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The Economics of Adaptation

Economic appraisal



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Economic appraisal

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- ECONADAPT looked at a number of policy domains where better information on economics of adaptation needed
 - One area of focus on economic appraisal of projects, plans and policies
 - Provided information to advance
 - Inventory of economic studies (but not of unit values)
 - Guidance and appraisal for European project and policy with case studies
 - Guidance and appraisal for International adaptation project (climate finance) with case studies
 - Guidance, information, case studies for decision making under uncertainty

A cost and benefit database

- Discussion with policy makers found everybody wants a simple database to look up costs of adaptation, and estimates of benefits, e.g. as for mitigation cost
- It is not possible or advisable ! (we know, we've tried.....)
 - Large variation in primary data heterogeneity, both factual and methodological (I-A or iterative)....it depends.
 - Pitfalls of transferability – very site specific with objectives (CBA vs Risk), site and risk context
 - What is included in costs varies, technical vs implementation costs
- But can produce useful information to support

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The Economics of Adaptation

Economic appraisal of International Adaptation Finance in Developing Countries

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Introduction

- International adaptation flows to developing countries are increasing significantly – in line with Copenhagen commitments
- EU / MS is the largest source of this adaptation finance, either directly or through contribution to multi-laterals (including Green Climate Fund)
 - Short term, these finance flows may be larger than domestically in EU
- Question of how to allocate resources efficiently, effectively and equitably
- And how to ensure additionality and avoid relabelling

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LDC Adaptation appraisal is challenging

Economic appraisal has a key role in helping to prioritise, but difficult

- Data availability – for climate change, impacts, costs
- Low capacity of country especially on economic appraisal
- Greater influence of current climate variability and need for mainstreaming
- Discount rate / interest rate and weighting to the short-term
- Equity and distributional issues, especially among the most vulnerable
- Key area non-market/informal sectors and involve multiple actors

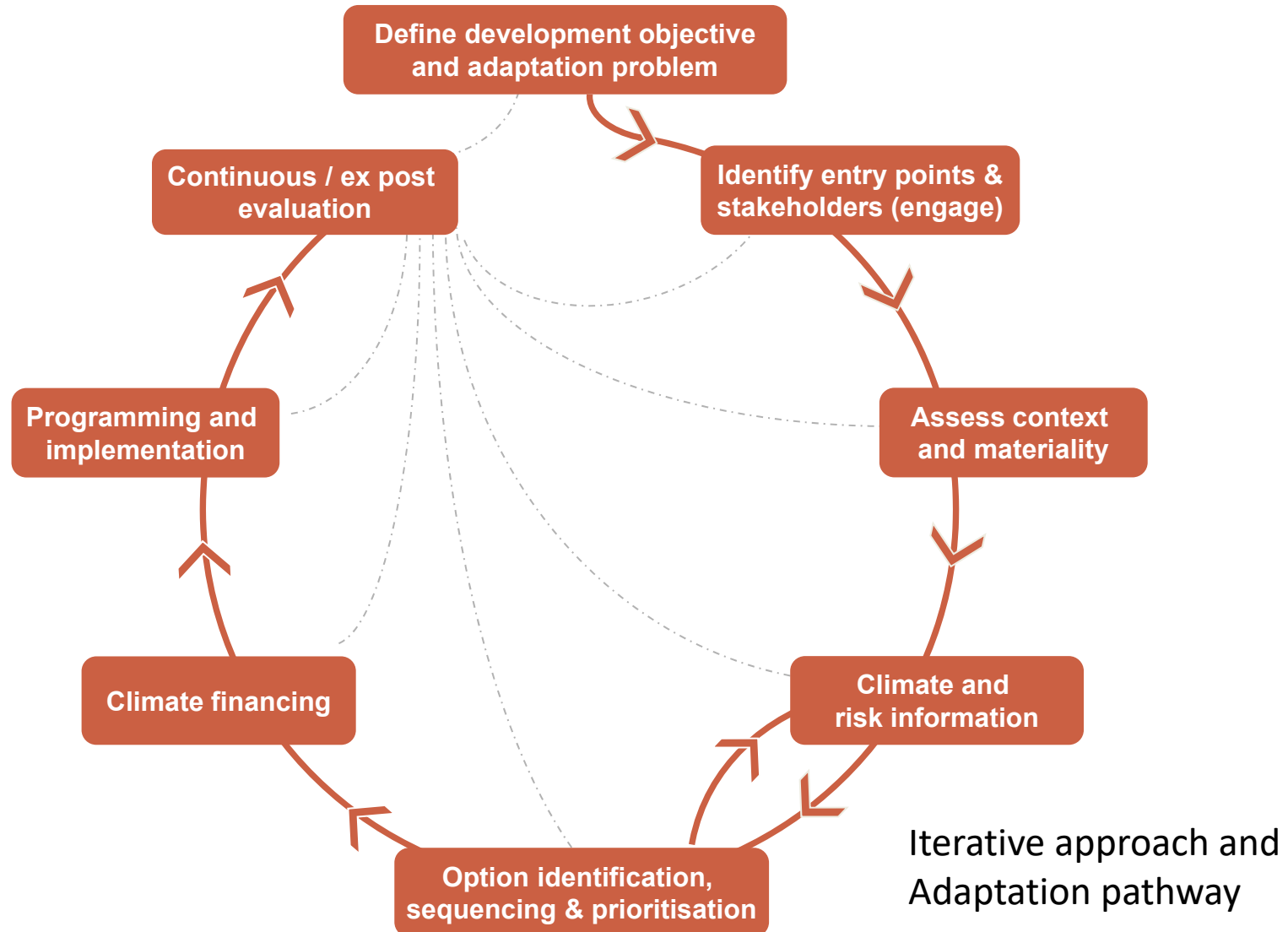
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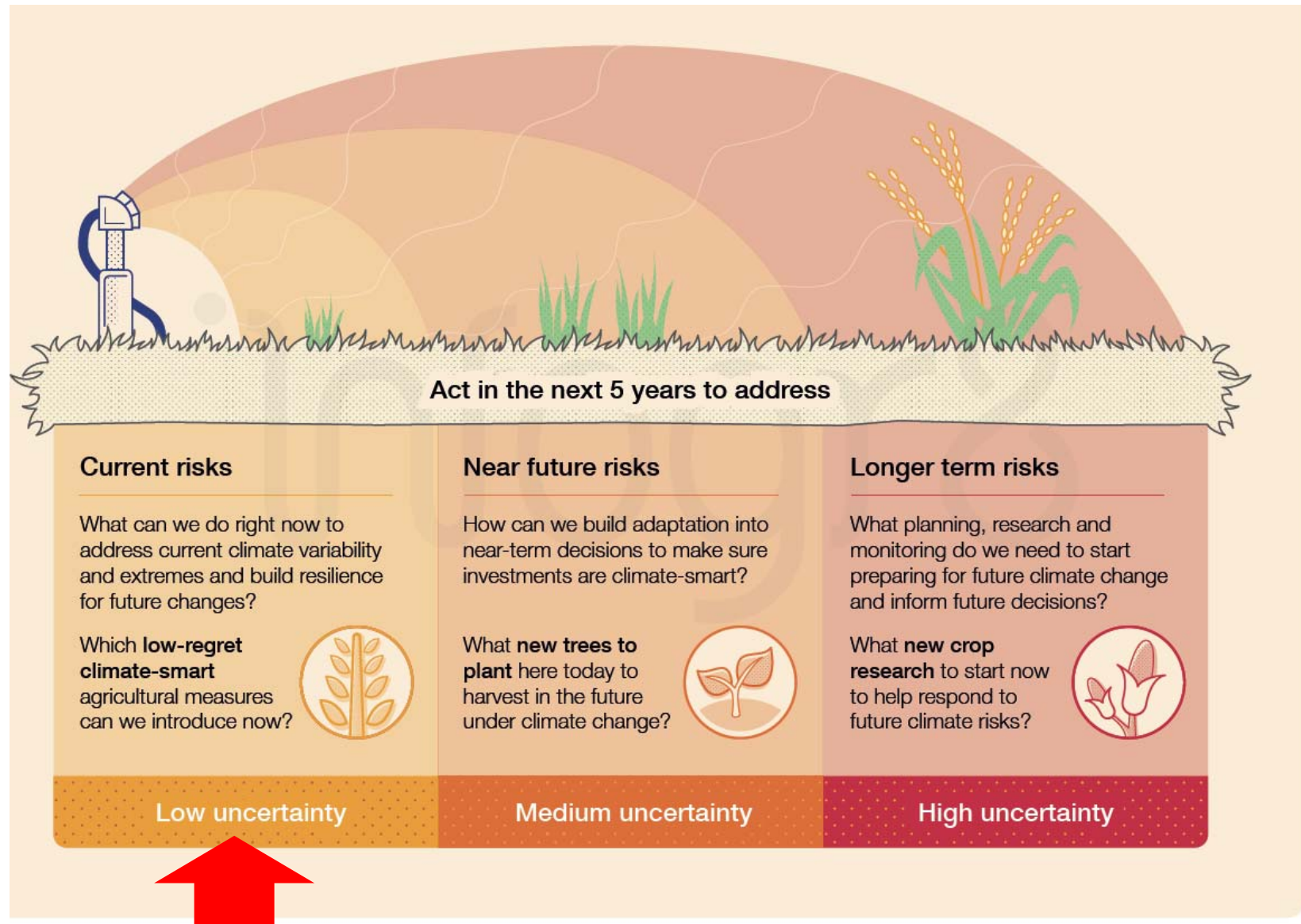
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Apply our policy framework

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ECONADPT LDC Case studies

- Case studies on the economics of adaptation in the context of European development support for international adaptation (climate finance).
- Undertaken this work on real examples, aligned to developing country with the aim of financing and implementing
- Working with developing partners and country governments
- Used the economic information in climate finance proposals – and secured climate finance
- Considered lessons learned and transferability of the case study to methods and guidance.

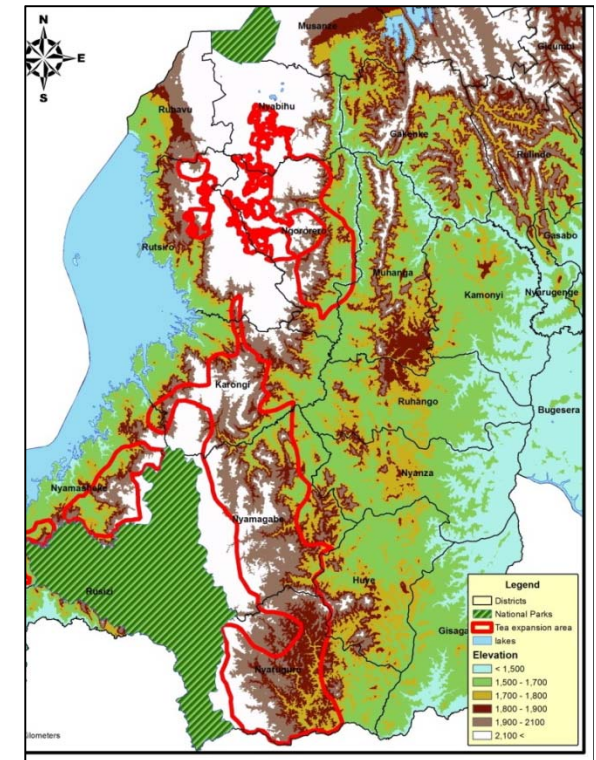
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Case study Rwanda

- Mainstream climate change into tea and coffee policy and plans (sector development plans)
- Account for 25% of total national exports (by value) and employ many small-holders
- Highly climate sensitive and long lived
- Interesting issues of land-use change because Government is expanding areas of tea (doubling)
- Changing patterns of pests and diseases emerging
- Economic and financial analysis of resilience mainstreaming



Some highlights

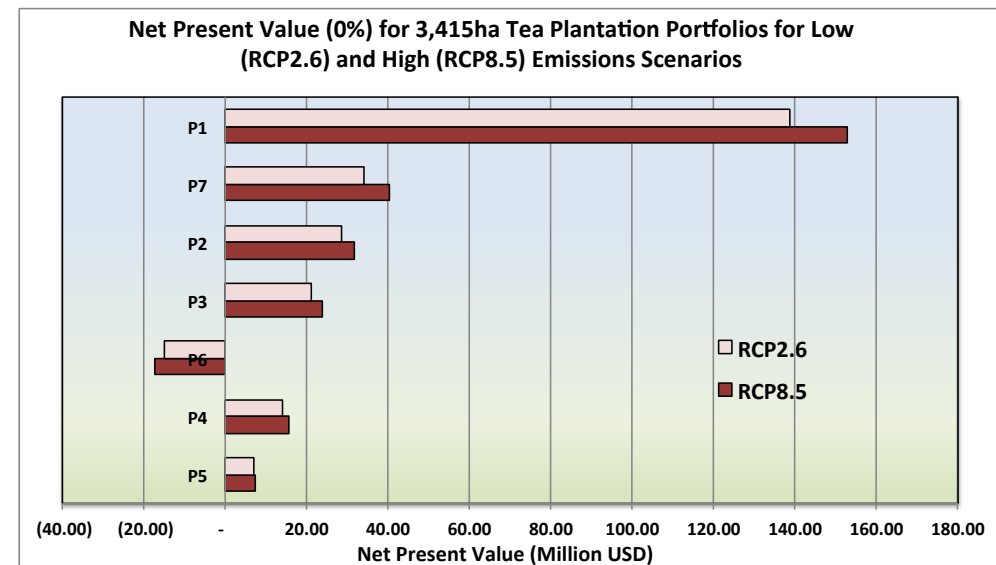
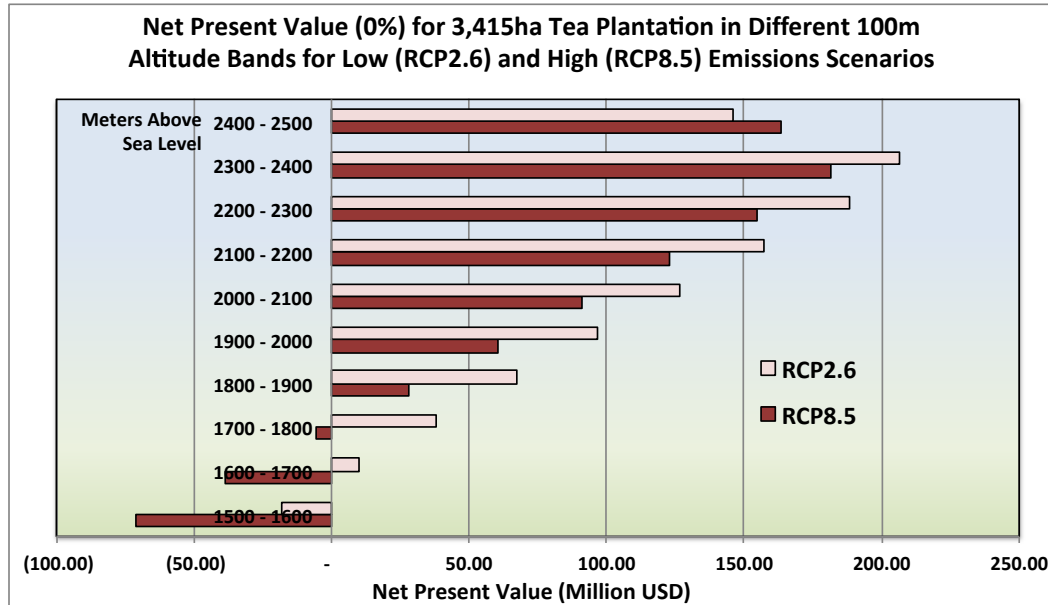
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- Implemented an approach for mainstreaming climate change (guidance) – noting mainstreaming is much more difficult than first appears (Pol, Ins, Ob)
 - Identified portfolio
 1. Undertook economic and financial analysis of low regret options. This identified climate smart agriculture (shade trees) that provide economic benefits now and resilience for future. Cost benefit analysis (BCR 6:1)
 2. Developed a portfolio analysis and rule based criteria to look where to plant future tea plantations so that they are ‘climate smart’ i.e. to produce under current and future climate (long life time).
 3. Developed an information, monitoring and research programme to start investigating future risks from pests and disease (value of information)

Analysis



So what ?

- ECONADAPT provided economic & financial analysis to support a climate finance proposal from Ministry of Agriculture to national climate fund
- Successfully used to secure \$3 million grant finance project to mainstream climate change in the tea and coffee sector
- Now scaling up ECONADAPT analysis to a \$70 M proposal by the Green Climate Fund (in design)
- And likely use in further Green Climate Fund with a \$30 million proposal for climate mainstreaming for Rwanda pilot for Direct Enhanced Access

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Case study Zanzibar

- ECONADAPT provided economic & financial analysis to support a business case for UK DFID for \$10 m adaptation grant (financial aid) to Zanzibar
- Work with Government of Zanzibar to help design fast track projects including seaweed and cloves providing economic and financial support
- Applying econadapt framework



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Seaweed

- Over 20,000 coastal farmers on Zanzibar's two islands farm seaweed
- Important income source for women and rural farmers
- Dried seaweed is sold to export companies and shipped around the world. After cloves most important export from Zanzibar. #3 world supplier
- Rising sea surface temperatures threatening supply, rendering more valuable species impossible to farm via traditional methods
- Future warming will have major impacts on livelihoods and exports

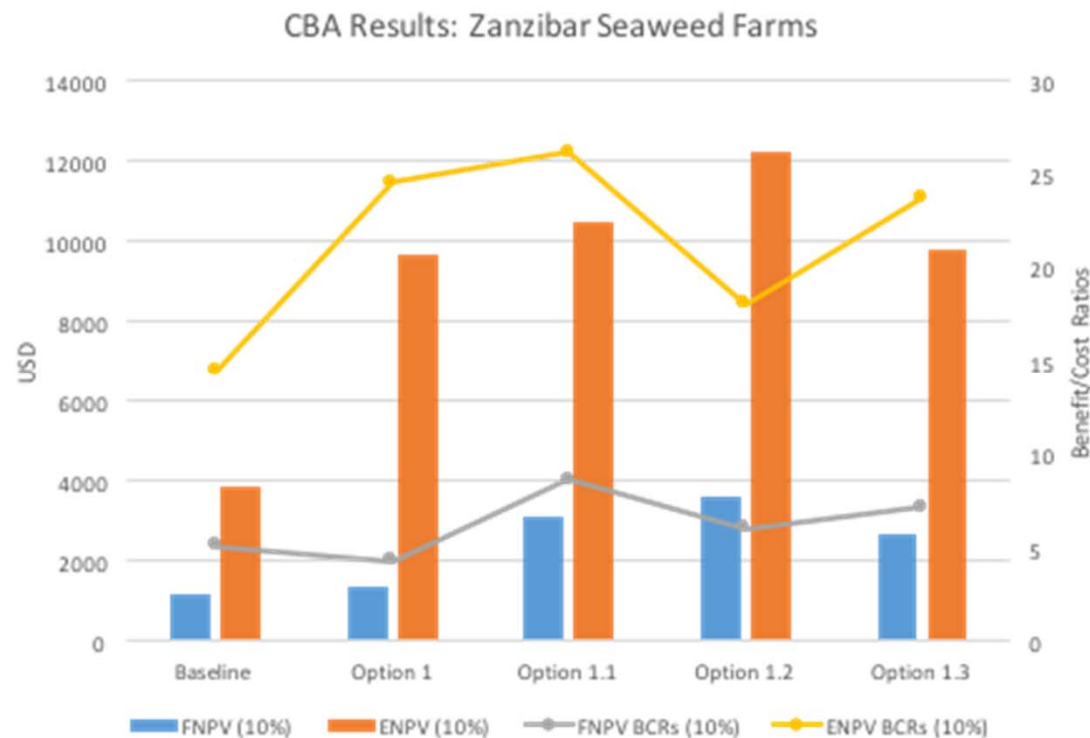
Seaweed

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- Analysis of options – identified those that increase financial value for farmers and high economic value for society



- But also investing in monitoring, information and piloting – help to inform future decisions: option values

So what?

- Finalised analysis, though due to political situation, currently on hold

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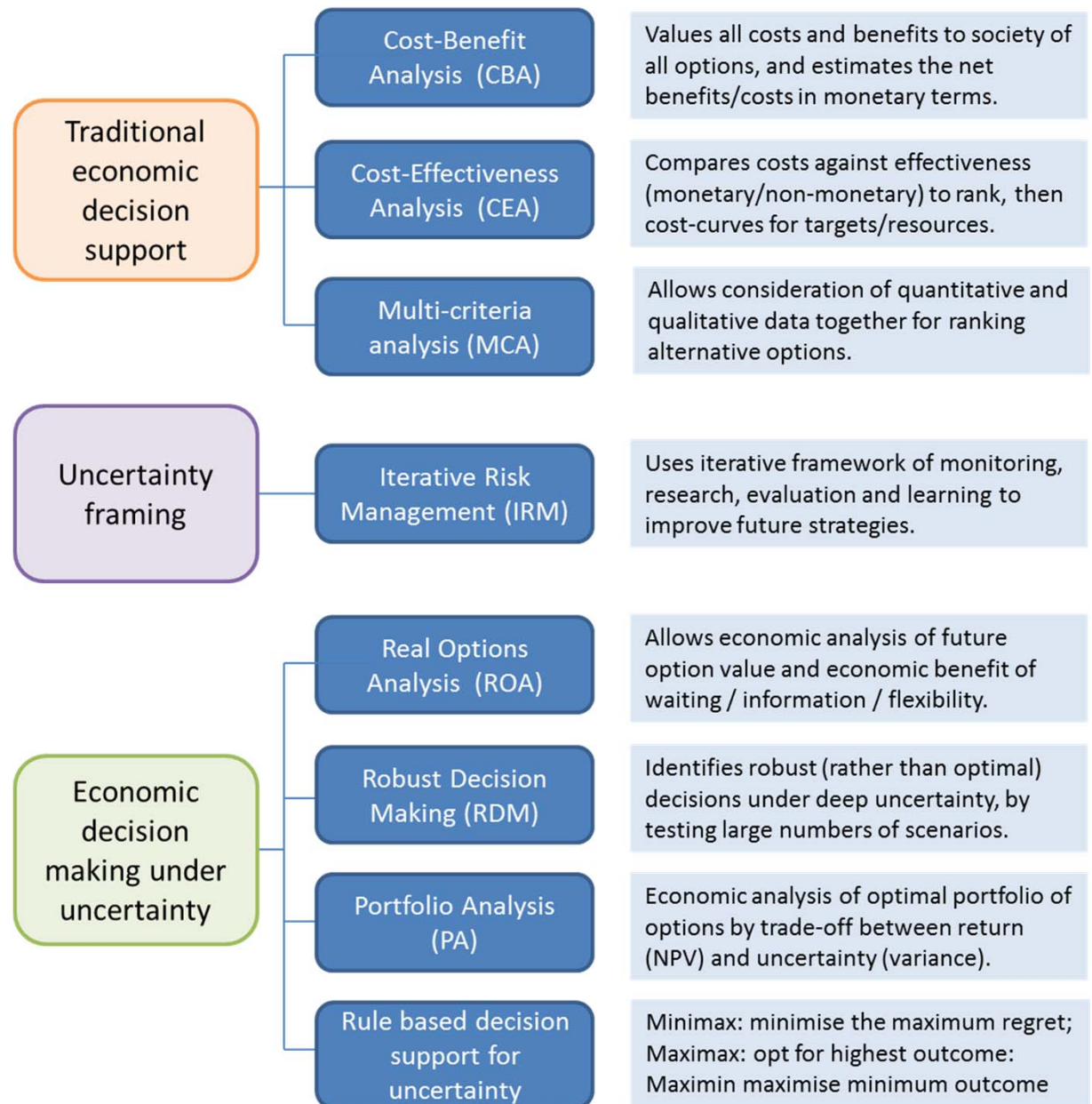
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Conclusions

- Economics key role in programming adaptation finance flows to LDCs
 - Critical in international climate finance
- Additional challenges in economic appraisal in LDCs
- Greater focus on short-term (allocation of resources) – though are some longer-term decisions
- Need light-touch approaches for decision making under uncertainty

Decision making under uncertainty

- Conventional approaches struggle with uncertainty
- New approaches
- Project reviewed but also tested





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- New methods are complex
 - No one method or one size fits all – depends on problem
 - Often involve assumptions on uncertainty (probability) that undermine decision
 - They take lots of time and resources to apply
 - Ok if major capital project, but not day to day
 - High resistance to implement
 - Tip – use policy framework, helps identify where CBA vs when new
 - Greatest future potential on light touch approaches