

ESCWA Regional Capacity Building Workshop
SDG Indicator 2.a.1
29 April 2021

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FAO Office of the Chief Statistician (OCS)

SDG GOAL 2

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Achieved by **8 targets**

FAO is custodian agency of 9 indicators under Goal 2.



SDG GOAL 2 TARGET 2.a aims to:

2 ZERO
HUNGER



Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks ***in order to enhance agricultural productive capacity*** in developing countries, in particular least developed countries.

INVESTMENT IN AGRICULTURE

There are different sources of investment in agriculture.

Public Flows

Domestic

Government
Expenditure

Foreign

Development
Assistance

Private Flows

Domestic

Private equity
and credit

Foreign

Foreign Direct
Investment

SDG GOAL 2, TARGET 2.a & INDICATOR 2.a.1

Indicator 2.a.1 monitors progress in achieving Target 2.a

Indicator 2.a.1: The Agriculture Orientation Index (AOI) for Government Expenditures:

- refers to domestic public flows to agriculture
- compares **government's** relative contribution to the agricultural sector compared to the sector's contribution to Gross Domestic Product (GDP).

2 ZERO
HUNGER



INDICATOR 2.A.1 – AOI FORMULA

$$AOI = \frac{\textit{Agriculture Share of Government Expenditures}}{\textit{Agriculture value added Share of GDP}}$$

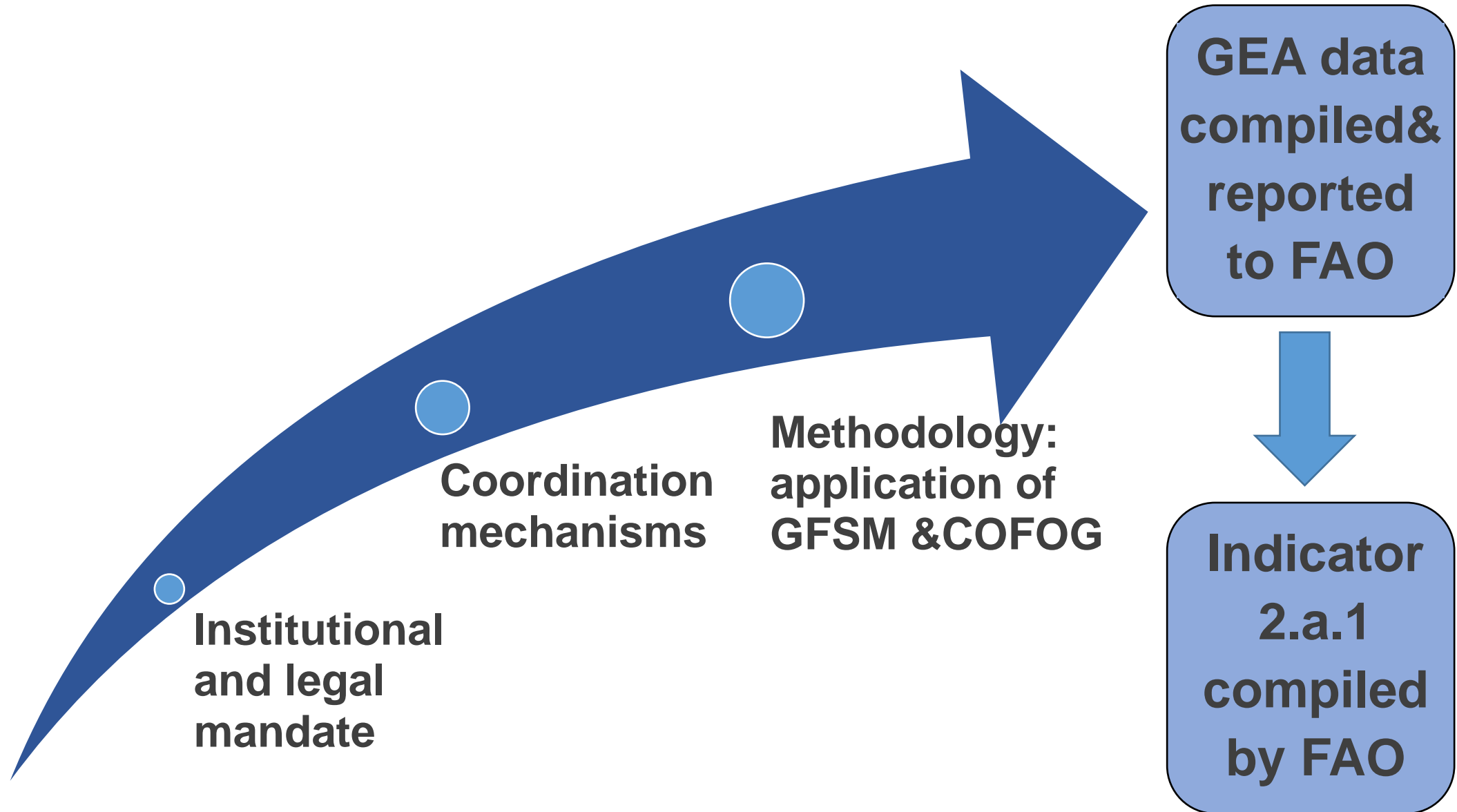
Where:

$$\begin{aligned} \textit{Agriculture Share of Government Expenditure} &= \\ &= \frac{\textit{Government Expenditure on Agriculture}}{\textit{Total Government Expenditure}} * 100 \end{aligned}$$

Agriculture refers to IMF GFS COFOG category 042 (agriculture, forestry, fishing and hunting); and

$$\begin{aligned} \textit{Agriculture value added Share of GDP} &= \\ &= \frac{\textit{Agriculture value added}}{\textit{GDP}} * 100 \end{aligned}$$

SDG INDICATOR 2.A.1- COUNTRY COMPILATION PROCESS



FAO-GOVERNMENT EXPENDITURE ON AGRICULTURE (GEA) - COFOG

TABLE A: Government expenditure on agriculture and related functions		General Government								Memorandum: Central Government (Including Social Security Funds of central government)	
		Central Government (excluding social security funds)				Social Security Funds	State Governments	Local Governments	Consolidation Column		General Government ³
		Budgetary Central Government	Extrabudgetary Units	Consolidation Column	Central Government ²						
Functional classification ¹		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
7	EXPENDITURE (TOTAL OUTLAYS)										
704	Economic Affairs										
7042	Agriculture, forestry, fishing, and hunting										
	→ Recurrent										
	→ Capital										
70421	Agriculture (crops and animal husbandry)										
	→ Recurrent										
	→ Capital										
70422	Forestry										
	→ Recurrent										
	→ Capital										
70423	Fishing and hunting										
	→ Recurrent										
	→ Capital										
7048	R&D Economic Affairs										
70482	R&D Agriculture, forestry, fishing, and hunting										
705	Environmental protection										
7054	Protection of Biodiversity and Landscape										
	→ Recurrent										
	→ Capital										
7055	R&D Environmental Protection										
	→ Recurrent										
	→ Capital										
	722 Other, please specify:										

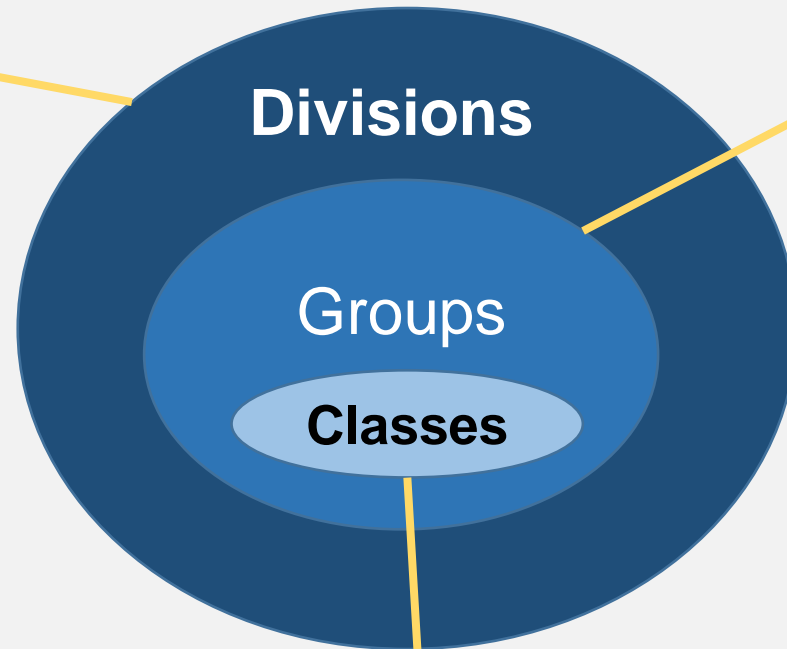
List of COFOG categories included in the GEA questionnaire

CLASSIFICATION OF THE FUNCTIONS OF GOVERNMENT (COFOG)

- **International classification;**
- Categorize government expenditure according to the **purpose;**
- Developed by the **OECD** and published by **UNSD;**
- 3-level **hierarchical** classification;
- permits consistent **analysis** of government expenditure **across countries** and across **time;**
- Instrument for **policy making.**

CLASSIFICATION OF THE FUNCTIONS OF GOVERNMENT (COFOG)

10 first-level, or
2-digit, divisions



Two or more 3-digit
groups within each
division, that refer to
a socio-economic
sector

One or more 4-digit
classes within
each group

COFOG: TEN 2-DIGIT DIVISIONS

01	General public services
02	Defense
03	Public order and safety
04	Economic affairs
05	Environmental protection
06	Housing and community activities
07	Health
08	Recreation, culture and religion
09	Education
10	Social protection

COFOG ECONOMIC AFFAIRS (04): NINE 3-DIGIT GROUPS

04	Economic affairs
041	General economic, commercial, and labour affairs
042	Agriculture, forestry, fishing, and hunting
043	Fuel and energy
044	Mining, manufacturing, and construction
045	Transport
046	Communication
047	Other industries
048	R & D Economic affairs
049	Economic affairs n.e.c.

COFOG AGRICULTURE FORESTRY, FISHING AND HUNTING (042): THREE 3-DIGIT CLASSES



Food and Agriculture
Organization of the
United Nations



042	Agriculture, forestry, fishing, and hunting
0421	Agriculture
0422	Forestry
0423	Fishing and hunting

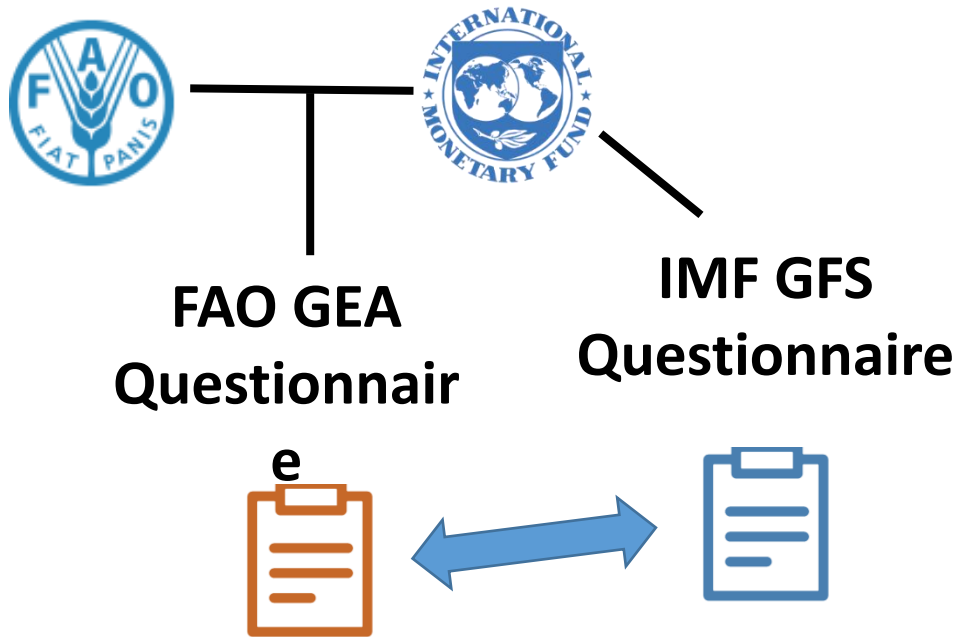
COFOG R&D ECONOMIC AFFAIRS (048): SEVEN 4-DIGIT CLASSES

048	R & D Economic affairs
0481	R & D General economic, commercial, and labour affairs
0482	R & D Agriculture, forestry, fishing, and hunting
0483	R & D Fuel and energy
0484	R & D Mining, manufacturing, and construction
0485	R & D Transport
0486	R & D Communication
0487	R & D Other industries

COFOG ENVIRONMENTAL PROTECTION (05): SIX 3-DIGIT GROUPS

05	Environmental protection
051	Waste management
052	Waste water management
053	Pollution abatement
054	Protection of biodiversity and landscape
055	R & D Environmental protection
056	Environmental protection n.e.c.

FAO - GOVERNMENT EXPENDITURE ON AGRICULTURE (GEA) QUESTIONNAIRE



- Developed in collaboration with IMF;
- Aligns with Table 7 of the IMF GFS Questionnaire – “Expenditure by Function of Government (COFOG)”
- Seeks more details on Agriculture sector, plus recurrent/capital breakdown

The FAO GEA and IMF GFS Questionnaires

- FAO GEA Questionnaire replicates relevant aggregates of Table 7 of IMF GFS Questionnaire
- GEA requests additional detail related to agriculture and environmental protection sectors.

Table 7 of GFS questionnaire

7	EXPENDITURE [=2M]
701	General public services
704	Economic affairs
7041	General economic, commercial, and labor affairs
7042	Agriculture, forestry, fishing, and hunting
7043	Fuel and energy
7044	Mining, manufacturing, and construction
7045	Transport
7046	Communication
7047	Other industries
7048	R & D Economic affairs
7049	Economic affairs not elsewhere classified
705	Environmental protection
7051	Waste management
7052	Waste water management
7053	Pollution abatement
7054	Protection of biodiversity and landscape
7055	R & D Environmental protection
7056	Environmental protection not elsewhere classified

Table A of GEA questionnaire

7	EXPENDITURE (TOTAL OUTLAYS)
704	Economic Affairs
7042	Agriculture, forestry, fishing, and hunting
	→ Recurrent
	→ Capital
70421	Agriculture (crops and animal husbandry)
	→ Recurrent
	→ Capital
70422	Forestry
	→ Recurrent
	→ Capital
70423	Fishing and hunting
	→ Recurrent
	→ Capital
7048	R&D Economic Affairs
70482	R&D Agriculture, forestry, fishing, and hunting
705	Environmental protection
7054	Protection of Biodiversity and Landscape
	→ Recurrent
	→ Capital
7055	R&D Environmental Protection
	→ Recurrent
	→ Capital
7z1	Other, please specify: _____
7z2	Other, please specify: _____

VERTICAL CONSISTENCY

Expenditure (Total Outlays)

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TABLE A: Government expenditure on agriculture and related functions		Central Government
Functional classification ²		(1)
7	EXPENDITURE (TOTAL OUTLAYS)	
704	Economic Affairs	
7042	Agriculture, forestry, fishing, and hunting	
	→ Recurrent	
	→ Capital	
70421	Agriculture (crops and animal husbandry)	
	→ Recurrent	
	→ Capital	
70422	Forestry	
	→ Recurrent	
	→ Capital	
70423	Fishing and hunting	
	→ Recurrent	
	→ Capital	
7048	R&D Economic Affairs	
70482	R&D Agriculture, forestry, fishing, and hunting	
705	Environmental protection	
7054	Protection of Biodiversity and Landscape	
	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

General Public Service (701) +
 Defence (702) +
 Public Order and Safety (703) +
 Economic affairs (704) +
 Environmental Protection (705) +
 Housing and Community Activities (706) +
 Health (707) +
 Recreation Culture and religion (708) +
 Education (709) +
 Social Protection (7010)

VERTICAL CONSISTENCY

TABLE A: Government expenditure on agriculture and related functions		Central Government
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	→ Capital	
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	→ Recurrent	
	→ Capital	
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	→ Recurrent	
	→ Capital	
7048	R&D Economic Affairs	
70482	R&D Agriculture, forestry, fishing, and hunting	
705	Environmental protection	
7054	Protection of Biodiversity and Landscape	
	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

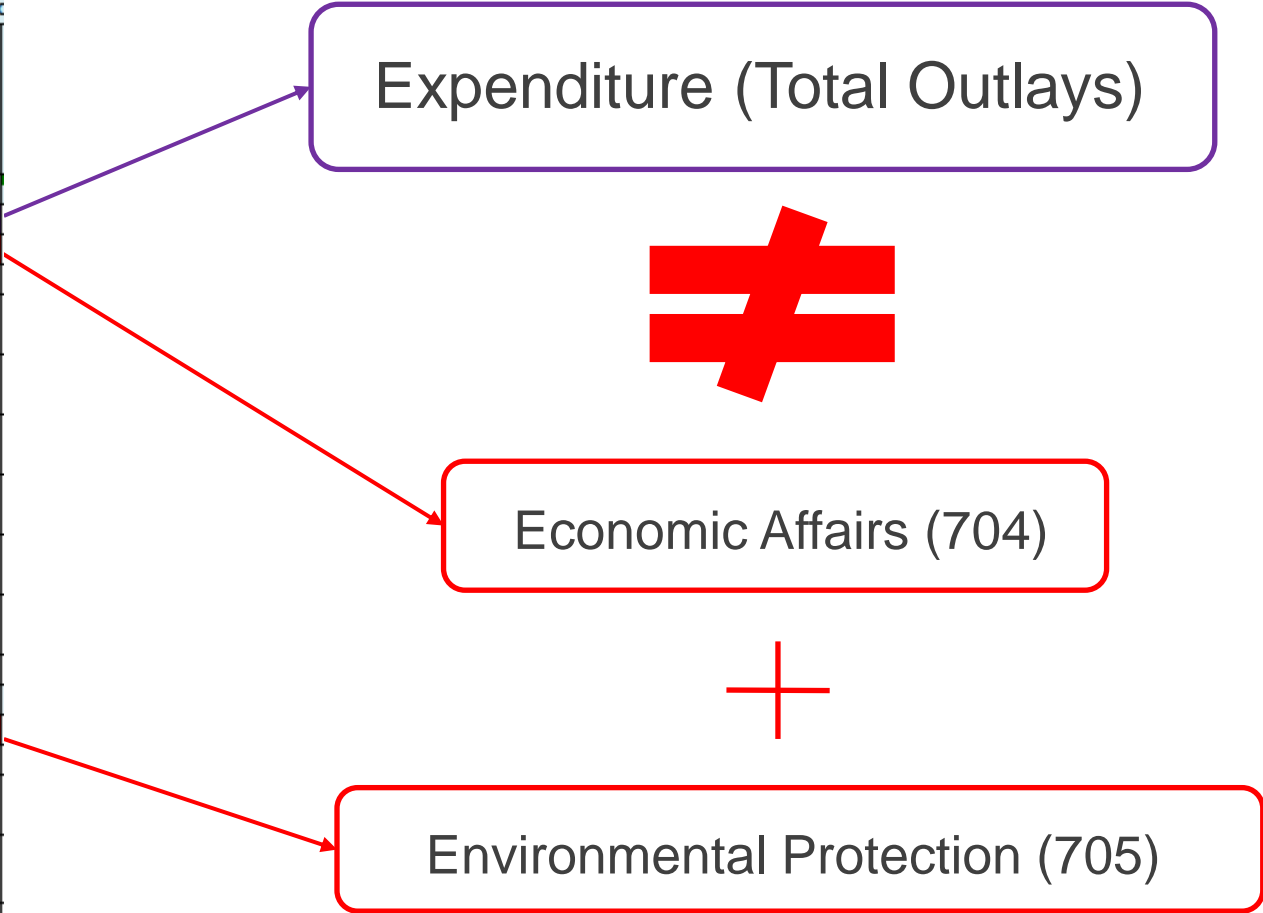
Expenditure (Total Outlays)



Economic Affairs (704)



Environmental Protection (705)



VERTICAL CONSISTENCY

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	→ Capital	
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70482	R&D Agriculture, forestry, fishing, and hunting	
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7054	Protection of Biodiversity and Landscape	
	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

Economic Affairs (704)

||

General economic, commercial, and labor affairs (7041) +
 Agriculture, forestry, fishing, and hunting (7042) +
 Fuel and energy (7043) +
 Mining, manufacturing, and construction (7044) +
 Transport (7045) +
 Communication (7046) +
 Other industries (7047) +
 R&D Economic affairs (7048) +
 Economic affairs n.e.c. (7049)

VERTICAL CONSISTENCY

TABLE A: Government expenditure on agriculture and related functions		Central Government
Functional classification ²		(1)
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	→ Recurrent	
	→ Capital	
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	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

Economic Affairs (704)



Agriculture, forestry, fishing, and hunting (7042)



R&D Economic affairs (7048)

VERTICAL CONSISTENCY

TABLE A: Government expenditure on agriculture and related functions		Central Government
Functional classification ²		(1)
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704	Economic Affairs	
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	→ Recurrent	
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	→ Capital	
70422	Forestry	
	→ Recurrent	
	→ Capital	
70423	Fishing and hunting	
	→ Recurrent	
	→ Capital	
7048	R&D Economic Affairs	
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	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

Agriculture, forestry, fishing and hunting (7042)

||

Agriculture, forestry, fishing and hunting (recurrent)

+

Agriculture, forestry, fishing and hunting (capital)

VERTICAL CONSISTENCY

TABLE A: Government expenditure on agriculture and related functions		Central Government
Functional classification ²		(1)
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	→ Capital	
70422	Forestry	
	→ Recurrent	
	→ Capital	
70423	Fishing and hunting	
	→ Recurrent	
	→ Capital	
7048	R&D Economic Affairs	
70482	R&D Agriculture, forestry, fishing, and hunting	
705	Environmental protection	
7054	Protection of Biodiversity and Landscape	
	→ Recurrent	
	→ Capital	
7055	R&D Environmental Protection	
	→ Recurrent	
	→ Capital	
7z1	Other, please specify: _____	
7z2	Other, please specify: _____	

Agriculture, forestry, fishing and hunting (7042)

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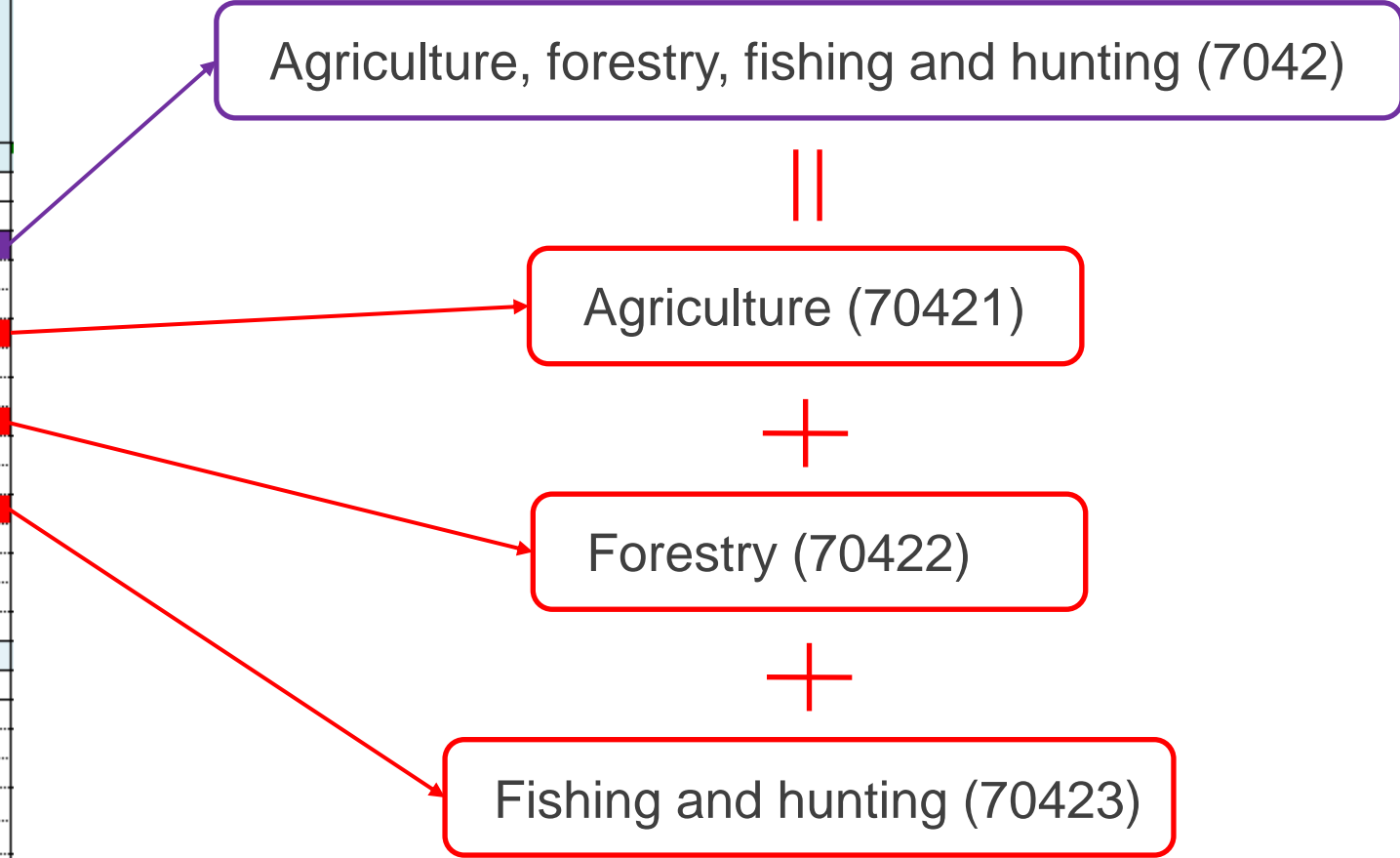
Agriculture (70421)

+

Forestry (70422)

+

Fishing and hunting (70423)



HORIZONTAL CONSISTENCY



TABLE A: Government expenditure on agriculture and related functions		General Government								Memorandum: Central Government (Including Social Security Funds of central government)	
		Central Government (excluding social security funds)				Social Security Funds	State Governments	Local Governments	Consolidation Column		General Government ³
		Budgetary Central Government	Extrabudgetary Units	Consolidation Column	Central Government ²						
Functional classification ²	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
7	EXPENDITURE (TOTAL OUTLAYS)										
704	Economic Affairs										
7042	Agriculture, forestry, fishing, and hunting → Recurrent										

Budgetary Central Government

+

Extra Budgetary Units

+

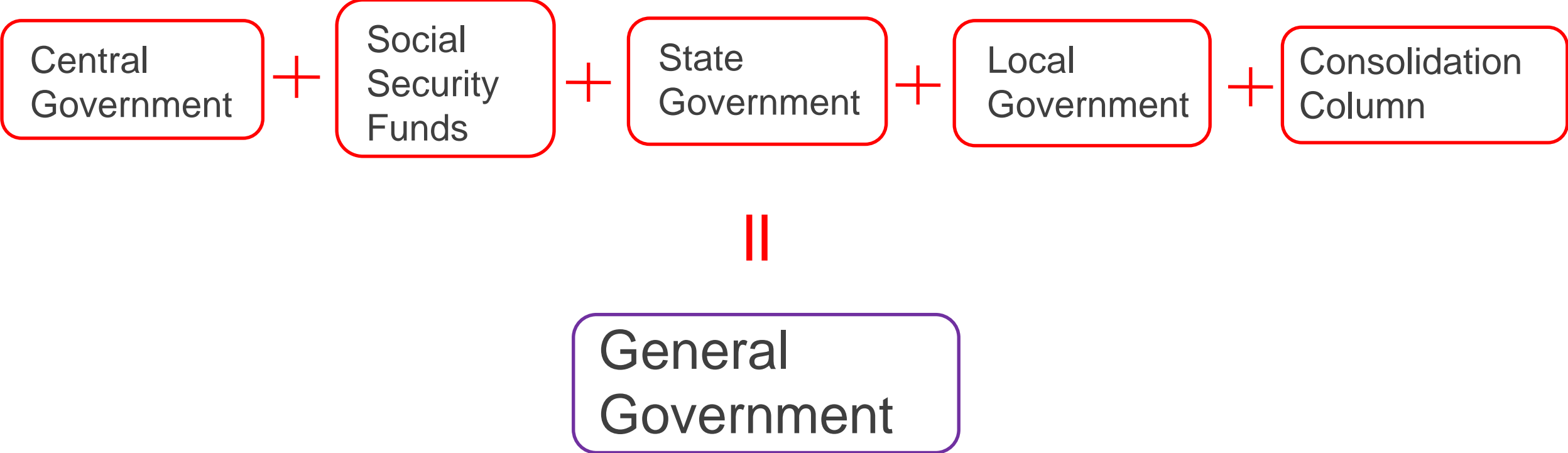
Consolidation Column

=

Central Government

HORIZONTAL CONSISTENCY

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Functional classification ²	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
7	EXPENDITURE (TOTAL OUTLAYS)										
704	Economic Affairs										
7042	Agriculture, forestry, fishing, and hunting → Recurrent										



FAO-GOVERNMENT EXPENDITURE ON AGRICULTURE (GEA) QUESTIONNAIRE & INDICATOR 2.a.1

2.a.1 numerator components from the GEA questionnaire

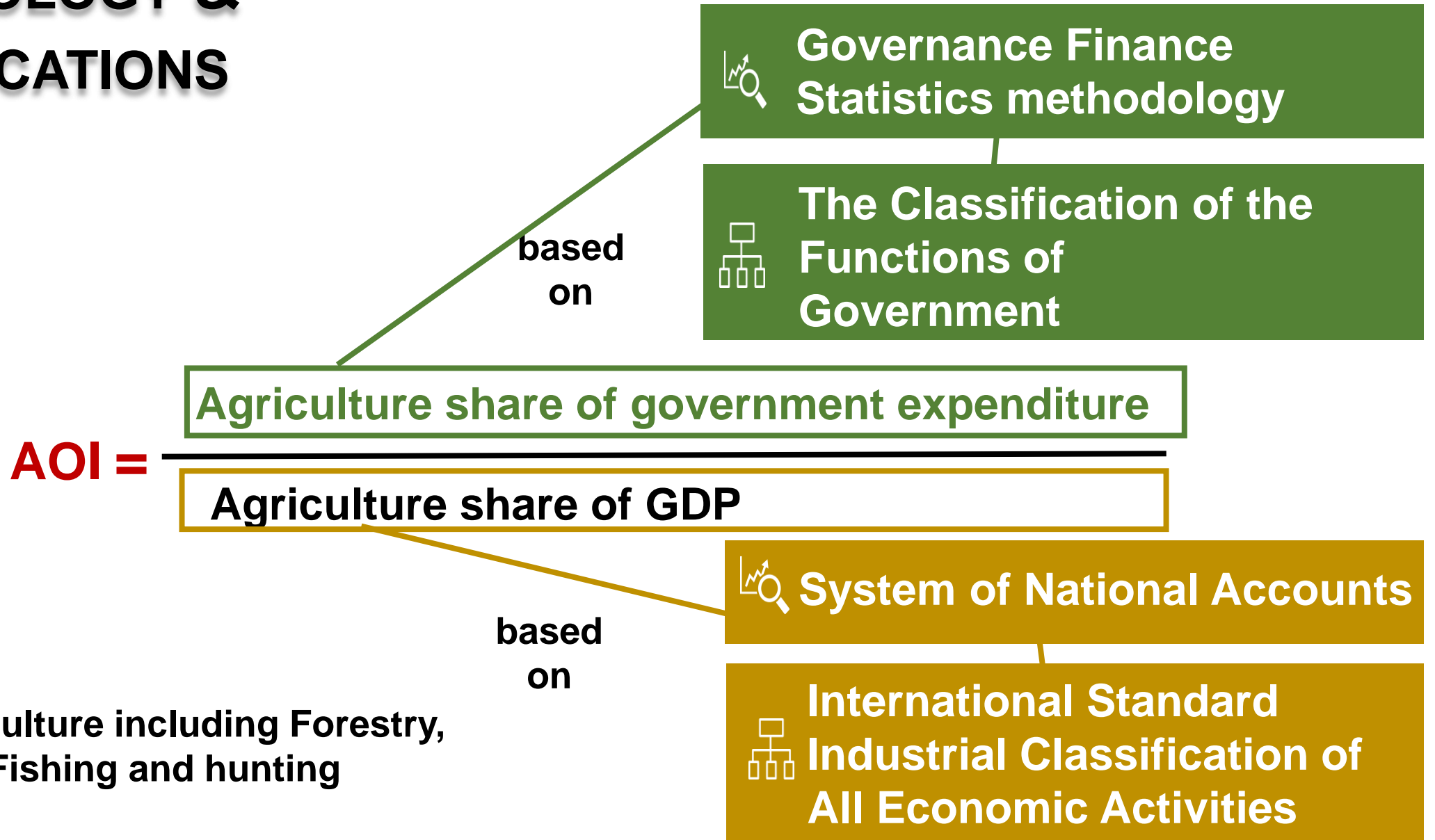
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	→ Recurrent										
	→ Capital										
	→ Capital										
7z1	Other, please specify:										
7z2	Other, please specify:										

Total government expenditure

Government expenditure on agriculture

$$\text{Agriculture Share of Government Expenditure} = \frac{\text{Government Expenditure on Agriculture}}{\text{Total Government Expenditure}} * 100$$

INDICATOR 2.A.1 – METHODOLOGY & CLASSIFICATIONS



* Agriculture including Forestry,
Fishing and hunting

INDICATOR 2.A.1 – AOI FORMULA

$$AOI = \frac{\textit{Agriculture Share of Government Expenditures}}{\textit{Agriculture value added Share of GDP}}$$

Where:

$$\begin{aligned} \textit{Agriculture Share of Government Expenditure} &= \\ &= \frac{\textit{Government Expenditure on Agriculture}}{\textit{Total Government Expenditure}} * 100 \end{aligned}$$

Agriculture refers to IMF GFS COFOG category 042 (agriculture, forestry, fishing and hunting); and

$$\begin{aligned} \textit{Agriculture value added Share of GDP} &= \\ &= \frac{\textit{Agriculture value added}}{\textit{GDP}} * 100 \end{aligned}$$

INDICATOR 2.a.1 POLICY USE AND INTERPRETATION

$$AOI = \frac{3.5}{3.5} = 1.00$$



AOI = 1 means a **neutral orientation** of the central government towards the agriculture sector relative to the sector's contribution to the economy.

$$AOI = \frac{1.25}{0.23} = 5.39$$



AOI >1 means a **higher orientation** of the central government towards the agriculture sector relative to the sector's contribution to the economy.

$$AOI = \frac{2.72}{20.45} = 0.13$$



AOI < 1 means a **lower orientation** of the central government towards the agriculture sector relative to the sector's contribution to the economy.

INDICATOR 2.a.1 POLICY USE AND INTERPRETATION

AOI=1 may not be the right target for *any* country:

- Difference in: degrees of decentralization; stage of development of agriculture; food insecurity.
- Still provides useful trend analysis, and comparisons between countries with similar agriculture sectors;

AOI>1:

- Improvement in agriculture and rural infrastructure;
- Extension services;
- Compensation of lack of private or foreign investment;
- Higher returns in the agriculture compared to higher sectors;

AOI<1:

- Other sectors need higher government intervention than agriculture;
- Private and domestic flows to agriculture;

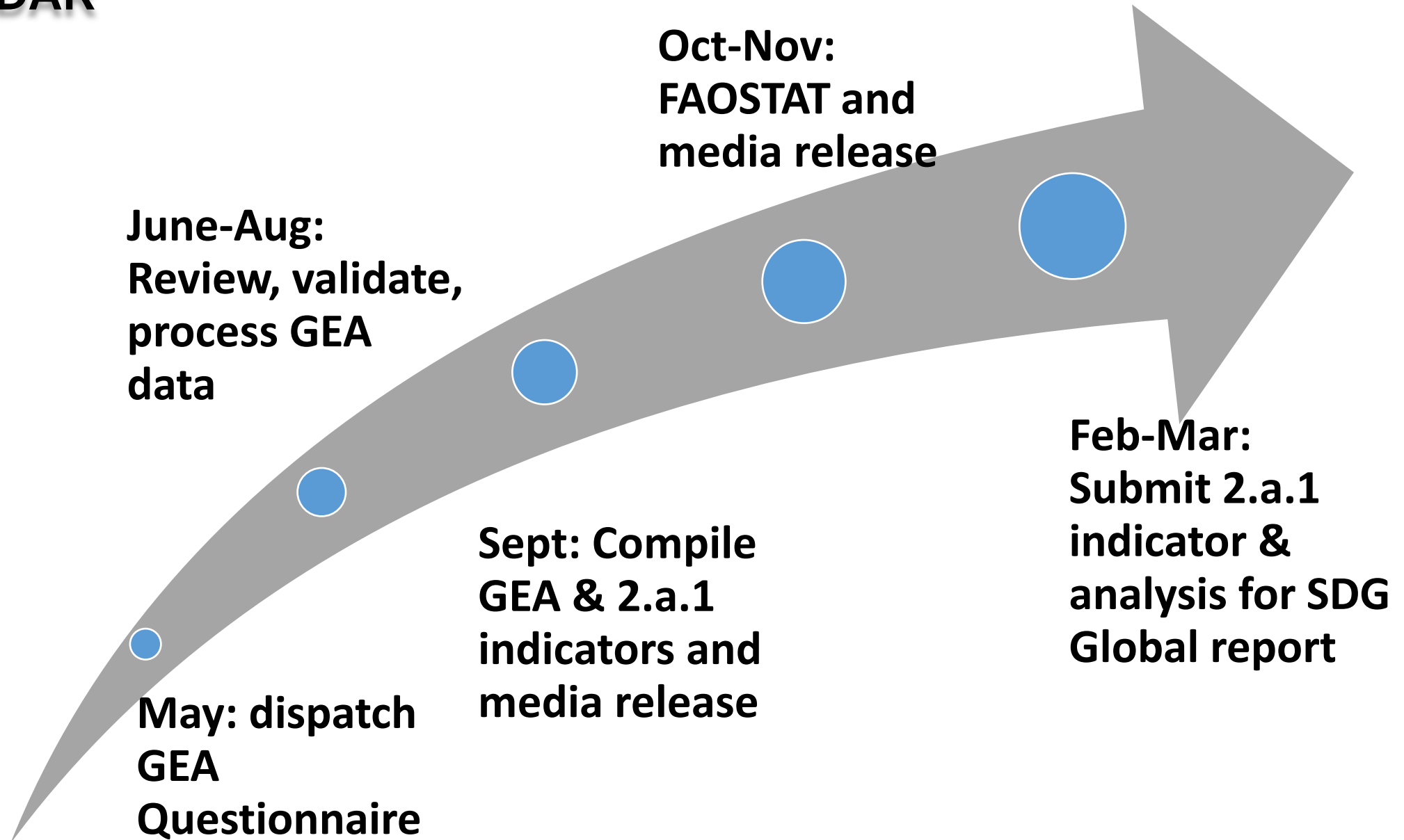
INDICATOR 2.A.1 - DATA REPORTING STATUS IN ESCWA

**We can provide remote
Technical Assistance
and Training to your
country**

Email: Gary.Jones@fao.org
Atang.Moletsane@fao.org

Country	2015-2020	FAO source
Algeria	No data	
Bahrain	No data	
Egypt	Data available	GEA questionnaire
Iraq	No data	
Jordan	Data available	GEA questionnaire
Kuwait	Data available	IMF GFS database
Lebanon	Data available	GEA questionnaire
Libya	No data	
Mauritania	No data	
Morocco	No data	
Oman	Data available	FAO Derived from MOF
State of Palestine		
Qatar	No data	
Saudi Arabia	No data	
Somalia	Data available	IMF GFS database
Sudan	No data	
Syrian Arab Republic	No data	
Tunisia	No data	FAO Derived from MoF
United Arab Emirates	Data available	GEA questionnaire
Yemen	No data	

FAO GEA QUESTIONNAIRE AND INDICATOR 2.A.1 - CALENDAR



INDICATOR 2.A.1 – RESOURCE MATERIAL

- FAO e-learning course on SDG indicator 2.a.1
<https://elearning.fao.org/course/view.php?id=361>
- IMF Government Finance Statistics Manual 2014.
<https://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf>
- Eurostat – Manual on sources and methods for the compilation of COFOG statistics 2011.
<http://ec.europa.eu/eurostat/documents/3859598/5917333/KS-RA-11-013-EN.PDF>

Thank
You