in two villages, which considered both irrigation infrastructure for intensification of crop production (including vegetables) and credit facilities from local banks to enable income diversification. This approach aimed to allow women to take advantage of economic opportunities by taking on new roles that increase their adaptive capacities. It was also hoped that such a business model would guarantee the sustainability of the dynamics between community members and local organizations, even after the end of the ASSAR.

Adapted from the article [Building the adaptive capacity of women in Mali's Koutiala District](#), published on the ASSAR website.



Women interact during a workshop in Mali's Koutiala District aimed at exploring ways to improve their living conditions through the increase of business revenue across the agricultural value chain.

“OUR GOAL: CREATING A PROCESS THAT WILL SUPPORT VULNERABLE WOMEN EVEN AFTER THE END OF ASSAR”

A conversation with Edmond Totin and Amadou Sidibé

WHAT LED YOU TO THIS PROJECT, AND WHY DID YOU USE A BUSINESS ANGLE?

Edmond - During the diagnostic study conducted at the early stage of ASSAR, we identified young women as a particularly vulnerable group in Mali's Koutiala district, and we recognized the need to strengthen their capacity to adapt to climate change. We wanted to put in place a process that would support them even after the end of ASSAR, and we thought that we could focus on providing resources for women's businesses.

We worked with a group of young women to develop business plans that they could use to get loans by local banks. Partnering with an NGO, we set up a system for technical support, including training on production processes and joint evaluation of outcomes. We believe that this mechanism will help this group of women expand their business, enabling them to reimburse the loan from the banks. We expect this kind of system to sustain and, from the first feedback received, things are working that way.



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d'Agriculture (Benin)



Amadou Sidibé
Lecturer and researcher,
Department of Economic and
Social Sciences, Institut
Polytechnique Rural de
Formation et de Recherche
Appliquée (IPR/IFRA) (Mali)

HOW DOES CLIMATE CHANGE IMPACT YOUNG WOMEN IN KOUTIALA?

Amadou - The pressure on natural resources may increase young women's vulnerability by reducing their access to land therefore their adaptation options.

WHAT WILL BE THE PROJECT'S LONG-LASTING IMPACT?

Amadou - The project established a network among women from different villages who had no previous contact with one another. Going forward, this network can be leveraged for any other activity that covers these villages.

Edmond - One of the women in the group told us: "The knowledge we now have will last forever. It is far better than receiving a sum of money that, once used, is gone."

WHAT ROLE DO YOU THINK OTHER HOUSEHOLD AND COMMUNITY MEMBERS PLAY IN SUPPORTING YOUNG WOMEN IN KOUTIALA?

Amadou - Village authorities joined the women during the discussions for the choice of the villages in which the project was to be implemented. The authorities guaranteed to the women group access to the necessary acreage of land and also expressed their readiness to support women financially and with labor as their contribution to the initiative.

WHAT HAVE YOU LEARNED FROM THIS ACTIVITY?

Edmond - I learned a lot, for instance I became more aware of the potential of the adaptive capacity of local communities. Also, I learned that designing a capacity building agenda together with stakeholders is more valuable because it helps to really consider the potential, needs and expectations of our stakeholders.



INFOGRAPHIC

“Challenging assumptions about gender and climate adaptation”
[View the infographic](#)

3 QUESTIONS TO...



CHRIS GORDON

PROFESSOR, INSTITUTE FOR ENVIRONMENT AND SANITATION STUDIES, UNIVERSITY OF GHANA

In your view, what has been ASSAR's major achievement in Ghana and what will be its long term impact?

ASSAR has enabled and empowered a cohort of early career researchers to gain skills in transdisciplinary research. The long term impact lies with reorientation of the approach of these researchers to "research into use".

What advice would you give to the young researchers who have been involved with ASSAR for the continuation of their career?

Several of the MPhil students have already started PhD programs in Canada, Ghana and South Africa. They need to keep the concepts of co-development and co-design of research questions with stakeholders as central to their thinking.

Can you share an interesting anecdote from ASSAR's work?

At the ASSAR consortium annual meeting in Ghana, a series of 'learning games' that could be used for teaching climate adaptation were demonstrated. Some of these ended up in rather compromising positions!

"IN ONE WORD"

How would you define the mission of the ASSAR program in one word? [Transformation](#)

The ASSAR Ghana team? [Innovative](#)

Your own experience as ASSAR focal point for Ghana? [Challenging](#)

The future of climate adaptation in ASSAR's Ghana study sites? [Transformative](#)



CHANDNI SINGH

RESEARCH CONSULTANT, INDIAN INSTITUTE FOR HUMAN SETTLEMENTS

In your view, what has been ASSAR's major achievement in India and what will be its long term impact?

In India, ASSAR managed to link robust research and policy engagement around critical issues such as water management, migration, agrarian transitions, and vulnerability in urban informal settlements.

How has the experience with ASSAR helped you in your career path?

It's been a tremendous ride with opportunities to partner with a phenomenal set of experts, articulate and present my work at multiple fora, and develop some deep and meaningful relationships along the way!

Can you share an interesting story you stumbled upon while doing your research with ASSAR?

During our research on rural-urban migration in South India, we conducted detailed interviews with a farmer who had left farming to become a gardener in Bangalore city. His story was quite disturbing because he had spent a lot of money digging borewells, each of which had failed. He spoke of his young daughter also migrating to the city to earn and raise money for her dowry. The story was saddening and more so because I couldn't follow up with his daughter. In a wonderful turn of events, recently, two years after that interview, I found out his daughter is working with a friend of mine, as a nanny, and is getting competitive pay, living in clean conditions, and is not doing as badly as I had imagined. In research, one often leaves stories midway and I was grateful to find this one had a positive ending.

"IN ONE WORD"

How would you define the mission of the ASSAR program in one word? [Ambitious](#)

The ASSAR India team? [Cohesive](#)

Your own experience as ASSAR researcher? [Stimulating!](#)

The future of climate adaptation in ASSAR's India study sites? [Challenging](#)

ASSAR ANIMATED THEORY OF CHANGE



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