

#### **5.4 Priority setting and risk analysis process**

A set of management actions was developed separately for addressing dryland salinity, irrigation salinity, surface water salinity and salinity caused by ocean influxes in consultation with the Technical Working Groups. The management actions were based on:

- Identified knowledge gaps in:
  - Extent and significance of salinity
  - Causes of salinity when management options rely on this knowledge
  - Effect of salinity control options
- Analysis of management options detailed in Appendix D including the applicability to various Salinity Management Areas and effectiveness
- Assessment of the vulnerability of assets to salinity (Appendix E)
- Current economic, social and environmental costs of salinity (Section 4.4)

A priority setting process was undertaken of the identified management options based on two independent criteria:

- The environmental, social and economic benefits of implementation
- The risks of implementation (eg risk of failure)

The methodology used in this approach involved a subjective assessment of the social, economic, environmental and ‘general’ benefits and risks of each option based on the criteria listed in Appendix E. Members of the technical groups were asked to rate (from 1 to 5) each of the options against the eight sets of criteria shown in Appendix E. A value of 1 means a low agreement with the criteria and a value of 5 means a high level of agreement. The benefits and risks were summed to a value out of 20 each. An overall “benefit-risk” score was applied based upon the matrix of benefits against risks shown in Appendix E. A high “benefit-risk” score identifies those management options that have a high benefit but low risk.

The most beneficial management options are those which have a high social, economic and environmental benefit but a low risk of failure. The results of the analysis were used to prioritise the management actions. The results of the risk-benefit analysis and the prioritisation are given in Sections 6.4, 6.5, 6.6 and 6.7 for programs addressing irrigation, dryland, ocean-induced and surface water salinity respectively.