#CAIP2024

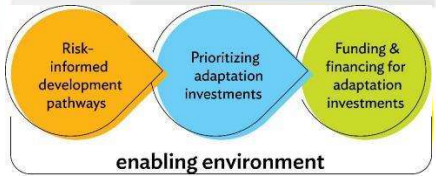
CLIMATE ADAPTATION INVESTMENT PLANNING FORUM 2024

17-18 SEPTEMBER 2024

ADB adpc Climate Bonds CIF ICIMOD IISD OECD

Time	17 September 2024 (Tuesday)
09:00–10:15	High-level Opening Session
10:15–10:45	Coffee Break
10:45–11:45	**Plenary 1:** Understanding climate change risk to inform development pathways
11:45–12:30	**Spotlight 1:** Foresight thinking for transformational adaptation investments
12:30–14:00	Lunch
14:00–15:00	**Plenary 2:** Making adaptation investments a priority across governments and public and private sectors
15:00–15:30	Coffee Break
15:30–16:15	**Spotlight 2:** Making the economic and financial case for adaptation investment
16:15–17:30	Deep-dive discussions: Prioritizing adaptation investments across sectors
18:00–19:30	Reception

Time	18 September 2024 (Wednesday)
09:00–10:00	**Plenary 3:** Funding and financing adaptation
10:00–10:30	**Lightning Talk:** Resilience bonds to leverage private finance
10:30–11:00	Coffee Break
11:00–11:45	**Partner Marketplace:** Adaptation funds, financing instruments and programs
11:45–12:30	**Clinic:** Finance matchmaking for adaptation investment plans
12:30–14:00	Lunch
14:00–15:15	**Policy Roundtable Discussion:** Priority actions for enabling adaptation investment planning
15:15–15:45	Coffee Break
15:45–16:30	Closing Session



SPOTLIGHT 2

Making the economic and financial case for adaptation investment

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Spotlight 2: Making the economic and financial case for adaptation investment

Esmyra Javier
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Moderator

Paul Watkiss
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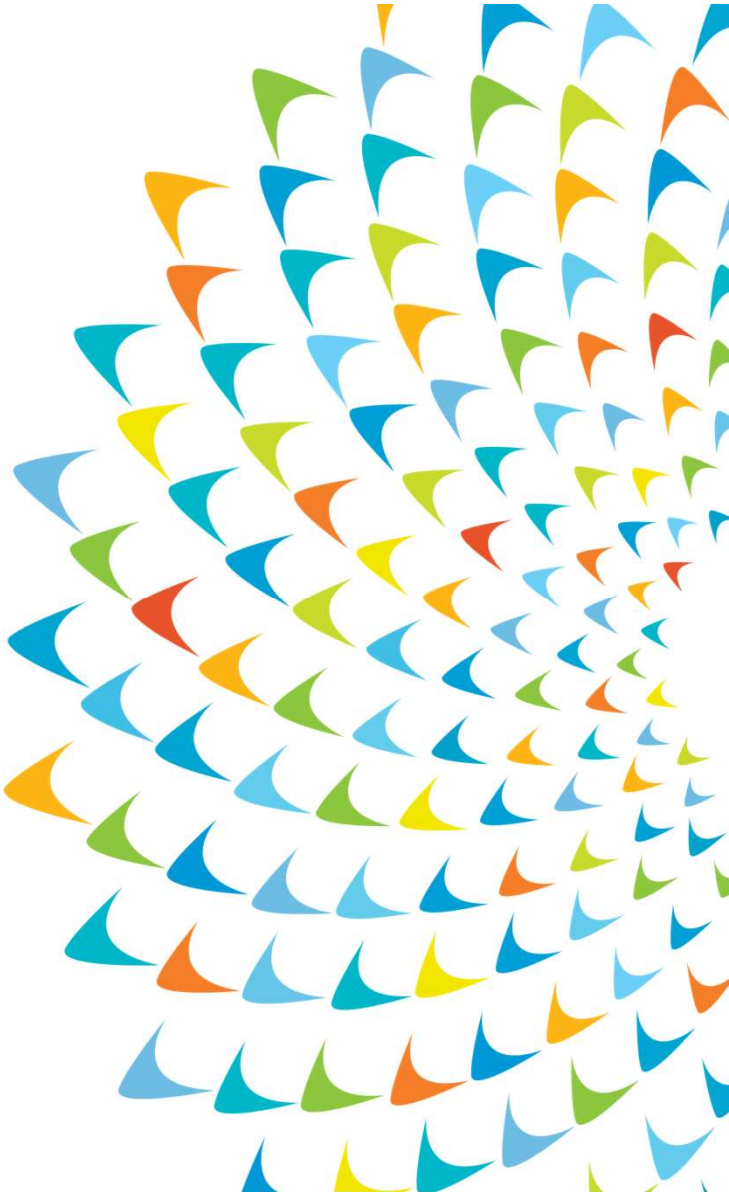
Senior Economist (Climate Change), ADB

Davit Manukyan
Public Financial Management Expert

Making the economic and financial case for adaptation investment

Paul Watkiss

CAIP September 2024



The Economics of Climate Change

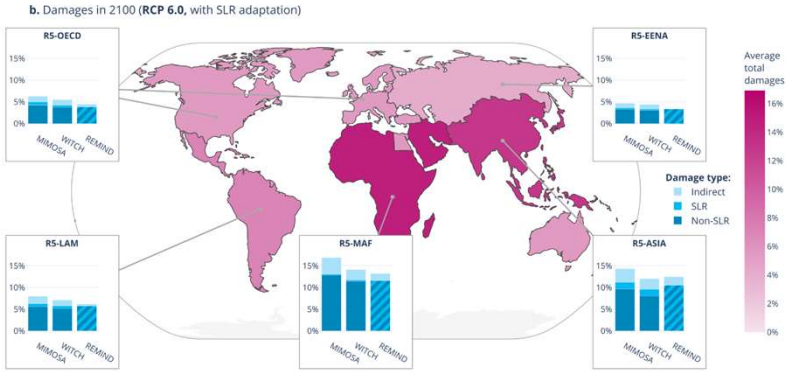
Climate change is projected to have very large economic impacts in Asia and the Pacific

It also involves large fiscal risks and will impact on the public finances of countries

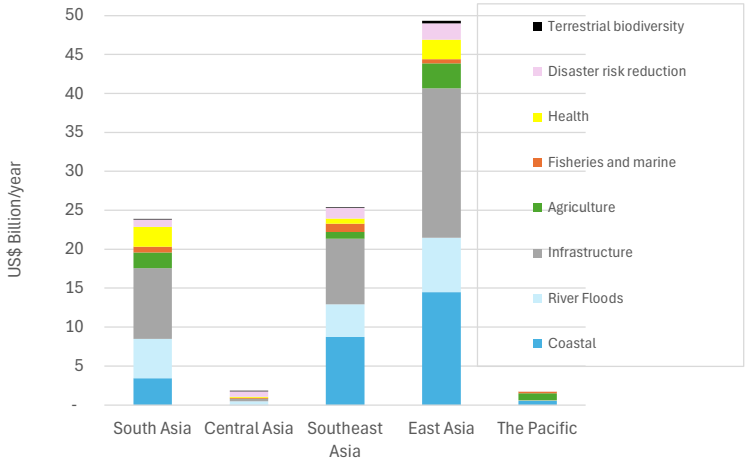
Only adaptation can reduce these potential impacts in the medium-term (the benefits of mitigation are later)

Major adaptation finance scale-up needed - gap for Asia and Pacific > US$100 – 200 Billion/yr this decade

Making the economic and finance case is critical and the key focus of adaptation investment planning



Source COACCH, 2021

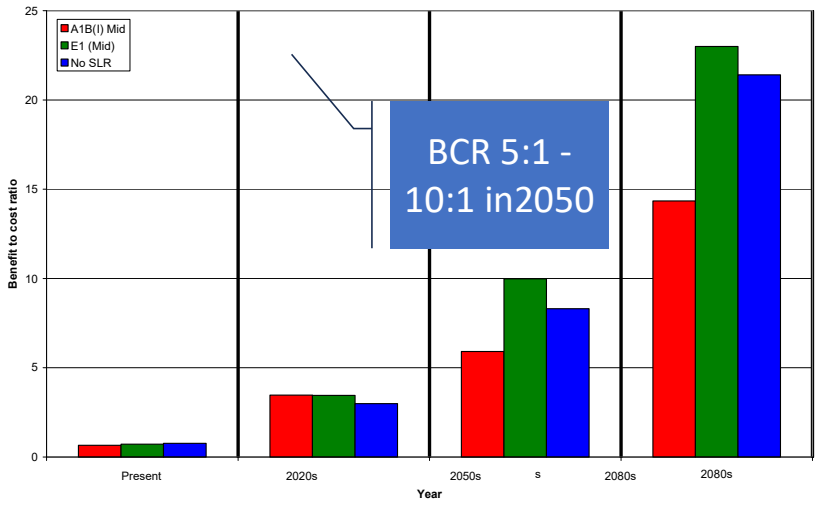


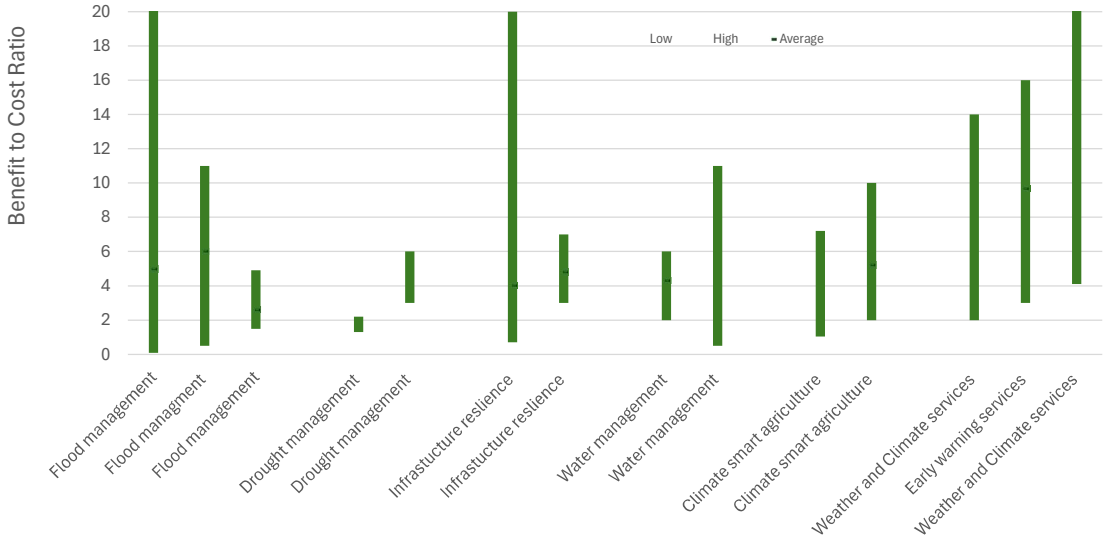
Source ADB, 2024

The Economics of Adaptation

Adaptation has potentially large net economic benefits (e.g., benefit to cost ratios)

Evidence from future modelled studies……and reviews of individual options……but





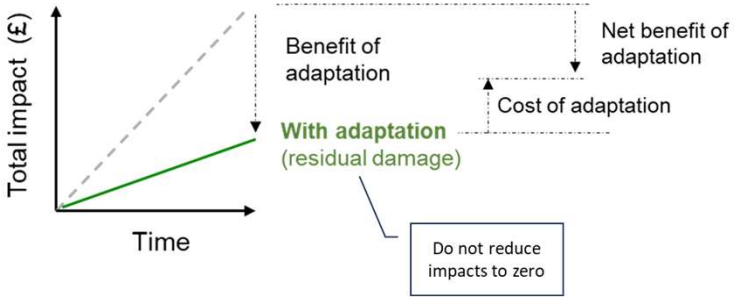
In practice, the economic analysis of adaptation is challenging

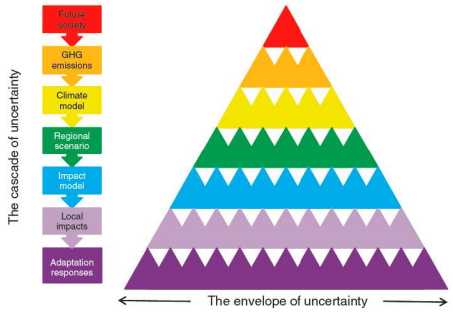
Climate risks are hazard, location and context specific (BCRs vary) – no common metrics

Risk change over time – dynamic trade off over costs & benefits of adaptation vs. residual risk

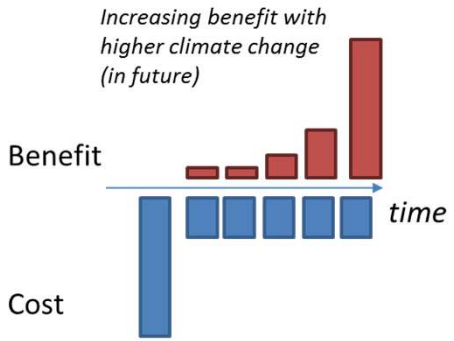
There is deep uncertainty - 2 or 4°C, wet or dry models, specific impacts - so what are we adapting to? this affect how much adaptation we need, which actions, and their benefits

Often benefits are in the future, but costs are up-front = low present value (discount rate)





Source Wilby and Desai

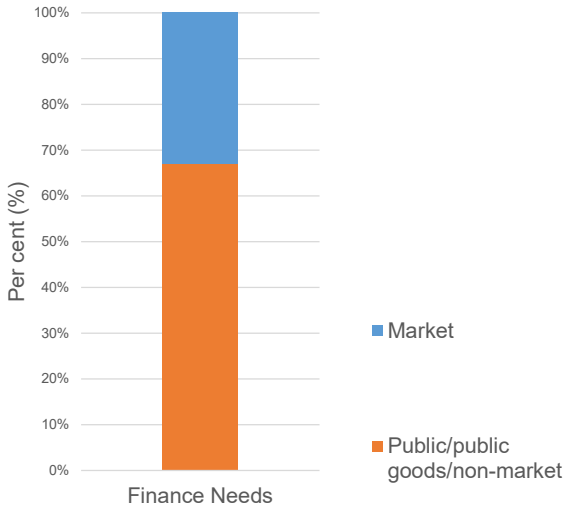


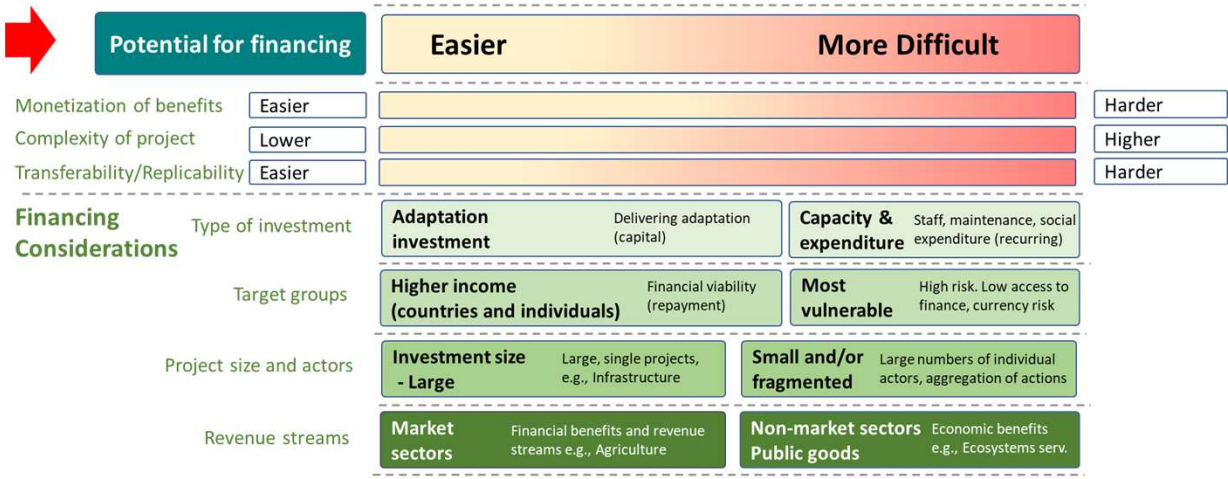
Challenges arise for the financing of adaptation

Global mitigation finance flows>$500Bn 50% private. Global adaptation finance flows $60Bn year and >90% public. Clearly there are barriers to adaptation financing.

Many priorities for adaptation identified in NAPs and NDCs are public in nature – often focused on avoided losses. Potentially high economic return, but lower financial return (no revenues)

This requires new financing approaches. .....but issue of who finances versus who pays





Source UNEP. 2024

Adaptative management/adaptation pathways

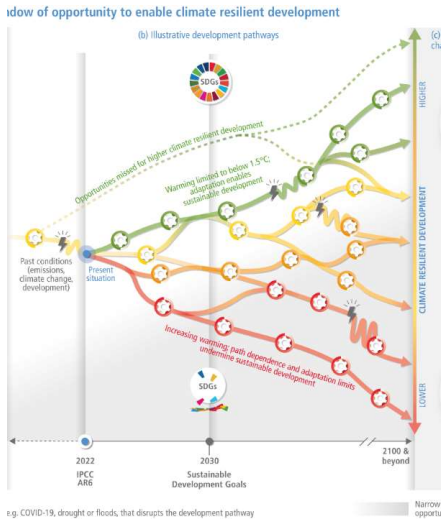
Adaptation is seen as a process, not a one-off optimization

It involves combinations of activities, including capacity, not only technology

Uncertainty is addressed with adaptive management / adaptation pathways (iterative) – these involving learning cycles and allow changes to actions over time with new evidence

At project level, detailed decision making under uncertainty tools developed – dynamic adaptation pathways, robust decision making, real options, etc. - extended CBA

But how can this be converted to an economic case for an adaptation investment plan…



The economic case for early adaptation

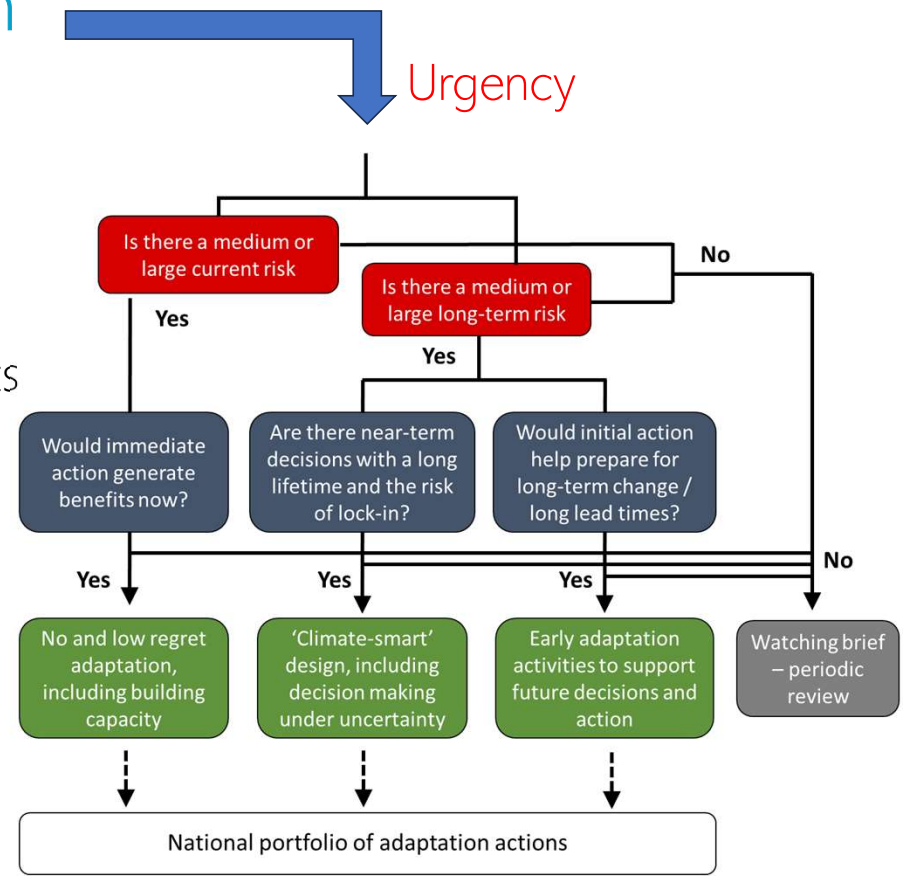
Where does it make sense to invest today (not in 2050)- sequencing

1. No-or low-regret adaptation actions that address existing economic costs of climate/extremes - benefits today, e.g. climate services, water efficiency

2. Climate smart design, where opportunity to include adaptation to prepare for future change, or avoid lock-in e.g. new infrastructure,

3. Low-cost preparatory and early actions to improve future decisions, especially if long lead times or large scale but uncertain future impacts (early pathway)

Combined together in portfolios/packages and pathways



Source
Watkiss et al, 2021

Lessons from AIPs number 1. Benefits, benefits, benefits

NDCs and NAPs set out country determined adaptation priorities

Many of these also include estimated costs (finance needs, $)

But almost none (UNFCCC, 2022) assess benefits (quantitatively) or do economic analysis

Review of GCF grant adaptation projects also finds many do not undertake adaptation CBA

<u>Key lessons ADB adaption investment plans:</u>

Identify economic case by looking at urgency and sequencing of actions

Explicitly assess the benefits of adaptation ……

Identifying benefits

Start by looking at the economic costs of current climate variability and extremes, and then look at the potential economic costs of future climate change, with uncertainty

Develop adaptation into strategic packages – and look at:

-What are the economic (societal) benefits?

-What are the fiscal benefits?

-What are the financial (private) benefits)?

Can then do 'light touch CBA'

(Data issues, and equity/distributional)

Table 2. Potential benefits of the adaptation packages.

Adaptation	Economic benefits	Fiscal costs and benefits	Financial benefits or revenues
1. Climate resilient planning of EPOL4	Value of information. Ensures EPOL4 economic objectives achieved under climate change. Direct economic benefits. Local/regional multiplier effect. Spillover effects	Higher profitability of sector generates fiscal revenues for Government Possible increase in exports and related tax revenues Lower public spending following extreme events	Reduced losses / enhanced yields Higher revenues for households and businesses Increase in export revenues
2. Climate Smart High Value Crop Production	Reduced impacts on production. Reduced GHG emissions. Indirect socio-economic benefits. Environmental benefits	Economic activity generates higher fiscal revenues for Government than otherwise be the case	Reduced losses/yield benefits to the private sector
Occupational heat measures	Reduced health impacts (mortality and morbidity) Reduced loss time and treatment costs. Reduced labour productivity losses	Reduced health impacts with positive impact on public health spending Increased tax revenues from increased productivity	Reduced lost time and productivity losses - positive financial impact for businesses
3. Climate resilient transport and logistics	Reduced asset damage Reduced travel time losses Reduced road maintenance costs	Reduced public spending on maintenance costs Reduced public spending on clean-up and reconstruction costs	Better road traffic benefit business profitability Reduced business disruption
4. Climate resilient value chains	Reduced asset damage Reduced post-harvest losses Reduced GHG emissions	Higher economic activity and revenues generate higher fiscal revenues	Reduced risk of damage to private assets, and business

Financing adaptation

Identification of benefits leads into the financing of adaptation. What is pure public? Where are the financial benefits and the opportunities for private?

Table 5. Potential finance models and sources of finance for packages.

Adaptation package	Package component	Possible financial model(s)	Potential sources of finance
Integrated Water Resource Management		Technical assistance provided by public international partners in partnership arrangement with Royal Government of Bhutan, including working with Water User Associations	• IFIs, especially through trust funds e.g. ADB managed Water Financing Partnership Facility, Japan Fund for Prosperous and Resilient Development. • Bilateral donors such as EU, DANIDA, JICA • International climate finance providers e.g. building on existing UNDP-implement LDCF project or Green Climate Fund
Water payment policy (policy option)	National level policy development	Technical assistance and policy-based grants/loans from public international partners to Royal Government of Bhutan.	• IFIs through concessional lending arms i.e. ADF
	Rural communities	Innovative financing arrangements such as 'borehole banking' or results-based maintenance contracts'	• Borehole banking incentivises payment of user fees • Results-based contracts offered by Uptime Catalyst Facility backed by range of Foundations and GiZ
Climate resilient standards for infrastructure		Technical assistance provided by international partners, typically integrated alongside investment project financing demonstrating application of standards	• IFIs, especially through trust funds e.g. ADB managed Water Financing Partnership Facility, Japan Fund for Prosperous and Resilient Development • Multi-lateral climate finance providers such as GCF (potentially working with IFI)
Sustainable water abstraction	Studies	Part of IWRM (TA for studies).	• See IWRM above.
	Development of supply	Concessional loans from IFIs to Royal Government of Bhutan.	• IFIs through lending, with potential scope for blending with dedicated climate finance sources (to enhance concessionality) where there is strong climate rationale/ highly vulnerable and water stressed communities
Water storage investment	Urban areas	Concessional loan/grants channelled to local government responsible for water supply PPPs	• IFIs, potentially backed by climate finance providers • For PPPs, capital from private investors, often with support from PPP technical assistance providers. Only possible if payment from water users (2 above) and/or govt is credible
	Rural communities	(Results-based) grants to local communities Development impact bonds (DIBs) (results-based contracts where upfront capital	• Climate finance providers such as Adaptation Fund, GEF, GCF • Proceeds from sale of credits by Bhutan Climate Fund • DIBs tend to have outcomes funding met by donors e.g. USAID, with

Lessons from AIPs number 2: Political economy, PFM / PIM

Government's have existing medium term development and planning cycles (e.g., 5-year plans) that dominate objectives and investment priorities for line ministries- NAP-NDC alignment

But also have existing medium term expenditure frameworks) and public investment management (PIM) criteria for domestic prioritization (domestic budget / borrowing) – PIM criteria include economic (e.g. EIRR), financial but also other criteria

<u>Key lessons ADB adaption investment plans:</u>

As adaptation scales up, will need to integrate with these planning and PIM frameworks -

Often challenging for adaptation to pass PIM threshold - so work to improve narratives including co-benefits

Lessons from AIPs number 3. Engagement and Enablers

To assess and quantify benefits, and seek finance, adaptation has to be specific (not general)

Key lessons ADB adaption investment plans:

This means prioritized, concrete activities – but this means making choices – government engagement and ownership is key

Ky activity is to include enabling factors in investment plan – capacity building, but also the policy intervention and enabling conditions needed to support adaptation.

Key lessons ADB adaption investment plans:

Need to build the economic case of capacity building and enabling factors, but noting this requires resources, also include in financing analysis and in investment pipeline

Key take-away points

Building the economic and financial case for adaptation is critical for developing NAPs/NDCs – adaptation investment plans support these steps

Not all adaptation has net economic benefits – BCRs are risk, site, time dependent (it depends) – many adaptation options higher economic than financial return

Useful to think identify the early case for adaptation (urgency and building blocks)

Key to identify benefits (economic, fiscal, financial) and link to financing opportunities

Integrating with political economy and including enabling factors important and also have financing needs

Detailed project investment

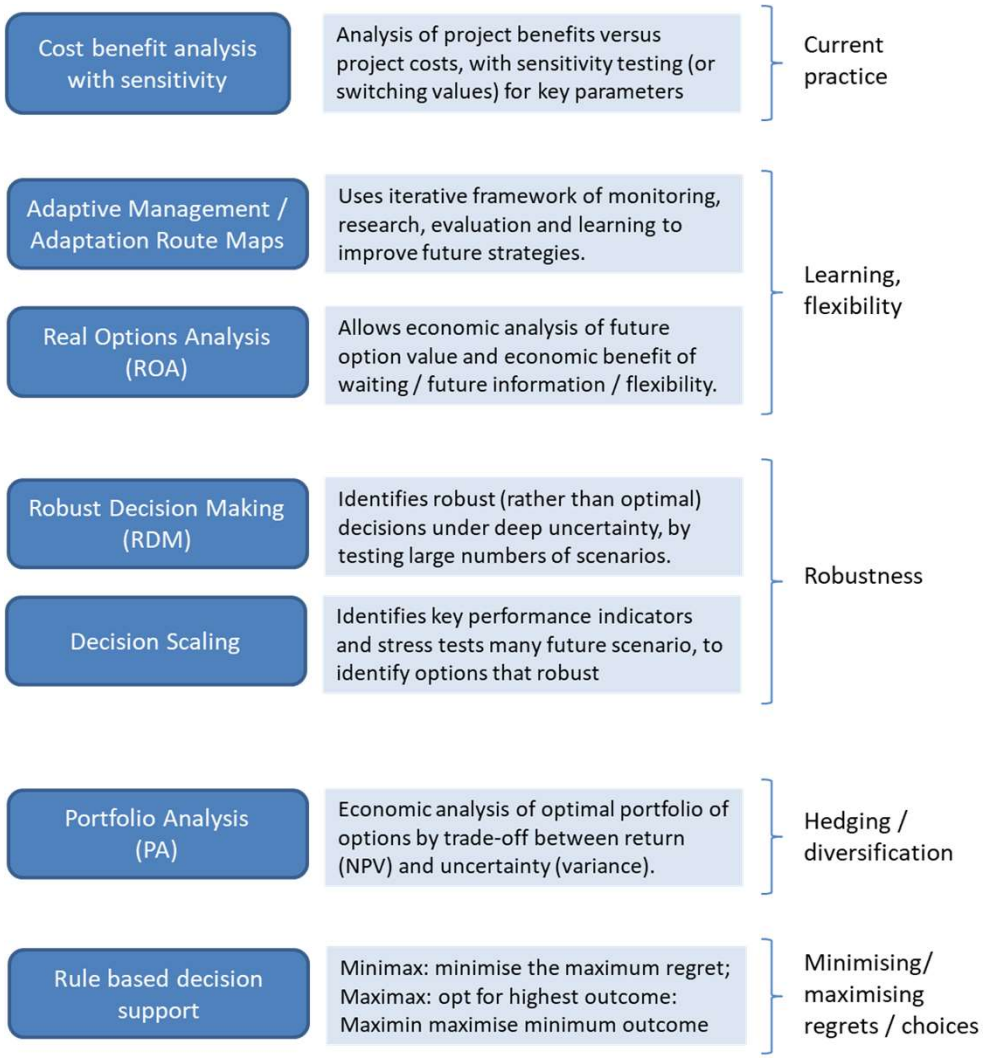
As investments developed, will be need for more technical design

When major risk / adaptation investment, can use decision support tools that take account of uncertainty

These use extended cost-benefit analysis and focus on characteristics that still allow action, e.g. robustness, flexibility

ADB has produced guidance on these approaches, but are time and resource intensive, require expertise

When needed? Lifetime, lock-in and level of precaution



Source Watkiss et al, 2014: 2024

Economic Analysis– Some Preliminary Insights to the Adaptation and Resilience Outcomes

Sabah Abdulla, Senior Economist (Climate Change)
Economic Analysis & Operational Support (EREA) Division/
Economic Research & Development Impact (ERDI) Department, ADB

Presentation to be made available soon. In the meantime, you can direct inquiries to Sabah at sabdulla@adb.org

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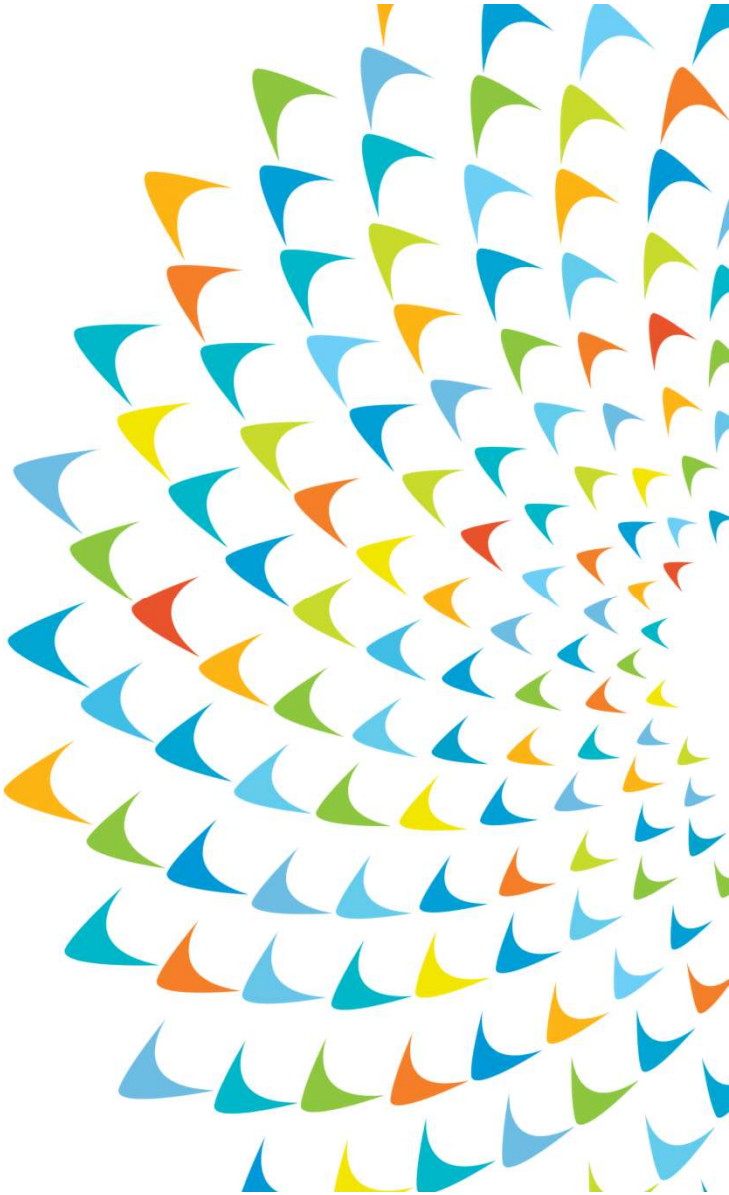

PIM framework and adaptation investments – Armenia

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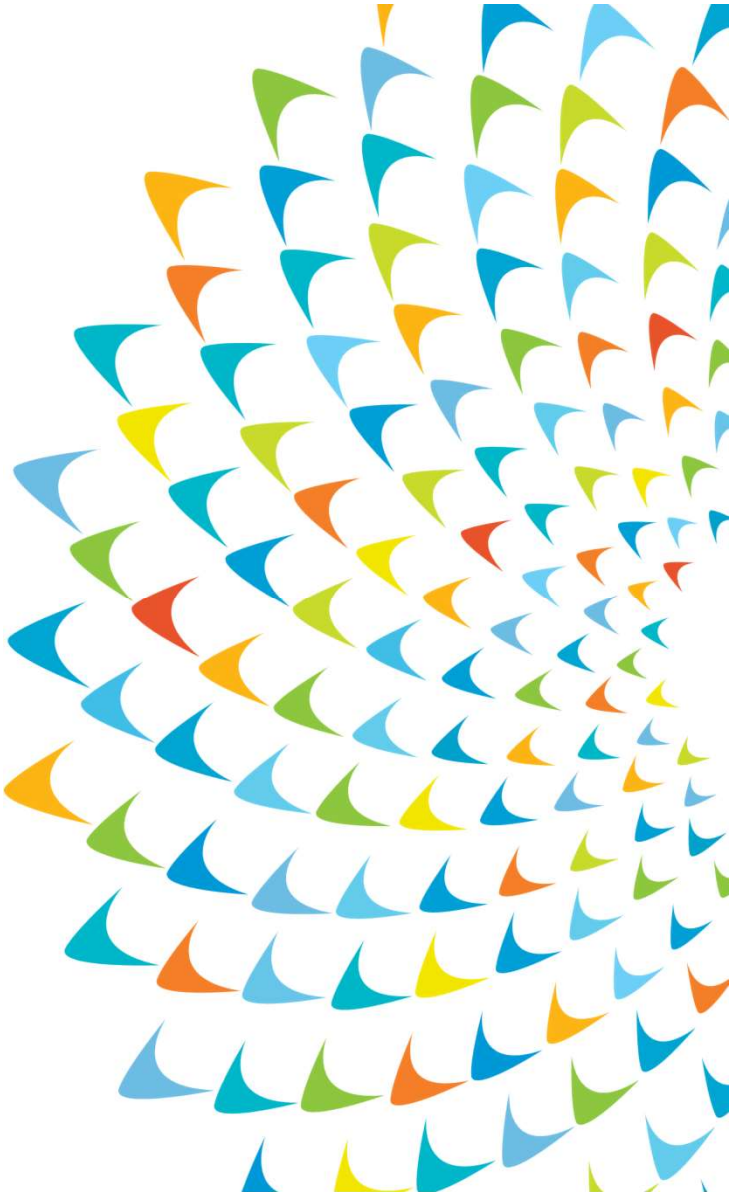
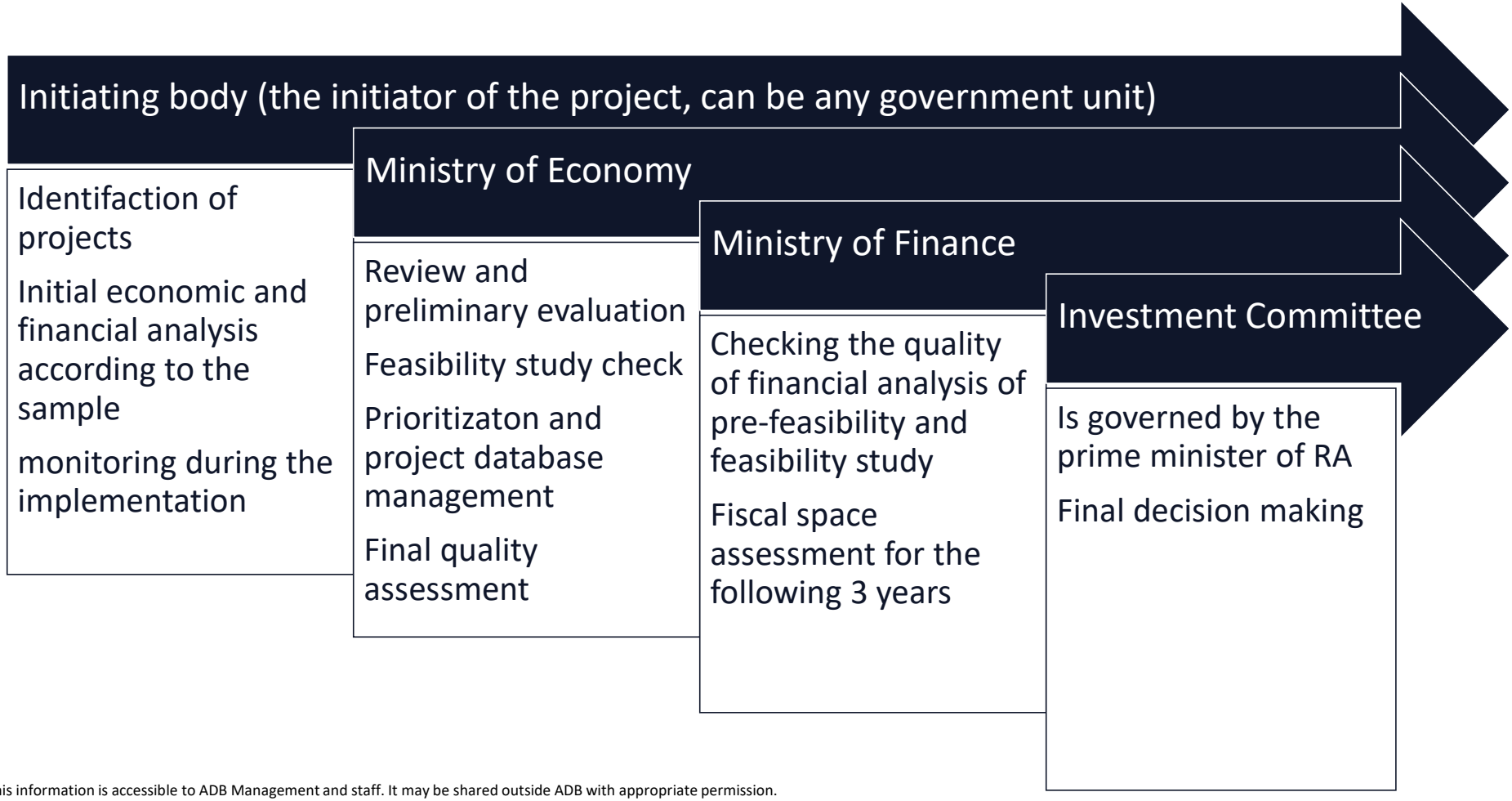


PIM framework – application scope

PIM framework is applicable for the evaluation of public investment projects:

- capital projects with a value of **AMD 1 billion (USD 2.5 million) or more**,
- expenses that are **periodic in nature** and aimed at **maintaining the current state of an asset or replacing an existing depreciated asset** are **not covered** by this regulation,
- the PIM decree does **not apply** to projects **financed entirely from the municipal budget**, **except** when they result in an expense or **contingent liability** for the GoA or are **public-private partnership projects** as specified by the law "On Public-Private Partnership".

PIM framework – process



PIM framework – criteria

The PIM uses multicriteria assessment approach, that considers following criteria:

- impact on human capital,
- public importance of the infrastructure,
- compliance with the sector strategy,
- impact on climate change,
- project risk, including climate and disaster risks,
- economic internal rate of return (EIRR).

PIM criteria details

PIM criteria	Description
Impact on human capital	Scoring mechanism of one to three. Project receives score in connection to increasing, preservation or improving human capital.
Public importance of the infrastructure	Projects scored depending on: If unimplemented would cause the use of public good or a service becoming impossible, or implementation of which is a requirement established by law. If implementation leads to public good creation or notable improvements of public service.
Compliance with the sector strategy	Projects score high if mentioned in the sectoral strategy or the results are partially directed to solving problems identified in the strategy.
Impact on climate change	Two points are given to projects that contribute to the reduction of greenhouse gas emissions One point is given to projects with no impact to green house gas emissions. 0 points is given to projects that contribute to greenhouse gas emissions or have no information in those regards.
Project risk, including climate and disaster risks	The following criteria must be taken into consideration: (1) availability of similar project execution experience, (2) the presence of established demand, as well as (3) the impact of possible external factors on the effective implementation, (4) identification and analysis of risks, as well as their manageability.
Economic internal rate of return (EIRR).	Three points are given to projects if EIRR is 15 p/p higher than base rate. Two points are given to projects if EIRR is higher than base rate. 5 p/p to 15 p/p. One point is given to projects with EIRR higher than base rate. 0.1 to 5 p/p. The base rate is set in social sphere (healthcare and education) 6% and for other sectors 9%.

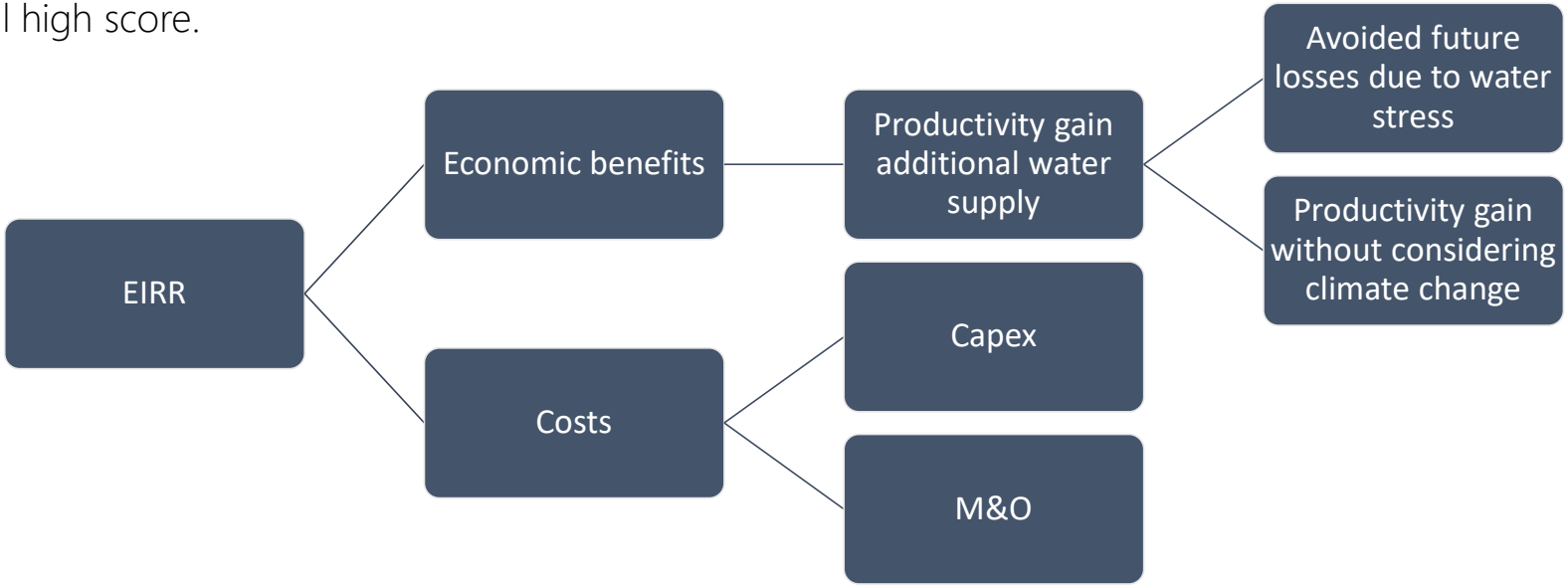
PIM application case for water solutions (Reservoir construction or irrigation system rehabilitation)

PIM criteria	Description	Score
impact on human capital	No direct impact on human capital development	1
public importance of the infrastructure	Improvement of water supply services for the farmers	2
compliance with the sector strategy	The project is in compliance with water sector strategy and water sector adaptation plan	3
impact on climate change	Carbon emission are not assessed	0
project risk, including climate and disaster risks	Climate proofing of future availability of water is required / currently not conducted Based on the identified risk the project is medium risk	1
economic internal rate of return (EIRR)	Estimated EIRR is < 7%	0
Total score	The score is not high, chances to get financing is low	7

Challenge with capturing all adaptation benefits with EIRR

EIRR is one criteria that can show adaptation benefits and help adaptation project score high.

Integration adaptation priorities in the sectoral development strategy and plans another critical factor for the project overall high score.



Economic benefits are much higher with climate change scenario due to higher marginal utility value of additional cubic meter of water in water shortage scenario.

SPOTLIGHT 2

Thank you!

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