

Institutional reform and the linkage to improved asset management.
How different contractual models drive asset management improvement.

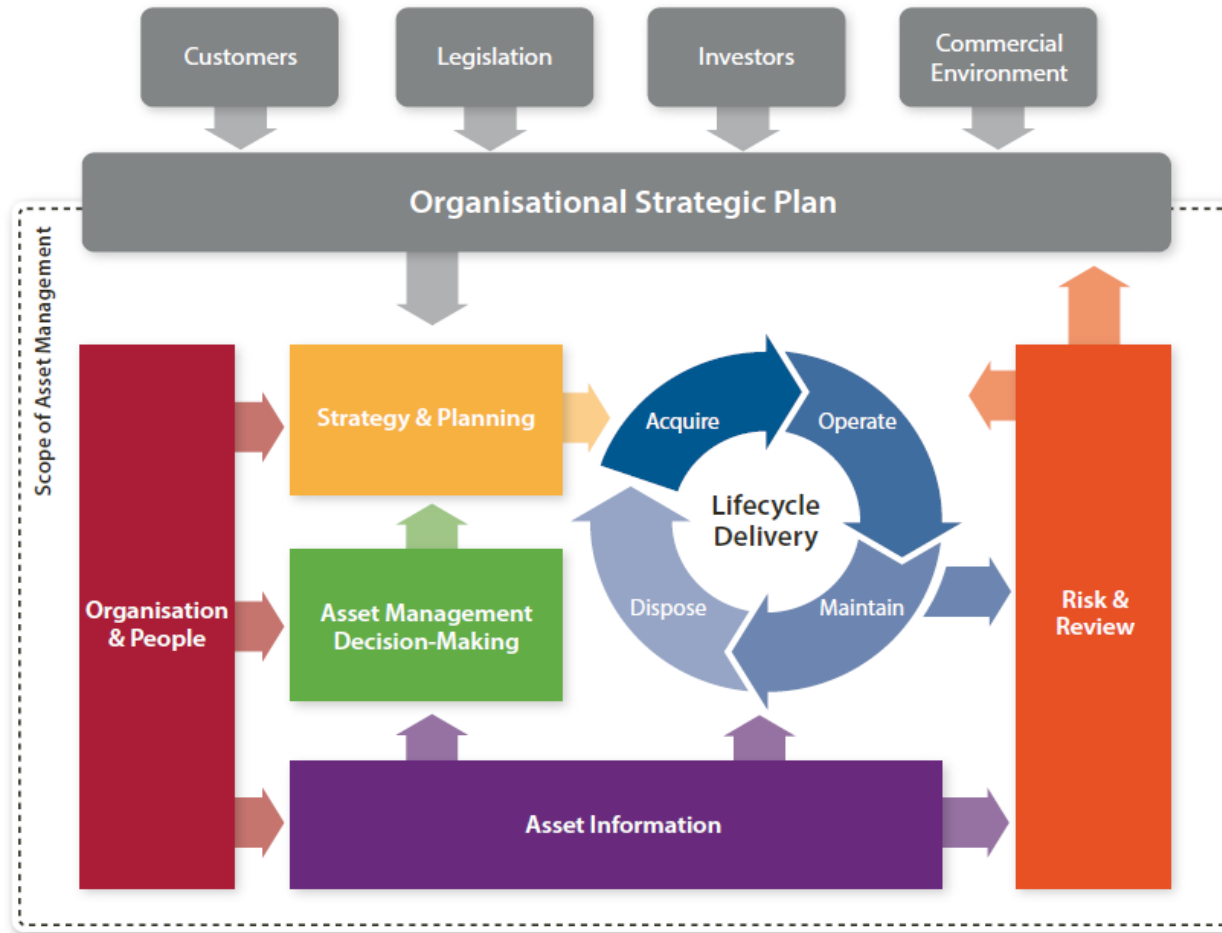


14th Transport Sector Coordinating Committee (TSCC) Meeting of the
Central Asia Regional Economic Cooperation Program

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RAM Conceptual Model



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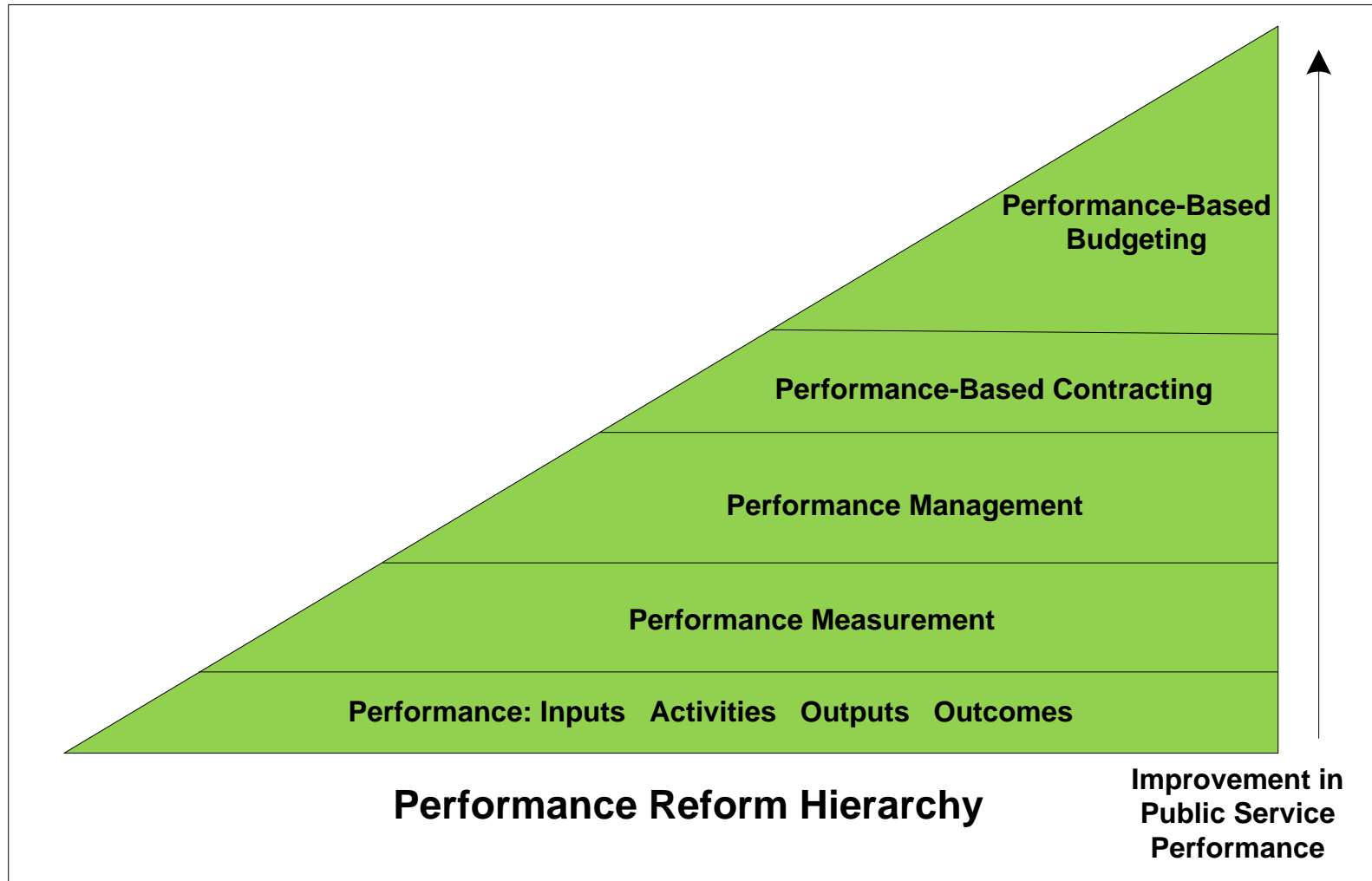
Source: Institute of Asset Management www.theiam.org

Organisation and People Enablers

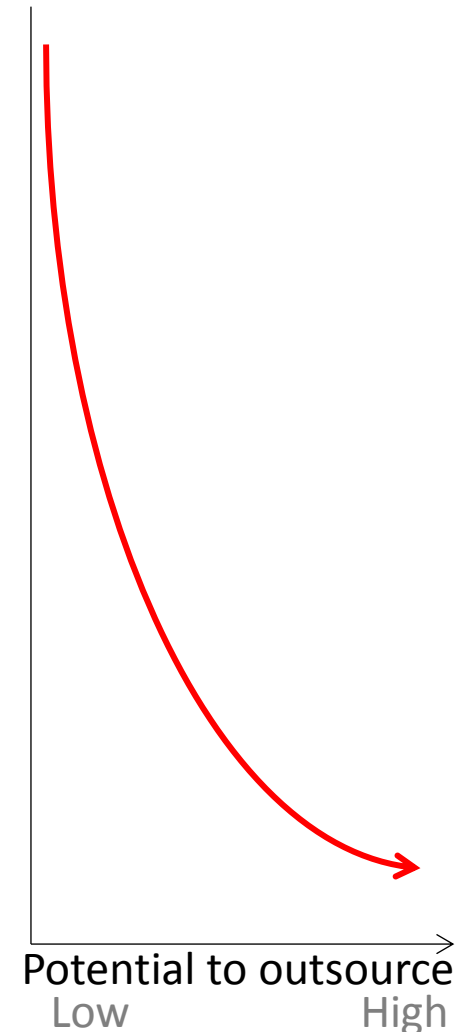
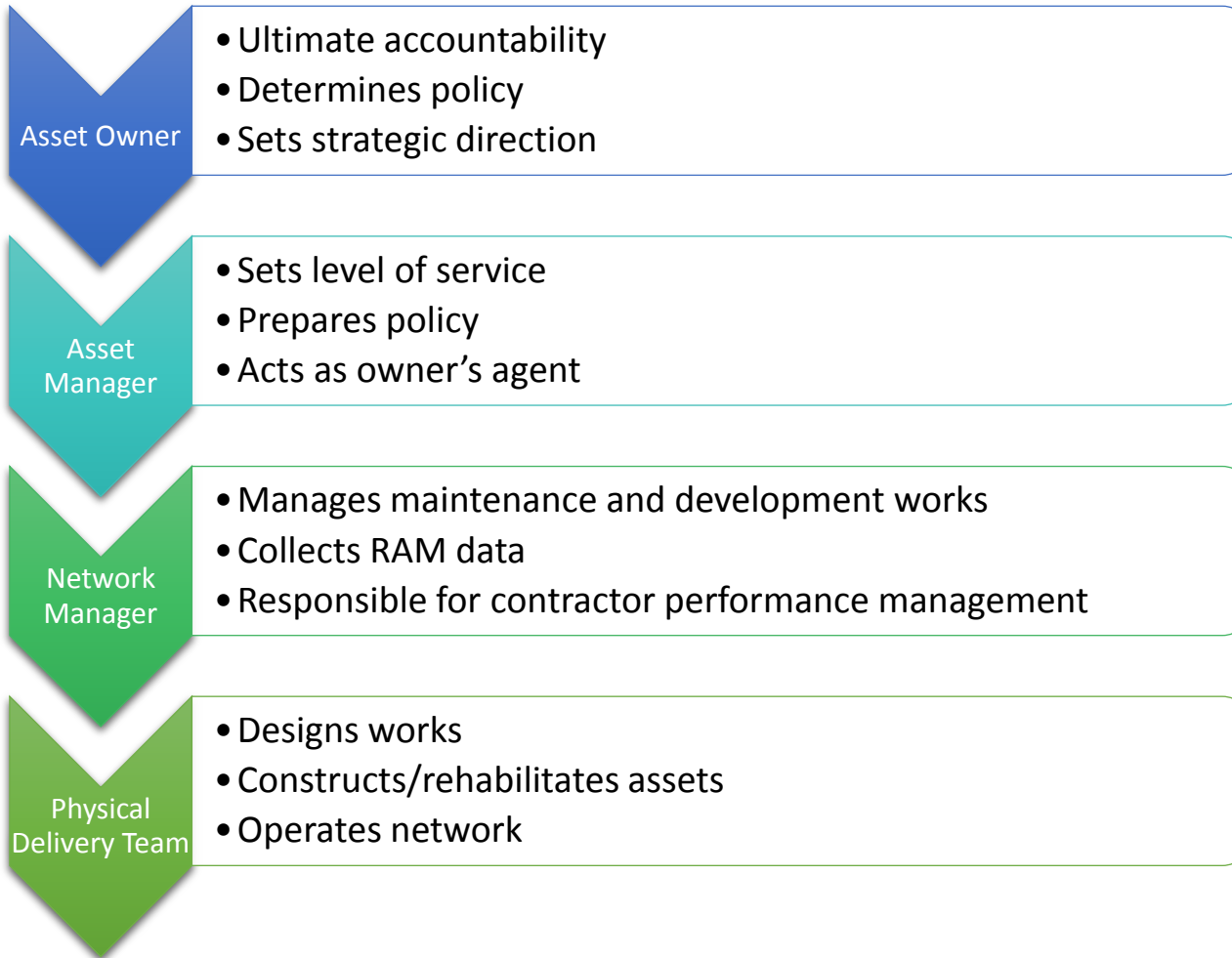
- Procurement & Supply Chain Management
- Asset Management Leadership
- Organisational Structure
- Organisational Culture
- Competence Management



Public Sector Reform



Division of Roles



Case Study of Kingdom of Tonga

- 120,000 people
- 100+ islands
- Small economy



The Transport Situation in Tonga

- **Land Transport:** Devoid of proper asset management and sustainable funding mechanism, roads being allowed to deteriorate to a point where not only are the government costs of repair higher, but also the costs of vehicle damage are excessive;
- **Civil Aviation** sector deteriorated because of improper asset management, thus not meeting international requirements for safety and security that placed in jeopardy the tourism market and reputation of the country; and
- **Maritime Transport:** Safety of the maritime sector and regulatory oversight failed, as indicated by the significant loss of life (74 dead) with the sinking of the passenger ferry MV Princess Ashika in 2009.

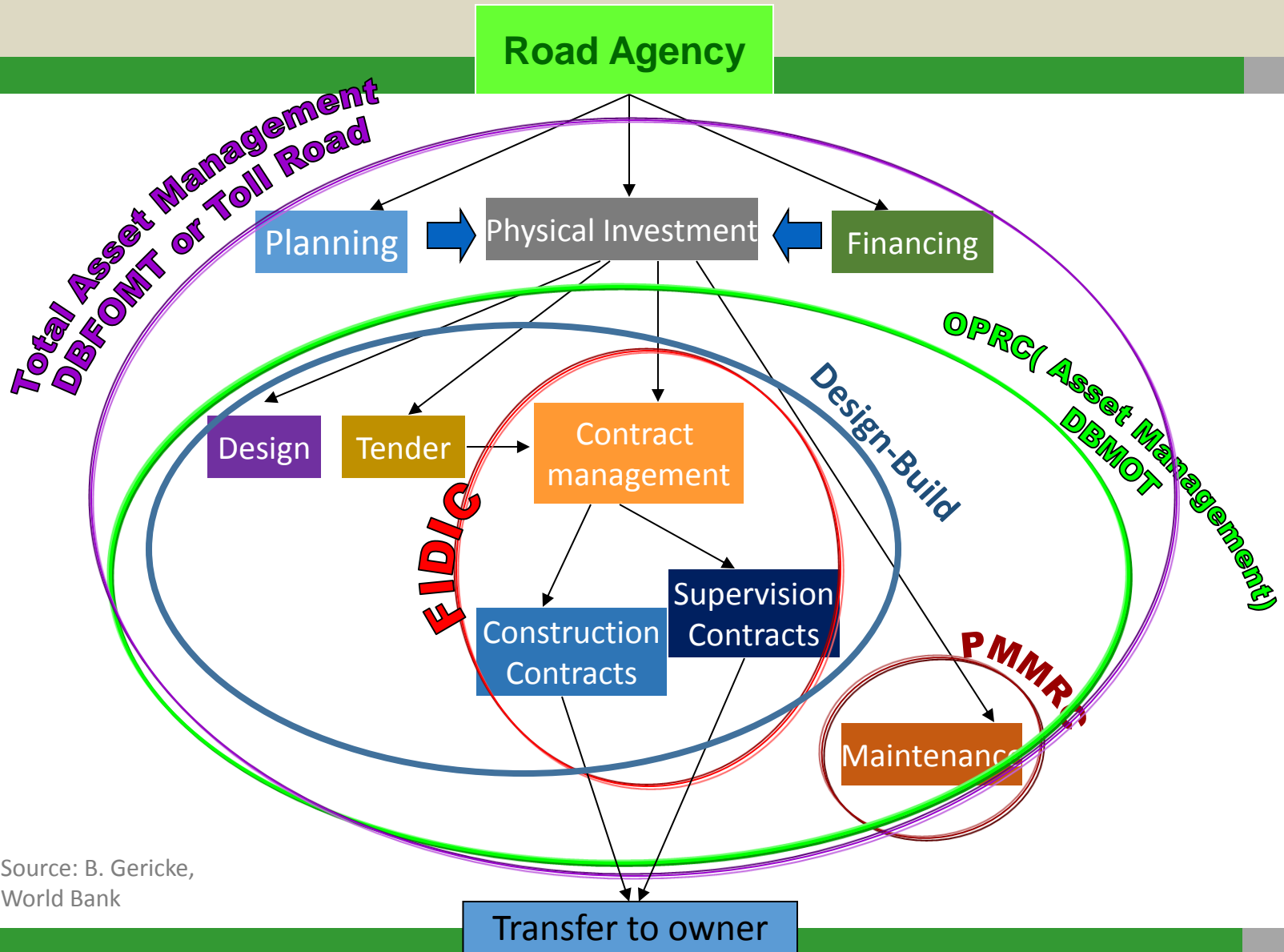
How Tonga Responded

- Organisational restructuring of MOI, including initiatives to concentrate on core functions and divestment of non-core activities to the private sector (employment creation) and other appropriate Ministries
- Legislative reforms to distinguish roles and functions and clearly describe responsibilities
- Technical knowledge transfer across all aspects of the Tongan transport sector
- Collection of better data for decision making
- Technical support to the maritime sector to strengthen the governance and policy aspects, capacity development of the sector and improvements in key items of infrastructure to meet International Maritime Organisation requirements
- Developing a Road Maintenance Fund to ensure the long-term financial viability of the road network and the industry that maintains it
- Investment in the rehabilitation of many kms of the nations' roads, including the use of innovative surfacing solutions not previously used in Tonga
 - Developed a contracting industry
- Investment in maritime infrastructure including aids to navigation and port works provided
- Investments in airport navigational aids, fire-fighting and rescue services, security and transit facilities so that the country can meet international civil aviation requirements.

Timeline of Success in Tonga

- Late 2000's
 - Effectively nothing was being done – lack of funds, equipment and materials
- 2010
 - Development Partners worked with Tonga to agree a way forward
- 2010-13
 - Restructuring of MOI
 - Development of road contracting industry
 - Implemented a more sustainable funding model
- 2013
 - An 'asset management' culture was established
 - MOI was recognized by the Institute of Asset Management (UK) as first runner up for their international AM achievement award.

Road Contracting Options



Source: B. Gericke, World Bank

Case Study: Nepal

Current Issues With SMD

- **Routine Maintenance:**

- General perceived decrease in the productivity of the Length Workers,
- No specific performance standards set and an aging workforce that cannot be easily modernized.

- **Recurrent Maintenance:**

- Procurement delays
- Contractor's unwillingness to carry out job in cycles as contractually required
- Of the 34 Divisions within DOR, only 2 completed 100% of their contractual allocations, with some as low as 55%

- **Periodic Maintenance:**

- Procurement delays
- Contractors poor performance in work execution in a timely manner with quality
- Not uncommon for contractors to be 1-2 years late in delivering their contracted works, with some 3-4 years late.

Case Study: Nepal

Current Issues cont.

- Maintenance management problems include:
 - Inappropriate (or lacking) planning tools
 - Inadequacy of budget
 - Procurement delays
 - Poor performance of contractors
 - Too short contract periods leading to insufficient opportunities for contractors to invest in new equipment
 - Inadequate supervision by DOR
 - Poor governance arrangements

Case Study: Nepal

OPRC Readiness Assessment

Critical Success Factor	Situation in Nepal at Time of Pilot Trials
Road Agency Institutional Buy-in:	Requirement met, with all parties involved in determining to trial PBMC model
Financial:	Assurance of funding obtained via the RBN.
Legal:	Met as the 8 prior contracts indicate no legal impediments.
Institutional Knowledge in both the Transport Agencies and the Lending Institutions:	Overall the understanding of PBMC was relatively weak amongst both the DOR and contractors. It was also weak amongst consultants, although they were not used extensively by either DOR or contractors.
Bidding Process:	Based on pilot PBMC where contractor was selected on lowest price conforming basis with no specific requirement for OPRC (or similar) experience. Contractors did not understand the role of the Inspection Units.
Performance Measurement:	Performance measures were noted as being hard to follow and did not cover all items of importance.
Performance Payment:	While a range of payment deductions were made, these did not drive the right outcomes such that it would appear that they need refinement.
Risk Sharing:	Not met as the contracts pushed all the risks to the contractor.
Timing:	The first pilot project was implemented within 18 months of first suggestion.
Sufficient technical support during implementation	None provided
'Control' of underpricing	Not accounted for with low bids resulting
Control of the minimum level of improvement work	Not applicable

Case Study: Nepal

View on PBMC has changed over time

- There were problems with the pilot trials
 - View that at the time SMD was a better option
 - In hindsight, would now prefer the problems of PBMC than the current problems of SMD.
- Positive support at all levels for a reintroduction of PBMC if the previous deficiencies can be overcome.

Outsourcing considerations

- The ability to clearly define and measure performance expectations
- The level of risk to be allocated
- Contracting market and capability
- The capability and resource to monitor and enforce contract requirements
- Certainty of funding
- Legislative constraints

Performance Based Contracts (PBC)

- Performance-based contracting (PBC) is defined as “a type of contract in which payment for the deliverable is explicitly linked to the contractor’s successfully meeting or exceeding certain clearly defined performance indicators”

Stankevic, Qureshi and Queiroz, 2005

- World Bank ‘Output and Performance-based Road Contract (OPRC)’ is a form of PBC that aligns well to improving RAM

To Implement a PBC Well Requires

- Knowledge of assets
- Defined LOS and Performance Measures
- Knowledge and allocation of risks
- Clear auditing guidelines
- Consequence of non-conformance related to the impact on the owner (not just the cost on the contractor)
- Cost of delivering the service

....Which has a lot of an AM sound to it!

Reasons for Going the PBC Model

- Certainty of costs
- Access to funds to address backlog of work
- Manage risks (particularly financial)
- Remove infrastructure renewal from the political landscape.

PBC Model Types

- Unpaved Roads PBC
- Paved roads in a generally poor-fair condition (DBMOT PBC)
- Paved roads in a generally good-excellent condition (Network Management PBC)

Management of PBCs

- Primary focus is on management of the outcomes via examination of data
 - Secondary is field based validation to make sure the data is right!
- Make the contractual requirements simple and explicit
 - Remove time based criteria wherever possible
 - Potholes per km, versus hours a pothole can exist
 - Litter of certain size per km, versus days that litter can be present
- Make sure you get the data
 - Transfer of risk is not the same as dereliction of duty!

Advantages

- Potential reduction in costs
- Improved or more consistent level of service (could cost more)
- The transfer of risk to the contractor thereby providing surety of costs to the agency
- Securing of an appropriate level of multi-year financing
- More innovation as a result of the PBC contractor having a financial incentive
- Enhanced asset management on the part of both the PBC contractor and for the road agency
- Consciously focusing resource on the long term needs of the asset.
- A reduction (or elimination) in the level of corruption

Disadvantages

- A more costly procurement process for the bidders
- The complexity of the bids also increases the evaluation time and skills required by the road agency
- Potentially a longer procurement process
- The increased cost of having good data
- A potential reduction in competition
- A potential loss of agency control and flexibility.

Case Study: Nigeria

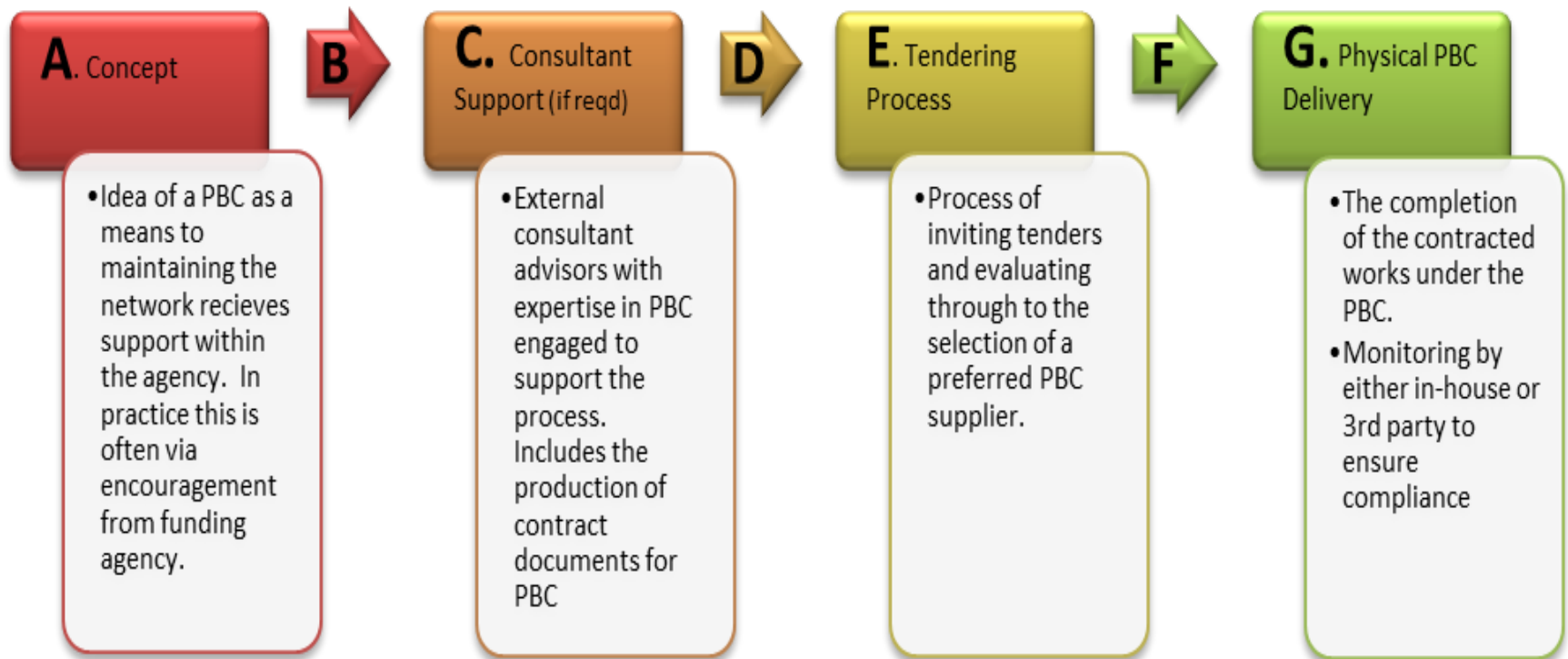
- Limited (virtually no) prior experience
- No ready access to external advisors
- Had to learn from their own mistakes
 - Monitoring consultant ran internal workshops with whatever materials they could access, then shared with others
- But the key people at all levels have remained very constant
 - some involved since the mid 2000's

Case Study: Nigeria

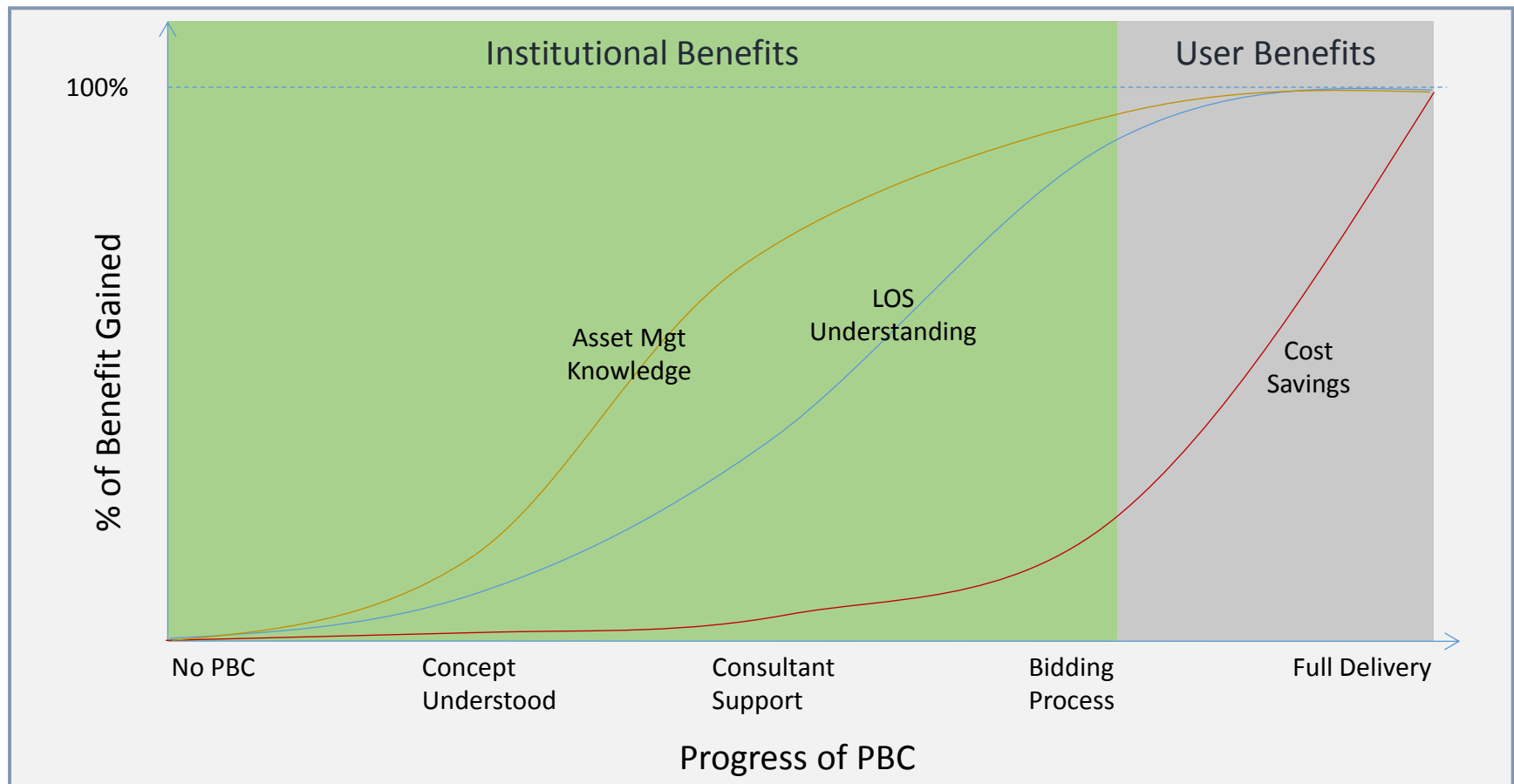
- Community benefits far above expectations
 - Agriculture potential and income has increased beyond expectation
 - Cost of land has risen
 - New construction, new farms, settlements etc - fish farms, poultry farms
 - Letters from the community thanking for upgrading the roads
 - Increased traffic flows



PBMC Implementation Chain



Many Benefits from the Process



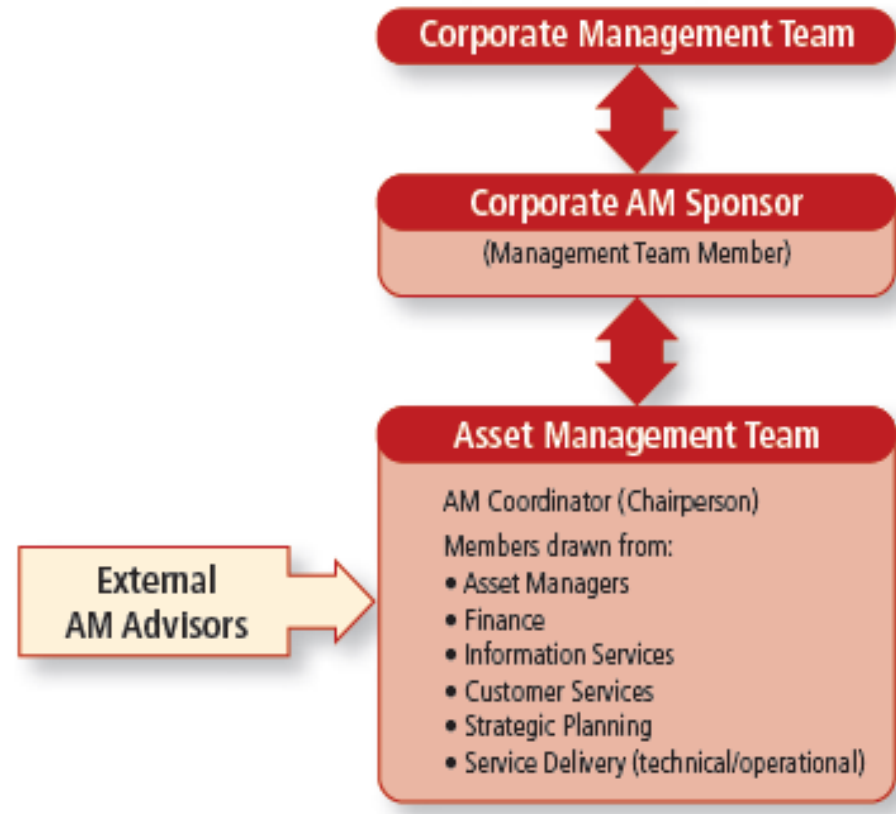
Key Points on OPRC

- Good AM should be the primary goal of any contract model
- OPRCs can drive the paradigm shift in all parties necessary to deliver good AM outcomes
- Careful management of the full implementation chain is necessary
- There are advantages and disadvantages and OPRC is not the solution for every scenario.

Organisational Structure to Support RAM

Governance and Coordination

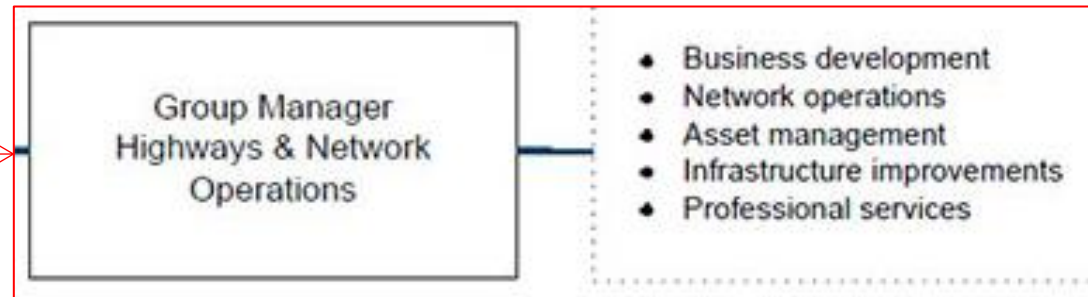
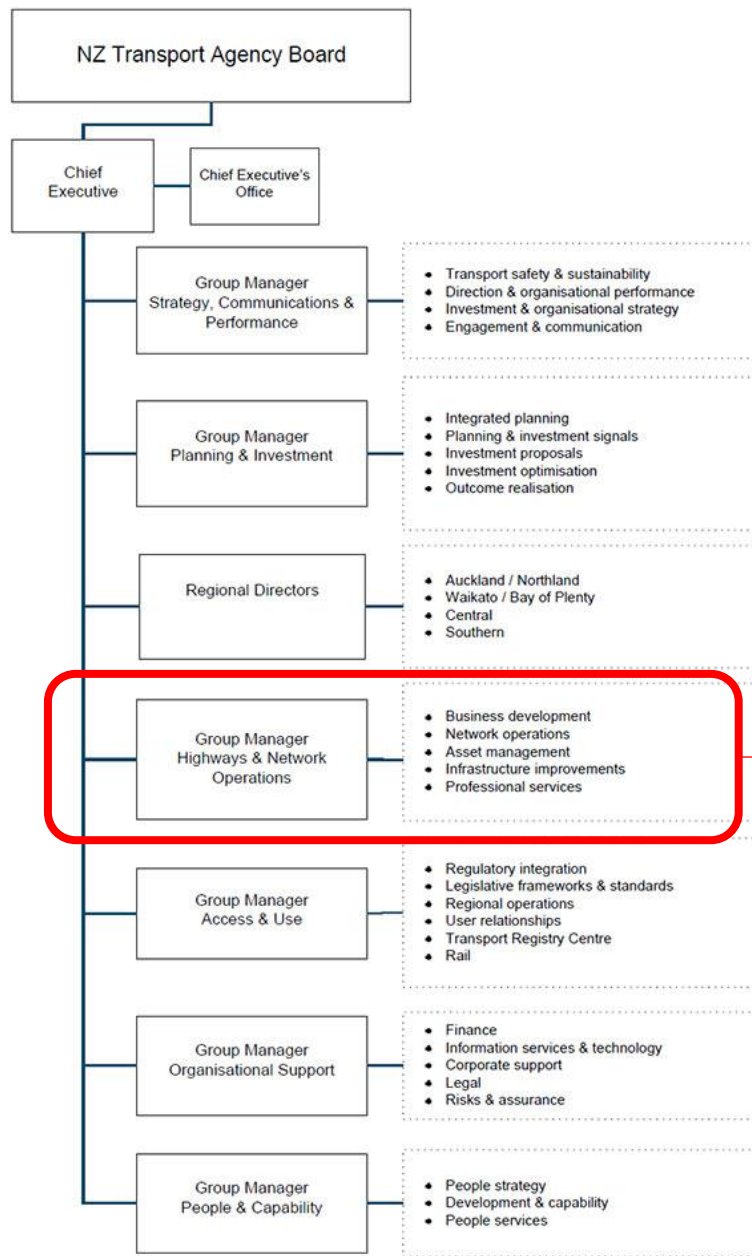
- Asset management is a function of the organisation, not of a single person or team -----



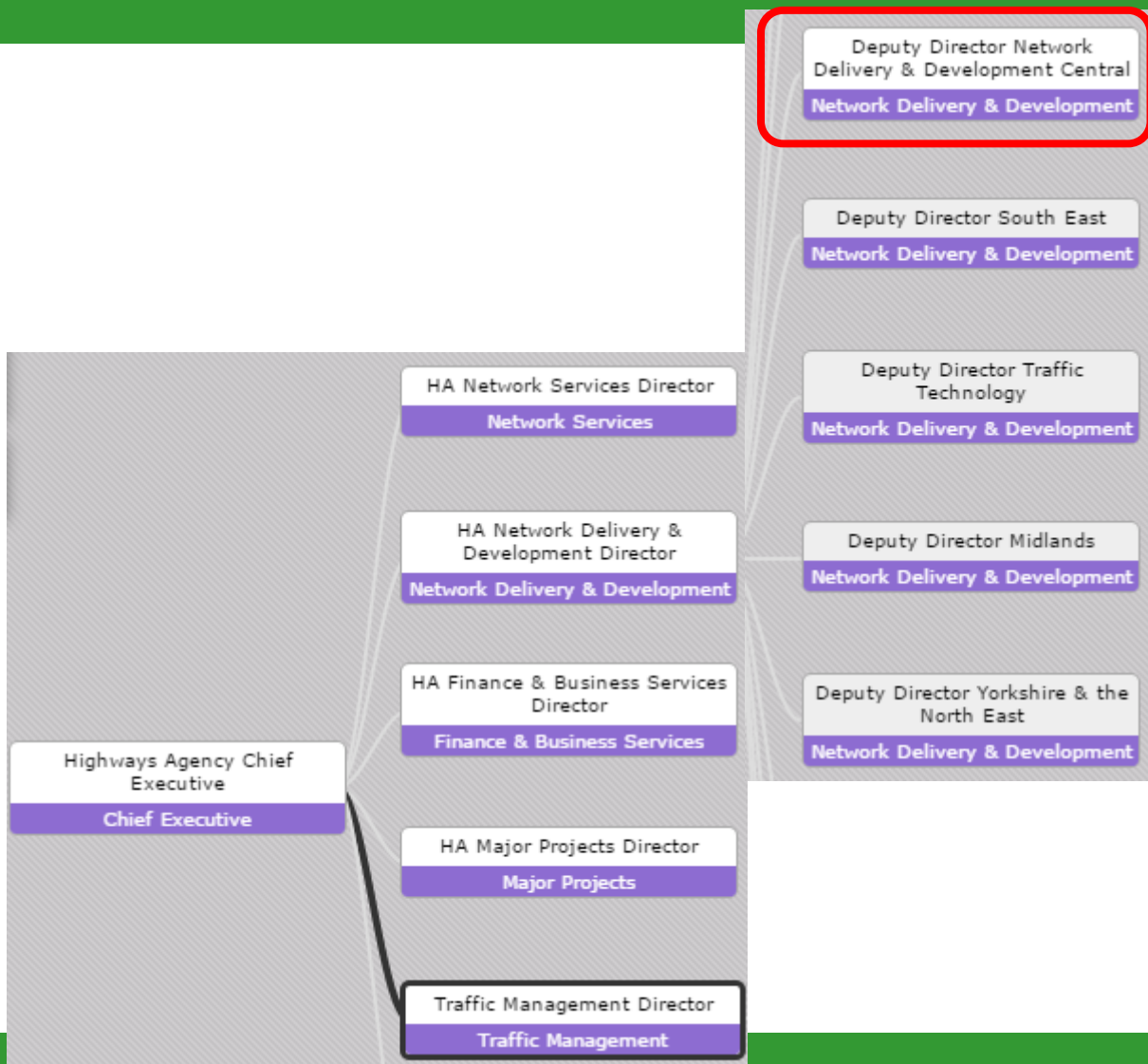
Where Does the RAM Team Fit

- Essential that the RAM team has senior support
- Need to be in a central team role as to have sufficient influence and oversight
- Many road authorities have a similar structure of:
 - Team that manages the existing assets
 - Team that manages construction of new assets
 - Team that operates the traffic on the network
 - Support functions (finance, HR etc)
- RAM team typically sits within the team that manages the existing assets
- RAM is an organisation wide activity, with the RAM Team the co-ordinator and lead
 - In the same way that QA or H&S is typically implemented

New Zealand Transport Agency (NZTA)



Highways England / Highways Agency



Delivery of asset management, network management, performance management and contract management programmes, systems and services to facilitate maintenance, renewal and improvement of the SRN at regional and national level.

Thank you

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