AUTUMN WEBINAR SERIES // WEBINAR 2: INDICATORS FOR CLIMATE ADAPTATION IN AGRICULTURE

2 October 2019
INDICATORS FOR CLIMATE ADAPTATION IN AGRICULTURE

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OUTLINE

- Background: global adaptation goal
- Problems for adaptation metrics
- Steps to the solutions
GLOBAL ADAPTATION GOAL (PARIS, 2015)

“enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change”

- Parties requested, but not required, to monitor and evaluate adaptation activities and to
- periodically take stock of the collective progress made towards achieving this global goal.

⇒ UNEP, 2017: “currently no existing frameworks that fulfil all of the criteria for an assessment of progress towards the global goal on adaptation.”
Only 40 developing countries have quantifiable adaptation targets in NDCs
ADAPTATION AND DEVELOPMENT
VERY INTER-CONNECTED

https://klimalog.diegdi.de/ndc-sdg/

852 activities in the NDCs relate to SDG2
Can we look to SDGs for indicators?
SEVEN CHALLENGES

PROBLEMS AND COMPLEXITIES FOR ADAPTATION METRICS
Emissions tracking

- Unit clear – CO$_2$-eq
- Measure: hectare of practice X
- Calculate: Emission factors to convert into CO$_2$-eq
- Scale-free: can be done for a field, a farm, a landscape, a country, the globe – same unit, can be aggregated
- Can aggregate across sectors

Quite simple!

- Expense, lack of data, lack of emission factors, ………, but at least clear what to do
Adaptation tracking

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1. Lack of single metric
2. Lack of ability to aggregate information across sectors, and from fields to the globe
3. MANY CONFUSING INTERLINKED CONCEPTS

Potential occurrence of events or trends that impact

Vulnerability

Sensitivity to harm and lack of capacity to cope and adapt.

Hazard

Exposure

RISK

The presence of people, ..., systems that could be adversely affected.

Adaptive capacity The ability of systems, ...., to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

Resilience The capacity of systems to cope with a hazardous event or trend, responding in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.

After IPCC 2014
4. LACK OF AGREED OFF THE SHELF METHOD

43 frameworks

11 frameworks
5. DIFFICULTY TO IDENTIFY, COMBINE AND INTERPRET THE TYPES AND RELEVANT INDICATORS

Example

FAO Tracking adaptation in agricultural sectors (TAAS)
111 possible indicators

Synthesis
CCAFS CSA Programming and Indicator Tool

Compiles indicators from major agencies (inc. FAO, DFID, IFAD-ASAP, World Bank, USAID and CCAFS)
378 possible indicators
6. NATURE OF CLIMATE ADAPTATION (E.G. LONG TIMESCALES FOR IMPACTS AND OUTCOMES IN A CHANGING CLIMATE)

E.g. index-based insurance for maize production
→ indicator: numbers of farmers insured

Perhaps in good in the short term, but maladaptive in the long term, where what is required is a shift from maize production to other crops
7. MULTI-DIMENSIONAL CHALLENGES

Successfully building **adaptive capacity** entails addressing five domains:

- Assets
- Flexibility
- Social organization
- Knowledge and learning
- Agency

Cinner et al. (2011)

Multiple entry points:

- Changes or adjustments in **varieties/breeds**
- Crop/livestock **insurances**
- Livelihood **diversification**
- Access and use of climate information
- Access to market and **financial services**
- **Governance** changes
- Trading relationships
- Formal safety nets
- **Social protection** mechanisms
- Access to Infrastructure/services
- Policies, regulations
1. Have a good theory of change
2. Use standard M&E framework
3. Use context-specific indicators in projects
   - Three sources of indicator inspiration
4. Align as far as possible with SDG indicators
5. Select a diversity of indicators
1. HAVE A GOOD THEORY OF CHANGE

- Contextualize the adaptation action and identify its dimensions and contributions
- Formulation of the results framework
2. USE STANDARD M&E FRAMEWORK LINKED TO PRAGMATIC AND SIMPLIFIED INDICATORS

**Readiness**
- Presence of cross-Ministerial coordination institution

**Process**
- Proportion of national and local govt officers received trainings on climate change adaptation

**Output**
- Proportion of agricultural land under irrigation

**Outcome**
- Average income of small-scale food producers (SDG)

*Example indicators*
3. USE CONTEXT-SPECIFIC INDICATORS IN PROJECTS, BASED AS FAR AS POSSIBLE ON COMMONLY USED ONES
CSA Programming and Indicator Tool: 3 Steps for increasing programming effectiveness and outcome tracking of CSA interventions

1. Step 1: Questions to be addressed & intentionality of desired outcomes

Adaptation

_Land, water, Ag Practices & technologies_

- reduce likelihood and/or impact of climate shocks to cropping and livestock systems?
- promote improved technologies with proven resistance to climate-related constraints (e.g. drought, waterlogging, high temperatures etc.)?
- increase availability of water and efficiency of water use for smallholder agriculture production and processing, especially during dry seasons?

Livelihood Strategies

- support increased on-farm production and/or livelihoods during lean
Step 2: Indicator’s type

Based on the current stage of your intervention, please select the desired type of Indicators:

Please select an option

- Readiness

Step 2: Intended scale of changes to be measured

Scale at which do you intend to measure changes:

Please select an option

- Household/Farm
- Subnational (including the regional, landscape, value chains, institutional scales)
- National (policy, institutional and programmatic scales)

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<thead>
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<tr>
<td>189</td>
<td>Natural assets protected or rehabilitated</td>
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<td>115</td>
<td>Number of people implementing risk-reducing practices/actions to improve resilience to climate change as a result of USG assistance</td>
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<tr>
<td>1159</td>
<td>Number of livestock units subject to CSA practices as result of the project</td>
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<td>1210</td>
<td>Uptake of soil conservation measures</td>
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<td>1212</td>
<td>Proportion of forest managers taking action on adaptation</td>
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FAO FRAMEWORK AND METHODOLOGY FOR TRACKING ADAPTATION IN AG. SECTORS (TAAS)

- Broad target audience: national decision makers and development practitioners and research institutions
- Takes account of ongoing national efforts for reporting to major international mechanisms (SDGs, Sendai)
- Flexible list of 111 process and outcome indicators
- 6-step method for baseline/target definition, indicators selection, scoring/ranking
Revision, additions and tweaks led to a selection of 28 indicators

Validation of alignment with 15 companies
4. FOR AN OUTCOME INDICATOR, ALIGN AS FAR AS POSSIBLE WITH SDG INDICATORS

But, what do we want as a resilience outcome indicator?
GIVEN SDG AND ADAPTATION LINKAGES

- Poverty reduction
- Improved food security, including improved nutrition
- Reduced gender gap
- Empowerment of youth

- Improved ecosystem services (water resources, pollinators, nutrient cycling etc.)
- Strengthened institutions (from community to national level)
- Improved governance
- …and the list goes on…
SDG INDICATORS STRONGLY LINKED TO SOCIAL WELFARE

1.1.1: Proportion of population below the international poverty line

2.1.1: Prevalence of undernourishment

(by gender, age, ethnic group etc....)
5. FOR PROCESS/OUTPUT INDICATORS, SELECT A DIVERSITY OF INDICATORS

- Assets
- Flexibility
- Social organization
- Knowledge and learning
- Agency

Cinner et al. (2011)

- Capacity to adapt
- Livelihoods and farm functioning
- Ecosystem services

Hills et al 2015
SDG INDICATORS STRONGLY LINKED TO PROCESSES ENABLING ADAPTIVE CAPACITY

1.3.1: Proportion of population covered by social protection systems

5.a.1: Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure

5.b.1: Proportion of individuals who own a mobile telephone, by sex

6.4.1: Change in water use efficiency over time

8.6.1: Proportion of youth (aged 15-24 years) not in education, employment or training
IN CONCLUSION

- Plenty of frustrating complexities………..
- Lack of coordination amongst agencies………..

1. Use a theory of change approach
2. Use standard M&E framework linked to pragmatic and simplified indicators
3. Use context-specific indicators in projects
4. Align as far as possible with SDG indicators
5. Select a diversity of indicators

- Question: is it not feasible to align indicators or approach across agencies?
THANK YOU!

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