Monitoring Indicators for Sustainable Development Goal 4 (SDG4) in Asia and the Pacific -Country Readiness and Way Forward-

Working paper prepared to support discussion during the Second Asia-Pacific Meeting on Education 2030

UIS-AIMS
UNESCO Bangkok Office
2016
In November 2015, the first Asia-Pacific Meeting on Education 2030 (APMED 2030) was held in Bangkok. With the adoption of the new education agenda “Education 2030”, the meeting aimed to orient the countries on the proposed targets for the education Sustainable Development Goal and its framework for action to build a common understanding of Education 2030 and prepare for its implementation at the regional and national levels. As the new education agenda calls for new indicators, this working paper summarizes the regional study on the countries’ readiness to monitor SDG4 indicators and proposes recommendations for the achievement of Education 2030.

1. Introduction

In May 2015, the global education community gathered in Incheon, Republic of Korea, for the World Education Forum 2015 and launched the Education 2030 agenda (E2030 FFA, 2016). This new education agenda has become the education-specific Sustainable Development Goal (SDG) 4 (UN, 2015): “Ensure inclusive and equitable quality education and promote life-long learning opportunities for all” and its corresponding targets. More ambitious and holistic than the previous Education for All (EFA) agenda, Education 2030 aims to address equity, inclusiveness, early childhood learning, global citizenship, human rights, and skills development among its targets.

Education 2030 has put major emphasis on monitoring. This demands clear indicators and measurement to generate evidence-based international discourses and advocacy. The scope of education in Education 2030 goes beyond the EFA agenda; shifting from access to learning that is inclusive, equitable, and relevant, which should occur throughout one’s life and across all levels and types of education (E2030 FFA, 2016). Moreover, Education 2030 is a universal and collective commitment of all countries regardless of their level of development. Hence, as Silvia Montoya, Director of the UNESCO Institute for Statistics (UIS) puts it, “traditional approach(es) to data may have reached their limits” (UIS, 2016a). The adoption of the new education agenda may pose some challenges for countries to translate these global targets into achievable national targets based on their educational priorities, national development strategies and plans, the ways in which their education systems are organized, their institutional capacity and the availability of resources.

Drawing on a mapping exercise of the questionnaire which UNESCO Bangkok and UIS-AIMS sent to Asia-Pacific countries1 in preparation of the first Asia-Pacific Meeting on Education 2030 (APMED 2030),2 as well as discussion at the 2015 UNESCO-KEDI Regional Policy Seminar3, this working paper articulates the current status of data production systems as well as data availability of SDG4 targets in the Asia-Pacific countries. It identifies emerging challenges in implementing monitoring systems for the Education 2030 agenda as well as the data gaps to monitor SDG4 targets. The paper gives insights on capacity development needs in the region for the successful implementation of Education 2030.

2. Background of Designing the Architecture for Monitoring Education 2030

Indicators play a critical role in making sound evidence-based policies, by helping the country monitor and assess progress toward the objectives of the education programmes and identify bottlenecks, problems and issues (UNESCO, 2011). As a corollary, the Education 2030 agenda is backed by an extensive set of indicators. With the adoption of the SDGs in September 2015, four levels of indicators are proposed for monitoring the Education 2030 agenda (see Figure 1).

---

1 Questionnaires reported back from 35 countries in Central Asia (4 countries), East Asia (12 countries), the Pacific (12 countries), and South and West Asia (7 countries) are analyzed.
2 For more information about APMED 2030: http://www.unescobkk.org/education/education-2030/
11 global indicators were proposed by the Inter-Agency and Expert Group on Sustainable Development Indicators (IAEG-SDG). These global indicators are intended to serve as the primary foundation to track global progress toward the education targets. The indicators have been officially adopted at the UN General Assembly in September 2016.

A broad set of 43 thematic indicators including 11 global indicators⁴ were initially proposed by the Technical Advisory Group on Education Indicators (TAG) to complement the global indicators and to track the education targets in a more comprehensive manner. The thematic indicators represent as a menu of possible additional indicators for countries to choose based on their national contexts and needs. The Technical Cooperation Group on Indicators for SDG4-Education 2030 (TCG SDG4-ED2030) is the main body that provides a platform to discuss and develop the thematic indicators. In October 2016, the TCG SDG4-ED2030 reviewed the complete list of 43 thematic indicators, which include the 11 global indicators and identified 29 indicators that can be reported on in 2017.

Beyond the global and thematic indicators, additional indicators may be developed to take account of specific regional contexts. Moreover, countries are expected to select national indicators which correspond to their national education systems, plans, and policy agenda.

**Figure 1: Four levels of indicators for monitoring Education 2030**

![Diagram of four levels of indicators](image)

- **National**: Link to national plan; consult national stakeholders; recognise context and address inclusion and broader learning goals
- **Regional**: Indicators to monitor frameworks validated by regional bodies
- **Thematic**: Broader set of indicators which covers the range of sectoral priorities (43 indicators)
- **Global**: Focused set of globally comparable indicators based on clear criteria (11 indicators)

**Source**: UNSG, 2014

To take forward the methodological development of indicators and the establishment of standards and good practices, thus to enhance SDG4 data availability, quality and use of data for effective policymaking, some global initiatives have taken place. These initiatives, which are led by the UIS, include the establishment of the Global Alliance to Monitor Learning (GAML) to facilitate coordinated global and country actions on the measurement of learning, the Inter-Agency Group on Education Inequality Indicators (IAG-EII) to promote equity-oriented global monitoring for education via using survey data and the Task Force on Standards for Education Spending Estimates based on Household Survey Data (within the Inter-Secretariat Working group on Household Surveys) to estimate the education expenditure using household surveys.

The heart of Education 2030 lies at the national level, with countries needing to strive to build consensus as to what should be achieved in light of their commitment to Education 2030 and how they should be measured. However, on top of the new requirements for the Education 2030 agenda, countries in the Asia-Pacific region face some common challenges to translate the agenda into actionable national strategies and develop and operate effective monitoring systems. The countries

---

⁴ For information about the proposed 43 indicators, please refer to Annex 1
must build data production systems that can provide quality and relevant information, address capacity of technical and human resources and strengthen coordination among various ministries and agencies. They also need to increase data availability for the SDG4 indicators whilst tapping the potential of multiple data sources and improving the disaggregation of data.

3. Is Asia-Pacific Ready for Monitoring Education 2030?

Deriving from the analytical findings of the mapping exercise and the regional discussion, this section presents how data systems in the region are prepared to monitor the Education 2030 agenda as well as the capacity of the countries on reporting the proposed SDG4 thematic indicators, including the proposed 11 global indicators5.

3.1 Assessment of Data Production Systems

3.1.1 Coverage of Data Collection
Analysis reveals that most of the countries currently do not have a system that fully covers the education sector in a holistic and sector-wide manner. Figure 2 examines whether countries in the region have a system to collect data for the six education sub-sectors. More than 90 per cent of the countries reported that they have a data collection system for primary education and secondary education and close to 90 per cent of the countries cover early childhood care and education (ECCE). On the other hand, less than 80 per cent of the countries collect data on higher education and technical and vocational education and training (TVET) and about 50 per cent of the countries have data coverage on non-formal education (NFE).

Figure 2: Percentage of data collection by education sub-sector

Source: UIS-AIMS, UNESCO Bangkok

3.1.2 Quality of Data Production
Although the countries have an Education Management Information System (EMIS) in place, the overall confidence in quality of data production can still be an issue. 71 per cent of the countries reported that they have a ‘good’ or ‘very good’ overall data production system, and 20 per cent have a ‘fairly good’ one. Almost four per cent of the countries reported that their system is fragmented.

5 For information about the methodology, please refer to Annex 2.
Figure 3 presents self-assessment of the countries on the quality of data production cycle. While many countries are confident that how they collect, organize, process, clean, and aggregate their data are of good quality the instruments used, verification mechanisms, and calculation and the interpretation of data are aspects that would need improving. Moreover, many monitoring systems in the region are not sufficiently prepared to measure data from one sub-sector against from another and seldom is the information gathered and returned to the local or school level. For example, it is reported that schools and teachers are not being informed on what the data report, and the analyses are not being used to impact any improvements in the curriculum, education policy, or planning. In addition, data are often not verified, resulting in the countries unable to use relevant information to formulate policies.

Figure 3: Assessment of data production cycle by phase

Note: the percentage represents the percentage of the countries which report that their data production system is ‘good’ or ‘very good’.
Source: UIS-AIMS, UNESCO Bangkok

3.1.3 Technical, Financial and Human Resources
Lack of resources is one of the major constraints for the development of a functional national education data management system and production of timely and reliable data. According to the mapping exercise, 37 per cent of the countries in the region have neither technical nor financial resources to produce the data for SDG4 indicators. 11 per cent of the countries have technical resources and three per cent have financial resources only. Only 34 per cent of the countries mentioned said that they have both financial and technical resources.

A lack of financial resources at the national level impacts the number of appropriately trained staff available for monitoring tasks as well. There are often not enough personnel to do the work, leading to long delays in the analysis, production and dissemination of information, and ultimately limiting the relevance of data. Moreover, data management and processing tasks are often assigned to employees not always capable and qualified to conduct proper assessments, or with little IT or data skills. Furthermore, local teachers, officials and education administrators often enter data without knowing or being interested in the information itself. This lack of capacity among government staff to analyze and interpret data leads to a dearth of relevant education policy from the collected data.
3.1.4 Coordination
In many countries, the monitoring of education systems is the responsibility of multiple ministries, agencies and departments across different levels of government. Each may have different needs for monitoring and therefore may develop their own monitoring systems without necessarily informing others. In addition to this “horizontal” coordination issue, the current trend towards more decentralized education systems also raises the issue of “vertical” coordination. Often schools and staff at lower levels of the system are required to respond to various requests for data without knowing how the information is used, nor receiving any feedback on their data. Furthermore, weak legal frameworks and poorly established institutional structures impede the effectiveness and sustainability of systems. As a result of these horizontal and vertical inefficiencies and weak legal frameworks, considerable duplication and inconsistency occurs in data (UNESCO, 2015).

Besides the government, other national partners such as civil society organizations (CSOs), are also often involved in data collection efforts. As only 51 per cent of the Asia-Pacific countries are ready to monitor NFE, close consultation and cooperation with CSOs and communities is necessary in order to gather data for the Education 2030 agenda and to ensure greater accountability and transparency.

3.2 Availability of Global and Thematic Indicators

3.2.1 Data Availability by Sub-region and Country
As the coverage and scope of the SDG4 indicators are much broader than those of EFA, the results of the mapping exercise show that many countries in the region have some difficulty in collecting all the proposed thematic indicators. Figure 4 summarizes the availability of thematic indicators in Asia-Pacific countries. The percentage of indicators that the countries are able to collect ranges from nine per cent to 91 per cent. On average, the countries are able to collect 51 per cent of the indicators. In fact, none of the Asia-Pacific counties have the capacity to collect all the proposed thematic indicators. On average, Central Asia is the sub-region with the highest percentage of indicators available (61 per cent), followed by East Asia (50 per cent), South and West Asia (50 per cent), and the Pacific (49 per cent).
Figure 4: Availability of thematic indicators by country

Note: The row represents the 43 indicators and the column represents the countries. Colored-cells represent the countries which are able to collect data for the indicators. The global indicators are highlighted in yellow.

Source: UIS-AIMS, UNESCO Bangkok

3.2.2 Data Availability by Level of Difficulty to Collect and Concept
While some indicators are relatively easy for the countries to collect data for, there are other indicators that the countries do not have sufficient capacity to collect. Figure 5 categorizes the indicators in four groups according to the level of availability in the Asia-Pacific countries. The first group is composed of the indicators that are ‘easy’ to collect in the region. More than 70 per cent of the countries have the indicators. There are 12 indicators that fall in this category. The second group consists of 11 indicators that more than 50, yet less than 70 per cent of the countries are able to collect. The third group contains seven indicators which are ‘difficult’ to collect, as less than 50 per cent, but more than 30 per cent of the countries have capacity to collect them. The fourth one is a group of the indicators which are ‘very difficult’ to collect. 13 indicators are available only for less than 30 per cent of the countries.
When it comes to global indicators, five out of 12 global indicators (4.1.1, 4.2.10, 4.a.30, 4.a.31, and 4.c.39)\(^6\) can be collected by more than 50 per cent of the countries and they are mainly from administrative data sources. However, less than 50 per cent of the countries are able to collect data on the six indicators (4.2.8, 4.3.15, 4.4.16, 4.6.22, 4.7.25, and 4.a.32). Indicators on knowledge, readiness, and skills (4.2.8, 4.4.16, 4.7.25, 4.a.32, and 4.b.36) are especially difficult to collect. This indicates that the countries may have to make enormous efforts to collect even a small set of indicators from assessment or household surveys.

**Figure 5: Classification of indicators by level of difficulty to collect**

<table>
<thead>
<tr>
<th></th>
<th>4.1</th>
<th>4.2</th>
<th>4.3</th>
<th>4.4</th>
<th>4.5</th>
<th>4.6</th>
<th>4.7</th>
<th>4.a</th>
<th>4.b</th>
<th>4.c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very difficult (0 to 29%)</td>
<td></td>
<td>4.2.8</td>
<td></td>
<td>4.4.16</td>
<td>4.5.21</td>
<td></td>
<td>4.7.25</td>
<td>4.a.32</td>
<td>4.b.36</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.7.26</td>
<td>4.a.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.7.27</td>
<td>4.a.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.7.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.7.29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult (30 to 49%)</td>
<td>4.3.15</td>
<td></td>
<td></td>
<td>4.5.18</td>
<td>4.6.22</td>
<td></td>
<td></td>
<td>4.c.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.5.19</td>
<td>4.6.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.1.1</td>
<td>4.2.10</td>
<td>4.3.14</td>
<td></td>
<td></td>
<td>4.a.30</td>
<td>4.b.35</td>
<td>4.c.38</td>
<td></td>
</tr>
<tr>
<td>Fair (50 to 69%)</td>
<td></td>
<td>4.1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.a.31</td>
<td>4.c.39</td>
<td>4.c.40</td>
<td>4.c.43</td>
</tr>
<tr>
<td>Easy (70 to 100%)</td>
<td>4.1.3</td>
<td>4.2.11</td>
<td>4.3.13</td>
<td>4.4.17</td>
<td>4.5.20</td>
<td>4.6.23</td>
<td></td>
<td></td>
<td>4.c.37</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The global indicators are highlighted in red dots. The indicator on equity cross-target does not appear in Figure 5.

**Source:** UIS-AIMS, UNESCO Bangkok

Figure 6 displays the availability of the 43 indicators by categorizing them by concepts. Indicators on the concept, ‘participation and completion’ are considered to be relatively easy to collect and these data are mostly derived from administrative data sources. On the other hand, many countries find it very difficult to collect indicators on ‘knowledge, skills, learning and readiness’ and ‘policy, provision

---

\(^6\) The definition of global indicators follows the proposal of the TAG (UIS, 2015).
and scholarship’. It is clear that the countries have fewer issues collecting indicators which are generated from administrative sources, than those from other sources such as learning assessments and household surveys.

**Figure 6: Classification of indicators by concept**

Note: Categorization of indicators refer to the thematic indicator framework used in the Sustainable Development Data Digest (UIS, 2016b).

Source: UIS-AIMS, UNESCO Bangkok
Many of developing countries are facing serious learning crisis as less than 50 per cent of children in 21 out of 85 countries with available data are learning basic literacy and numeracy skills (UNESCO, 2014). The Education 2030 agenda places a strong focus on learning outcomes and urges countries to improve monitoring learning outcomes of children, youth and adults at different levels and in different domains.

Out of 43 thematic indicators, five indicators directly measure learning outcomes and data show that most of countries in Asia and the Pacific are not prepared to monitor them. More than 69 per cent of the countries reported that they are able to collect data on 4.1.1, which is about learning outcomes at early grades, the end of primary education and the end of lower secondary education. On the other hand, 40 per cent of the countries have data on 4.6.22, which is learning outcomes by age group achieving at least fixed level of proficiency in functional literacy and numeracy skills. 20 per cent have data on 4.4.16 which covers youth and adults with the minimum level of proficiency in digital literacy skills. Moreover, nine per cent of the countries have data on 4.7.27, which assesses the percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience, and six per cent have 4.7.26, which looks to measure the percentage of students of a given age group showing adequate understanding of issues relating to global citizenship and sustainability.

This clearly shows that a lot of effort is needed to build national capacities in measuring learning outcomes at various levels of education, by age group, and in different areas (e.g. literacy, numeracy, digital literacy, and environmental and geoscience). There are also cases that the countries have national assessments, but not all of them correspond with the grades proposed in the Education 2030.

### 3.2.3 Disaggregation of Indicators

Disaggregated data may help the countries to promote equitable planning and policy making, targeting all the groups based on their geographical and social status. However, the availability of disaggregated data is limited depending on its types. Figure 7 shows the percentage of indicators available by different type of disaggregation. A large proportion of indicators can be disaggregated by sex (68 per cent) and location (66 per cent), but disaggregation by disability and wealth is limited, as only 21 and four per cent of the total indicators can be disaggregated, respectively. Overall, countries in Asia and the Pacific have all the desired disaggregation for only three per cent of the indicators.

---

7 Assessment focuses only on formal school-level learning outcomes.
8 The proposed disaggregation includes by age, disability, location, sex, and wealth (UIS, 2015).
3.2.4 Intention to Collect the Indicators

Although countries in Asia and the Pacific have yet to fully cover all the thematic indicators, some countries plan to expand their data collection in the future. Figure 8 shows the number of countries that currently do not collect data for the indicators, but intend to collect some of them in the future. 40 out of the 43 indicators were not available for at least one country in the region. Out of these 40 indicators, the countries have the intention to collect data for 34 indicators. Moreover, the countries have a varying degree of intention depending on the indicators. For instance, while seven out of 22 countries that do not collect data on 4.a.33 intend to collect the indicator, the figure is only one out of 18 countries for 4.5.21. It is important to note that no country intends to collect data for six indicators (4.1.4, 4.2.10, 4.4.17, 4.5.20, 4.6.23, 4.6.24).

**Figure 7: Availability of indicators by type of disaggregation**

![Figure 7: Availability of indicators by type of disaggregation](image)

**Note:** The analysis examines whether the indicators are available by individual disaggregation. It doesn’t take account of the availability of multiple disaggregation.

**Source:** UIS-AIMS, UNESCO Bangkok

**Figure 8: Number of countries with no indicator that intend to collect**

![Figure 8: Number of countries with no indicator that intend to collect](image)

**Note:** The light-colored bars represent the number of countries that currently do not collect data for the indicator and do not have intention to collect them in the future. The purple bars represent the number of countries that currently do not collect data for the indicators, but intend to collect them in the future. 4.1.3, 4.1.7, and 4.2.12 are eliminated from Figure 8 as all the countries currently collect those indicators.

**Source:** UIS-AIMS, UNESCO Bangkok
3.2.5 Relationship between Availability and Understanding of the Indicators

Availability of the indicators to some extent corresponds to whether the countries understand the concept of the indicators sufficiently. Figure 9 displays that there is a positive relationship between availability and understanding of the thematic indicators. The countries with good numbers of available indicators tend to have a good understanding of many thematic indicators.

**Figure 9: Correlation between availability and understanding of indicators**

![Graph showing correlation between availability and understanding of indicators]

*Source*: UIS-AIMS, UNESCO Bangkok

However, Figure 9 also shows that enhancing understanding of the indicators does not always lead to increasing number of indicators collected by the countries. In 28 out of 43 indicators, the countries have lower available indicators than indicators that they understand correctly. This implies that not only understanding, but also the country’s preference to choose the indicators as well as the aforementioned issues related to data production and resources, may affect the availability of the indicators.

3.3 Emerging Challenges and Recommendations in Monitoring Education 2030

3.3.1 What Challenges do the Countries Face in Response to Education 2030?

Education 2030 calls for robust monitoring, reporting, and evaluating indicators from ECCE to adult education. Thus, the country’s capacity to respond to all the SDG4 indicators will depend on whether a quality mechanism is in place. Even though most of countries in the Asia and the Pacific have set up the EMIS to collect, store, analyze and disseminate education data as a pillar of their decision-making processes, diverse challenges still exist in the region to monitor the progress on the SDG4 targets.

*Data production systems not ready for Education 2030*: Basic education is the only area where more than 90 per cent of the Asia-Pacific countries have a decent system to collect data. The lack of holistic data collection systems in education sub-sectors and challenges in some phases of the data production cycle may hamper the countries from generating the necessary indicators. Similarly, resource constraints in terms of technical, financial and human resources are barriers to increasing the indicator availability.
**Need for multiple data sources:** Education 2030 will require the adoption of new indicators, new measurements, and new tools for monitoring and some SDG4 targets, such as global citizenship education and NFE, which are difficult to measure if relying on the traditional data collection mechanism. While many indicators that are derived from administrative sources are more likely to be collected by most of the countries, data from other sources such as household surveys or other alternative sources are not found in a significant proportion of countries. Use of multiple sources of data and information will be critical in data collection for Education 2030.

**Dearth of disaggregation to measure equity:** The Education 2030 agenda has a strong focus on equity. Without having data for all the desirable disaggregation, it is not easy to measure the inequity. Currently, only three per cent of the indicators can be disaggregated by the five proposed characteristics. In order to better identify the dimensions of disadvantage in education and measure equity and inclusion, efforts should be made to increase the capacity of governments to disaggregate data where relevant by sex, age, location, ethnicity and disabilities.

**Need for harmonizing the measurement of learning outcomes:** Five out of seven SDG4 targets focus on learning outcomes. Various methodologies and processes have been developed and used to measure learning outcomes at national level. However, each assessment has its own framework and methodology, thus there is no standardized and comparable method to measure learning outcomes across the countries.

**Lack of culture of data sharing and cooperation:** Although many types of data and indictors are collected by different departments and ministries, they are not shared and not easily accessible. A culture of data sharing and establishing cooperation among data producers is crucial for effective monitoring of the Education 2030 agenda. Information from CSOs and other non-traditional education providers which might collect data on aspects of education which are not covered by the traditional education providers should be taken into consideration to fill the data gaps.

### 3.3.2 How can the Countries Solve the Emerging Challenges?

In the face of the emerging challenges above, the following recommendations may help strengthen monitoring systems to analyze and assess inputs and outcomes and consequently impact the performance of the education system in alignment with the Education 2030 agenda.

**Enhance understanding of data availability and challenges:** The mapping exercise provided us with regional overview of data availability and general issues in data production for monitoring the SDG4 targets in Asia and the Pacific. However, there is a need to conduct more in-depth studies at national level on data availability, data sources, and available stakeholders and to draw a more detailed and explicit list of issues and challenges in monitoring SDG4 targets in the country.

**Transform a national data production system while harnessing the data revolution:** The countries need to improve their data production systems to improve the data coverage across sub-sectors and also improve the efficiency of data production and dissemination. The countries should explore the use of improved ICTs and multiple statistical databases, and have them integrated across sectors. The countries should also expand the technical capacity to collect and analyze data across multiple databases to compare and harmonize data.

**Identify placeholders to fill the data gaps:** As the mapping exercise presented, not all the indicators are currently available at regional and national levels. Some data which do not necessarily provide exact information to calculate indicators can be used as a proxy and may be available or have been collected by some agencies and organization. It is necessary to identify such placeholders to reduce the data gaps. A mapping exercise of such placeholders needs to be conducted.
Set up a regional partnership mechanism: There are various regional organizations working on different areas of education monitoring which includes data generation to data collection as well as regional and national capacity development. To harmonize those efforts, there is a need to set up a regional partnership mechanism in education monitoring. The Thematic Working Group on Education 2030+ could serve as a platform to develop such a mechanism.

Build a culture of information and data literacy and empower education personnel. Improved capacity is important at all levels of the monitoring process. Proper data appreciation and utilization is crucial for top-level officials, particularly those involved in policy and planning decisions. Improved technical skills and specialization for staff who conduct different types of collection, analysis and evaluation, as well as continuous training and promotion opportunities will attract and retain qualified professionals. Improved dissemination skills, advocacy and reporting of results to all stakeholders will allow for informed deliberations and decisions.

4. Way Forward

The mapping exercise, which analyzed the data availability and gaps, and consequently the readiness of the countries for the Education 2030 agenda, has highlighted the need for significant efforts to achieve the Education 2030 agenda. To overcome the aforementioned challenges and build a well-functioning monitoring systems, Figure 10 summarizes some of the actions that should be taken at the global, regional and national levels to implement the Education 2030 agenda.

Figure 10: Global, regional, and national actions for Education 2030

| Global | • Develop technical guidelines, measurement framework, and meta data  
• Strengthen coordination and partnerships  
• Develop a global platform for methodological development  
• Hold a regular consultation meeting  
• Publish a SDG4 progress report |
| Regional | • Develop regional monitoring frameworks  
• Define a core set of regional indicators  
• Establish shared regional partner initiatives |
| National | • Review/mainstream SDG4 in sector national development plans  
• Align the national indicators to the global framework  
• Identify national challenges and needed responses to improve the data  
• Organize consultation with MoEs and other sectoral ministries, at provincial, community, and school level |

Source: UIS-AIMS, UNESCO Bangkok

4.1 Ongoing National Consultation

While consultations and discussion have taken place at global and regional levels to develop strategies to implement the SDGs, the Ministry of Education, together with other relevant ministries in this region, has also started national consultation to localize SDG4 indicators at national level.

As of November 2016, 20 countries in the region have organized consultation meetings (see Figure 11). Monitoring of SDG4 indicators and alignment of national and global/thematic indicators set was a focus of discussion. Countries were expected to develop country-specific indicators reflecting local context while meeting the international standard. The consultation meeting also revolved around data availability, data sources and data collection processes, while identifying the data gaps.
Most of the countries which went through the consultation agreed that only one source of data would not be sufficient to monitor SDG4 targets. A strong coordination mechanism will be needed among different data producers such as administrative, household, assessment/examination as well as data from CSOs. Although many countries have not come up with the tangible strategies progress was seen, such as establishing broad concepts to define the localized indicators. The process is ongoing and more concrete national priorities and actions will be finalized in the near future.

**Figure 11: Countries which organized national consultation on Education 2030**

<table>
<thead>
<tr>
<th>Central Asia</th>
<th>East Asia</th>
<th>Pacific</th>
<th>South-West Asia</th>
</tr>
</thead>
</table>
| • Turkmenistan  
• Uzbekistan | • Cambodia  
• China  
• Lao PDR  
• Myanmar  
• Philippines  
• Thailand | • Australia  
• Fiji  
• Cook Islands  
• Micronesia  
• Palau | • Afghanistan  
• Bangladesh  
• India  
• Iran, Islamic Rep. of  
• Maldives  
• Nepal  
• Pakistan |

**Note:** The number of countries is as of November 2016.
**Source:** UIS-AIMS, UNESCO Bangkok

### 4.2 Developing the Asia-Pacific Regional Monitoring Framework for Education 2030

As a part of the regional initiative, development of the Regional Monitoring Framework for Education 2030 may help capture the regional progress on Education 2030. As previously mentioned, monitoring of the Education 2030 agenda utilizes four levels of indicators (see Figure 1). Global indicators are a small set of indicators which help monitor the progress and achievement of Education 2030 at the global level. This is the minimum information that all the countries should produce for the global tracking of the progress. On the other hand, the global indicators do not necessarily catch the regional specificities. Thematic indicators which cover the range of sectoral priorities help the countries, regional partners and agencies which work on different thematic areas identify the progress of each theme and develop relevant policies and strategies. However, some of the thematic indicators may not be relevant to all the Asia-Pacific countries, thus it is not easy to fully collect the indicators from the region.

In this context, development of the Regional Monitoring Framework with a core set of indicators could help capture the regional picture in progress toward Education 2030. The set of indicators should be drawn from criteria such as relevance to the region, alignment with the global and thematic indicators, and availability of the indicators. The Regional Monitoring Framework should take account of specific regional contexts and relevant policy priorities for concepts that are less amenable to global comparison, in addition to reflecting all the global indicators. It also should be aligned with the thematic indicators that are widely available in the region. Information regarding the intention to collect data would also be interesting to consider in this process. Based on the criteria and findings from the mapping exercise, Figure 12 presents global indicators which all countries have to collect as well as indicators which are mostly available or will be in the future in the region.

Successful achievement of the Education 2030 agenda may rely on reliable and sustainable partnerships to increase available data, while supporting the country-led actions in order to build a sound evidence-based monitoring of Education 2030. These partnerships concern data collection and sharing, and development of methodologies as well as data reporting and analysis. Moreover, as
discussed in APMED 2030, guidelines will be developed to support the countries integration of the SDG4 targets into their national plan. These guidelines will also include capacity development strategies to support the monitoring of education to implement effective evidence-based policies, improve governance and accountability, and resource planning. In this way, a strong partnership strategy should be developed to maximize efforts in the national implementation process and tap the full potential of the countries as a way forward the achievement of Education 2030.

Figure 12: Indicators to monitor Education 2030 in Asia and the Pacific

Global indicators
4.1.1, 4.2.8, 4.2.10, 4.3.15, 4.4.16.2, 4.6.22, 4.7.25
4.a.30, 4.a.31, 4.a.32, 4.b.36, 4.c.39

Thematic indicators
(Available more than 70% of the countries)
4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.2.11, 4.2.12, 4.3.13,
4.4.17, 4.5.20, 4.6.23, 4.c.37

Indicators on intention to collect
(more than 70% of the countries that do not have the indicator intend to collect)
4.c.37, 4.c.38, 4.c.40

Source: UIS-AIMS, UNESCO Bangkok

UNESCO Bangkok’s AIMS (Assessment, Information System, Monitoring and Statistics) Unit is the Asia-Pacific regional office of the UNESCO Institute for Statistics. For more information about the UNESCO Institute for Statistics’ initiatives on Education 2030/SDG4, consult the following resources:

- UIS’s latest publication “Sustainable Development Data Digest: Laying the Foundation to Measure Sustainable Development Goal 4” (http://www.uis.unesco.org/Education/Documents/uis-sdg4-digest-2016.PDF)
- UNESCO eAtlas for Education 2030 (http://tellmaps.com/sdg4)
- UIS data blog “Data for Sustainable Development” (https://sdg.uis.unesco.org/)

Should you have any inquiries, kindly contact Aki Osawa [a.osawa(at)unesco.org].

15 | UNESCO Bangkok
References

## Annex 1: SDG4 Targets, Concepts and Indicators

### 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

<table>
<thead>
<tr>
<th>Learning</th>
<th>1</th>
<th>Percentage of children/young people in grade 2/3, at the end of primary and at end of lower secondary achieving at least a minimum proficiency level in reading and mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Existence of a nationally-representative learning assessment in the early grades of primary (2/3), at the end of primary and at the end of lower secondary</td>
</tr>
<tr>
<td>Completion</td>
<td>3</td>
<td>Gross intake ratio to the last grade (primary, lower secondary)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Completion rate (primary, lower secondary, upper secondary)</td>
</tr>
<tr>
<td>Participation</td>
<td>5</td>
<td>Out-of-school rate (primary, lower secondary, upper secondary)</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Percentage of average children (primary, lower secondary)</td>
</tr>
<tr>
<td>Provision</td>
<td>7</td>
<td>Number of years of free and compulsory primary and secondary education guaranteed in legal frameworks</td>
</tr>
</tbody>
</table>

### 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

| Readiness | 8 | Percentage of children under 5 years who are developmentally on track in health, learning, psychosocial well-being |
|          | 9 | Percentage of children under 5 years of age experiencing positive and stimulating home learning environments |
| Participation | 10 | Participation rate in early childhood care and education in a given period prior to entry into primary education |
|          | 11 | Gross pre-primary enrolment ratio |
| Provision | 12 | Number of years of free and compulsory pre-primary education guaranteed in legal frameworks |

### 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

| Participation | 13 | Gross enrolment ratio for tertiary education |
|              | 14 | Participation rate in technical-vocational education programmes (15- to 24-year-olds) |
|              | 15 | The percentage of people in a given age-range participating in education and training in the last 12 months, by type of programme |

### 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

| Skills | 16.1 | Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills |
|        | 16.2 | Percentage of individuals with ICT skills by type of skill |
|        | 17   | Adult educational attainment rates by age-groups and levels of education |

### 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

| Equity cross-target | 18   | Parity indices (female/male, rural/ urban, bottom/top wealth quintile and others such as disability status and conflict-affected as data become available) |
|                     | 19   | Where possible, other indicators should be presented in relation to the their distribution across the study population |
| Policy              | 18   | Percentage of students in primary education whose first or home language is the language of instruction |
|                     | 19   | Existence of explicit formula-based policies which aim to reallocate education resources to disadvantaged populations |
|                     | 20   | Education expenditure per student by level of education and source |
|                     | 21   | Percentage of total aid to education allocated to low-income countries |

### 4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

| Skills | 22   | Percentage of the population of a given age group achieving at least a fixed level of proficiency in functional literacy and numeracy skills |
|        | 23   | Youth / adult literacy rate |
| Provision | 24   | Participation rate of youth/adults in literacy programmes |
### 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development

<table>
<thead>
<tr>
<th>Provision</th>
<th>Extent to which global citizenship education and education for sustainable development are mainstreamed in national education policies curricula teacher education and student assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Percentage of students of a given age group (or education level) showing adequate understanding of issues relating to global citizenship and sustainability</td>
</tr>
<tr>
<td></td>
<td>Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience</td>
</tr>
<tr>
<td></td>
<td>Percentage of schools that provide life skills-based HIV and sexuality education</td>
</tr>
<tr>
<td></td>
<td>Extent to which the framework on the World Programme on Human Rights Education is implemented nationally (as per UNGA resolution 59/113)</td>
</tr>
</tbody>
</table>

#### 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

| Resources | Percentage of schools with access to basic drinking water, basic sanitation facilities; and basic handwashing facilities |
|           | Percentage of schools with access to electricity, Internet access for pedagogical purposes and computers for pedagogical purposes |
|           | Percentage of schools with adapted infrastructure and materials for students with disabilities |

#### Environment

| Environment | Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse |
|            | Number of attacks on students, personnel and institutions |

#### 4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

| Number | Number of higher education scholarships awarded by beneficiary country |
|        | Volume of official development assistance (ODA) flows for higher education scholarships by beneficiary country |

#### 4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states

| Qualified | Percentage of teachers qualified according to national standards by education level and type of institution |
|          | Pupil-qualified teacher ratio by education level |
| Trained  | Percentage of teachers in pre-primary, primary, lower secondary and upper secondary who have received at least the minimum organized and recognised teacher training pre-service and in-service required for teaching at the relevant level in a given country, by type of institution |
|          | Pupil-trained teacher ratio by education level |
| Motivated | Average teacher salary relative to other professions requiring a comparable level of education qualification |
| Supported | Teacher attrition rate by education level |
|           | Percentage of teachers who received in-service training in the last 12 months by type of training |

**Note:** In this paper, the definitions of thematic indicators are followed by the proposal of the Technical Advisory Group on Education Indicators.

**Source:** UIS, 2015
Annex 2: Technical Note

The questionnaire assesses data availability and gaps of the thematic indicators. In order to better capture the data availability, the distributed questionnaire had 83 indicators, which include 16 sub-categories. Responses for 83 indicators were converted to 43 indicators upon analysis, using the average recurrence of the sub-category availability. Taking account that some indicators and data may have already exited, yet the countries failed to report them in the questionnaire, the availability of data was reviewed and updated, if necessary based on the existing UIS database (i.e., 4.1.1-3, 4.1.5-7, 4.2.11-12, 4.3.13, 4.4.17, 4.5.20, 4.6.23, and 4.c.37-38). If the response is ‘Yes’, the indicator is available. The next question looks into what type of disaggregation for the indicator is available and how frequently the indicator is produced in the country. If the answer is ‘No’, the next question asks if the country has any plan to produce the indicator in the near future (see Figure 13).

The mapping exercise provides preliminary understanding and availability of the indicators, the data production system and available resources. Due to time constraint, some of the responses might have been provided without proper national consultation with the concerned departments in the country and there are missing data for some questions, which could have affected the results of analysis and its quality. Hence, further in-depth assessment might be required to undertake in order to seize detailed mapping and develop relevant strategies to fill the data gaps.

Figure 13: Structure of questions in the questionnaire

Source: UIS-AIMS, UNESCO Bangkok