

Enhancing gender inclusiveness for more effective climate smart agriculture in Ghana

Recommendations for implementing the gender aspects of Ghana's Climate Smart Agriculture and Food Security Action Plan

SAIRLA Policy Briefing Paper

March 2019

At a glance

Climate change is, and will increasingly, impact on farming and food systems in Ghana. It directly impacts on the livelihoods of the 45% of citizens (and dependents) in the agriculture, forestry and fishing sectors, and indirectly the food and economic security of all citizens.

Climate impacts on men and women farmers differ, as do their responses, because of gender differences and inequalities. To be more effective and achieve more equitable outcomes, policy and investment processes to strengthen farmers and other stakeholders' capacity to respond to climate change need to take these differences into account and work towards addressing gender inequalities.

Ghana's Climate-Smart Agriculture and Food Security (CSAFS) Action Plan (2016-2020) recognises the importance of gender as a cross cutting issue, but not how it may be addressed.

This briefing paper provides evidence of the importance of gender aspects and recommendations for incorporating them into each of the CSAFS Action Plan's eight focal areas. This will contribute to implementation of the plan and more equitable outcomes for women and men in strengthening Ghana's agricultural and food systems' capacity to respond climate change.

Climate change is a key development challenge. It directly impacts on the livelihoods of 44.7% of the economically active population aged 15 years and in the agriculture, forestry and fishing sectors' and indirectly the food and economic security of all citizens. The Government of Ghana recognises this: the Coordinated Programme for Economic and Social Development (2017-2024) includes a section on climate change and a National Climate Change Policy has been developed that is implemented through sector-specific strategies and action plans. The Climate Smart Agriculture and Food Security (CSAFS) Action Plan (2016-2020)ⁱⁱ guides implementation in the agriculture and food security sectors. Gender is a cross-cutting theme across all of the Plan's eight focus areas recognising that climate change affects men and women differently as a result of gender inequalitiesⁱⁱⁱ. However, it does not set out how gender aspects may be addressed. This policy brief draws on recent research evidence to help address this gap. It was prepared by the Ghana National Learning Alliance (NLA) of the SAIRLA (Sustainable Agricultural Intensification and Research in Africa) programme and draws on recent research evidence from SAIRLA research projects and other relevant studies.

Climate change, agriculture and gender in Ghana: Climate trends and projections show that climate change is, and will increasingly, take place in Ghana. Changing rainfall patterns, average annual temperatures and numbers of hot (and cold) days and nights^{iv} have an impact on agriculture. These changes impact differently on men and women because of gender differences and inequalities. Women have fewer natural resource entitlements than men; labour and other roles are often divided according to gender, as is power. Women and men also differ in how they perceive climate-related risks and access information and knowledge. These differences and inequalities between men and women are embedded in formal and informal institutions and mean that women tend to be more vulnerable to climate change than men - in both direct ways and indirect ways^v. Men and women in the Lawra district of Ghana, for example, respond differently to climate change due to gender differences and inequalities: female headed households are less likely to engage in water and soil moisture conservation practices because of cultural norms that make it difficult for women to be able to secure labour needed for such intensive tasks^{vi}. Vulnerability also stems from weaker tenure rights over the land they farm and restricted access to high quality land.

The eight focus areas of the CSAFS Action Plan: gender aspects

1. Institutional capacity development for research and development (R&D): R&D focused on building climate smart agriculture that is also gender sensitive needs to prioritise capacity development at two levels. At the individual level, not only are gender sensitive knowledge, skills and tools needed, but also the motivation and opportunity to put them into practice. At the institutional level R&D organisations need to be gender-sensitive in culture, structure and practices^{vii}. Women are a minority in Ghana's R&D system, made up of public research institutions, academia, and private sector and industry players. For example, as at 2014, only 83 of the 550 senior members (15%) of the Council for Scientific and Industrial Research (CSIR) were women^{viii}. Given that almost 40% of smallholder farmers in Ghana are women, the gender breakdown at key research institutions does not reflect the client base. Together with a lack of institutional and individual capacity on gender and agriculture, gender aspects of climate change are less likely to be routinely incorporated in climate smart agricultural initiatives as a result.

- The composition of the coordinating institutions for research and development should include more women and gender experts from Women in Agriculture Development (WIAD) and other sources.
- Research scientists need gender analysis training and access to tools to help them understand gender dimensions of agriculture. The SAIRLA NLA and Tools and Metrics research project could be a useful resource.^{ix}
- The CSIR should finalise and implement its action plan to implement gender mainstreaming processes at the institution. This includes providing logistical, financial and high level support for the Gender Working Group responsible for the task.

2. Development and promotion of climate-resilient cropping systems: The climate-resilience of cropping systems can be strengthened by a range of agricultural practices including; changing crop planting and harvesting dates, use of appropriately adapted crop varieties, crop diversification, agroforestry, crop rotation, tied ridging, mulching, contour earth bounds, vegetative barriers, intercropping and improved fallowing. In Ghana, however, there are gendered differences in farmers' use of these techniques. One study found that only two are equally likely to be practiced by both men and women; intercropping and agroforestry. In all the other techniques, including soil retention practices, research has shown that there are clear gender differences with women participating less, overall, in adaptation to climate change^x.

- The Ministry of Food and Agriculture as part of the Planting for Food and Jobs programme should adapt its culture, structure and practices to be more climate smart and gender sensitive in the design and implementation of services to strengthen the resilience of cropping systems. In this regard, attention should be paid to the differences in men and women's practices and strengthen the participation and capacity of women to adapt and develop more sustainable cropping systems.

3. Adaptation of livestock production systems: There are differences between men and women in the number of livestock owned, the type of livestock owned and control over decisions relating to livestock. Men own more livestock in general than women do. In Northern Ghana, women tend to keep smaller stock such as poultry, goats, sheep and pigs while men are more likely to keep cattle^{xi}. Men's earnings from livestock are likely to be higher than women's due to the fact that they tend to own more and higher value livestock than women do. Men control the management of all of the livestock in a household, whether owned by themselves or the women in the household. How much a woman earns from her livestock is therefore dependent not only on what type and how many livestock she has, but also the nature of the livestock management and production system that rural household heads (85% of whom are male) put in place and how effectively these systems respond to climatic changes.

- The Ministry of Food and Agriculture and its partners in the Rearing for Food and Jobs programme need to recognise that men and women tend to rear different livestock and tailor their programmes to suit the diverse needs of men and women.
- Researchers need to study the changing dynamics of livestock ownership and management.

4. Climate adaptation in fisheries and aquaculture: There are expectations that climate change will lead to a reduction in fish catches. This will impact differently on men and women. Men and women have clearly different roles in the fishing industry – with men engaged in catching the fish while women process and sell the fish^{xii}. In addition, women's participation in aquaculture is low, in sharp contrast to their participation in crop farming. In one study of fish farmers, only 13% of individuals using ponds and 8% of those using pens were women^{xiii}. In spite of this evidence, there are no explicit gender and climate responsive actions in the Ghana Fisheries Management Plan of 2015-2020.

- Explicit gender and climate responsive actions should be incorporated into the Ghana Fisheries Management Plan of 2015-2020 and any subsequent plans.
- The government and development partners need to be climate change and gender sensitive in their support to actors working in the capture and farmed fish value chains.

5. Water conservation and irrigation systems: Irrigation has tremendous potential to improve time-use efficiency, stabilise and increase income, enhance nutrition, buffer seasonal and climate-related shocks, and boost women's status in the household and community^{xiv}. However, government and non-governmental irrigation implementers note low rates of use and control of irrigation technology adoption by women, and limited participation in related decision-making processes^{xv}. Strong commitments to gender equality already exist in policy. However, know-how about putting gender equality into practice in the irrigation sector is still lacking.

- In the development and implementation of programmes to promote the adoption of appropriate technologies for irrigation to advance specific development objectives, policy makers and field workers should consider gender roles in irrigated agriculture (participation, preferences, labour division, decision-making, etc.) and gendered processes in which farmers drive the establishment, improvement and/or expansion of irrigated agriculture, often in interaction with external actors.

6. Risk transfer and alternative livelihood systems: There are significant gender gaps in the nature of off-farm income generating activities available to men and women and this has implications for earnings. For example, a longitudinal study has found that men earn approximately 45% more from non-farm labour market activities than their female counterparts^{xvi}. This difference in earnings is not due to barriers preventing women taking up non-farm labour activities: it is due to fact that the kinds of work they perform are more poorly paid than work done by men.

- Government and development partners should support the establishment of alternative livelihood schemes and opportunities that offer women higher earnings and are climate smart.

7. Post-harvest management: There are a variety of ways in which crops can be handled after harvesting to maintain the quality of yields and ensure adequate incomes from their sale. More innovative techniques will have to be developed to mediate the impact of climate change. Research already shows that changes in rainfall timing affect crop drying and moisture content particularly in the humid south of Ghana and that warmer temperatures are going to lead to an increased number and range of storage insect pests as well as reduce the efficacy of some pesticides^{xvii}. Most post-harvest management activities are undertaken by smallholder farming families. Women are often responsible for many of these activities (although this can vary according to power relations in the household and differences between men and women in their technology preferences). Studies show, however, a difference in the post-harvest management practices used by men and women. This has important implications for post-harvest losses. Reducing the losses that occur post-harvest is crucial for improving food and nutrition security and, for many crops, ensures the viability of seeds used to plant next season's crop^{xviii}. Uptake of innovative, climate smart market-linkage and risk-management schemes such as warehouse receipt systems is important for mitigating these losses. Studies show, however, that this can be challenging and that far fewer women than men are involved^{xix}: In addition, women are not as actively involved in research, extension and policy making with respect to food processing as a post-harvest management technique^{xx}.

- Research and learning is needed to understand the ways in which cultural norms such as gender roles and rights influence post-harvest needs, preferences, constraints and opportunities as well as patterns of access to postharvest information, training, technologies and credit.
- In developing gender equality and climate smart postharvest management interventions, government agencies and non-government organisations should foster a culture of participation and experiential learning, recognise that no single method will work for all social groups and identify female farmers to involve in scaling out of post-harvest management interventions.

8. Marketing systems: Marketing of agricultural produce in Ghana is predominantly a female affair^{xxi}. This means that poor rural roads, lack of market information and other barriers to accessing markets impact more directly on women than on men and add to the overall costs of produce. Efforts to address some of these obstacles include the development of the Esoko platform which provides marketing information to help both farmers and traders make informed decisions. Efforts that rely on digital technologies are not equally available to men and women, however, due to men's greater financial capacity to purchase mobile phones^{xxii}. Due to similar access issues, men are much more likely to rely on radio for agriculture related information than women do^{xxiii}. Sharing information via mobile phone or radio therefore disadvantages women in terms of their ability to access agriculture-related information related both to inputs and outputs.

Government, NGO partners and private sector working with rural communities should:

- use a wider variety of gender sensitive media/marketing approaches to improve women and men's access to information on marketing strategies and marketing information.
- ensure that men and women have equal access to external sources of agricultural marketing related information such as extension agents and input suppliers.

Acknowledgements

The opinions expressed in this briefing are those of the authors and do not necessarily reflect the views of DFID. Acknowledgement and quotes to be referenced as follows:

Darkwah, A.K., Akuffobe-Essilfie, M., Karbo, N., Quaye, W., Essegbey, G., and Duah, S., (2018) 'Enhancing gender inclusiveness for more effective climate smart agriculture in Ghana. Recommendations for implementing the gender aspects of Ghana's Climate Smart Agriculture and Food Security Action Plan', *SAIRLA Policy Briefing*, Ghana: CABI/CSIR-STEPRI

The authors gratefully acknowledged contributions from Pamela Katic, Queronica Quartey, and Tanya Stathers. This policy briefing, including full references is available online at www.sairla-africa.org

References (All links accessed 2 April 2019)

- ⁱ Ghana Statistical Service 2014 *Ghana Living Standards Survey Round Six Main Report*, Accra: Ghana Statistical Service
- ⁱⁱ Essegbey G.O., Nutsukpo D., Karbo N. & Zougmore R. (2015) '*National Climate-Smart Agriculture and Food Security Action Plan of Ghana (2016-2020)*' CCAFS Working Paper No. 139, Copenhagen: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)
- ⁱⁱⁱ Partey S.T., Dakorah A.D., Zougmore R.B., Ouédraogo M., Nyasimi M., Nikoi G.K. & Huyer S. (2018) 'Gender and climate risk management: evidence of climate information use in Ghana', *Climatic Change* 1-15
- ^{iv} McSweeney, C., New, M. and Lizcano, G. 2006. *UNDP Climate Change Country Profiles: Ghana* <https://digital.library.unt.edu/ark:/67531/metadc226664/>
- ^v Nelson, V. (2010) '*Climate change and gender: what role for agricultural research among smallholder farmers in Africa?*' CIAT Working Document No. 222, International Center for Tropical Agriculture, Pan-Africa Bean Research Alliance (PABRA), Eastern and Central Africa Bean Research Network (ECABREN), Southern Africa Bean Research Network (SABRN), University of Greenwich
- ^{vi} Assan, E., Suwendu, M., Olabisi, L.S. & Allen, A. (2018) 'Coping with and Adapting to Climate Change: A Gender Perspective from Smallholder Farming in Ghana', *Environments* 5:8: 86-105
- ^{vii} Nelson V. (2010)
- ^{viii} <http://blog.inasp.info/mind-gap-creating-agents-change-address-gender-inequity-research/>
- ^{ix} Grabowski, P., Djenontin, I., Zulu, L., Fischer, G., Kamoto, J., Egyir, I., Kampanje-Phiri, J. and Darkwah, A. (forthcoming) A Decision-Makers' Guide to Inclusive Sustainable Agricultural Intensification, IITA/MSU
- ^x Djurfeldt, A. A. (2018) 'Assets, Gender and Rural Livelihoods', in Djurfeldt, A. A., Dzanku, F.M and Isinika, A.C. (eds), *Agriculture, Diversification and Gender in Rural Africa: Longitudinal Perspectives from Six Countries*, Oxford: Oxford University Press
- ^{xi} Ibid.
- ^{xii} Britwum, A. O. (2009) 'The gendered dynamics of production relations in Ghanaian coastal fishing', *Feminist Africa* 12:2, 69-85
- ^{xiii} Nunoo, F. K. E., Asamoah, E. K., & Osei-Asare, Y. B. (2014) 'Economics of aquaculture production: a case study of pond and pen culture in southern Ghana', *Aquaculture Research* 45:4, 675-688
- ^{xiv} Theis, S., Lefore, N., Meinzen-Dick, R. & Bryan, E. (2018) 'What happens after technology adoption? Gendered aspects of small-scale irrigation technologies in Ethiopia, Ghana and Tanzania', *Agriculture and Human Values* 35:3): 671-684
- ^{xv} Van Koppen, B., Hope, L. & Colenbrander, W. (2012) '*Gender aspects of small-scale irrigation in Africa*', International Water Management Institute Working Paper 153, Colombo: International Water Management Institute
- ^{xvi} Dzanku, F. M. & Sarpong, D.B. (2018) 'Spatial and Gendered Linkages between non-farm diversification and farm productivity in Ghana', in Djurfeldt, A. A., Dzanku, F.M and Isinika A.C. (eds), *Agriculture, Diversification and Gender in Rural Africa: Longitudinal Perspectives from Six Countries*, Oxford: Oxford University Press
- ^{xvii} Ibid
- ^{xviii} Stathers, T., Lamboll, R. & Mvumi, B. M. (2013) 'Postharvest agriculture in changing climates: its importance to African smallholder farmers', *Food Security*, 5:3: 361-392
- ^{xix} Safo, N. K. (2017) Impact Of Warehouse Receipt System On Access To Markets And Income Of Smallholder Maize Farmers In The Northern Region Of Ghana, unpublished PhD dissertation, University of Ghana
- ^{xx} Stathers, T., Lamboll, R. & Mvumi, B. M. (2013) 'Postharvest agriculture in changing climates: its importance to African smallholder farmers' *Food Security*, 5:3: 361-392
- ^{xxi} Clark, 1994)
- ^{xxii} Partey S.T., Dakorah A.D., Zougmore R.B., Ouédraogo M., Nyasimi M., Nikoi G.K. & Huyer S. (2018) 'Gender and climate risk management: evidence of climate information use in Ghana', *Climatic Change* 1-15
- ^{xxiii} Kansime, M. K., Macharia, M., Adraki, P., & Obeng, P. (2017) 'Intra - household survey in Ghana', *Gender and the Legume Alliance Deliverable 2.3: SAIRLA programme*, CAB International (CABI), Nairobi, Kenya and University of Development Studies (UDS), Tamale Ghana