

# Additional Cost Logic for EbA Approach to Climate Change Adaptation

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# What does “additionality” mean?

- Additionality is a contested concept.
- Additionality in the context of the UN Framework Convention on Climate Change refers to an effort that is supplemental to the business-as-usual scenario in at least two areas: (i) the additionality of financial contributions of developed countries to mitigate climate change in developing countries; and (ii) the additionality of greenhouse gas emissions generated by mitigation activities.

# Multiple views of additionality

- GHG Additionality – additional GHG emission reduction compared to baseline scenario
- Investment Additionality – project is only attractive when carbon finance is added
- Compliance Additionality – activity is additional to statutory requirements
- Barrier Additionality – activity overcomes a particular implementation barrier
- Common Practice Additionality – practices not already in common use

# How does GEF view incremental cost?

- GEF views additionality in a global vs. national context;
- GEF funds the "incremental" or additional costs associated with transforming a project with national benefits into one with global environmental benefits;
- For example, choosing solar energy technology over coal or diesel fuel meets the same national development goal (power generation), but is more costly; and
- GEF grants cover the difference or "increment" between a less costly, more polluting option and a costlier, more environmentally friendly option.
- *Note that GEF's own evaluation found that "the process of incremental cost assessment and reporting does not add any value to the quality of projects."*

# How does GEF calculate incremental cost?

- Determine the environmental problem, threat, or barrier, and the “business-as-usual” (BAU) scenario (i.e. what would happen without the GEF?);
- Identify the global environmental benefits and fit with GEF priorities within GEF focal areas and themes;
- Identify the global environmental benefits and fit with GEF strategies and priorities linked to the GEF focal area;
- Develop the results framework of the intervention;
- Provide the incremental reasoning and justify GEF’s role; and
- Negotiate the role of co-financing of the BAU costs.

# How to develop a budget for EbA projects?

## Urban EbA Approaches in the Kathmandu Valley



# Urban EbA Approaches in the Kathmandu Valley

- The objectives of the project are to address the climate change-related issues of (i) growing scarcity of water for drinking, irrigation, and cultural purposes; (ii) encroachment of urbanisation on green spaces, exacerbating rising air temperatures and deteriorating air quality, and degrading the aesthetic quality of the urban environment; (iii) lack of green buffer zones to stabilise river banks, leading to increased erosion and vulnerability of structures; (iv) increasing water and land pollution due to improper routine disposal of solid waste into the rivers.

# Urban EbA Approaches in the Kathmandu Valley

- Component 1 - The river corridors in the proposed project area (3.5 km are heavily polluted) will be cleaned of waste;
- Component 2 - A no-dumping zone will be established on each side of the cleaned-up area of the two rivers; and
- Component 3 – A 40 t/d compost facility will be established at an accessible distance from the river project site to receive and process organic wastes, that would otherwise end up in the river.



# Urban EbA Approaches in the Kathmandu Valley

- Component 1 - costs of removing waste from river channel and banks (Nrp 69/t x 3,500 t), and (ii) transporting waste to landfill site (73 trucks at cost of Nrp 861,056);
- Component 2 – EbA approach – seedlings, labour, maintenance (Nrp 4,147,000) vs. Hard approach - wall/gabion structure at Nrp 273,000,000; and
- Component 3 - Nrp 10,000,000 investment, plus labour and operational costs.

# Urban EbA Approaches in the Kathmandu Valley

	A	B	C	D	E	F
	NPV of Investment Costs	NPV of O&M Costs	NPV of Total Costs (A+B)	NPV of Benefits	Net Benefits (D-C)	Benefit/ Cost Ratio (D/C)
River Channel Cleanup	861,056		861,056	23,578,719	22,717,663	27.38
River Bank Stabilisation	8,433,865	1,604,361	10,038,226	25,637,358	15,599,132	2.55
Urban Compost Facility	8,849,558	9,600,015	18,449,572	18,422,823	- 26,749	1.00
Totals	18,144,478	11,204,376	29,348,854	67,638,900	38,290,046	2.30

**Utilising the “brown” alternatives, the proposed project fails economically (the EIRR and NPV both become sharply negative)**

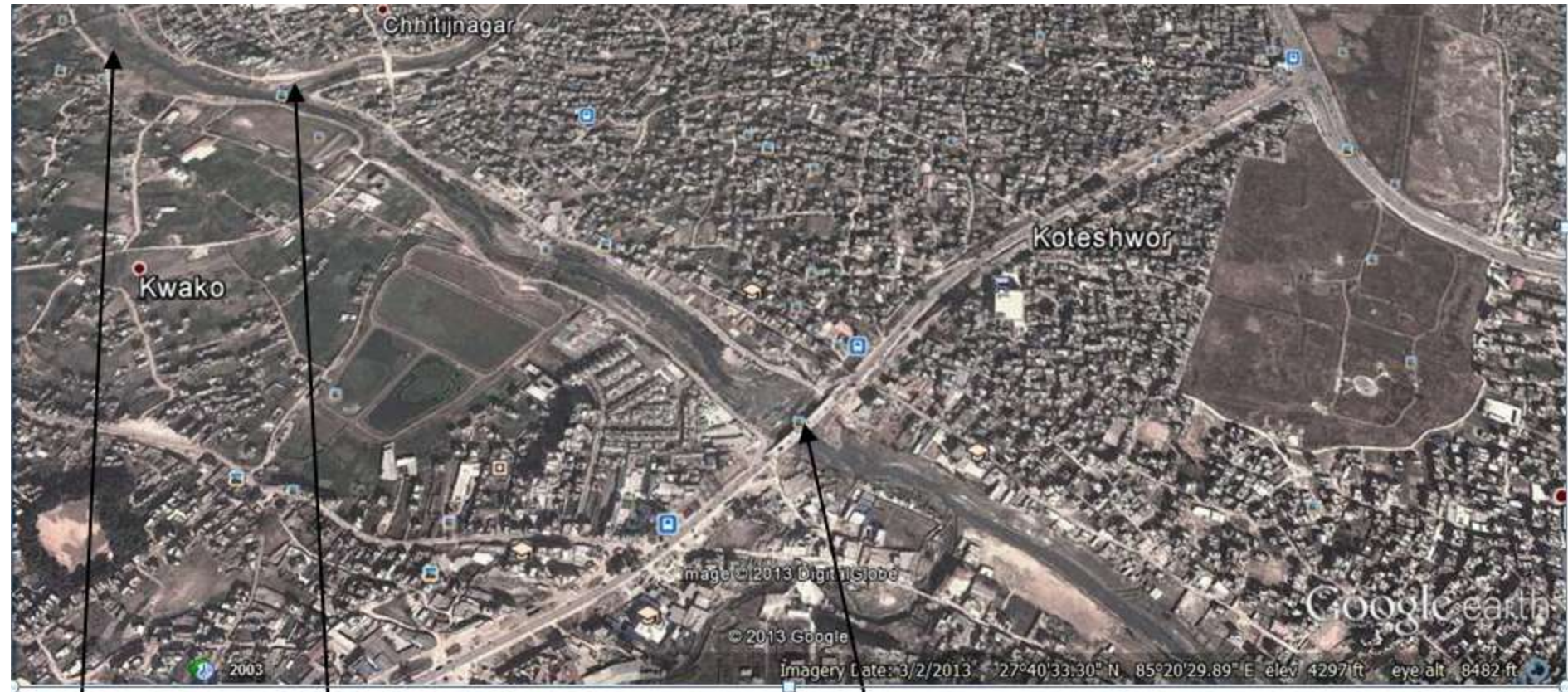
# EbA vs “Brown” Approach

	<b>EbA ‘green’ approach</b>	<b>Conventional ‘brown’ alternative</b>
1	River <u>cleanup</u> (destroy disease breeding grounds and improve the aesthetic environment).	Do nothing to destroy disease breeding grounds (perhaps employ chemical means to kill disease-bearing pests <sup>9</sup> ). Do not provide any improvement to the aesthetic environment.
2	Create planted green zones to stabilise river banks.	Construct river walls and gabions to stabilise river banks.
3	Create a local urban facility to recycle organic solid waste and prevent such waste from entering the river ecosystem. Supply a valuable recycled resource (compost) to local farmers.	Provide transport for organic solid waste disposal at a landfill outside of the city. Do not provide a recycled resource to local farmers.

# How to justify links to climate change?

- Both the brown and EbA options could address climate change projections;
- But, the ratio of the NPV of brown alternative adaptation option costs to the NPV of EbA option costs is approximately 13.7;
- The results demonstrate that (i) EbA approaches in an urban environment are cost effective when compared to brown alternatives and (ii) economic performance of urban adaptation to climate change may often demand identification and application of EbA approaches in place of conventional 'brown' approaches.

# Thank you for your attention



Confluence of Bagmati and Manohara Rivers

Manohara Bridge

Sankhumu Bridge