

Small Group Discussions

Cost efficiency analysis Questions

1. Based on any of the actions in the Action Plan, can one or more targets be developed, to use a CEA approach?
 - Action chosen: Reduce the impact of flood control and drainage schemes (Horizons projected in their 2009 to 2019 long term plan to spend \$110million on river schemes either already in place or proposed)
2. Target - What would a target for that action plan look like, e.g. sediment look like?
 - Reduction in direct engineering/scheme costs.
3. What creative solutions could fit in a CEA for reducing impact of flood control and drainage schemes?
 - Revisit flood protection goals
 - Decrease hard engineering short-term solutions and increase soft engineering long-term options
 - Highly erodible land retired from farming - accelerate SLUI to reduce silt getting into the river
 - Selling aggregate/silt
 - Require stream plantings with subdivisions
 - Reinstate meanders and loops to allow more places to take part in recreation
 - Compensate or self-insure against the risk from exacerbating flood effects
 - Create erosion buffers through wetlands
4. Who would be involved?
 - Horizons, Massey, Iwi, Community, DOC, Fish & Game, Farmers, possibly central government
5. What is the envisioned outcome?
 - A solution to a flooding issue that is softer but more sustainable
 - Wetland re-institution to enhance biodiversity/ecosystem services
 - By reducing new occurrence of stopbanks we create better aesthetics
 - Ensuring minimum ecological flows in rivers and tributaries for increased terrestrial and aquatic biodiversity
 - Change public perception of risk (ask if public would rather live with the risk)
 - Community protected from flooding impacts
 - Level of risk known by community
 - Greater ecology and biodiversity as a result of soft engineering
 - Achieving flood mitigation that benefits humans and nature
6. How would such outcome be used?
 - Educated and informed public participation in proposed schemes
 - Ability to balance costs with outcomes
 - More options to consider

Question not answered: Does this group recommend further investigation on CEA and a specific case study?

Cost Benefit Analysis Questions

1. Are the \$ values used in the Dairy CBA realistic? – Not answered as no experts
2. Can we add benefits for Sheep & Beef farming? – Could we add savings in WWTP in PN for example if the pollutant levels were reduced to the level that wastewater for PN could go into the river without higher levels of treatment? The cost of removing P from the wastewater in PN is \$.5 for 4 months of year. Biological treatment is more expensive than chemical.
3. How should we quantify the N, P, sediment and E.Coli improvements? – Cost of removal of Sediment from the river could use SLUI costs or aggregate extraction. Cost of removal of P and N from wastewater as a cost per tonne for P and N. Cost of purchasing a tonne of P and N? Nitrogen trading? Recreational value of waterway: tourism, regional pride, people moving to PN, property prices? CEA seems more suited to public decisions and CBA more to private decisions.
4. What is the opportunity cost of degrading water and soil resources? – Question not answered

EIA Questions

The group answered the following questions together rather than for each scenario presented in the CBA (A, B, C, D and E)

1. What are the direct money flows associated with each mitigation? A, B, C and were either internalized (i.e. done by the farmer) or to the contractors. Payment flows were from farmer to contractor. In the case of D flows were from farming sector. In the case of E from local government to business sector (consultants, engineers particularly) and the construction sector. Payment was from rates.
2. Who pays for each mitigation? A, B, C, D from farmers. E from local government. Grants possible for A, B, C.
3. Who are the recipients of this payment? Farm supply industry and construction industry.
4. How are the mitigations paid for? Could use voluntary labour to help plant the trees (D only). This could be organized through catchment care groups and the wider community. A, B, C out of the operating surpluses of farmers, E from rates.
5. What are the backward and forward linkage flow-on impacts through the economy? Contractors and processors, tourism, economic development and to the supplies of these affected first round industries.
6. How big are the flow-on impacts (as compared to the direct impacts)? Indirect and induced spending are often as great as the direct impacts
7. What are the overall net changes in the local and national economies? The SLUI programme is more than just forestry conversion. There is potential for 39,000ha to be part of the SLUI programme paid for 1/3 by ratepayers, 1/3 by central government, 1/3 by farmers. SLUI is a good model as it keeps dollars in the community. It has the flow on effects of reduction in stop bank construction, protects infrastructure (eg roads in hill country) and reduces

downstream flooding. A, B, C and D: A netting out at the local level occurs i.e. growth in contracting/construction industries (and their local supplies), but a loss in expenditure in other areas as farmers rebalance their books – overall, however, likely to be a gain locally – if contractors/construction industries are based locally. Loss at national level as expenditures on imports would be reduced to meet localised contracting/construction growth. E: Unsure, as both gains and losses locally. It all depends on the size of the multiplier effects on the investment versus payment side.