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Agroecology, Empowerment and Resilience

Lessons from ActionAid's Agroecology and Resilience project

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Introduction

West Africa is highly vulnerable to climate change impacts. Following a severe drought in the region in 2012, ActionAid initiated the Agroecology and Resilience (AER) project in Senegal and The Gambia, with funding from the US-based MAC Foundation. With an emphasis on women's empowerment, agroecology and disaster risk reduction strategies, the project works to strengthen communities' own capacity to analyse the challenges they face and to create change.

The project began in 2013. Since then, the region has continued to face the escalating impacts of climate change including drought, late rains, flooding, as well as rising sea levels and increased salinity in coastal, island and river estuary areas. These challenges have tested the project, showing its many achievements, and providing lessons on areas that can be further strengthened.

Phase 2 began at the end of 2015. A mid-term review (MTR) was carried out in 2017. The review of the AER project can provide key lessons for the wider ActionAid federation and other actors seeking to build resilience to climate change.

Agroecology and Resilience project approach

ActionAid recognises that those most marginalised in society, such as women, people living with disabilities, ethnic minorities, and those living in poverty can often be the most vulnerable to the impacts of disasters. ActionAid's approach to Resilience, as outlined in the Resilience Framework (2016) is therefore holistic and community-led, emphasising the need to address unequal power relations that exacerbate people's vulnerability to shocks and stresses.

The Agroecology and Resilience (AER) project therefore works on the principle that communities must be empowered to analyse and act on the issues facing them. They can best understand the challenges they face, and can thus identify the solutions that are most appropriate to their specific context. When empowered, they can take action now and in the long-term. Participatory vulnerability analysis (PVA) is an essential first step in the process, ensuring that marginalised community members lead the process in identifying local challenges, impacts, capacities and vulnerabilities. These community members are then active in planning and implementing solutions that work for them.

The AER project particularly aims to **empower women** and uses **agroecology** and **disaster risk reduction** (DRR) strategies to strengthen communities' ability to cope with the impacts of climate change on their food systems, livelihoods and safety.

Women's empowerment

Strategies to empower women are particularly key to ActionAid's approach to resilience (as well as all programme work across the federation, including education, agriculture, tax justice and land rights.) Women offer critical insights into their family and community needs, challenges, opportunities and potential. They are responsible for most of the food produced and eaten in Africa and Asia, and are responsible for key household activities such as fetching water, firewood and animal fodder, as well as preparing food and caring for children and elderly and disabled people. These responsibilities mean that women face burdens and challenges that are often invisible, and they hold specific insights into the realities of holding families and communities together.

Even though women's knowledge and participation are central to the process of building resilience and food security, they are all too often left out of key decision-making processes. The entire community is losing out as a result. We therefore work to ensure that women have the confidence to identify and challenge injustice, unequal power relations, exploitation or vulnerability. Women are prioritised for participation, and are further supported

with training on women's empowerment. They are then actively supported to create women's groups where they can discuss, analyse and take action together. Being in a women's focus group can enable them to talk more freely, and identify work they do and challenges they face that often go unnoticed by men. They can put ideas together, bringing them more clearly and confidently to the wider community.

Women then lead and participate in community disaster risk management committees, emergency response teams and farmers' groups, usually in equal or higher numbers than men, ensuring that their perspectives are reflected in activities.

Effective strategies & achievements of the AER project

- The mid-term review (MTR) highlights that the AER project has led to increased solidarity and joint action between women at community level. Women in AER communities expressed excitement that as a result of the project they realise that they can identify their vulnerabilities and address their challenges together, and not face their problems in isolation. This gives them hope and confidence that they can develop solutions to the challenges brought by climate change.

- Women report a significant change in their own mindsets, enabling them to become agents of economic transformation and community leaders. They report and demonstrate much greater ability to express themselves, and improved self-esteem. Community discussions about resilience are thus benefiting greatly from their critical insights, and their confidence to take action.

- Women report a shift in power relations at family, community and government level. Their work, roles and views are recognised and respected by their husbands and families. In community decision-making processes their views and contributions are valued by men, and they are increasingly taking on community leadership roles. These experiences are also giving them the confidence to meet with local politicians to make demands on behalf of their communities, helping them to make changes that strengthen their communities' resilience.

- Joint meetings, shared events and informal visits between women from different communities provide key opportunities to share learning on resilience strategies and experiences. The women report that witnessing each other's empowerment journeys also has a profound impact on their own learning.

- The women participating in the AER project report that they now have increased control over resources that used to be controlled by men. They have greater access to land, tools, seed, small ruminants, finance and knowledge. This enhances their capacity to produce food, earn incomes and strengthen resilience. Women are also producing cash crops that have traditionally been grown by men, such as groundnut, maize and cassava.

- The project's investment in tools such as milling and de-hulling machines, has led to a significant reduction of the physical burden on women, freeing up hours and days of their time. Investments in solar water pumps and rain-filled water tanks have also reduced women's burden of fetching water, particularly in communities facing water stress. Many are choosing to spend this extra time clearing additional land or engaging in other productive activities (to increase their incomes and food security) and/or to spend more time with their families, reporting better relations with their husbands as a result.

Areas to improve & lessons learned

- Clear mechanisms are needed to ensure that learning is passed on between women, beyond those participating in the project. This passing on of learning is taking place on an ad-hoc basis in some communities, but ActionAid could develop a more systematic approach to be taken up by the federation.

- As many villages have only a small number of literate women, ActionAid must work harder to overcome a common pattern in which these same women are usually selected by their peers for events and learning visits to other areas. The project could also work to develop and use more materials for those with low literacy levels, so that more women can feel confident that they have the required level of knowledge to participate further.

Coumba Cisse, vice president of the women's group in Bady village, Senegal, at the women's garden that the group is using to diversify their crops and trial agroecological techniques.
PHOTO: TERESA ANDERSON/ ACTIONAID

Case Study

Coumba Cisse is vice president of the women's group in Bady village, Senegal, where the Agroecology and Resilience project is talking place.

"Through discussions in our women's group, we realised that we were spending so much of our time walking long distances to the nearest mills which are miles away. Or we were pounding the grains by hand, which is such hard work. We women have so much other work to do looking after our children and our crops, so we realised that an electric milling machine could save us lots of time and energy."

Through the AER project Coumba and her women's group learned about their rights, and the responsibilities of government as duty bearers.

"Before this project I was so shy," she laughs. "I did not feel I could speak to strangers.
Now thanks to the project we are confident and we have learned about our rights! I feel I can speak to anyone."

Coumba and two other women from the village went to meet the local mayor, and requested that he use local government funds to support the village with a milling machine. To their delight, he agreed, on condition that they community build a shed in which to securely house it.

Standing next to a small, unfinished brick structure in the centre of the village, she adds: "As you can see, we are now building a structure for the new mill for the whole village to use. When the mayor visited the village recently I reminded him of his promise, and he said that because of our request he would be bringing a milling machine to Bady village – and several other villages too."

"The women's circles and learning about our rights from ActionAid has changed our lives," grins Coumba. "This project has taught us that we can cope with the changing climate, and that by organising together as women we can improve our lives."

Agroecology

Agriculture plays a critical role for food security, livelihoods and development, particularly for countries in the South. Ensuring that agriculture is able to adapt to a changing climate is therefore a key component of ensuring rural communities' resilience.

ActionAid's resilience approach works with communities to use agroecological approaches to agriculture. By working with nature, increasing biodiversity, and avoiding harmful agro-chemicals that can impact the environment and human health, agroecology can provide multiple benefits to farmers, including improved resilience to climate change. Techniques include: using compost, manure and mulching instead of chemical fertilisers; using botanical herbs such as neem for treating pests and ensuring safe storage of seeds; and diversifying seed and crop varieties.

These practices and technologies do not only avoid harming the environment. Farmers use these approaches to ensure good and sustainable production, and at the same time to become less dependent on expensive agribusiness inputs such as pesticides, fertilisers and purchased seed. Farmers can thus retain more of their income, power, knowledge and responsibility.

Effective strategies & achievements

- Discussions and training on climate change means that farmers now understand its causes, and are motivated to take action to adapt to its impacts. This is a step forward from common beliefs that climate change is simply God's doing, about which they cannot do much, and which they hope will end in due course.
- As a result of the project, smallholder farmers, particularly women farmers, report more resilient crops and much better harvests in the face of climate change. Part of the success of agroecology is as a result of adding compost and mulch to soils instead of chemical fertilisers. This enables soils to retain more water so that crops can grow for longer and produce better yields.
- Seed and crop diversification (ie growing multiple crop species and different varieties of each crop that are adapted for different purposes and types of weather) also helps farmers to spread risk and reduce losses.
- Women's agroecological community gardens are a successful strategy through which women can come together to grow a diversity of vegetables that earn a high value in the local market. The diversity in vegetables also enables the women to feed their families better, and many women report improved family nutrition as a result.
- Community seed banks means that farmers have access to locally-adapted seeds at planting time, saving them money that would otherwise be spent on purchasing seed, and enabling them to use varieties that perform better in their local context and in the face of climate challenges.
- Farmers report a significant increase in their creation and use of natural pesticides instead of chemical pesticides, and greater awareness of the negative health implications of chemical pesticides.
- Agroecological approaches are reducing farmers' costs in fertilisers, pesticides and seed, helping them to save more of their income, so that their livelihoods are more resilient
- Farmers are finding that making and using compost brings huge advantages to their farming. They find that compost helps to retain soil moisture, provides immediate and long-term nutrients for crops, and contributes to better post-harvest management and fewer losses, as the produce lasts longer without spoiling. They are showing and promoting their experiences to other farmers, and many are actively training their peers, so as to spread the knowledge and help others to benefit from the same approach.
- Salinity from rising sea levels is a huge challenge in the delta island regions of Senegal, but "table gardens" allow women to successfully grow fresh salads and vegetables above ground level on tables, improving their families' nutrition and reducing the cost of bringing in food by boat.

- Communication of agroecological techniques such as composting, seed saving and mixed cropping is spreading widely far beyond the project area. In The Gambia, female traditional communicators called “kanyelengs” convert practical information into song. Quarterly performances are held in villages and also on radio for broader reach, and are then sung and repeated by community members thereafter.

Areas to improve & lessons learned

- The challenges of salinity and rising sea levels in the islands have proven greater than was expected when the project proposal was written. Further efforts are still needed, so that more profound and joined-up solutions to rising sea levels can be found.

- The goat pass-on scheme has experienced a high level of disease and death of small ruminant animals. Women have a limited capacity to care for their animals on top of their other chores. Some women are therefore trialling a scheme in which the women who are next in line to receive the baby animals share the burden of care for the parent goat or sheep, to ensure its health and success. The scheme to train women para-vets could also be extended to more villages. Another proposal is to concentrate more animals in fewer villages. Some of the livestock are also being sold and eaten at religious and social events, and are thus not providing the anticipated long-term livelihood income.

- In order to help women to make more reliable incomes from their products, the project must strengthen the component that seeks to improve their access to markets. This can be done through deeper analysis of the local markets, and more training in ActionAid’s “access to markets” methodology.

- Women would benefit from more training and improvement in their financial record keeping and business management skills, so that they can better calculate the value and necessity of investments, and make investments wisely.

- A number of women farmers still feel that they could benefit from training or refresher training on composting.

- In some villages the community received a milling machine, but not a de-hulling machine. This meant that the women were still obliged to travel long distances with their harvests to the nearest de-hulling machines before they could mill their grain.

- In coastal communities, the project could also benefit from a deeper analysis of the potential for sustainable management of seafood, and avoiding over-exploitation.

- More finances could have been allocated to water conservation and management at the stage of proposal writing. In The Gambia, a topographical survey identified strategies such as construction of contour bunds. However funds were only sufficient to implement these activities in some but not all areas.

Members of Bakho women’s group with indigenous seed varieties they are using to diversify their agriculture (Senegal).
PHOTO: TERESA ANDERSON/ ACTIONAID

Penda Mballow from Ngwarr village, The Gambia, is married to Gawlo Sabaly (quoted below). She finds that using agroecological techniques such as composting and diversification have made a huge difference to their crops' resilience to climate change impacts such as drought.
PHOTO: TERESA ANDERSON/ ACTIONAID

Case Study

Neneh Camara is a farmer in Touba Kolong, The Gambia, and participates in the project.

"This year we were taught not to use chemical fertiliser on our garden. We use animal dung from donkeys, cows, chickens – we gather everything and use it on our garden. We made the compost ourselves.

"I have never experienced anything like that since I was born. This year we used it on our garden. I was so happy. I put it on my onions and they were very good.

"Now my onions are quite different from before. The onions with compost are bigger than the ones with chemical fertiliser. Sometimes if I used too much chemical fertiliser it damaged the vegetables. In one part of the garden I put chemical fertiliser three times and it dried out. I watered it over and over but still it was no good.

"I can show you my onions are very big. Since we lifted them they have lasted well, they're still sound. That's why the compost is good. Since collaborating with ActionAid on this project we've seen a lot of benefits. We are very happy because it has improved our garden activities."

Gawlo Sabaly, a farmer from Ngawarr village adds,

"Before learning about agroecology my food would only last six months. But since I started using compost my food lasts all year. Unlike before, I'm no longer going to people begging for handouts of rice, handouts to feed my family. I thank God I no longer have to do that and now I can feed my family."

Disaster risk reduction

Disaster risk reduction (DRR) approaches are an increasingly essential strategy for ensuring communities' safety in the face of ever-more frequent disasters including those from climate change. By analysing the vulnerability of communities to disasters, their historical incidence and their impacts, plans can be developed to improve communities' preparedness and response to such events.

Depending on the risks identified, community members may undertake training on skills such as first aid, safety drills, search and rescue, and awareness of storms or bush fires. ActionAid supports women and their communities to set up Disaster Management Committees to implement and monitor activities identified in their planning phase.

Effective strategies & achievements

- Women testify that after discussing disaster risks, identifying strategies that can help them, and developing community DRR plans, they are prepared against the risk of disasters.

- Communities have successfully engaged with their local authorities in the implementation of community DRR plans. In Ndiormi in Senegal's dry interior, for example, bush fires are extremely frequent and hazardous. The district authority has actively promoted the DRR plan, helping to ensure that all community members, including children, know what to do in the event of a fire and have the resources to deal with such an event.

- Project communities in The Gambia have not experienced any bush fires for the last 2 years, due to effective awareness raising, training, collective cleaning, fire belt information and creation of wider footpaths in the villages.

- A trial early warning weather information system in Senegal, is proving highly effective and replicable for other communities, as it overcomes the challenges faced by other early warning systems. The project posts visual panels with simple graphics in the middle of villages, so that weather information can be communicated simply to all villagers, including those with low literacy levels. This helps the village members to better plan their farming activities, improving their yields in the face of erratic weather caused by climate change, and increases farmers' understanding of and trust in meteorological information.

- Dykes with spillways are being built to reclaim riverside land affected by salinization from rising sea levels. This model of dyke allows rainwater to accumulate, and then releases the water out of the spillway gate, thus "rinsing" the salt out of land that has been sterile for years.

- Communities are using gabion boxes and tree planting to successfully reduce the impact of flooding and erosion on farmlands and homes. Many of these activities have been funded by local government after communities lobbied authorities for support, using their participatory analysis and community resilience plans.

- In The Gambia, construction of contour bunds is also preventing erosion, enabling water to stay longer in farm areas and reducing loss of soil nutrients.

- Well-maintained cereal banks mean that communities are successfully storing food that can last them throughout the year, instead of running out after a few months and needing to purchase food at high cost during the lean season.

- Women are learning new techniques (such as making batiks, soaps etc) which provide alternative livelihood options and the opportunity to feed their families even in the face of crop failure.

Areas to improve and lessons learned

- A trial early warning weather information in The Gambia which does not use visual panels, has not always managed to get the information to all community members. Information is conveyed from government regional "hydromet units" to community early warning system focal persons by SMS. The information is then announced on mosque loudspeakers. Challenges have arisen, however, as not all villages have focal persons, and the focal persons are expected to convey the information to several villages. This has shown that this approach can learn from the Senegal project, which uses visual panels in the centre of the village. There are now plans to adopt a similar approach in The Gambia.

- Women have benefited from learning alternative livelihood options such as batik making. However, in order to further maximise the benefits from these strategies, this approach should be complemented with training on how to effectively access and engage with markets.

- Strategies such as building dykes to reduce erosion from rising sea levels, can be made even more effective through integration with ecosystem-based approaches such as protection of mangroves.

- National political unrest in December 2016 in The Gambia (known as "the impasse") has created large numbers of internally displaced persons (IDPs) across the country. With AER project areas dealing with suddenly-increased populations, stored food supplies have become scarce. This has caused some communities to consume the seed varieties that had been stored with the intention of planting the following season, undermining efforts to revive local seed diversity and strengthen local seed systems, and leaving communities dependent once again on expensive purchased hybrid seeds. This led to a request to donors to allow for some project money to be re-allocated towards cash transfers so that community members can purchase food. This event highlighted the importance of ensuring that humanitarian response efforts (which often purchase hybrid seeds in emergency situations) are coherent with local project objectives of protecting local diverse seed systems to ensure resilience and farmers' rights.

Nyarra Fatty at her vegetable stand at the market in Salikene, The Gambia. The building of dykes with spillways in Salikene has helped Nyarra's community to reclaim agricultural land that had been abandoned due to salination from rising sea levels.
PHOTO: JANE HAHN/ ACTIONAID

Fatou Kaita is secretary of Bakhu village women's group and is also the community's weather information contact person. Before and during the rainy season she receives regular calls from ANACIM (Senegal's ministry of meteorology). She informs them of rainfall levels captured in her rain gauge, and on the board marks the weather that is expected in the region. This helps farmers to plan their farming activities more effectively in the face of climate change.

PHOTO: TERESA ANDERSON/ACTIONAID

Case Study

With climate change making rainfall patterns increasingly unpredictable, farmers in Senegal are struggling to know when the rainy season will begin or end, and they are losing seeds or harvests as a result. For example, all too often farmers will mistake a few early showers as the start to the rainy season, and may plant out their seed only to see them die when the rains dry up. But getting accurate or useful weather information to farmers in remote rural areas has always been a challenge. Most farmers disbelieve national weather reports which are rarely accurate for their local areas.

ActionAid Senegal is working closely with the national department of meteorology at the Agence Nationale de l'Aviation Civile et de la Meteorologie (ANACIM) to trial a new approach to help farmers in several villages know the best times to plant, work in their fields and harvest their crops.

Fatou Keita, secretary of Bakhu village women's group in Senegal says, *"I was selected by our village women's group to be the weather information contact person. I was given training, and ActionAid gave me a mobile phone to use for the project. Now I keep the rainfall gauge in my field next to the village and go to check it every day, recording the data in a book we were given.*

"Whenever there is rainfall, or weather news to share with farmers, the representative from ANACIM calls me and we share information with each other. During the rainy season we speak every day. I tell him the rainfall measurements, so that the government can better track rainfall trends and climate impacts in Senegal. He then gives me information about the weather that is due in our area.

Fatou points to a board that is prominent and visible in the village, which has symbols including rain, sun, storms and wind. "Using a board marker, I just put an X next to the correct symbol. I also add the date of when the rainy season is expected to start or end. This helps people to know in case there is a false start or end to the rainy season."

Conclusions

Climate change is causing a wide range of potential impacts that vary from village to village, region to region, and country to country. It is increasing food insecurity and poverty for vulnerable communities. Women, who are often highly marginalised in their communities, are particularly at risk from its impacts, as their burdens become greater and the obstacles they face become more challenging.

As with the rest of ActionAid's work, the Agroecology and Resilience project in Senegal and The Gambia is built upon the foundations of empowering women and using participatory approaches. This is proving to be highly effective and appropriate. As women become more confident in sharing their insights about challenges and solutions, and to implement activities together, they are witnessing significant improvements to their quality of life and resilience to climate change.

Communities confirm that agroecological techniques which improve soil quality, increase crop diversity and replace agrochemicals, can help their crops cope better with erratic weather conditions brought on by climate change. By reducing the cost of inputs, these approaches also help farmers to save more money and make a better living.

Diversification of livelihoods options to spread risk and generate new sources of income in the off-season or in case of crop failure, is also proving a key strategy for survival in the face of climate change. Initial efforts to strengthen women's access to markets are also proving helpful and can be an area for more focus.

Involving the whole community in planning and implementation of disaster risk reduction strategies is proving highly effective, as evidenced by the significant reduction of bush fires. Climate change also means that DRR strategies must be integrated with agricultural and livelihood strategies. For example, early warning weather information systems can play a key role in helping farmers to avoid crop losses. However, they can only be effective if they reach all members of the community. Panel boards with simple graphics are proving to be an innovative and effective way to achieve this.

There are still areas in which ActionAid's resilience approach can improve further, for example in dealing with the extreme challenges brought by rising sea levels, and expanding our training to strengthen women's access to markets. Strategies to transfer learning and capacity building between women can also be improved.

Overall, however, the Agroecology and Resilience project in Senegal and The Gambia is clearly making a difference to people's lives, and has useful lessons to share with the ActionAid federation and the sector as a whole.

Sinthian women's group are working to improve the sustainability of their pottery products, and their access to markets for more resilient livelihood options.

PHOTO: TERESA ANDERSON/ ACTIONAID

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ActionAid is a global movement of people working together to achieve greater human rights for all and defeat poverty. We believe people in poverty have the power within them to create change for themselves, their families and communities. ActionAid is a catalyst for that change.

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COVER PHOTO: A traditional Kanyeleng group in The Gambia performs songs teaching rural communities agroecological techniques.
PHOTO: JANE HAHN/ACTIONAID