CLIMATE-INDUCED HUMAN CHANGE

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Most experts agree that regardless of our ability to mitigate greenhouse gas emissions, some impacts of climate change are inevitable, particularly in the next 50 years. They argue that whilst we should be working on 'Plan A' (climate change mitigation); we should also be working on 'Plan B' (climate change adaptation).

'Adaptation' is a way of taking advantage of the benefits and minimising the costs of climate change. Adaptation complements emission reduction measures and is a necessary part of addressing the climate change challenge.

Several climate change studies predict an increased risk of flooding within the next 50 years. For example, a recent study conducted by the NSW Department of Environment and Climate Change and the University of NSW has developed forecasts for NSW based on a reasonably conservative climate change scenario. From the study, even though in most regions the average rainfall will decrease, all regions have a greater flood risk particularly from short, intense events. In coastal areas, floods will be exacerbated by rising sea levels.

Considerable planning is being carried out to help people and organisations adapt to the predicted climate change impacts. The Council of Australian Governments (COAG) endorsed the National Climate Change Adaptation Framework, at its meeting on 13 April 2007, as the basis for government action on adaptation over the next five to seven years (FM Jun 08).

The Adaptation Framework includes possible actions to assist the most vulnerable sectors and regions, such as agriculture, biodiversity, fisheries, forestry, settlements and infrastructure, coastal, water resources, tourism and health to adapt to the impacts of climate change.

The Australian Government established the National Climate Change Adaptation Research Facility in early 2008 (FM Jun 08). The Facility is hosted by Griffith University in partnership with seven other universities and the Queensland Government. Prof Jean Palutikof, an internationally renowned climate change expert, has been appointed as the foundation Director of the Facility. The Facility will lead the Australian research community in a major national inter-disciplinary effort to generate the information decision makers need to manage the risks of climate change impacts. The Council of Australian Governments agreed in 2007 on the need for this Facility.

The Facility will "synthesise knowledge, coordinate research activities, broker research partnerships and provide information for decision makers in a form relevant to their sectoral or regional needs. The Facility will be supported by a number of sectoral/regional Adaptation Research Networks, which will harness research expertise to help build a collaborative environment supporting creative, inter-

disciplinary research that aims to bridge gaps between fundamental and applied science and advance priority sectoral research."

The National Climate Change Adaptation Programme is a $14.2 million program which aims to commence preparing Australian governments and vulnerable industries and communities for the unavoidable impacts of climate change.

State and local governments are also developing climate change adaptation plans. For example, the NSW Government is preparing the NSW Climate Change Action Plan that not only aims to 'reduce NSW greenhouse emissions' but also to 'adapt to the impacts of unavoidable climate change.'

At the local government level, the City of Melbourne is one of several councils across Australia that is preparing climate change adaptation strategies.

Apart from the opportunity to provide technical input into climate change adaptation plans, floodplain managers have the opportunity to reassess local flood plans, approaches and risk assessments in the light of climate change predictions. Building local resilience to natural hazards such as flooding is identified as a key strategy in many of the climate change adaptation plans. Resilience is the ability of a community not only to resist and recover from a natural disaster but also to improve as a result of the disaster.

As reported in the October 2008 edition of Floodplain Manager, the Attorney-General recently encouraged Australian communities to build their resilience to natural disasters, particularly in the light of climate change predictions.

The main ways to build local resilience to flooding are through:

- Structural works e.g. sea walls, levees
- Planning e.g. emergency planning, post-flood planning, urban/floodplain planning
- Total warning systems
- Risk assessment e.g. by modelling, research, flood studies
- Education - not only learning to increase community preparedness but also to improve local systems, competencies and improve community functioning post-flood
- Incentives e.g. house raising schemes, funding
- Capacity building/community strengthening e.g. networks, leadership, partnerships

For References please contact www.molinostewart.com.au