

Reaching the world's policy makers through IPCC's Fifth Assessment Report

PHOTO: S. KILUNGU (CCAFS)



November 2015

CCAFS Outcome Case

LEAD CENTER / PARTNER

CCAFS

YEAR 2014

CONTACT Andy Jarvis (FP1), Lini Wollenberg (FP3), Philip Thornton (FP4)

THEME Climate-smart agricultural practices (FP1); Low emissions agriculture (FP3); Policies and institutions (FP4)

GEOGRAPHIC FOCUS Global

SUMMARY

CCAFS researchers made important contributions to the Intergovernmental Panel on Climate Change (IPCC)'s Fifth Assessment Report (AR5), which was published in 2014. In this way, CCAFS helped decision makers worldwide to prioritize and design agricultural sector interventions aimed at mitigating and adapting to climate change. Citations of papers by CGIAR and CCAFS scientists in the Fifth Assessment reports were far higher than in previous reports.

CCAFS researcher Professor Andy Challinor, based at the University of Leeds in the UK, was a lead author of the chapter on 'Food security and food production systems' in the report on Impacts, Adaptation, and Vulnerability.

RESEARCH IMPLEMENTED IN COLLABORATION WITH



The chapter shows that on average, climate change will have an increasingly negative impact on crop yields from the 2030s onwards. At the same time, harvests will become more variable because of an increase in extreme weather events. In general, climate change effects on productivity will alter land use patterns, both in terms of the total area sown to crops and the geographic distribution of crops.

The report on Mitigation of Climate Change, released at the same time, includes a chapter covering the contribution of all agricultural subsectors to climate change, including livestock. The chapter uses new estimates from the International Livestock Research Institute (ILRI), which differentiate among various livestock systems and their locations, rather than treating the entire livestock sector in the same way.

To raise public awareness, CCAFS produced a summary of IPCC findings related to agriculture. The infographic-rich brief, which highlights key findings, was published within days of IPCC report, and was ultimately downloaded over 18,000 times in 2014.

CCAFS and partners hosted two major events in 2014 to share views on the IPCC findings and implications for smallholder farming. An event on adaptation, held in London, focused on agricultural growth, food security, and climate change. The event was jointly organized by CCAFS, the UK Department of International Development (DFID), the International Fund for Agricultural Development (IFAD), The Prince's Charities International Sustainability Unit, Willis, and the World Bank. An event on mitigation, held in Washington DC, was organised with the Global Research Alliance on Agricultural Greenhouse Gases (GRA) and the World Bank. CCAFS responses to AR5 were covered by media outlets such as the Guardian, Forbes.com, Deutsche Welle, the Hindu Business Line, and Xinhua News Agency.

The new IPCC report has informed policy makers across the world. For instance, the EU, IFAD, the chairwoman of the US Senate Budget Committee, and the vice-president of the World Bank have all used it to argue for more international cooperation on climate change.

KEY FACTS

- CCAFS researchers contributed to chapters in the IPCC AR5 on climate change impacts on food security and production systems.
- CGIAR science made up 6.5% of total citations in chapters on agriculture, forestry and land use.
- AR5 highlights that climate change impacts will on average have a negative impact on crop yields, from 2030 onwards.
- ILRI scientists strengthened AR5's mitigation estimates by providing specific values for different livestock systems.
- AR5 has informed policy makers globally, including the EU, IFAD World Bank and US Senate Budget Committee.

LESSONS: KEY ELEMENTS OF SUCCESS

- Although AR5's prognosis of the impacts of climate change on agriculture are negative, having a better understanding of future crop variability can help researchers and policy makers support adaptation.
- Mitigation estimates based on specific livestock systems allows researchers and policy makers to make better decisions when choosing which livestock systems to prioritize for mitigation.

FURTHER READING

- Backed by Solid Science, Agriculture Climbs the International Climate Change Agenda: <http://huff.to/1RzdC1J>
- Info note: Climate change, food security and small-scale producers: Summary of findings of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC): <http://bit.ly/1JhkKg0>

RELATED RESEARCH OUTPUTS

- Challinor AJ, Watson J, Lobell DB, Howden SM, Smith DR, Chhetri N. 2014. A meta-analysis of crop yield under climate change and adaptation. *Nature Climate Change*, 4: 287–291. <http://bit.ly/23e4Nys>
- Havlik P, Valin H, Herrero M, Obersteiner M, Schmid E, Rufino MC, Mosnier A, Thornton PK, Böttcher H, Conant RT, Frank S, Fritz S, Fuss S, Kraxner F, Notenbaert A. 2014. Climate change mitigation through livestock system transitions. *PNAS*. 111 (10): 3709–3714. <http://bit.ly/1RSEURp>

RESEARCH SUPPORTED BY

