

# Bilateral Cooperation Australia – Mexico

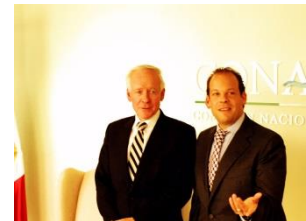
## 24-28 November 2014

### Introduction

As part of the Bi-Lateral knowledge exchange between Australia and Mexico, Mr Graeme Newton (former CEO of the Queensland Reconstruction Authority, now Partner at Deloitte Australia) participated in several opportunities for information sharing with relevant staff of CONAQUA, IMTA and other agencies. These opportunities included field visits to the Villahermosa flood mitigation projects and the Eastern Drainage Tunnel project.



Mr Newton also participated in dialogue with senior executives at CONAQUA, including the Director-General and regional director of Tabasco. Further discussions were held with the Australian Trade Commissioner for Mexico, in relation to Australian technical capability that aligns with the common aspects of interest and furthering linkages between the two counties.



### Similarities

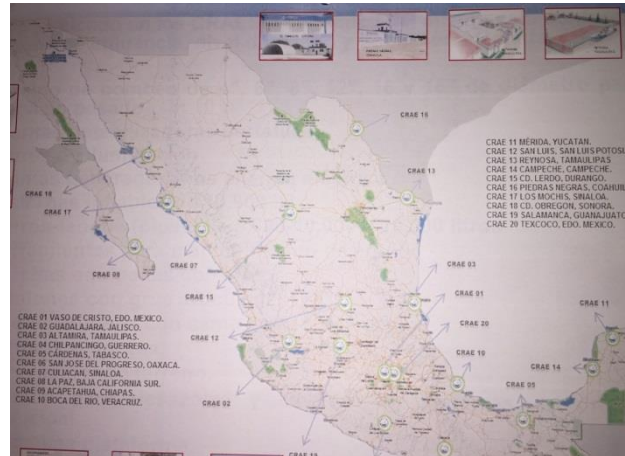
Mexico, with a land mass area of 2 million square kilometres, is approximately double the size of the Australian state of Queensland. The climate conditions in both Mexico and Queensland are similar, with large areas of arid land with lower rainfall and other areas that are tropical environments with significant recurrence of high rainfall that causes flooding and experiences the impacts of cyclones/hurricanes.

Also, there are extensive areas of low lying tropical areas with large and flowing rivers and streams, combined with swamps and tidal deltas.

### Key differences

Mexico's population is significantly greater than that of Australia, with large populations concentrated in major cities throughout the country. Australia's population is distributed mainly along the coastal areas with the majority on the eastern seaboard. Building and residential construction in Mexico is far less regulated than in Australia, particularly in rural areas, providing a population at significant risk to the damaging effects of floods and hurricanes.

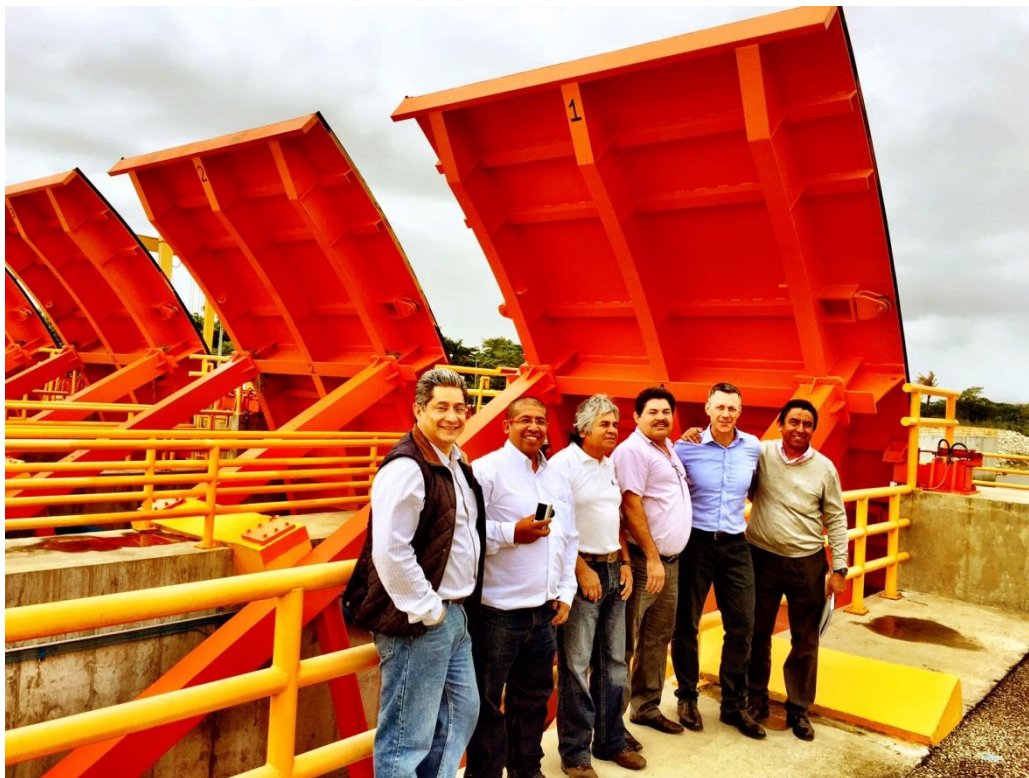
This combination of risk of damage to housing and concentration of population has seen the central Mexican national government develop a capability to rapidly respond to flood events. This agency, CONAQUA, has over twenty depots (see picture) with a standing workforce that is able to activate flood pumping capacity of varying sizes, operate flood boats, provide evacuation support, and the provision of treated water. Additionally, CONAQUA provides rapid response for flood mitigation works and sanitation clean-up in the post-flood environment.



In contrast, the Australian government arrangement for disaster response delegates these roles to the lowest levels of government (local and municipal government), which have local knowledge. Support and funding is provided at a State and Federal Government level, if the disaster event goes beyond local capacity.

### Major initiatives – Villahermosa

CONAQUA, with technical and design support for IMTA, also is the lead agency for major permanent flood mitigation works, such as those inspected at Villahermosa. These works include flood levee banks, river bank stabilisation, diversion channels and large flood detention basin works. In Australia, these works are generally delivered by local/municipal governments with funding and technical support from the State Government. The Federal Australian government will rarely be involved in project delivery, but will often provide funding assistance.



## Key issues confronting both Australia and Mexico – identifying priorities

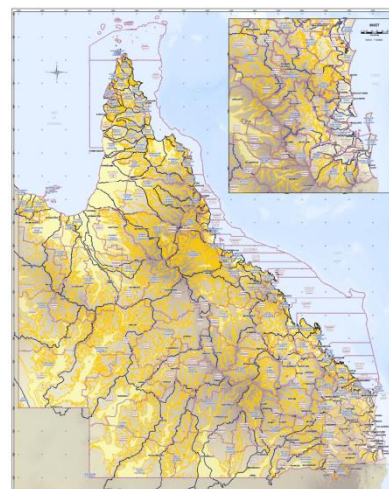
Key common issues confronting both Mexico and Australia include the ability to accurately identify population areas that are at risk of impacts by natural disasters, how to prevent damage and loss of life, assess damage rapidly, and rapidly recover after an event.

These common areas of interest represent potential opportunities for further enhancement of the ties between Australia and Mexico, particularly through detailed knowledge sharing. This sharing could include policy, technology and process transfers that would enhance the resilience of both nations.

## Key areas of collaboration

- **Integrated approach to flood plain assessment:**

After the 2011 flooding events, Queensland developed an integrated flood plain mapping and modelling approach to ensure consistency between local/municipal government areas. This approach has provided a flood risk platform that can be enhanced at targeted locations and population centres. CONAQUA has developed detailed flood risk plans for known population centres that flood, including local evacuation routes and identification of at-risk key infrastructure. The strategic flood hazard mapping, combined with the local area plans, present a way to enhance knowledge and pre-plan for risk areas. This information also allows the identification of at-risk infrastructure and the development of priorities for mitigation works, in a fiscally constrained budget environment.



- **Combined shared approach to preventative priorities pre-event:**

Both Australia and Mexico engage in the construction of significant flood mitigation works, including complex engineered solutions. The integrated approach delivered at Villahermosa is a demonstration of a well-considered and executed mitigation program of works that will significantly enhance the flood immunity and resilience of the city. Australia has also done large and complex integrated works. Given the constant evolving techniques used in this sector, knowledge sharing and case studies present opportunities for continuous learning.

- **Rapid damage assessment – residential**

Queensland has developed a highly effective rapid damage assessment capability in the post-flood situation. This process allows high quality intelligence to be provided to multiple government agencies for application in their relevant portfolio (eg human services have clear knowledge of displaced people, locations, and likely extent of homelessness). The information allows the tracking of recovery and re-occupation of affected residential areas, along with specific





information about individual dwellings and their susceptibility or immunity (eg. through being elevated) to flooding. This information assists town planning policy and approval formulation, in order to limit future exposure to risk. Governments need to look at ways to reduce exposure to risk and this capability assists and would be very relevant for application in the Mexican environment.

- **Rapid damage assessment for infrastructure**

Queensland has also developed a capability to rapidly assess infrastructure damage, for the purposes of accelerated cost assessment and reconstruction works. This tool is fully integrated wireless technology, with geo-tagging ability. It provides audit quality information and content sufficient for engineering technical assessment and review. This information is of particular interest to funding agencies and provides confidence in relation to governance of funding and tracking of reconstruction progress. Information developed is also able to be used to gain and validated funding support from external entities and donor agencies (such as Federal government, UNDP or the World Bank).



## Other recommendations

- **Institutional arrangements**

It was interesting to note that in Mexico the role for preparedness, response and prevention rests with a national government agency, CONAQUA. This agency has over twenty depots throughout the country and proposals for more to be established. These facilities have a significant investment in relatively small scale equipment (eg trailer mounted pumps, water trucks, small boats). In contrast to this centralised approach, the Australian arrangements are established in a way that such capability and responsibility is held at the local/municipal government. When asked why this delegated approach was not utilised in Mexico, the general response from officials was that the local/municipal or even State governments were not capable of managing and effectively mobilising the necessary resources, even if they were funded by the central Mexican Government.



This status quo should be reviewed, as the necessity for a central government to manage, own and operate such equipment should be seriously questioned. Capability building at the local level should be encouraged. This approach of devolution of responsibility has been underway progressively in the Philippines over recent years. By having this capability devolved to the lower level of governments, the national level government can concentrate on influencing evolution of capability through funding and policy development. Also, having a standing operational workforce within a central agency should be reviewed. Many nations, including Australia, have an available temporary response force capability that hold other roles (often in the non-government sector) and are seconded when needed. The Mexican government should explore international examples of transition of responsibility for first response and clean-up operations to lower levels of government.

- **Better integration between agencies**

It was evident that there is a need for greater integration between agencies, including CONAQUA and IMTA, where this is significant scope for knowledge sharing. IMTA hazard mapping and in-development investment priority tools are of a high standard and the Mexican government would benefit from integrating such initiatives across agencies.

## Acknowledgement

I would like to sincerely thank the Mexican government for their genuine hospitality for the duration of my stay. In particular, the Director-General of CONAQUA is to be commended for supporting this Bi-Lateral initiative. Equally, the Australian Ambassador and Trade Commissioner in Mexico were pivotal in facilitating the event. My personal thanks goes to Guillermo Gutierrez Gomez for his hospitably and genuine sincerity and warmth throughout my visit.