NAP-GSP
NATIONAL ADAPTATION PLAN GLOBAL SUPPORT PROGRAMME

Appraisal of Adaptation Options and Prioritization

Nadi, Fiji **28 – 31 May 2018**

gef

United Nations Office for Sustainable Development Incheon - ROK

UN environment United Nations Environment Programme

UNDP Empowered lives. Resilient nations.

unitar United Nations Institute for Training and Research

Reflections on Day 2

What worked?

What needs to be clarified/more information?

Day 3

Session 6 Gender considerations in project appraisal and prioritization

Session 6 Appraisal and prioritization of adaptation options

Session 6.1. Cost-effectiveness Analysis (CEA)

Cost-benefit Analysis (CBA)

Appraisal and prioritization of adaptation options: Gender considerations

Ms. Catherine Hill

Gender Expert

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Overview of module

- Why gender in adaptation
- Gender-responsive adaptation
- Decision-support tools
- Summary
- Exercise

Photo: FAO

Question

- What do we understand by the term, **“gender”?**
- Discuss for 5 minutes with someone at your table.

See Glossary, Gender Module for more concepts

Example: Gendered experiences of Zanzibar's seascapes

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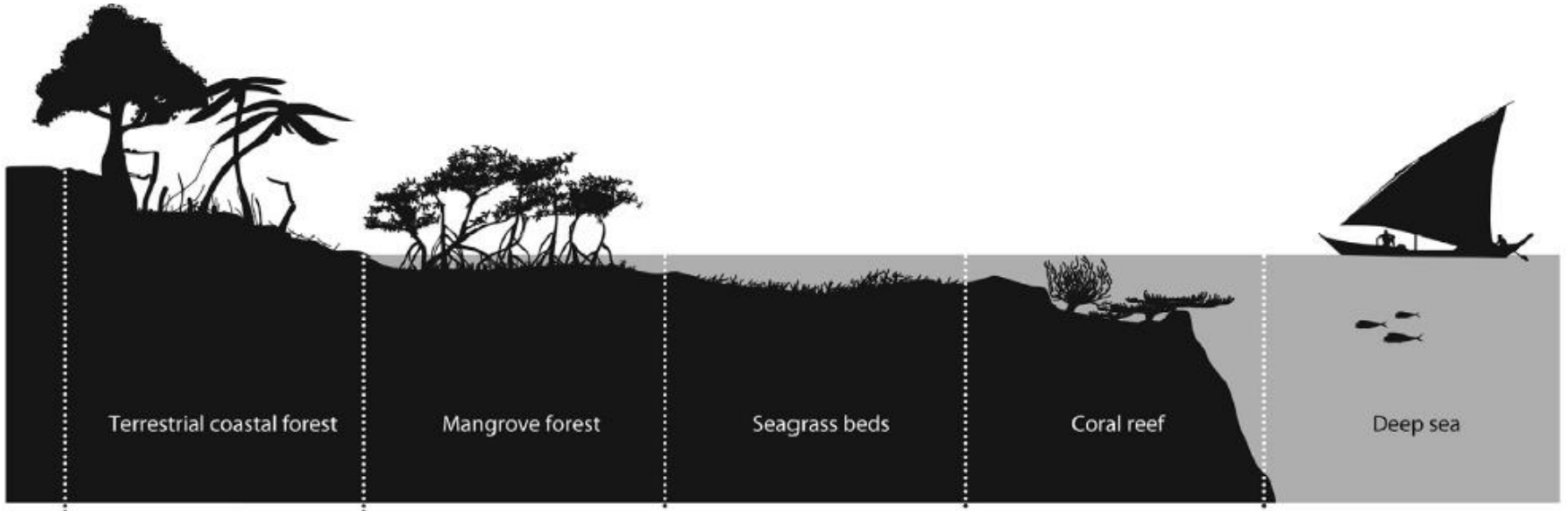
Question: What do you see?



Activities

	♂	♀
Agriculture	78%	100%
Firewood collection	83%	94%
Fruit collection	83%	100%
Building material collection	39%	11%
Collection of twigs for local fish trap	11%	22%
Medicine collection	6%	-
Lime making	11%	17%
Collection of sticks for seaweed farming	6%	6%
Rope making	-	11%
Charcoal making	-	22%

	♂	♀
Firewood collection	67%	100%
Building material collection	67%	17%
Invertebrate collection	33%	67%
Charcoal making	50%	17%
Fishing activities	33%	-

	♂	♀
Fishing activities	94%	39%
Invertebrate collection	6%	61%
Seaweed mariculture	-	67%
Collection of fertilizer	17%	6%
Collection of fertilizer	17%	-

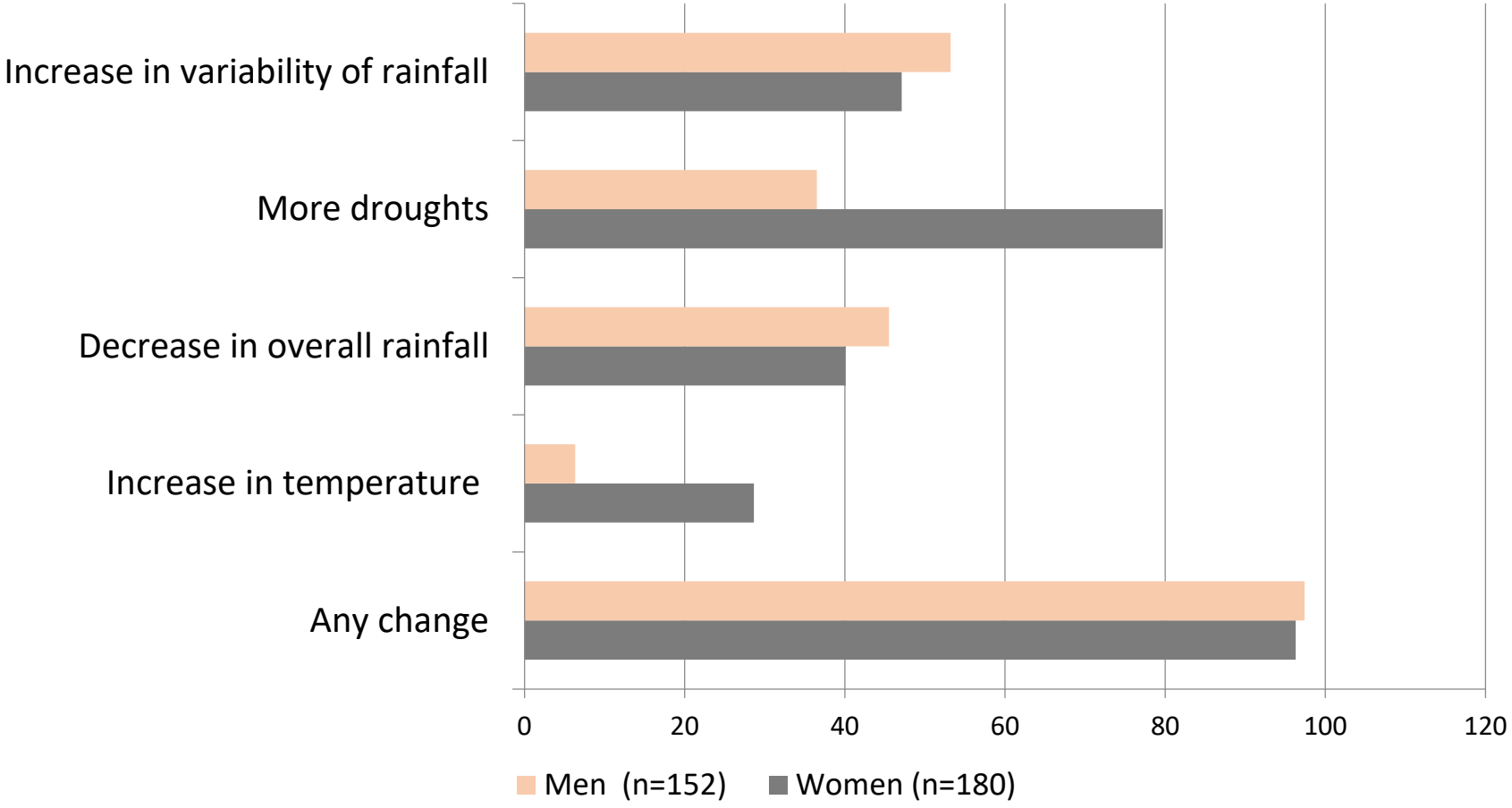
	♂	♀
Fishing activities	56%	-
Tourist activities	11%	-
Invertebrate collection	-	6%

	♂	♀
Fishing activities	89%	-

Source: J. de la Torre-Castro *et al,* 2017

Gendered perceptions of climate change

Question: Why might women and men have different perceptions of climate change?



Source: IFPRI-CCAFS intra-household survey: Elizabeth Bryan's presentation

Why gender in adaptation planning?

What do you think might be some of the benefits?

Different knowledge, skills, needs, constraints.

Identification, appraisal, prioritization more relevant to different needs, constraints.

Lead to more relevant, sustainable adaptation efforts

Lead to greater resilience.

What does gender-responsive adaptation look like?

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See Table 3, Gender Module

- Identifies & redresses inequalities.
- Builds on gender/social analysis.
- Recognizes different vulnerabilities, targets adaptation strategies.
- Builds on different knowledge, experiences.
- Promotes equitable participation in decision-making processes.
- Supports equitable access resources, rights, opportunities
- Consider outcomes vs outputs

Source: CARE. 2010. Adaptation, gender and women' empowerment. ; UNDP. 2015. Gender-responsive national communications toolkit.

Global policy context and mandate

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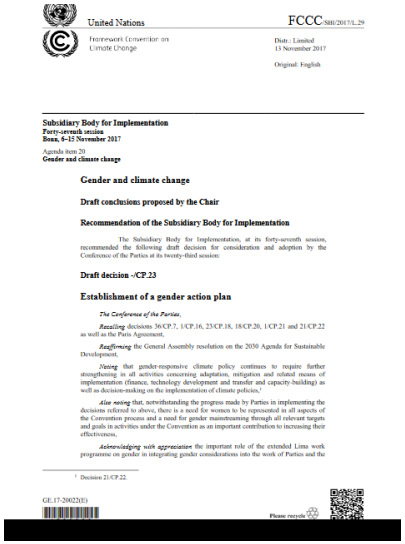
PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11



United Nations
Framework Convention on Climate Change

FCCC/SB/2017/L.29

Date: Limited
13 November 2017

Original: English

Subsidiary Body for Implementation
Forty-seventh session
Bonn, 6–15 November 2017

Agenda item 20
Gender and climate change

Gender and climate change

Draft conclusions proposed by the Chair

Recommendation of the Subsidiary Body for Implementation

The Subsidiary Body for Implementation, at its forty-seventh session, recommended the following draft decision for consideration and adoption by the Conference of the Parties at its twenty-third session:

Draft decision -/CP.23

Establishment of a gender action plan

The Conference of the Parties,

Recalling decisions 36/CP.7, 1/CP.16, 23/CP.18, 18/CP.20, 1/CP.21 and 21/CP.22 as well as the Paris Agreement,

Reaffirming the General Assembly resolution on the 2030 Agenda for Sustainable Development,

Noting that gender-responsive climate policy continues to require further strengthening in all activities concerning adaptation, mitigation and related means of implementation (finance, technology development and transfer and capacity-building) as well as decision-making on the implementation of climate policies,[1]

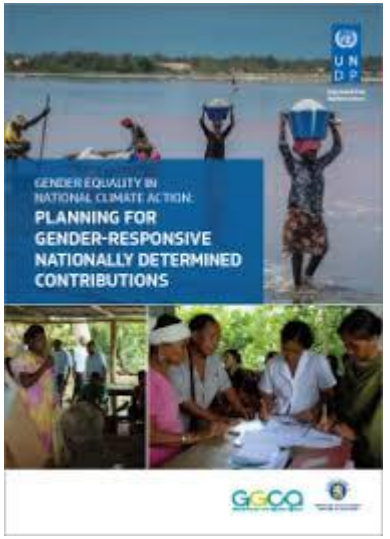
Also noting that, notwithstanding the progress made by Parties in implementing the decisions referred to above, there is a need for women to be represented in all aspects of the Convention process and a need for gender mainstreaming through all relevant targets and goals in activities under the Convention as an important contribution to increasing their effectiveness,

Acknowledging with appreciation the important role of the extended Lima work programme on gender in integrating gender considerations into the work of Parties and the

[1] Decision 21/CP.22.

GE.17-20022(E)

Please recycle



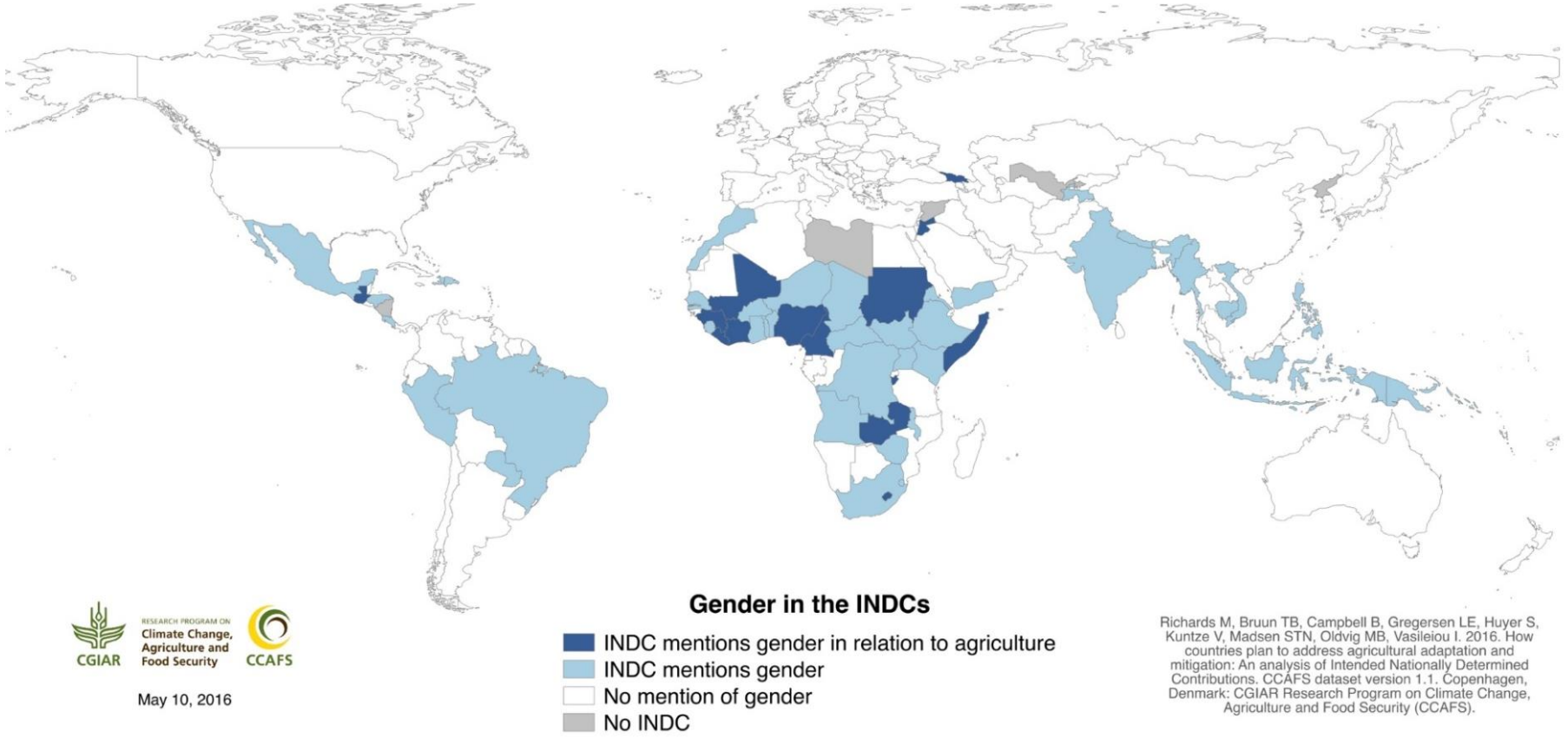
TRANSFORMING OUR WORLD:
THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT GOALS

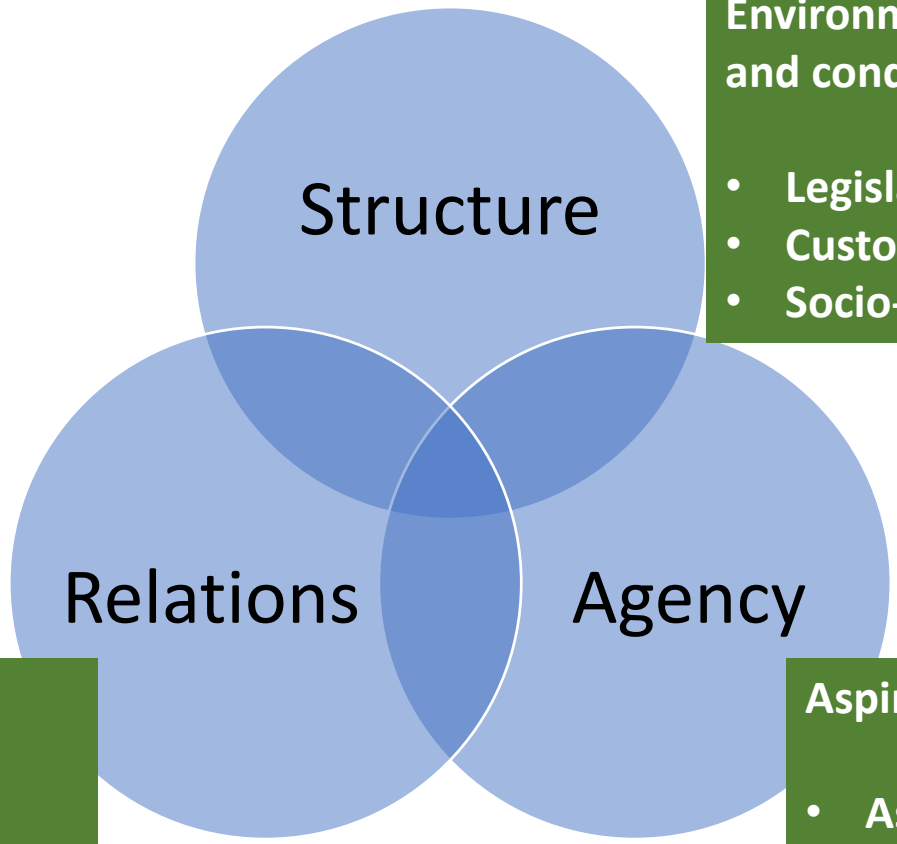
ÇEDAW
THE CONVENTION ON THE ELIMINATION OF ALL FORMS OF DISCRIMINATION AGAINST WOMEN

National Commitments

Adaptation options should align with national goals including gender equality goals: **What are your country's GE commitments?**



Gender "lens" (Source: CARE)



Environment that surrounds and conditions choices:

- Legislation, policies
- Customary laws, practices
- Socio-cultural norms

Power relations through which we negotiate our path:

- Decision-making power;
- Negotiating power
- (Household, community, group, stakeholders, etc.)

Aspirations and capabilities:

- Assets, materials
- Skills, education
- Self-confidence
- Labour/time
- Awareness of rights

Gender in decision-support tools

- Emergent area of study

- Balance beneficiary needs, technical benefits, cost effectiveness:

    - Technical tools (e.g. CBA, CEA, MCA, barrier analysis, etc.) & community engagement.

    - Account for social construction of vulnerability, adaptive capacity.

Photo: C. Hill

Decision matrix with stakeholder input

Criteria	Adaptation option		Score (Low= 1; high = 3)
	A. Protective coastal infrastructure	B. Strengthen national met services	
Timing			
Cost			
Efficacy			
Poverty reduction			
National goals			
Gender responsiveness			
Social/political acceptance			

See Table 3, Gender Module

Questions:

1. **Who might be some of the key gender-related stakeholders?**
2. **Who might be some of the communities/ beneficiaries that may be affected (+ or -) by option?**
3. **How might they be affected?**
4. **What are possible gender issues to consider?**

Based on p. UNFCCC NAP Technical Guidelines, p. 74

Gender and MCA

- Include gender-focused stakeholders; women, men in decision-making.
- Ensure equitable stakeholder discussions.
- Consider each criterion from perspective of men, women (tradeoffs, vulnerabilities, roles, responsibilities).
- Ensure experts share information in way that is meaningful for women, men (across age, ethnicity, etc.)
- Ensure weighting reflects diverse views, values potentially affected by option(s).
- Different stakeholders may have different weights for a set of adaptation options

See Table 5, Gender Module

Gender and Barrier Analysis

1. Organize inclusive process (Table 6)
2. Include “gender” in literature search, interviews (gender/social assessments of technologies/practices) to generate categories of barriers (Table 7)
3. Barrier screening: Ensure gender/social inclusion issues considered (Table 7)
4. Ensure gender-responsive, socially inclusive measures (Example Laos, Table 8)

See Tables 6, 7, 8, Gender Module

Gender and CBA

Consider:

- Challenges monetizing costs/ benefits of social, cultural values
  - E.g. Morocco – Drip irrigation – non-monetary benefits worth more than monetary benefits
- Who benefits from adaptation options (consider vulnerability)?
- Need to consider distribution of costs and benefits for women and men in community.
- Requires more research, may require new metrics, valuation of change, etc. (Watt *et al*)

See Figure 1, Box 5, Gender Module

Gender and CEA

- Alternative to CBA where social benefits are difficult to express monetarily; costs only.
- Ensure different voices represented/involved in decision-making process.
- Consider ***whose*** priorities included.

- Need for other approaches: e.g. Pacific Island Countries Project considered gender ***parallel*** to CEA (Vunisea *et al*, 2016)

Group perceptions - questionnaire

- Include priorities of women and men
- Consider other variables (e.g. age, ethnicity/indigenous peoples, disability, etc.)
- Avoid/address gender bias when considering highest priority

Photo: FAO

Ranking/prioritization: Nominal group

Ensure:

- Men, women participate in decision-making (expert) group
- Broad representation relevant to context (e.g. women, youth, ethnic minorities/indigenous peoples, etc.)
- Equitable group dynamics (e.g. gender, power/privilege, etc.)

- Strong facilitation to assure consensus considers voice of many, not just one “loud” expert

Summary

- Are adaptation options and priority setting based on:
  - **qualitative and quantitative data** that genuinely reflects **women's and men's needs and interests**?
  - **disaggregated data** highlighting **women's and men's different needs, interests, challenges, felt impacts**?
- Are **organizations representing women, youth**, etc. **consulted during appraisal/priority setting**, e.g. Ministry of Women's Affairs/Gender, NGOs, research organizations?

Discussion

Integration of gender and other considerations such as human rights, indigenous communities in appraisal and prioritization

Day 3

Session 6 Gender considerations in project appraisal and prioritization

Session 6 Appraisal and prioritization of adaptation options

Session 6.1. Cost-effectiveness Analysis (CEA)

Cost-benefit Analysis (CBA)

Appraisal and prioritization of adaptation options – Part 2

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Outline

- Cost-benefit Analysis (CBA)
- Cost-effectiveness Analysis (CEA)
- Real Option Analysis (ROA)

Cost-benefit analysis (CBA) - overview

- Most commonly used economic analysis for decision making
- Values all relevant costs and benefits of all options > NPV or BCR
- Used to prioritize when efficiency is the only decision making criteria

+ Compares single metric / well-known and widely applied

+ Direct analysis of economic benefits

- Difficulty of monetary valuation for non-technical options

- Uncertainty usually limited to probabilistic risks

- Does not address equity considerations e.g. gender

- Complex

Cost-effectiveness analysis (CEA) - overview

- Compares options by comparing gains and costs of intervention.
- Identifies most economically efficient way to achieve objective.
- Costs different options that achieve the same objective > least costly option.

+ Benefits expressed in physical terms – no monetary valuation

+ Simple approach – easy to understand outputs – known by policymakers

- Less applicable to cross-sectoral for complex risk
- Does not capture all costs and benefits
- Works best with technical options – give lower priority to non-technical options

Real Option Analysis (ROA) -overview

- Can be used to gain insight into the risks associated with investing in physical (real) assets.
- Useful when considering when to invest into an adaptation intervention
- Provides two types of results:
  - When project is deemed cost-efficient following a deterministic analysis, ROA sometimes demonstrates that it would be beneficial to delay investment while waiting for new information that may impact results.
  - Projects which fail under a deterministic analysis could benefit from upfront investment.

Real Option Analysis (ROA) -overview

+ Can guide the timing of adaptation interventions.

+ Allows for quantitative economic analysis of the value of flexibility and learning.

+ Provides a structured way to conceptualize and visualize the concept of adaptive management.

+ Can be applied more qualitatively when probabilistic data on impacts are limited.

- Requires for quantitative and monetized information on costs and benefits.

- Can be data and resource intensive

- Less applicable to situation of deep uncertainties.

- A complex method – require expert input and significant resources.

- Identification of decision points complex for (dynamic) aspects of climate change, and need to match these decision points to equivalent climate data.

Case Study: Food security in the Solomon islands

Ms. Lisa Buggy

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- Application of CBA in the context of food security in a changing climate

- Qualitative and quantitative evaluation of options to address food security concerns

- Quantitative review of effectiveness of options, post implementation

More information: Pacific Adaptation Scenarios (Costs and Benefits) - http://ccprojects.gsd.spc.int/documents/

Evaluate and implement innovative techniques and management approaches to increase the CC resilience of land-based food production systems for communities in Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu

Situation Analysis

- Long-term food security a major issue in PICTs
- Compounded by - population growth, rural to urban migration, deforestation and soil erosion
- Exacerbated by climate change
- 2 x target communities in Choiseul Province – geographically diverse
- Key risks – flooding, drought, population growth
- CBA applied to improved agro-forestry

Qualitative evaluation of adaptation options

	Sepa	Loimuni
Climatic & non-climatic hazards		
	Flooding and landslide Declining crop yield because of decreasing soil condition due to high population growth	Regular drought induced crop yield decline Declining crop yield also because of decreasing soil condition due to high population growth
Adaptation Option		
Conservation agriculture	+++ (applicable in all HHs)	+++ (applicable to all HHs)
Engineering based contour farming	+ (applicable only in 45-50% of HHs); key constraints is associated with availability of rocks and stones	Applicable only in less than 10% of HHs
Live-vetiver based contour farming	+++ (applicable only in 45-50% of HHs with land on slopes)	Applicable only in less than 10% of HHs where HHs have hilly land
Integrated contour-based Agroforestry and conservation agriculture	+++++ (applicable only in 45-50% of HHs)	Applicable only in less than 10% of HHs

Decision support – Quantitative evaluation

	Sepa		Loimuni	
Household size (person)	4.5 p		5.1 p	
Annual Population Growth rate (%)	2.8%		2.8%	
Crop Yield decline due to population induced pressure on land, including reduced fallow (% of total crop)	3-10% (base measure of 5%)		3-10% (base measure of 5%)	
	Without adaptation	With adaptation	Without adaptation	With adaptation
Total Energy Consumption* from all foods (local & imported energy foods and seafood) (Kcal/HH/y)	2,439,903 Kcal/HH/y	3,215,823 Kcal/HH/y	354,7067 Kcal/HH/y	4059,600 Kcal/HH/y
Energy production/consumption from traditional crops (without weather & climate extreme events, without yield decline (Kcal/HH/y)	527,363 Kcal/HH/y	866,196 Kcal/HH/y	517,518 Kcal/HH/y	1,025,066 Kcal/HH/y
Current weather and climate scenario	Extreme rainfall 1 in 2 years; causing 70% damage to crops,		Drought event twice in five causing 50% decline in output	
Current weather & recovery	6 months	4-6 weeks	4-6 weeks	4-6 weeks
Climate Change scenario, 2030	Annual 2 flooding, occurring 1 in every 2 years, causing 80% crop		Drought event one in every five years, with higher intensity, causing 60% loss;	
Climate Change Scenario – recovery period	6 months	4-6 weeks	4-6 weeks	4-6 weeks
Gardening – variable inputs**	1 person per day * 3 times a week* 45 weeks a year	1 person per day * 4 times a week* 45 weeks a year	1 person per day * 3 times a week* 45 weeks a year	1 person per day * 4 times a week* 45 weeks a year

- With and without baseline profile used to estimate economic costs and benefits of contour-based agroforestry and conservation agriculture
- Economic cost of weather and climate risks
- Economic costs of non-climatic risks of population growth
- Costs of adaptation – improved agroforestry farming

Decision support – Quantitative evaluation

	Sepa (contour-based improved Agroforestry)			Loimuni (Conservation farming)		
	Without adaptation	**With adaptation**	**With and without' adaptation**	**Without adaptation**	**With adaptation**	**With and without' adaptation**
PV(Food production/ Consumption	SBD **568,494**	SBD **773,054**	SBD **204,560**	SBD **531,936**	SBD **601,691**	SBD **69,755**
Incremental cost of contour and/or conservation agriculture		SBD **37,360**			SBD **32,603**	
Net Present Value (with and without)			SBD **167,199**			SBD **121,391**
BCR (Net Benefit/Net Costs in real terms)			**5.5**			**3.7**

Results

- Net positive gain in food security condition for both villages
- No regrets adaptation strategy as it addresses current development needs
- Non-climatic risks associated with population growth of greater significance

Challenges

- Empirical data required in CBA often limited or non-existent in Pacific Island Countries
- Many uncertainties in parameter estimates

Results

Email: lisab@spc.int

Group work

You will be put in 4 groups of 8-10 participants.

You are encouraged to split up with colleagues so that different groups may have participants from different countries.

Two groups will conduct the CEA and the other two will do the CBA all based on one case study.

Resource people for each tool:

1. Lucy Naydenova: CEA – location(??)
2. Herman Timmermans: CEA – location (??)
3. Lisa Buggy: CBA – location (??)
4. Ali Akram: CBA – location (??)

Discussion on experience with applying appraisal and prioritization tools in the Pacific region and way forward ase Study: Food security in the Solomon islands

Sefania Nawadra

UN Environment

DAY REVIEW

- Day review
- Daily assessment
- Reception Dinner – KEI