Gwydir Valley Irrigators Association Inc.

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12-3-2008

The Secretary,
Senate Standing Committee on Rural and Regional Affairs and Transport,
PO Box 6100,
Parliament House,
Canberra, ACT, 2600

rrat.senate@aph.gov.au

Dear Ms Radcliffe, **Re: Climate Change and the Australian Agricultural Sector**

Introduction

The Gwydir Valley Irrigators Association Inc (GVIA) would like to thank the Senate Standing Committee on Rural and Regional Affairs and Transport, for providing it with the opportunity to make a submission to the Climate Change and the Australian Agricultural Sector inquiry.

GVIA represents irrigators in the Gwydir Valley of North-West NSW, centred on the town of Moree.

Irrigation, along with dryland cropping and grazing, is an important social and economic driver of our region, so the impact of climate change is of vital interest to our members.

Climate Change

While GVIA accepts the existence of climate change, the truly frustrating thing is that no one is in a position to definitively say what the impacts will be at regional, national and international levels.

On top of this, the debate is often side-tracked with views on whether the current climate sequence is a consequence of fundamental climate change, the ongoing natural variability that is well documented in Australia, or a combination of both.

GVIA contends that if Australia, and indeed the world, is going through fundamental climate change, then at a strategic level this will have great impact on Australian agriculture and its wider society.

There appears to be evidence to indicate that in general terms northern Australia is getting wetter, and southern Australia is getting drier (Fortunately, for GVIA, and its members, Moree appears to be in a relatively neutral).

If this is the case Australia should be directing resources into determining how best to maximise agriculture production in these regions. Research could look at new production

opportunities in the high rainfall zones of northern Australia, but must also look at ways to best to "drought-proof" traditional southern Australian agricultural production.

The GVIA commends the establishment of the Northern Australian Taskforce as part of the National Plan for Water Security, but urges the Australian government not to focus entirely on northern Australia, but to also seek ways for southern Australian agriculture to adapt to the challenges of climate change.

At an operational level, GVIA cautions the Australian Government not to introduce any knee-jerk responses, based on our current level of very imperfect knowledge.

CSIRO Sustainable Yield Review

To highlight this point GVIA draws to the Senate's attention the "Water Availability in the Gwydir Report – A report to the Australian Government from the CSIRO Murray-Darling Basin Sustainable Yield Project".

This is one of 18 Murray-Darling Basin sub-catchments reports that were commissioned by the Federal Government to ascertain to the likely impact on climate change on water availability in the Murray-Darling Basin.

While GVIA recognises that the gathering of data must begin somewhere, it would be very concerned if major decisions were based on a report that effectively says that by 2030 average water availability could increase by 34%, decrease by 29 %, but is most likely to decrease by 10%.

The report loses even more credence when the most likely result is merely the statistical mean of all the models used, rather than the result of the model that scientists may have the most faith in.

These ranges of outcomes highlight the great difficulty in reaching an acceptable level of confidence in the science.

However, GVIA has even greater concerns about the CSIRO report. Extensive modelling of the Gwydir Valley was undertaken by the NSW Government as part of the Water Sharing Planning process during the late 1990's and early 2000s.

Much of this information was used by the CSIRO study; however, a decision by the CSIRO to use a different methodology to that used by the NSW Government has led to the same base information resulting in very different conclusions.

GVIA would be very concerned if the Gwydir CSIRO Report was considered in the climate change debate without it undergoing an extensive peer review, and calls on the Australian Senate to initiate such a review.

Climate Change and the Sharing of Water

Given the low level of science that currently exists on the specific impacts of climate change, one of the challenges of government is to decide how to share what may be increased or decreased levels of water availability.

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In making this decision, government could receive great guidance from the system that currently operates in the Gwydir Valley, and to a greater or lesser extent in other NSW irrigation regions.

In the Gwydir, the vast majority of water is provided not as a fixed volume, but as a share of whatever water is available.

Put simply, if the climate turns wetter, more water would be available to each share, and if the weather turns drier, less water would be made available.

For example, in the Gwydir 111,000 megalitres must be stored in Copeton Dam to meet two years forward supply needs for Towns, High Security irrigators, Domestic and Stock licence holders and a category called replenishment flows. An amount is also set aside for evaporation losses out of the dam.

It is only when this Essential Supply account is full (111Gl), can water be distributed to the general security and environmental accounts held in the dam.

If the climate is exceptionally dry, these accounts will get nothing; if it is exceptionally wet they will fill. In reality, they normally get something in between.

Let's just say that in total, general security irrigators and environmental water accounts hold 500,000 shares in the available resource.

There have been inflows into the dam, a resource assessment is undertaken, the resource manager assures there is 111Gl in the Essential supplies account, and there is the appropriate amount in the storage loss account. After these two accounts are accounted for, there is 50,000 megalitres available for sharing. With 500,000 shares in total, each share would be credit with an increment (not too dissimilar to dividend) of 10%. In reality a proportion of the 50,000 would also be credited to a delivery losses account, to ensure the water could be delivered.

If the available amount for sharing was only 2,000 megalitres, each share would receive an increment of only .4%, yet if the amount available was 500,000 megalitres, each share would receive 100%.

Once water is credited to an account, its usage can be managed by the account holder, who may choose to use it straight away, or carry it into future years. Management in this manner in NSW is called "continuous accounting".

If society deemed that additional water was required for the environment, shares could be transferred (with market based compensation) to the environmental shareholding. The opposite could also occur.

The above demonstrates that our current system is actually robust enough to handle climate variability, whether it is climate change induced or the naturally variability we expect.

This model has been extensively tested with use in Northern NSW, which has always experienced high levels of variability, as evidence by total annual increments over the past two decades ranging from 0 to 100%, but never being between 35 & 70%.

Structural Impact

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While the model described above will effectively share what ever the available resource is, the Australian government must be aware that if there are significant decreases in water availability, the resulting decreases in increments may lead to some irrigation business becoming uneconomic.

If this is a gradual occurrence, market forces should allow these business to exit, by off-loading their shares to remaining businesses.

However, should climate change be as dramatic as it appears to of been in South-West Western Australia; then there may be a need for significant structural adjustment assistance not only for farm and irrigation business, but for those communities that rely on those business.

Conclusion

While climate change is almost certainly a reality, its impacts, both positive and negative have not been adequately determined (primarily due to the emerging nature of the science).

The focus of agricultural climate change policy should be both on "climate change proofing" existing farming systems, and exploring new opportunities.

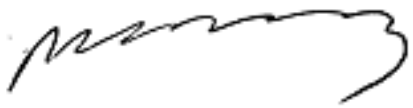
This high level of uncertainty needs to be carefully considered prior to making any major decisions on how we manage the sharing of water.

The water sharing model currently used in Northern NSW has proven itself to be capable of managing high levels of water availability variability, and should be consider very carefully prior to suggesting any changes to water sharing models due to climate change.

Significant and rapid reduction in long-term water availability, due to climate change, may trigger the need for government funded structural adjustment programmes for agricultural producers and those communities that rely on them.

GVIA notes that inquiry proposes to hold hearings during the early part of 2008, and a representative from GVIA would be delighted to elaborate on any of the matters raised in this submission, if the inquiry would see value in it.

Yours sincerely,



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