United Nations
Educational, Scientific and
Cultural Organization

UNESCO INSTITUTE FOR STATISTICS

SUSTAINABLE DEVELOPMENT GOALS

SDG 4.1.1 MEASUREMENT TOOLS - APPLICATIONS IN THE WAKE OF COVID-19

June 2020

AGENDA

- **Section 1** – Reporting Considerations
- **Section 2** - Overview of the Global Proficiency Framework and Policy Linking
- **Section 3** – Tools Available to Countries
- **Section 4** - Feedback from Policy Linking Pilots
- **Section 5** –Policy Linking in Remote Learning and Crisis-and-Conflict
- **Questions and Discussion**

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Section 1

Reporting Considerations

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SUSTAINABLE DEVELOPMENT GOAL 4.1.1

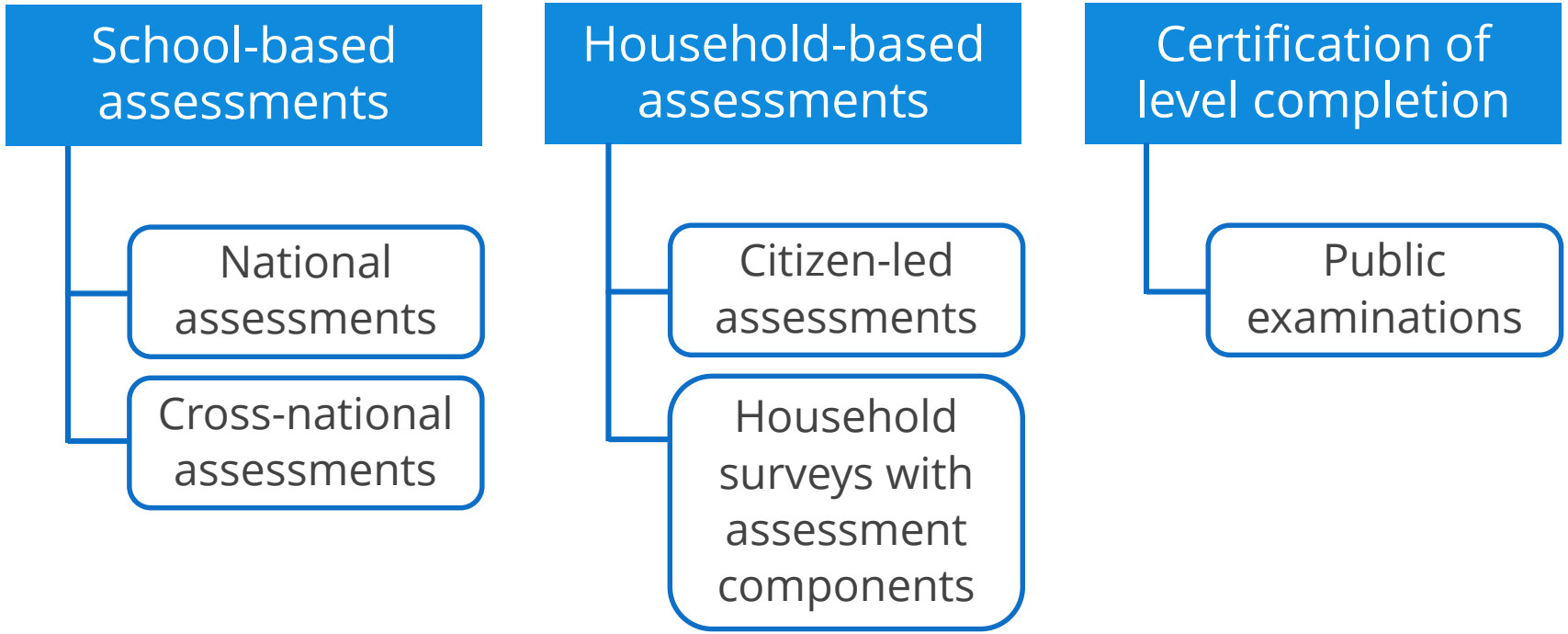
Target 4.1

By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Indicator 4.1.1

4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

OVERVIEW OF ASSESSMENT OPTIONS



CHALLENGES OF REPORTING TO SDG 4.1.1

Assessments are not comparable because…

- Differences in content / language
- Differences in assessment difficulty
- Lack of methodologies to express results on a comparable scale

What is needed to address these challenges?

- Definition of a ***common content***
- Definition of ***common procedures***, ensuring comparability between programs (Minimum Proficiency Level)
- Define a ***methodology for harmonizing*** all data, ensuring all are on the same scale

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GLOBAL CONTENT FRAMEWORK (GCF) OVERVIEW

What is it?

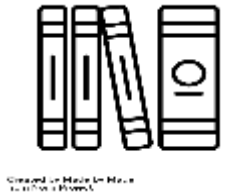
- A framework (***content standards***) to assess alignment among various assessments and lay out the basis for a global comparison

How was it created?

- UIS and the International Bureau of Education (IBE-UNESCO)
- Based on ***cognitive theory*** and various national curricula
- Developed a ***Coding Scheme*** and Content Reference,
  - Mapping of National Assessment Frameworks (NAF) and curriculum onto corresponding domains and sub-domains in the GCF via an ***online consultation***
- Feedback used to refine the GCF

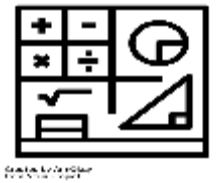
Global Content Framework

Reading



http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2019/02/Ref2_READING_Global-Content-Framework.pdf

Mathematics



http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2019/02/Ref1_MATH_Global-Content-Framework.pdf

Content Alignment Tool (online)

https://uis-azr-prod-cat-eus1.azurewebsites.net/

MINIMUM PROFICIENCY LEVELS FOR MATHEMATICS

Grade 2 or 3

Students demonstrate skills in number sense and computation, shape recognition and spatial orientation.

terce	2014	Level 2
pasec	2014	Level 2

Grade 4 & 6

Students demonstrate skills in number sense and computation, basic measurement, reading, interpreting, and constructing graphs, spatial orientation, and number patterns.

SACMEQ	2007	Level 3
pasec	2014	Level 2
Pacific Community Communauté du Pacifique	2015	Level 5
terce	2014	Level 1
TIMSS	2015	Intermediate international

Grade 8 & 9

Students demonstrate skills in computation, application problems, matching tables and graphs, and making use of algebraic representations.

PISA	2015	Level 2
TIMSS	2015	Intermediate international

SOLUTIONS TO GENERATE COMPARABLE DATA FOR 4.1.1

COMPARABILITY

Single test	Subject-based linking	Item-based linking	Policy linking
	Pre-requisite for this approach: International assessments *or* Regional assessments	The **item** is the point of linking	Experts from the countries link an assessment back to a common set of performance standards by judging item difficulty

Section 2

Policy Linking and Global Proficiency Framework Overview

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POLICY LINKING OVERVIEW

- Create a set of global performance standards (GPF)

PARTIALLY MEETS	MEETS	EXCEEDS
READING COMPREHENSION OF SIMPLE, GRADE 2-LEVEL CONNECTED TEXT		
RETRIEVE INFORMATION AT WORD LEVEL Understand in connected text the meaning of unfamiliar words, or of familiar words used in unfamiliar ways (i.e., homophones)		
Identify the meaning of very familiar words but has difficulty identifying the meaning of familiar words when they have regular morphological changes.	Identify the meaning of familiar words, including when they have regular morphological changes.	Identify the meaning of familiar and unfamiliar words.
RETRIEVE INFORMATION AT SENTENCE OR TEXT LEVEL Retrieve prominent information when information is found in a single sentence containing no competing information. The information is generally a response to a 'who, what, when and where" question and the information sought is generally names, facts, or numbers.		
Retrieve explicit pieces of information by direct word matching (e.g., answers the question, 'What is the girl's name?' when the text says, 'The girl's name is Dana.'	Retrieve explicit pieces of information from a single sentence.	Retrieve explicit pieces of information across more than one sentence.

GLOBAL PROFICIENCY FRAMEWORK OVERVIEW

- Global performance standards in reading and math for grades 1-9
- Purpose
  - To provide ***detailed descriptors of minimum proficiency*** standards to support countries in setting benchmarks on national assessments for reporting to SDG 4.1.1
  - To allow for ***aggregating, comparing, and tracking*** learning outcomes over time
- Includes four performance levels:

GLOBAL MINIMUM PROFICIENCY LEVEL	DEFINITION
"Does Not Meet" Global Minimum Proficiency	Learners lack the most basic knowledge and skills. As a result, they generally cannot complete the most basic grade-level tasks.
"Partially Meets" Global Minimum Proficiency	Learners have limited knowledge and skills. As a result, they can partially complete basic grade-level tasks.
"Meets" Global Minimum Proficiency	Learners have developed sufficient knowledge and skills. As a result, they can successfully complete the most basic grade-level tasks.
"Exceeds" Global Minimum Proficiency	Learners have developed superior knowledge and skills. As a result, they can complete complex grade-level tasks.

GLOBAL PROFICIENCY FRAMEWORK OVERVIEW

- **Math framework includes 5 domains**: number knowledge, measurement, geometry, algebra, and statistics and probability

- **Reading framework includes 3 domains**: oral language comprehension, decoding, and reading comprehension

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GLOBAL PROFICIENCY FRAMEWORK OVERVIEW

GRADE 2: MATHEMATICS – DESCRIPTORS FOR ALL THREE GLOBAL MINIMUM PROFICIENCY LEVELS		
PARTIALLY MEETS	**MEETS**	**EXCEEDS**
NUMBER KNOWLEDGE		
WHOLE NUMBERS Identify and count whole numbers		
Count, read, and write whole numbers up to 20.	Count, read, and write whole numbers up to 100 (e.g., 19, 25, 47).	Count backwards from 20 and skip count forwards using twos, fives, and tens.
Identify the relative magnitude of whole numbers		
Compare and order whole numbers to 20.	Compare and order whole numbers to 100.	Compare and order whole numbers to 1000.
Represent whole numbers in equivalent ways		
Represent quantities up to 20 concretely, pictorially, and with symbolically (with numerals).	Represent quantities up to 100 concretely, pictorially, and symbolically; compose and decompose whole numbers up to 100, using place-value concepts.	---
OPERATIONS Add and subtract quantities concretely, pictorially, and symbolically		
Solve addition and subtraction problems within 10 that are presented concretely, pictorially, and symbolically.	Solve addition and subtraction problems within 20 that are presented concretely, pictorially, and symbolically.	Solve addition and subtraction problems within 40 that are presented concretely, pictorially, and symbolically.

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GLOBAL PROFICIENCY FRAMEWORK OVERVIEW

- Developed in April – May of 2019
  - 30 reading & math experts
  - Based on Global Content Frameworks
  - Consulted available national curriculum and assessment frameworks
- Updated in May – June of 2020
  - Incorporating feedback from alignments conducted in:
    - Seven Countries (India, Bangladesh, Nigeria, Ghana, Gambia, Malawi, Djibouti)
    - and the International Common Assessment of Numeracy (ICAN)

GLOBAL PROFICIENCY FRAMEWORK USES

- Positive, unintended uses
  - Inform curriculum updates (Madagascar)
  - Inform national standards and benchmarks (Djibouti, Senegal)
  - Develop new assessments (Senegal)
  - Classify items for Global Item Bank
- Could inform education programming during the COVID-19 Pandemic
  - Inform focused remote-learning curriculum frameworks
  - Inform remote assessment

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POLICY LINKING IMPLEMENTATION

1. Check alignment between the GPF and the assessment/ curriculum as well as the validity and reliability of the assessment (QA Policy and 4.1.1 Quality Assurance Panel)

2. Prepare for the benchmarking workshop
   a. Select facilitators
   b. Select panelists
   c. Prepare materials

3. Conduct the benchmarking workshop

POLICY LINKING IMPLEMENTATION

Train
Explain global proficiency framework and benchmarking methods

Con
Provide
discuss
impact

uts
marks,
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late
nduct
port

Word no.	***Round 1*** *individual and independent predictions*				***Round 2*** *individual and independent predictions*			
	JP	*JM*	*JE*	*AE*	*JP*	*JM*	*JE*	*AE*
Issa	JP	JM	JE	AE	JP	JM	JE	AE
was	JP	JM	JE	AE	JP	JM	JE	AE
very	JP	JM	JE	AE	JP	JM	JE	AE
sad.	JP	JM	JE	AE	JP	JM	JE	AE
He	JP	JM	JE	AE	JP	JM	JE	AE
Lost	JP	JM	JE	AE	JP	JM	JE	AE
His	JP	JM	JE	AE	JP	JM	JE	AE
grandfather's	JP	JM	JE	AE	JP	JM	JE	AE
sheep.	JP	JM	JE	AE	JP	JM	JE	AE
He	JP	JM	JE	AE	JP	JM	JE	AE
could	JP	JM	JE	AE	JP	JM	JE	AE
not	JP	JM	JE	AE	JP	JM	JE	AE
go	JP	JM	JE	AE	JP	JM	JE	AE
to	JP	JM	JE	AE	JP	JM	JE	AE
look	JP	JM	JE	AE	JP	JM	JE	AE
for	JP	JM	JE	AE	JP	JM	JE	AE
them.	JP	JM	JE	AE	JP	JM	JE	AE
Grandfather	JP	JM	JE	AE	JP	JM	JE	AE
came	JP	JM	JE	AE	JP	JM	JE	AE
to	JP	JM	JE	AE	JP	JM	JE	AE
look	JP	JM	JE	AE	JP	JM	JE	AE
for	JP	JM	JE	AE	JP	JM	JE	AE
them.	JP	JM	JE	AE	JP	JM	JE	AE
soon	JP	JM	JE	AE	JP	JM	JE	AE
he	JP	JM	JE	AE	JP	JM	JE	AE
returned	JP	JM	JE	AE	JP	JM	JE	AE
with	JP	JM	JE	AE	JP	JM	JE	AE
the	JP	JM	JE	AE	JP	JM	JE	AE
sheep.	JP	JM	JE	AE	JP	JM	JE	AE
Issa	JP	JM	JE	AE	JP	JM	JE	AE
is	JP	JM	JE	AE	JP	JM	JE	AE
smiling	JP	JM	JE	AE	JP	JM	JE	AE
now	JP	JM	JE	AE	JP	JM	JE	AE

POLICY LINKING/GPF BENEFITS

- Low cost
- Relatively quick
- Allows countries to keep their current national assessments and timelines
- Helps countries that don't have benchmarks
- Completed in-country by teachers/experts
  - Owned by the local government
- Not dependent on the current performance of learners
- Allows countries to show progress over time

Section 3

Tools Available to Countries

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TOOLS AVAILABLE TO COUNTRIES

GLOBAL CONTENT FRAMEWORK (GCF)

What is it?

Content standards to assess how national curriculum assessments are aligned (or not) with the global content framework

How to use it?

Map constructs by domain and subdomain

GLOBAL PROFICIENCY FRAMEWORK (GPF)

What is it?

Performance standards for use in linking assessments to 4.1.1

How to use it?

Countries locate their performance framework with respect to the global, with reference to the Minimum Proficiency Levels (MPL)

GLOBAL BANK OF ITEMS

What is it?

Free bank of high-quality items with reviewed and classified according to the GPF

Crowdsource of effort from all partners

How to use it?

To build or expand national assessments

Could serve for statistical linking

POLICY LINKING TOOLKIT

What is it?

Guide on how to conduct a benchmarking workshop

How to use it?

To help countries set global or national benchmarks for assessments

POLICY LINKING QUALITY ASSURANCE POLICY

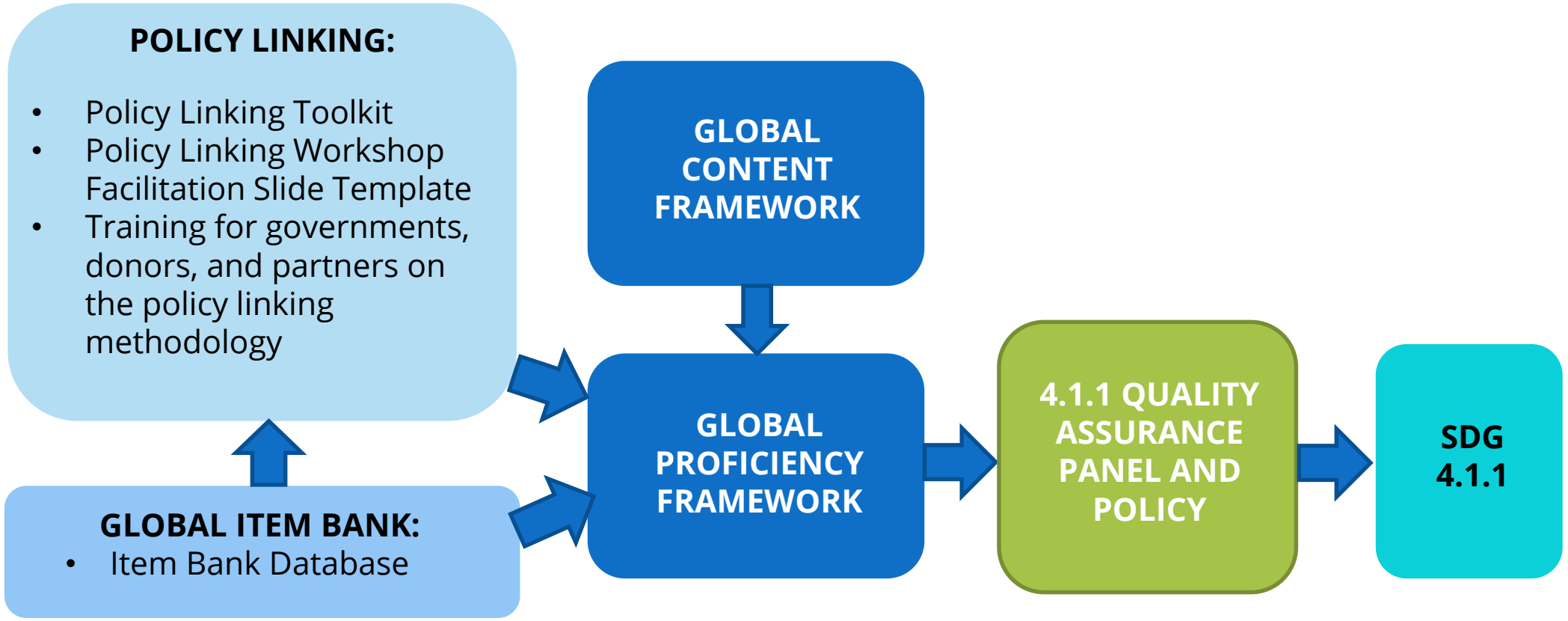
What is it?

Criteria for policy linking to work for a country for reporting to SDG 4.1.1

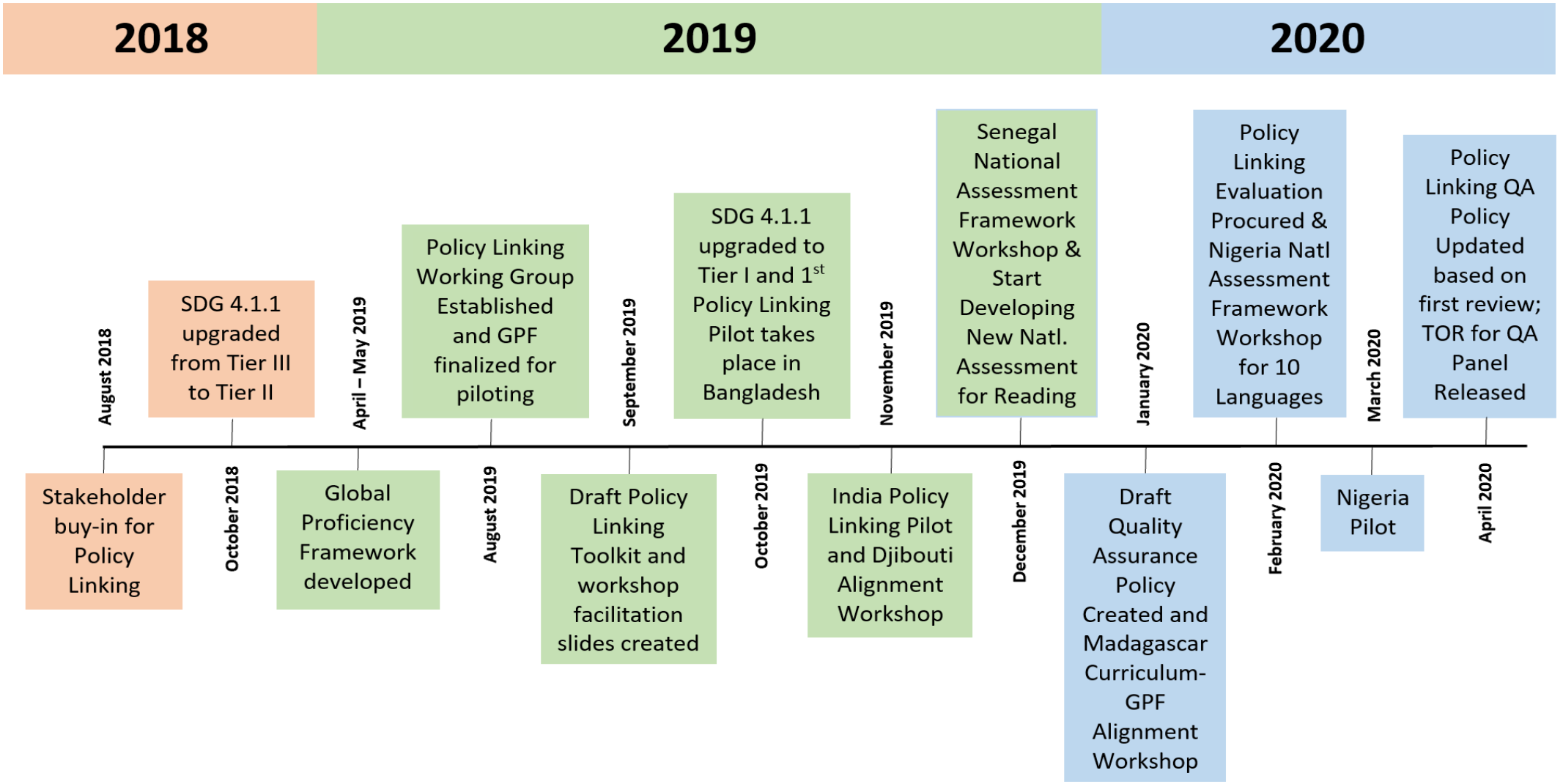
How to use it?

To assess the robustness of the country's assessment system

TOOLS AVAILABLE TO COUNTRIES

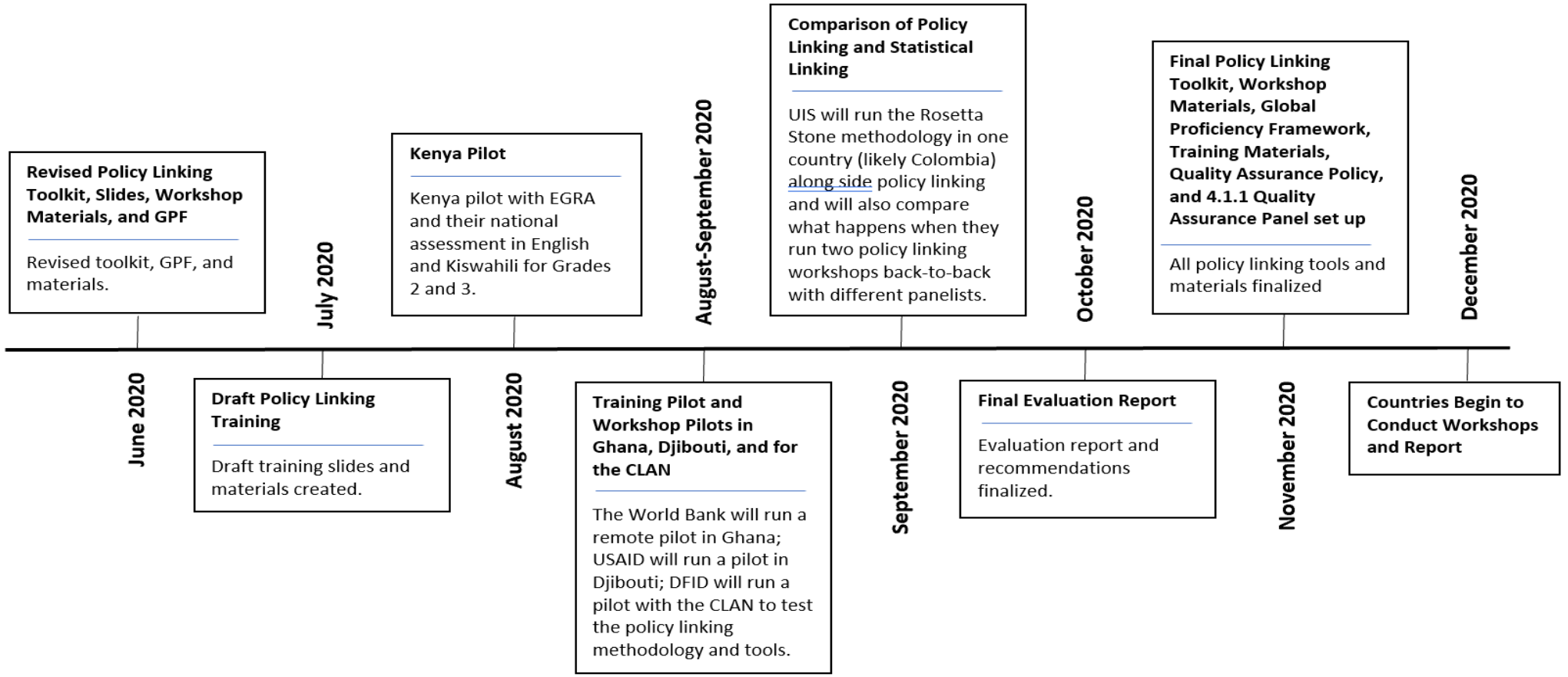


HISTORY OF TOOL DEVELOPMENT



GPF AND POLICY LINKING PLANS FOR THE FUTURE

2020



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