



Food and Agriculture Organization
of the United Nations

Land Cover Global Data Collection

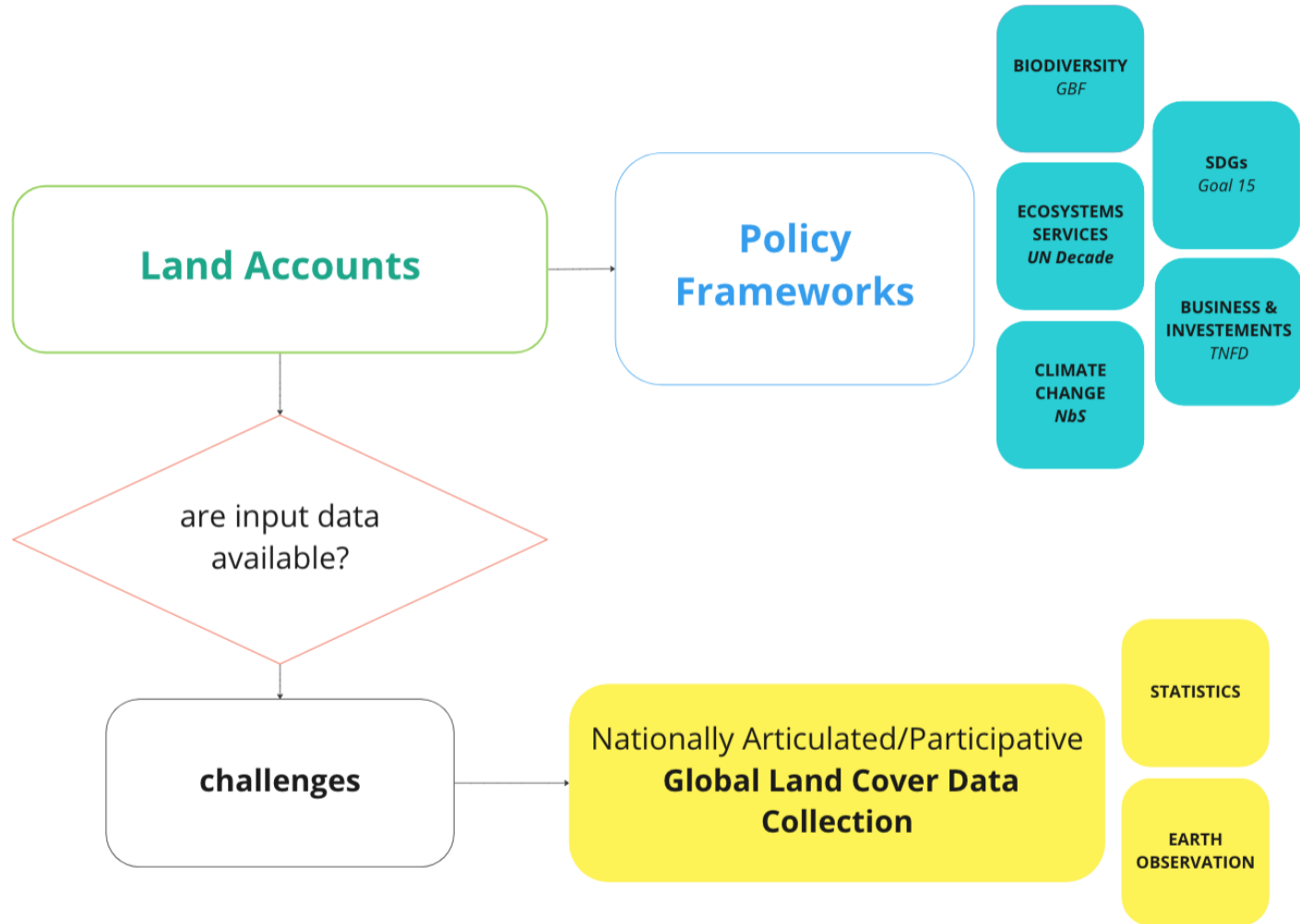
*Joint OECD-UNECE Seminar on the Implementation
of the SEEA*

Geneva, 13 – 15 March 2023

Dr Paulo Augusto Lourenço Dias Nunes
Office of the Chief-Statistician

Palais des Nations, Room XIX Geneva Switzerland

Presentation flow



A unique asset that “delineates the space in which economic activities and environmental processes take place and within which environmental assets and economic assets are located” (SEEA CF)

Land is a priority account in the SEEA (along with physical energy flow, air emissions, material flow, water) and national land cover maps are fundamental stepping stone for compiling ecosystem accounts .

National land cover and land use maps constitute a core input information for national ecosystem accounting

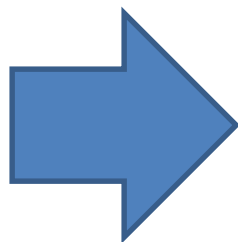
However:

- such products are rarely produced by countries on a regular basis and using a standardized approach
- there are several existing global land cover databases, but these databases often do not make use of available country data

National land cover and land use maps constitute a core input information for national ecosystem accounting

The lack of *in situ* data:

- poses a major challenge to the establishment of an efficient and sustainable land cover mapping solution at the national level

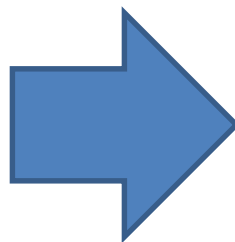


Therefore the lack of *in situ* data is an important limiting factor for the National Statistics Offices in the production of official land cover statistics

National land cover and land use maps constitute a core input information for national ecosystem accounting

At the same time:

- Earth Observation methods used to produce national land cover maps
- These land cover maps can significantly differ from country to country and even within the same country depending on the reporting year



Ad hoc, non articulated, Earth Observation methods can be an important limiting factor for the uptake of EO approaches by National Statistics Offices in the production of official land cover statistics

As a result, the majority of countries globally **are not able to report on ecosystem services accounts** using national land cover maps.

Global Assessment on Environmental Economic Accounting (2022) informs that **29 countries** have compiled land accounts (either land cover or land use) at least once over the past five years.

11th UNCEEA meeting (2016)

Agreed to establish a global databases for a small set of priority accounts, including land (Area C working group)

15th UNCEEA meeting (2020)

Agreed that for global SEEA databases available country data should be used to the extent possible, that any estimation methodology is to be put forward to the Technical Committee, and that countries are to be involved in the validation of estimates (similar as SDGs process)

Technical Workshop on Global Database for National Land Cover Accounts (19.12.2022)

Led by OECD/FAO/UNSD where it was agreed to launch a new process (drawing upon existing work) to move forward with developing and articulating a global database with national SEEA land cover accounts.

At the light of the UNCEEA Area C working group, the 3 agencies: FAO, OECD, UNSD are proposing to lead a

Nationally Articulated/Participative Global Land Cover Data Collection and Validation

The goal is to collect land cover data and metadata produced and validated by countries at the global level.

Such trilateral work promotes the technical collaboration between Earth Observation and Statistical Science groups, tailoring Earth Observation methods to the EEA Statistical community.

(Science to Science dialogue)

The dialogue involves another stakeholder: National governments (and not only NSO but also other governmental agencies). **Why?**

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The dialogue involves another stakeholder: National governments (and not only NSO but also other governmental agencies). **Why?**

First because this exercise aims at alleviating data collection burden for each country. At the same time, countries play a crucial role in the validation of data at the national level. Such ground truthing exercise is fundamental for the accreditation of the data.

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Second, this is not *an art pour art* exercise, but an exercise to provide reliable and relevant data for informing policy makers and investors.

(Science to Policy dialogue)

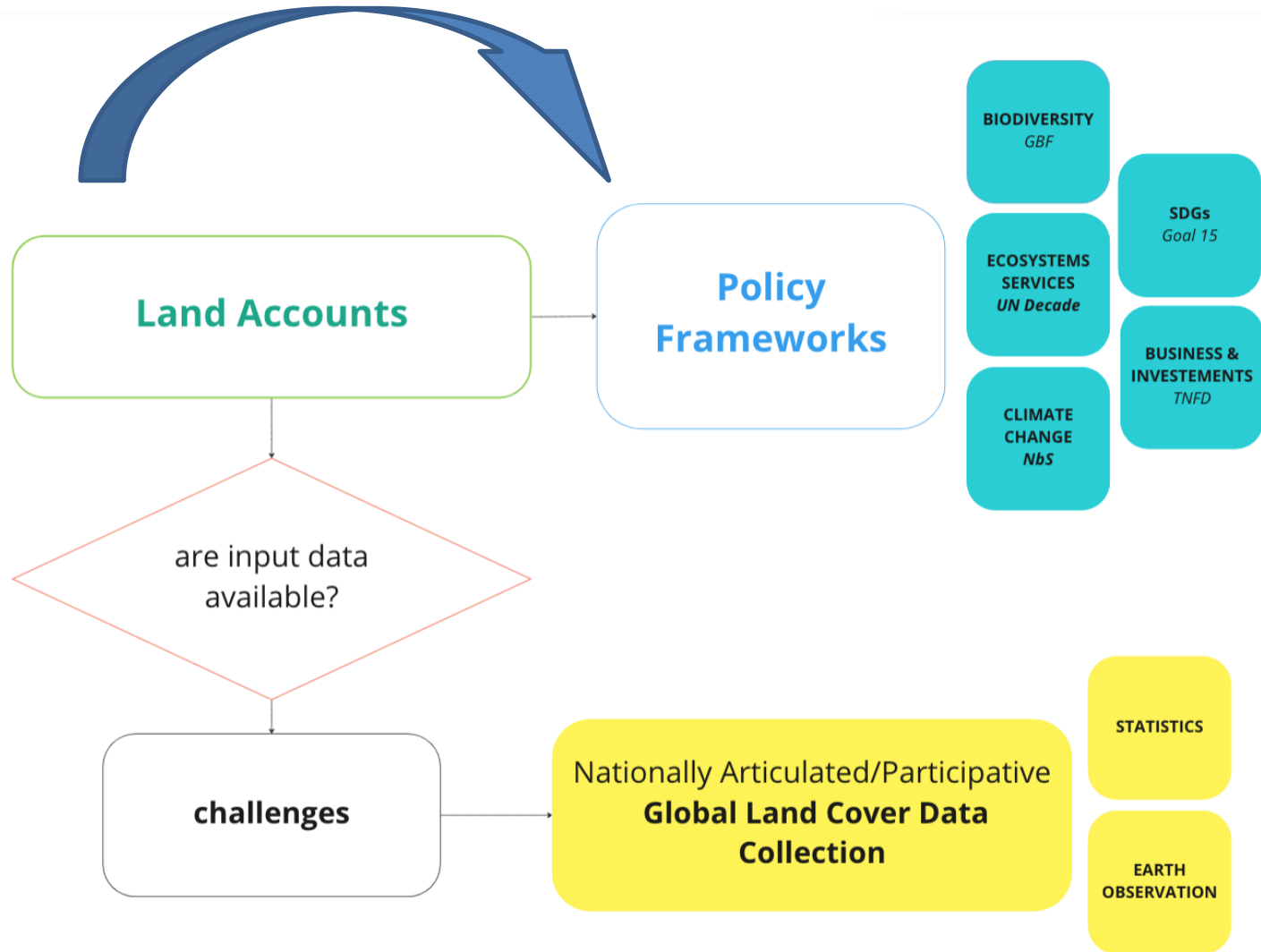
Opportunities

- Increase countries data ownership
- Promote and incentive data validation which is often missing in global sources
- Promote data cross check, e.g. the possibility to include existing national land cover classification in the FAO Land Cover Legend Registry.

Elements to take into account

- Consistency with existing international initiatives, avoiding overlaps/confusion
- Limit response burden from countries as much as possible
- Feasibility, lack of data
- Manage potential data inconsistencies across countries

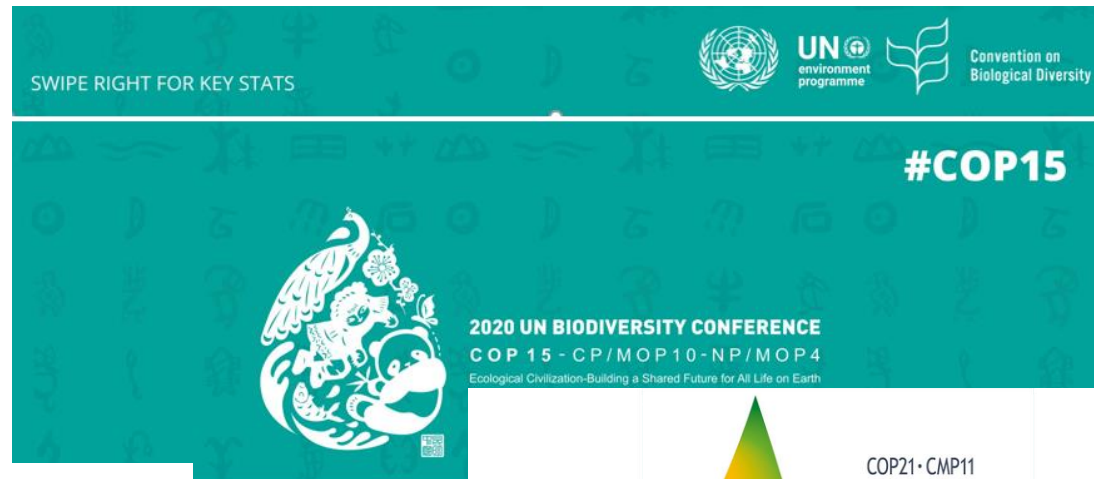
@SEEA4Policy: demand driven



Inform policy action and investment



How land is covered and used, how it changes over time, and the extent of land degradation **is key to monitor progress** (and therefore inform on the return of investment) across a wide set of **global/regional policy initiatives** such as:



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UNFCCC

United Nation's Framework Convention on Climate Change



STATISTICS

A New G20 Data Gaps Initiative – a statistical response to urgent policy needs



GREAT GREEN WALL



United Nations

Convention to Combat Desertification

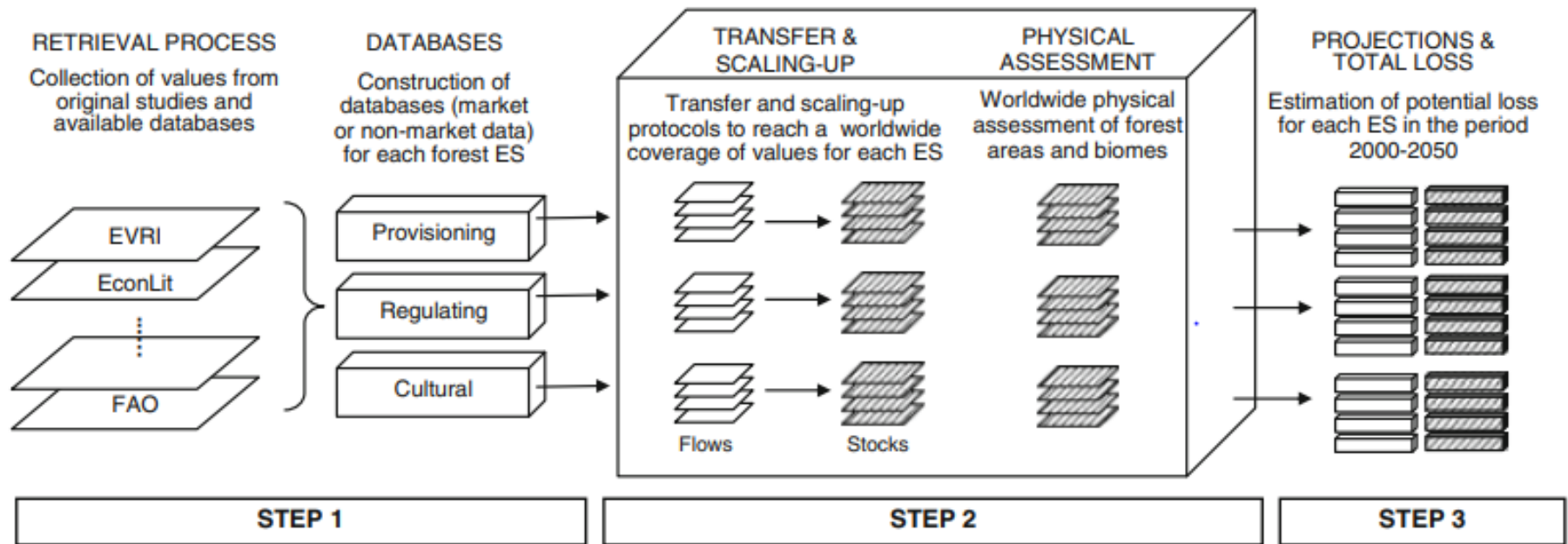


Taskforce on Nature-related Financial Disclosures

Inform policy action and investment



The economic valuation of the negative impact from land degradation on ecosystem extent, condition and services and the relation with national economies has relevant policy implications.



Unless action is taken to put the correct framework in place and to measure how much countries are losing from land degradation, these costs risk to remain invisible (hidden costs from inaction), also known in the literature as the Cost of Policy Inaction

The Cost of Policy Inaction

The case of not me

Environ Resource Econ
DOI 10.1007/s10640-011-9478-6

L. Braat & P. ten Brink (ed
with
J. Bakkes, K. Bolt, I. Brae
Jeuken, M. Kettunen, U. F
Oorschot, N. Peralta-Bezeri

Wageningen / Brussels, May

**Economic Assessment of Forest Ecosystem Services
Losses: Cost of Policy Inaction**

Aline Chiabai · Chiara M. Travisi · Anil Markandya ·
Helen Ding · Paulo A. L. D. Nunes

Inform policy action and investment



Table 11 Changes in stock values of forests, by world region and forest biome, projected to 2050 (bn US\$, 2050)

World Region	Carbon		WFPs & NWFPs	Recreation		Passive use		Total		Δ value per year		2050 GDP (bn.\$)	% of 2050 GDP	
	LB	UP		PE	LB	UP	LB	UP	LB	UP	LB		UP	
	NAM	-75	-229	3,357	-23	-96	-1,126	-1,340	4,133	3,692	92	82	35,700	0.26
EUR	258	785	559	-14	-52	-152	-181	651	1,112	14	25	28,500	0.05	0.09
JPK	79	241	431	1	2	2	3	504	667	11	15	8,200	0.14	0.18
ANZ	-100	-305	71	0	0	-5	-6	-32	-238	-1	-5	1,800	-0.04	-0.29
BRA	-3,605	-10,993	220	-13	-56	-233	-277	-3,631	-11,105	-81	-247	3,900	-2.07	-6.33
RUS	-881	-2,686	41	-8	-11	-76	-90	-961	-2,783	-21	-62	6,400	-0.33	-0.97
SOA	-464	-1,414	576	-52	-227	-212	-252	-152	-1,317	-3	-29	26,600	-0.01	-0.11
CHN	14	44	1,314	-34	-174	-27	-323	1,023	861	23	19	45,000	0.05	0.04
OAS	-318	-969	1,306	-12	-50	-34	-40	943	247	21	5	10,600	0.20	0.05
ECA	-193	-588	10	-1	-4	-24	-29	-208	-610	-5	-14	2,200	-0.21	-0.62
OLC	-268	-818	70	-1	-7	-14	-17	-114	-671	-3	-15	6,000	-0.04	-0.25
AFR	-1,021	-3,115	1,794	-9	-39	-204	-243	558	-1,604	12	-36	14,000	0.09	-0.25
TOT	-6,574	-20,045	11,806	-167	-714	-2,350	-2,796	2,715	-11,749	60	-261	195,000	0.03	-0.13
Δ value per year	-146.09	-445.45	262.35	-3.71	-15.88	-52.21	-62.13	60.34	-261.10	-	-	-	-	-
% of 2050 world GDP	-0.07	-0.23	0.13	-0.002	-0.01	-0.027	-0.032	0.03	-0.13	-	-	-	-	-

LB Lower bound, UB Upper bound, PE point estimate. For Carbon: LB refers to 640ppm CO₂ equivalent, UP to 535ppm CO₂ equivalent. For cultural services: LB refers to median values, UP to mean values. For timber no range is available, only point estimates

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20 trillion US about the GDP of USA!!

Nationally Articulated/Participative Global Land Cover Data Collection



Action Plan

Activities include:

- (i) Develop questionnaire
- (ii) Set up process, including to review coherence among countries and with existing international data sets
- (iii) Testing in selected accounts (a respective countries)
- (iv) Agree on estimation methodology for countries with data scarcity (proposing prefilling of the questionnaire ?)
- (v) Start data collection
- (vi) Support countries with capacity development



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Thank you

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Discussion

