



Climate Change- Agriculture's Adaptation and Resilience to Climatic Change and Variability

Policy Paper

Introduction / Background

Global warming has been on the collective international conscience since at least the middle of the last century. For many decades, the voices of climate and associated scientists have called for recognition of the impact of human activities on climate change, and the need for adaptive developments to a world with a significantly different climate profile.

The urgency of that call has intensified in recent decades with the Inter-government Panel on Climate Change (IPCC) publishing its international assessment reports. These reports, issued every few years, have gathered and analysed the latest scientific research in areas related to climate change as well as climate assessments and measurements. The clear result of increasing rapid human induced climatic changes suggests what was once thought to be a problem for future generations is a problem for our current generation and those that immediately follow.

Over the years there has been fierce debate about climate change principally with respect to the extent that human activity (primarily since the industrial revolution) has contributed to it. This international controversy has largely been addressed through extensive scientific research and reporting and the use of evidence that demonstrates overwhelmingly the contribution of human activity to the change in climate.

Agriculture and some types of agricultural systems have been identified as both causes of climate change and also victims of climate change. The need for international policy actions that both mitigate the extent that human activity contributes to climate change and supports adaptation of industries such as agriculture to a changed climate is pressing.

Problem Statement

Climate change is considered one of humanity's greatest challenges both to minimise, manage, but importantly to adapt. At present, international policy responses to mitigate climate change risks have been slow and have not been applied consistently across the world. Agreement on limiting harmful emissions has lacked consistency and in many cases not set sufficiently low enough to offset the negative impacts of human induced climate change. Regardless of approaches to manage and limit, significant climate shifts are currently being

experienced and will continue as such; our agricultural sector needs to adapt to these changing conditions to stay viable in the years ahead.

Objectives

Ag Institute Australia recognises the real challenge that climate change poses to the agricultural sector. The evidence supporting the significant impact that human activity has had in contributing to climate change is overwhelming. The need for reduced emissions is clear as is the adaptive requirements for agriculture-based industries now and in the decades ahead.

Analysis of Options and Policy Recommendations

Human activity a significant contributor to climate change

“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on humans and natural systems”- IPCC Synthesis Report 2014

Agricultural activity can be a contributor to climate change but sustainable cropping practices can assist in mitigation whilst at the same time producing essential food supplies for the planet’s population.

Emissions control an essential step in mitigating impacts of human induced climate change

Governments around the world must agree to low emission targets that will help mitigate the human impacts of climate change. AIA believes co-operative participation in international emissions arrangements as agreed at summits such as the Paris climate conference (Paris Agreement) are an essential step in planning and acting to reduce emissions and reducing the negative impacts of climate change on agricultural production systems.

Renewables energy policies an essential contributor to climate change mitigation

The progression to a largely renewables based economy is seen by AIA as an essential step in mitigating human contribution to carbon change. However, this will require significant shifts in some agricultural enterprises and accompanying cost in converting to alternative power sources as they become available. Government consideration of subsidies in assisting transition in the agricultural sector is seen as an investment in the agricultural system essential for the world’s food production.

Change is now inevitable- planning to adapt

Globally mitigation actions for human induced climate change have been slow to be agreed and implemented. As a result, climate changes are an inevitability and agricultural production systems will need to adapt both to extreme natural disasters and shifts in temperature ranges for specific crops. This is likely to lead to opportunity in some areas for new crop production but disadvantage in other areas where conditions are no longer suitable for specific crops. Adaptation extends to producers and supporting industries to possibly look at alternative enterprises outside of agriculture.

Recommended Readings

- IPCC (2014) Climate Change 2014 Synthesis Report Summary for Policymakers. http://ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf. Accessed 12 Dec 2017.
- Climate Action- The Paris Agreement https://ec.europa.eu/clima/policies/international/negotiations/paris_en Accessed 12 Dec 2017.

February 2018