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PAKISTAN COUNCIL OF RESEARCH IN WATER RESOURCES

PCRWR

Government of Pakistan

Sustainable Development Goal 6 Policy Support System (PSS)

An explanatory handbook driven by user experience for understanding and application of PSS

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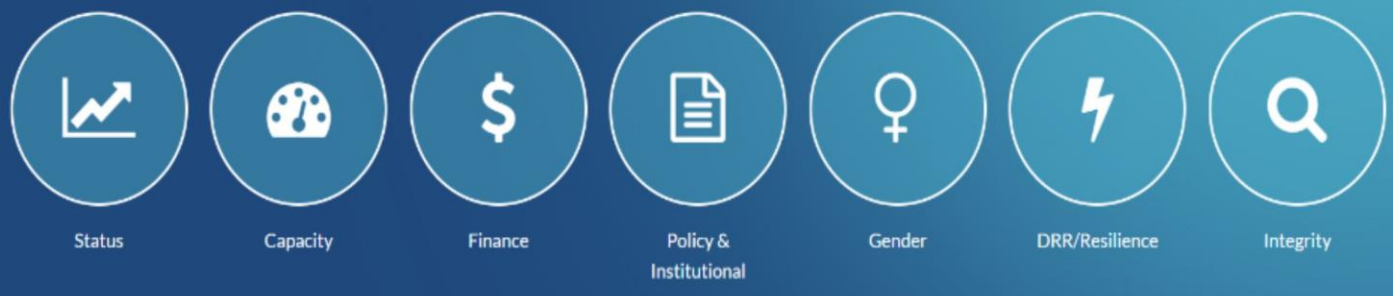

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Executive Summary

Sustainable Development Goals of United Nations also famously known as Agenda 2030, were launched in 2015 at the conclusion of Millennium Development Goals (MDG's). SDG 6 is exclusively related to water with its cross-cutting relationship with other 16 SDGs. UN efforts to resolve global water issues dates back to 1977, the first international convention on water. Since then, some agendas and programs were agreed. However, these efforts could not bring desired results because there was no comprehensive mechanism for reporting the progress except household and other administrative surveys. Moreover, these reporting methods were not able to establish a link to the reported progress with overall development framework of the nations.

A unique characteristic of SDGs is that these are country-led rather UN-led compared to MDGs. In this regard, the nations will have to set their own targets and set-out an enabling environment to achieve them. This is a challenging task and countries alone are not able to meet it without knowledge support from UN and its related organizations. United Nations University-Institute of Water, Environment and Health (UNU-INWEH) developed a tool "Policy Support Systems (PSS)" for SDG 6 under a project "Water in the World we want: SDG 6-PSS". This tool has been introduced and tested in five countries; South Korea, Pakistan, Ghana, Costa Rica and Tunisia.

Under this project, national workshops were held introducing PSS to the stakeholders in partner countries for the purpose of capacity building regarding SDG 6 and PSS tool. In Pakistan, a national workshop and 5 provincial workshops were organized involving more than 70 professionals from various stakeholder organizations. On the basis of lessons learnt from these workshops, this handbook is developed. It provides a step-by-step methodology to the users for operating SDG 6 PSS. This tool would transform data into useful information for better policy decision for the implementation of SDG 6.

1. Introduction

Global issue of water was echoed in United Nations in 1977, when the first intergovernmental conference exclusively for water sector was held i.e., United Nations (UN) World Water Conference. As a way forward, a milestone action plan was adopted with the primary purpose of providing universal safe and potable water supply by 1990 (UN, 1977). One of the key aspirations from this plan was for the nations to align their water policies with their framework of socio-economic development polices. This action plan was insufficient to promulgate the progress at intended scale (Falkenmark, 1990). The declaration of International Drinking Water Supply and Sanitation Decade during 1980-1990 was also one of the outcomes of this conference. (Biswas, 1988).

Means of implementation came into discussion once again in 1992 during the UN Conference on Environment and Development (UN, 1992). In this agenda, financial support, science and technology, capacity building, and international institutions and mechanisms were thoroughly integrated. Data availability, its quality, coherence, standardization and its accessibility remained a key challenge and gap in the way of evidence-based decision making. This issue also remained a major challenge to the progress of developing and underdeveloped nations (UN, 1992). Therefore, countries also committed to improve data collection and their transformation into useful knowledge for environmental, demographic, social and development mechanisms.

In 2000, the UN adopted the Millennium Development Goals (MDGs) in recognition of unsolved development challenges including water and sanitation sectors. The MDGs were quantifiable and time-bound goals to stimulate resources and accelerate the achievement of global aspirations relevant to developing countries (UN, 2000). During World Summit on Sustainable Development (2002) countries altogether launched a program of action with financial and technical assistance for MDGs on safe drinking water while agreeing to their plan of implementation (UN, 2002). In 2012, Rio+20 conference emphasized on means of implementation. The particular focus of this conference was to promote evidence-based decision making at all levels followed by capacity building of the developing countries in data analysis and collection (UN, 2012).

It was the result of these commitments that counties were mobilized for generating innovative partnership with more energized public opinion. As a result, by 2015 a moderate shift was observed in the decision-making processes of developing and underdeveloped countries, although many developing and underdeveloped nations were not able to achieve these targets (UN, 2015a). The reason being, a poor cross cutting relationship of reported figures with improvement in national income. As a consequence, many low-income countries were able to attract donor assistance under

these goals. The middle-income countries who already had their national development goals similar or more ambitious than MDG's were not able to draw these benefits; neither in terms of development nor in financial partnerships. In case of Pakistan, the over reporting of MDGs exaggerated the national progress because there was no link between achieving MDGs to the improvement of institutional, governance and financial systems.

Subsequently, the 2030 Agenda for Sustainable Development was adopted by all UN Member States in 2015 to build on the MDGs and complete what they could not achieve before (UN, 2015b). This framework aims to support action in areas of critical importance for developing and developed countries altogether. SDGs are different because they are nation-led compared to MDGs which were UN-led. As such, each SDG consists of outcome targets representing the aspirations to be attained by countries. This means that countries can set their own outcome guidelines/aspirations based on their baseline status in 2015 and national consensus. Important part of these aspirations is that, by 2030 countries have to answer three key questions (UN, 2015b);

i. What was their status in 2015?
ii. What did they aspire to achieve?
iii. Have they achieved their aspirations?

Third question is likely to address all the limitations of MDGs and earlier development agenda's, i.e., the link of reported progress with the national growth and development. Therefore, through SDGs, the reporting countries have to report on the improvement of institutional and governance systems, financial systems and their capacity. Countries also need to define their own national baselines, targets and priorities in the general SDG process. In doing so, nations will have to focus on such aspirations that can be realistically achieved by 2030, reporting regularly on the progress (UNU-INWEH, 2019). SDG 6 was built on six outcome targets (SDG 6.1–6.6) and two means of implementation targets (SDG 6.a and 6.b) (Table 1). The framework also includes SDG 17 – *Revitalize the global partnership for sustainable development* – devoted exclusively to the means of implementation needed across all SDGs (UN, 2015b).

Table 1: SDG 6 - Ensure Availability and Sustainable Management of Water and Sanitation for All

Targets	Indicators
Target 6.1 “By 2030, achieve universal and equitable access to safe and affordable drinking water for all”	• Percentage of population using safely managed drinking water services
Target 6.2 “By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations”	• Percentage of population using safely managed sanitation services including a hand washing facility with soap and water
Target 6.3 “By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse globally”	• Percentage of wastewater safely treated • Percentage of water bodies with good water quality
Target 6.4 “By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity”	• Percentage change in water use efficiency over time • Level of water stress: freshwater withdrawal in percentage of available freshwater resources
Target 6.5 “By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate”	• Degree of integrated water resources management (IWRM) implementation (0-100) • Percentage of transboundary basin area with an operational arrangement for water cooperation - still being discussed
Target 6.6 “By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes”	• Percentage of change in water-related ecosystems extent over time
Target 6.a “By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies”	• Amount of water and sanitation related Official Development Assistance that is part of a government coordinated spending plan
Target 6.b “Support and strengthen the participation of local communities in improving water and sanitation management”	• Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Source (UN, 2021).

1.1. Goal 6 and Pakistan

Water is one of the most important components for the development of any country and Pakistan is no exemption. It is one of the largest users of water in the world. Presently, the country is facing a number of quantitative and qualitative issues in the water sector. These issues are increasing with time due to looming climate change and rising water demand of ever-increasing population. SDG 6 and all of its targets are very much relevant to Pakistan. Agriculture sector uses over 93% of country's fresh water resources which has created an imbalance of use among other sectors such as domestic, industry and environment. It is essential to maintain quality of natural water resources thereby reducing the costs on water quality management and treatment. This would help ensure safe drinking water, sanitation and hygiene for all. However, these goals are huge and cannot be achieved using the conventional approaches having no alignment with its human development index and economic growth. Firstly, it requires proper understanding of the goal, its targets and indicators as well as their enabling elements to support this goal. Secondly, proper planning involving all the stakeholders - right from the policy makers to the end users. It also requires a holistic thinking and efforts from all sectors to first set aspirations and allocate resources accordingly.

Earlier Pakistan along with many other developing countries failed to achieve the Millennium Development Goals (MDGs) mainly due to: (i) lack of understanding about the MDGs; (ii) lack of institutional capacity; and (iii) lack of political will and commitment. Concentric efforts are also needed for setting appropriate baselines, setting realistic targets and allocating appropriate resources. According to Sachs et al (2020), Pakistan has secured a score of 56.17 under SDGs' global index in 2020, and was ranked 134 on the SDGs index of 157 nations. In this index, Bangladesh and India secured 109th and 117th positions, respectively. Meeting the SDGs in general and water goal in particular will require a considerable effort in terms of developing new infrastructure, rehabilitating old infrastructure, investing into new technological solutions and improving capacities and governance at different levels.

UN-Water laid seven building blocks for effective implementation of SDG 6 (UN-Water, 2015) (Figure 1). Systematic effort will be required in order to generate the means (economic, social, human and environmental resources) needed to support the implementation of the goal.

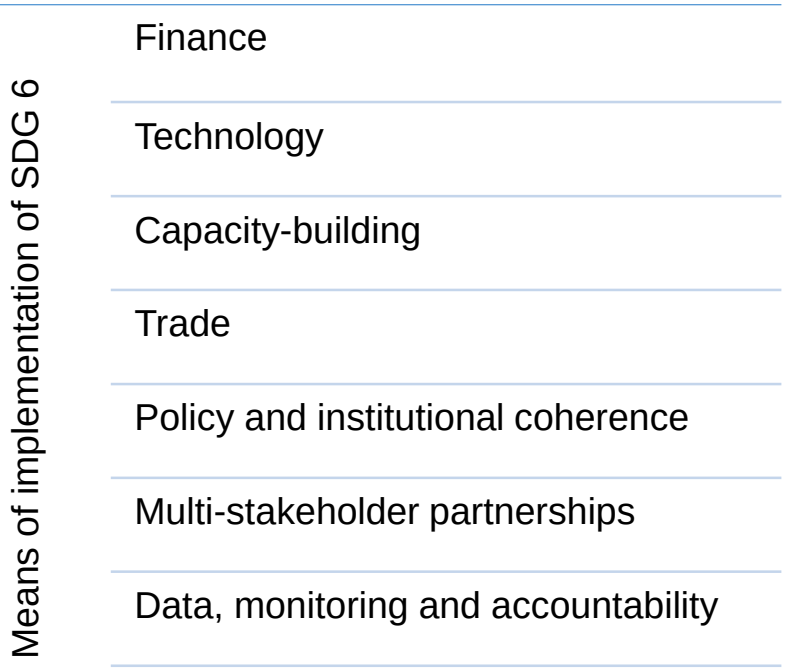


Figure 1: The seven building blocks for means of implementation laid out in Goal 6 (UN-Water, 2015)

2. SDG 6 Policy Support System (PSS)

In response to the adoption of this agenda, the United Nations University – Institute of Water, Environment and Health (UNU-INWEH), Canada worked together with the Korean Environment Corporation (K-eco) and the Ministry of Environment - Republic of Korea, on a project to encourage water-related Sustainable Development Goal advancements at the national level in five of the UN's Member States, including Pakistan. The project 'Water in the World We Want – a water-related SDG framework for national action' was a two-year project focused on the incorporation of specific water-related sustainable development goals into planning and policy processes in core countries; Pakistan, Ghana, Tunisia, South Korea and Costa-Rica.

Pakistan Council of Research in Water Resources (PCRWR) conducts and disseminates research on all aspects of resources. As a part of this trans-national project, PCRWR organized country wide workshops for the capacity building of relevant national and provincial organizations, non-government and academic institutions. The key learnings of these workshops are as follows:

i. Devolution of powers and 18th amendment in the Constitutions of Pakistan has dilated the governance system and responsibilities for water, particularly Goal 6.
ii. The key stakeholders are still unaware of the targets and indicators of Goal 6.
iii. In Pakistan 11 indicators represent 11 different representative instruments and except a few there is no coordination among these.

Through these capacity-building workshops, PCRWR was able to initiate a thinking process on Goal 6. The trans-national project of UNU-INWEH has now been evolved into regional hub states. In this phase, the countries involved in the earlier phase have now become regional hub countries, in order to help their neighbours in understanding, setting aspiration and working on the enabling aspects of Goal 6 through the Policy Support System (PSS). The SDG Policy Support System (PSS) developed by UNU focuses on six components that are critical for policy making: status (of SDG 6 progress), capacity assessment, gender mainstreaming, financing the goals, disaster risk reduction and resilience planning and policy and institutional assessment.

2.1. Status Component

The status component requires not only current data, but also baseline data (set at 2015 or 2016) and aspirational values to be achieved. In this way, the SDG PSS helps in developing comparison among different years of progress and progress reporting. The PSS can be a collaboration tool, allowing different government partners to visualise all of these data together; and then to run simple scenarios, and visualise different indicator-level options and different aspirational outcomes. By bringing all monitoring data together, it will also become easier to see where monitoring data is missing or inadequate in relation to SDG 6 reporting needs. In this way, the SDG PSS could be useful in setting of national targets for SDG 6, on prioritising any monitoring improvements that need to be made, and in influencing international monitoring mechanisms and processes.

In addition, the status component must be completed, to have realistic reporting on all 6 critical components of PSS. The status component provides a detailed review that how status may be calculated. In PSS every aspect from data collection to reporting is supported by a resources system. The library contains reference to all documents stating an acknowledged methodology to estimate the status against each indicator.

2.2. Introduction to 6 Critical Components

The strength of PSS lies in its comprehensiveness, as it covers all aspects of sustainable development. Unless baseline data is understood and national SDG 6 aspirations are agreed on, it is difficult to know what levels and kinds of capacity and how much financial resources will be needed to achieve SDG 6 by 2030. The SDG PSS allows all components to be viewed alongside each other. For example, the status of indicators, the capacity to improve and the resources to implement improvements can be discussed between Government actors across different agencies and institutions and captured in integrated policy initiatives. Therefore, PSS has the potential to link SDG 6 achievements with national development, improved governance structure and institutional capacities. Therefore, PSS can help the

practitioners to realize how they have achieved a certain goal, the third and most difficult questions of Agenda 2030.

2.2.1. Capacity

United Nations Development Program (UNDP) defines capacity development as “the process through which individuals, organisations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time” (UNDP, 2008). The achievement of the SDGs depends on capacities of individuals, organisations and societies. While financial resources are vital, they are not enough to promote sustainable development. Without supportive laws, policies, strategies and procedures, well-functioning organisations, and educated and skilled people, national government agencies and institutions would not be able to plan, implement and review evidence-based development (GLAAS, 2014). To support this process effectively, governments should identify what key capacities they have and what additional capacities are needed to achieve targets under SDG 6. This is the main purpose of capacity assessment. The capacity assessment is an analysis of desired capacities against the existing ones, which generates an understanding of capacity assets, needs and gaps. This understanding can then inform capacity development policies, strategies and plans that will guide lead agencies towards capacitating for achieving SDG 6 and other water-related goals by 2030.

In SDG-PSS, the capacity component is designed utilizing critical documents, including; UNDP’s capacity assessment methodology user’s guide, UN-Water global analysis, assessment of sanitation and drinking water (GLAAS, 2014) and Toolkit for capacity development by European Commission (2010).

2.2.2. Finance

Financial requirements may exceed US$ 50 billion to provide the universal access to basic water, sanitation and hygiene per annum. The global reporting system GLAAS argues that though the WASH funding has been enhanced however, the target 6.1 and 6.2 are so huge that nations should continue their own programs through national funding. It is still a difficult task for many governments to estimate the annual funding, they require to achieve their aspirational targets. In Pakistan, for target 6.3, institutional set up and well-defined policies are in place. However, governance is weak due to poor implementation of policies and allocation of insufficient financial resources. SDG-PSS provides an opportunity to identify weaker financial capacity in SDG 6.3. Provincial government, particularly, Sindh has already aligned their budgetary allocations to various goals and targets of SDGs. The PSS also provides an opportunity to the public sector institutions to estimate the financial resources to support their set aspirations for 2030.

Investment for SDG 6 as a percent share of GDP is a challenging task for the economies like Pakistan. The finance component of PSS helps in drawing these estimates in a representative form. This not only aids in financial planning but also in forecasting the investment required to achieve the aspirations. The finance component of PSS is designed using GLAAS and Organization for Economic Cooperation and Development Guidelines (OECD).

2.2.3. Policy and Institutions

In addition to financing, Policy and Institutions is a decisive component. In SDG 6.4, all the key institutions and their roles are well defined and there is good number of public sector financing, donor assistance and grants. The User's Guide to Assessing Water Governance provides that in recent years, the international water community has focused on governance as the most important challenge to improve service provision and broader water management. Pakistan has developed its National Water Policy in 2018 whereas National Drinking Water Policy exists since 2009. Like most low and middle-income countries (LMICs), Pakistan faces significant challenges in implementing them. Many water policies that have been developed world wide contain similar features and goals, such as decentralisation, an increased role for the private sector, basin-wide or integrated water resource management planning, better coordination of decision-making (both horizontal and vertical) and multi-stakeholder participation. While sound policies have been created on paper, many encounter problems that prevent the formation and proper functioning of governance structures (OECD, 2011). In general, insufficient attention has been paid to ensure that the sector adheres to principles of good governance, including transparency, accountability and participation, and the types of incentives and disincentives that drive behaviour. Comprehensive assessments of the governance of water resources can guide the design of effective policy interventions by helping to identify where changes are needed and what actions can make them happen.

The PSS has developed such a framework questionnaire to report on governance mechanism of countries that it helps in translating governance structure in support of national development. The guiding documents of this component include; User's guide to assessing water governance (2013), Water Governance in OECD countries: A multilevel approach (2011) and Documentation from the GLAAS 2016/17 cycle.

2.2.4. Gender

UNESCO has emphasised that although many governments and development agencies are committed to promoting equity and non-discrimination, this commitment must be enshrined and codified in policy and plans. Gender must be considered when making all water-related policies at national and international levels. It is now widely acknowledged that women are primary stakeholders in the water and sanitation

sectors and that men and women typically express different priorities, uses and needs for water and sanitation, water-related ecosystem use and water security (Seager, 2015). Furthermore, there is general acknowledgement that the gender dynamics of water and sanitation both reflect and reinforce the inter-linkages between poverty, gender and sustainable development. Overall, gender analysis is an essential lens for understanding the provision, management and conservation of the world's water resources. Gender analysis in the water sector means developing sex-disaggregated data (WSP, 2010). The absence of disaggregated data is a major obstacle to the production of evidence on gender-related issues and inequalities. A lack of disaggregated data means that policy-oriented information cannot be corroborated, that comparative analysis among countries and regions cannot be performed and that policy and strategy for tackling gender and water cannot be formulated on solid foundations (Seager, 2015).

In contrast to a theoretical framework on gender, the perception of gender mainstreaming varies across different nationalities and cultures. Similarly, in Pakistan, some targets of SDG 6 offer imbalance of partnership by both genders. The same goes for eco-system management whereas field work is mostly associated with male professionals due to local respect for females. Although PSS component is based on well-defined methodology for gender mainstreaming, still it is upon the nations to work out gender plan according to their ground realities.

2.2.5. Disaster Risk Reduction (DRR)/Resilience

In Pakistan, most of the natural disasters are related to water resources management and planning. Therefore, inclusion of DRR components provides an opportunity to work on sustainable development in disaster resilience perspective. It is urgent and critical to anticipate, plan for and reduce disaster risk in order to more effectively protect persons, communities and countries, and thus strengthen their resilience. It is also critical to protect investments in water-related infrastructure, ecosystems and developments. In terms of water-related policy, disaster risk reduction and resilience building may incorporate the protection of critical infrastructure; ensuring adequate budgets for risk assessments and resilience building priorities; and building the skills and knowledge of key staff in terms of disaster risk reduction and mitigation. In order to reduce disaster risks, there is a need to address existing challenges, prepare for future by focusing on assessing, understanding water-related disaster risks and sharing such understanding across governments. Moreover, strengthening disaster risk governance and coordination across relevant institutions and sectors are important with the full and meaningful participation of relevant stakeholders at appropriate levels. The investment in the resilience of persons, communities, countries and the environment, as well as in technology and research is crucial.

The Sendai Framework for Disaster Risk Reduction (2015-2030) was adopted at the Third UN World Conference in Sendai, Japan, in 2015. The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) (2005-2015) (UNISDR, 2015). Pakistan is also a signatory of Sendai Framework. The PSS primarily engages with the planning, policy and preparedness (in terms of infrastructure protection) objectives of Sendai Framework.

2.2.6. Integrity/Transparency

The OECD provides that governments and companies can no longer afford to waste resources through corruption and that the time has come to reinforce international efforts to improve integrity. This is not only a moral obligation, but also an economic and political necessity. The better governance has direct relationships with the integrity. If five of the six components are potentially available but lack integrity, the whole efforts will be wasted.

Corruption today is recognised as one of the main obstacles to sustainable economic, political and social advance, for developing, emerging and developed economies. Acts of bribery, embezzlement and nepotism impose costs on businesses and undermines clean government. International and national efforts to improve water governance are needed to eliminate the multiple facets of corruption in the water sector. Water governance is the set of rules, practices and processes through which decisions for the management of water resources and services are taken and implemented, and decision-makers are held accountable. There is now an urgent need to take stock of recent experiences, identify good practices and develop practical tools to assist different levels of governments and other stakeholders in engaging effective, fair and sustainable water policies. A guiding document for the critical component in PSS is “OECD’s Toolkit for Integrity (2014)”.

3. Step-wise Approach to SDG-PSS

The SDG-PSS may seem complex, but its workflow is very simple - countries enter data for each component through a questionnaire. Data is automatically read by the system, used to generate graphics (reports) and the summary view. Through this system, policymakers, planned scientists and development actors are empowered to gather the critical information, evidence and data (where available) to define and develop national policies to address water-related issues (UNU-INWEH, 2019).

The concept behind the SDG-PSS is simple. It is a system/tool/platform where countries can enter data in a systematic and rigorous way. The system gathers all this data together through questionnaires at indicator level. There is one questionnaire for each component of SDG-PSS, and questions are asked for each indicator. The SDG-PSS provides a strong foundation for countries to advocate for a rational, rigorous and

systematic approach to inform their policy and support decisions to achieve SDG 6 by 2030.

It summarizes critical information that is missing in national processes and guides countries in gathering and analyzing the relevant information to deliver on SDG 6 target. The tool also encourages cooperation between agencies and water research communities in a joint policy development process. It has the potential to become a knowledge sharing platform for learning between countries – as the information is presented in a systematic way. This guideline will help the users of PSS to glide through its various components and outputs.

3.1. Opening SDG 6 PSS:

SDG 6 PSS is an online tool that may be accessed through SDG Policy Support System (sdgpss.net). Since this tool saves data, it requires sign-up at first login. Please sign-up and log-in. This tool is translated into all 6 UN language and requires user preference. When you will log-in to the PSS, the following icon will appear (Figure 2).

Figure 2: PSS Front Page

In the right side of the home page, you can toggle through all three white tabs. The "Introduction" tab provides a general overview and introduction of PSS. By clicking on "go to component", you will find the following homepage (Figure 2):

Figure 3: SDG PSS Homepage

On this home page, you can see six policy components that covers SDG 6. There are two white tabs given at the bottom of home page, namely, “Front page” and Summary. Before going to components, understanding “Summary View” is important.

3.2. Summary View

The “Summary View” is the evidence framework and the main output of the SDG-PSS. All the data entered by countries in the questionnaires are translated into evidence – or “fit-for-policy” data – countries can use to monitor and assess the enabling environment of SDG 6. The SDG-PSS produces “fit-for-policy” data beyond the monitoring of the status of the SDG 6 and this is the key difference of the SDG-PSS. It is not monitoring the status of SDG 6. It works with missing data. In the evidence framework, we can see that for some indicators we have “No evidence”, which basically means “No data”.

How “summary” view is developed? A general principal is explained in (Figure 4).

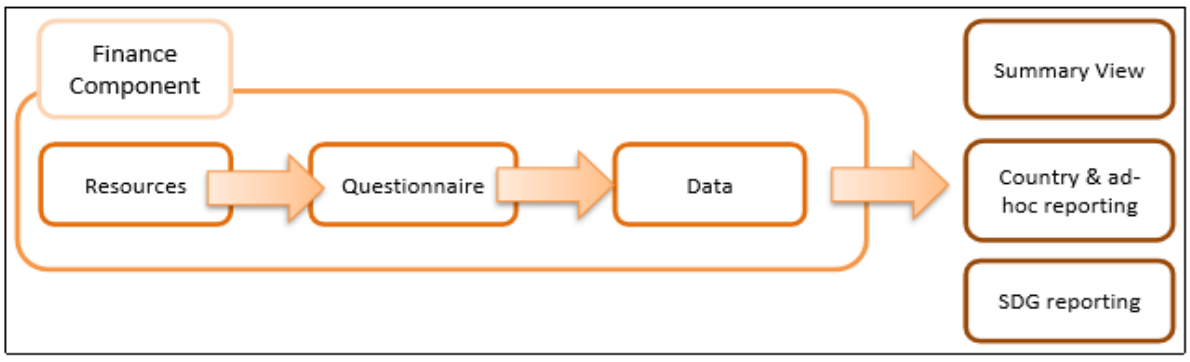


Figure 4: SDG PSS Work Flow

As shown in Figure 3, all 6 components of SDG 6.0, are based upon 4 elements of PSS. For the “Finance Component”; Resources, Questionnaire, data and visualization are used. The element visualization comprises the following view:

a) Summary View
b) Country & Ad Hoc reporting
c) SDG reporting

Summary view provides a whole picture of the work you have done on your respective component by filling the data and questionnaire. By clicking on the “summary” white tab of the PSS homepage, summary view will open carrying the following view (Figure 5).

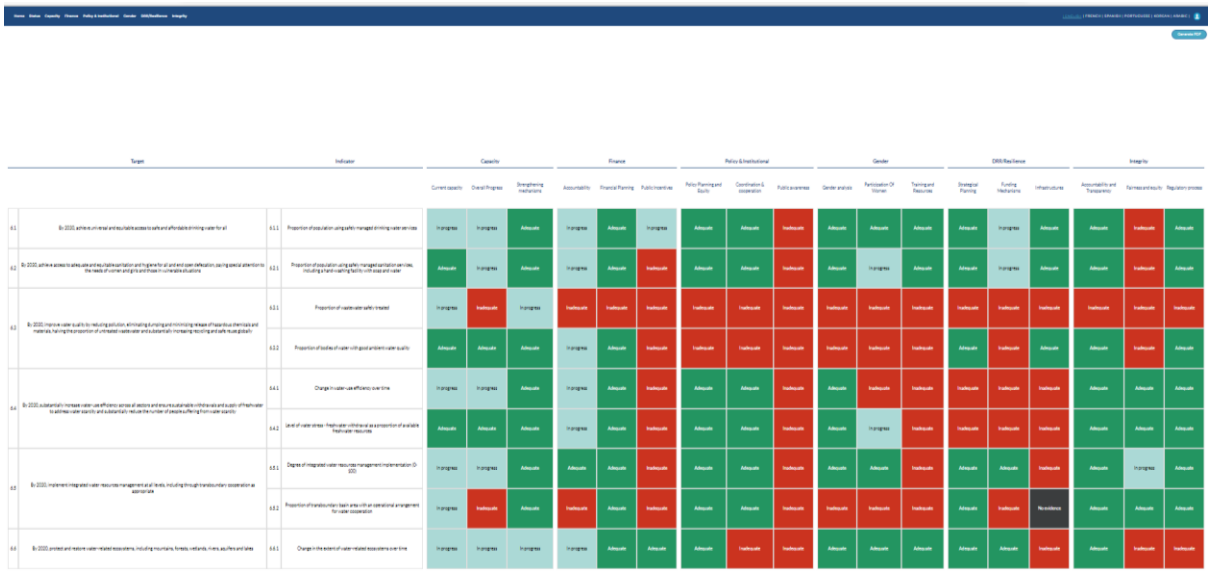
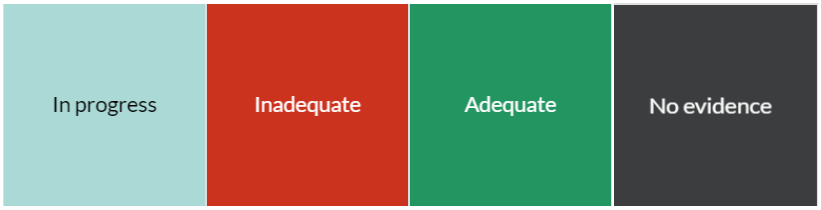


Figure 5: Summary View of PSS

Summary view provides the entire picture of 6 components with respect to national status and aspiration by the year 2030. Components are graded in the form of tabs with the following meanings:



a) **No Evidence;** Data and resources are not provided against this component
b) **Inadequate;** The aspirations set and current status is not sufficient with respect to SDGs targets and status of the country; if data is <33%
c) **Adequate;** The data of progress incorporated in PSS against this component is sufficient with respect to the targets; if data is >33% and <66%
d) **Significant**; The data of progress incorporated in PSS against this component is healthy, progress towards SDGs is likely high; if results are >66%.

4. Critical Components in PSS

In the following sections each questionnaire and reporting system under all critical components of SDG-PSS is discussed and illustrated with working examples. Qualitative answers are based on research whereas qualitative values may vary according to provincial and district level SDGs planning and development scenarios. The users of this handbook may suggest improvement in these values and national use will approve these once found legitimate.

4.1. Status: Questionnaire

From the homepage, by clicking on “Status” component, following view will appear (Figure 6).

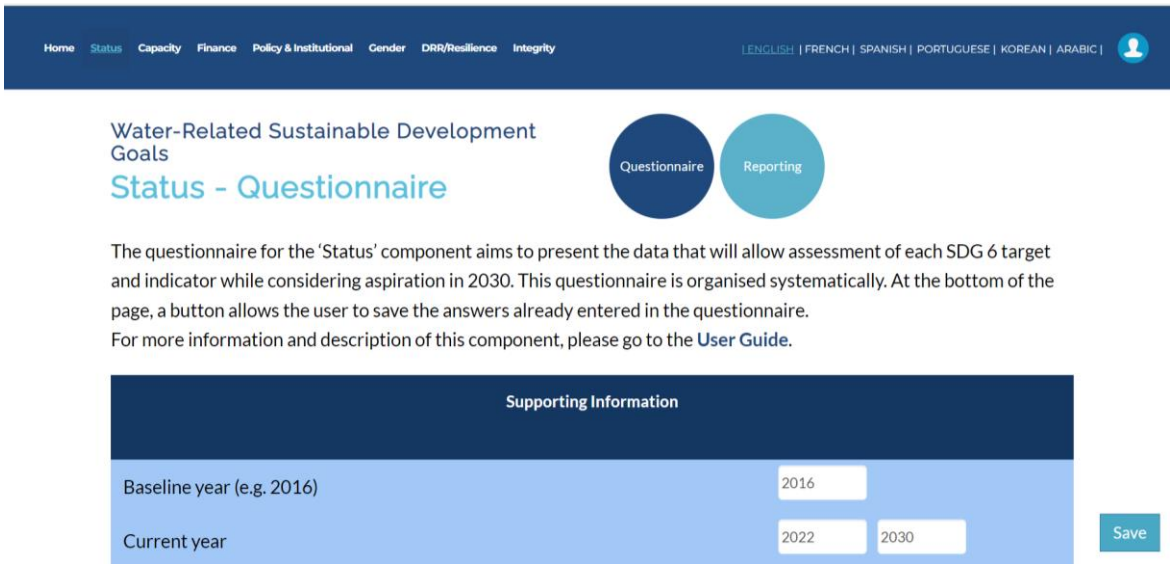


Figure 6: Status Questionnaire

In Figure 6, two icons appear in status tab, “questionnaire” and “reporting”. On the bottom of each window there is a “save” tab. Once you enter the data there is a need to hit the “save” button avoiding the loss of data. Once you finish completing the questionnaire, at the very end of the page, you will find “submit form” option. By clicking on the “reporting” tab, the tool will be able to show results of “status” (Figure 7).

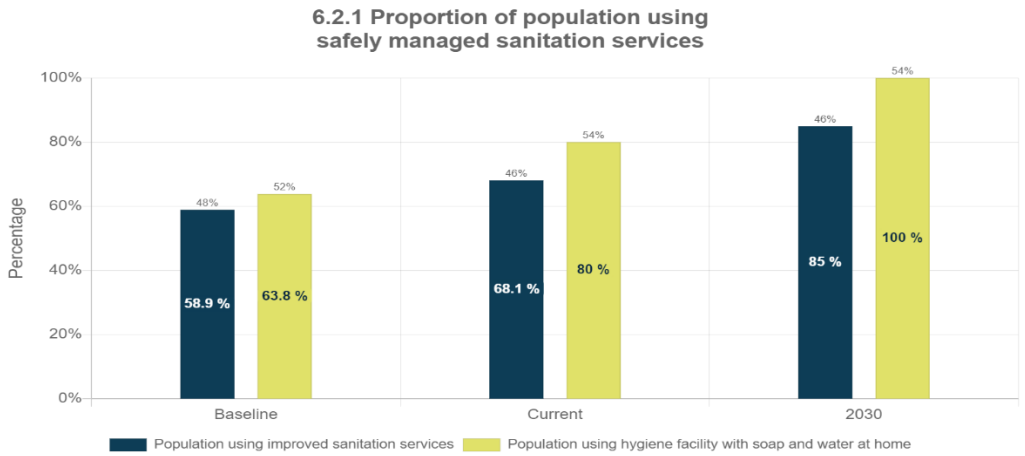


Figure 7: Reporting in Status Component

This page is very important in SDGs' reporting of actual data with respect to the position of existing resources. Data required for reporting in SDG 6.1 to 6.6 are disintegrated into various data fields. In order to fill that data, there is a need to explore official documents revealing status. For instance, for SDG 6.1 and 6.2, the information regarding country's population and %age of population having access to water and sanitation. This information is collected on the basis of UNICEF and WHO's guidelines.

In reporting, you will find data in the form of graphs and pi-charts for data representation. You can copy and paste these graphs on to your presentation/document whenever required or generate PDF. You may click on any of the component to switch to the respective questionnaire.

4.2. Capacity: Questionnaire

All sheets are similar with respect to arrangement of sheets in resources element. However, sheets are different according to the requirement of the component. In status, data are required mostly in numeric form, which is essential to build the picture of current situation with respect to SDGs' in a specific target and its indicators.

In "Capacity", data requirement is qualitative - an assessment of a pre-set criteria on scale. Figure 8 shows the type of questions in the "Capacity" component.

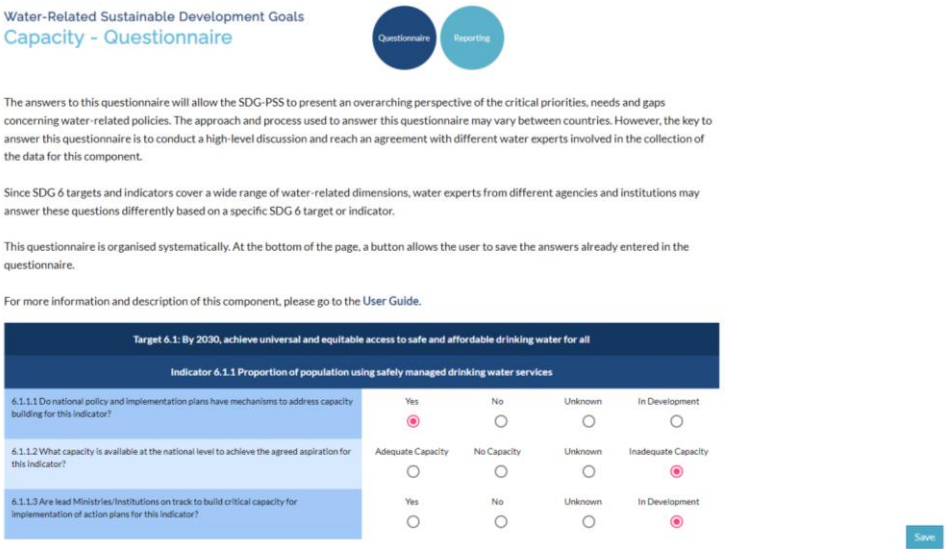


Figure 8: Capacity Questionnaire

There are three keys to answer the capacity questionnaire; Yes, No, Unknown and In Development. Yes/No are absolute choices to an answer asked in this capacity question. Chose “unknown” if you are not aware of the answer to a particular question. Choose “In Development” if you are aware of some progress going on in this particular line of action. In capacity questionnaire same set of questions will repeat for each indicator.

Click on “Reporting” to check the reports generated in response to the survey questionnaire. Please remember to “save” and “submit form” before moving to the reporting page. As shown in figure 9, a pie chart reporting appears against each key question. For instance, the PSS capacity report shows that lead ministry/institutions are not on track to build critical capacity under the indicator 6.3.1. and 6.5.2.

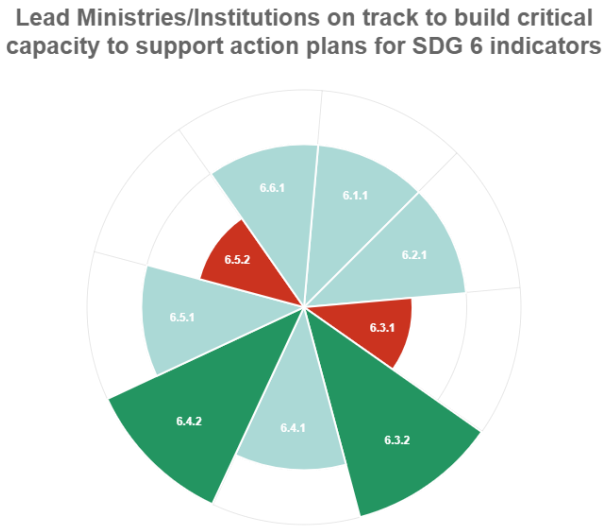


Figure 9: Reporting in Capacity Component

4.3. Finance: Questionnaire

Finance component is very useful for financial planning and making relevant decisions to make aspirations. A healthy status against an indicator is not rational if the financing is not appropriate. This questionnaire requires both qualitative and quantitative information to enable “fit for policy” decisions through PSS. In figure 10, a segment of financing component is shared. Similar to capacity component, same questionnaire is repeated for each indicator;

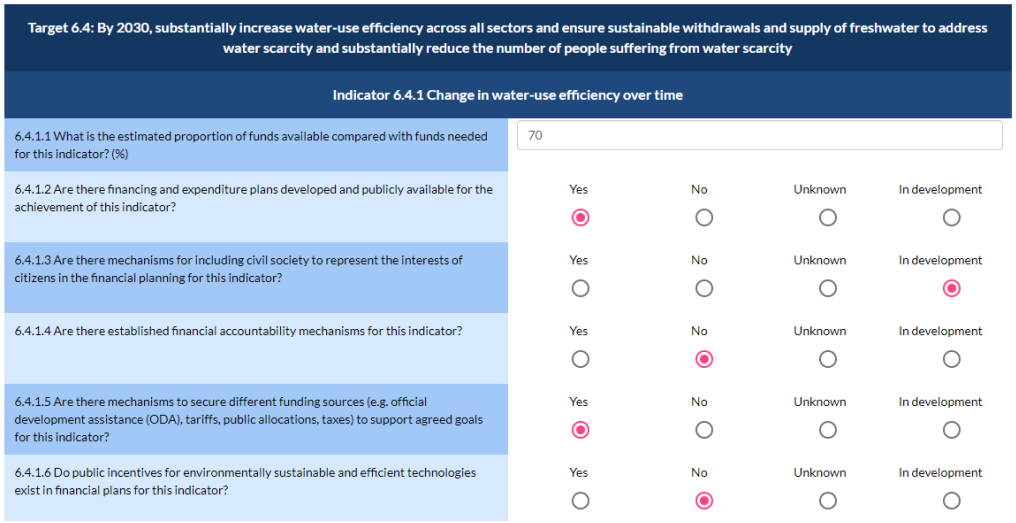


Figure 10: Finance Questionnaire

In quantitative terms, this questionnaire demands only one question; what proportion of funds do you believe have been allocated for this indicator compared to the requirements. This has made qualitative universal independent to the types of currency. You may estimate this proportion, demand vs allocation through federal and provincial government development funds. It may be further downscaled to district level financial planning for SDG targets and indicators. Click on “save” button, then “submit” the form and move to “reporting” by clicking on the tab. Figure 11 shows, in qualitative terms how well the financial management is going for a particular indicator. In this example only, 6.3.1. is showing poor growth compared to all other sectors.

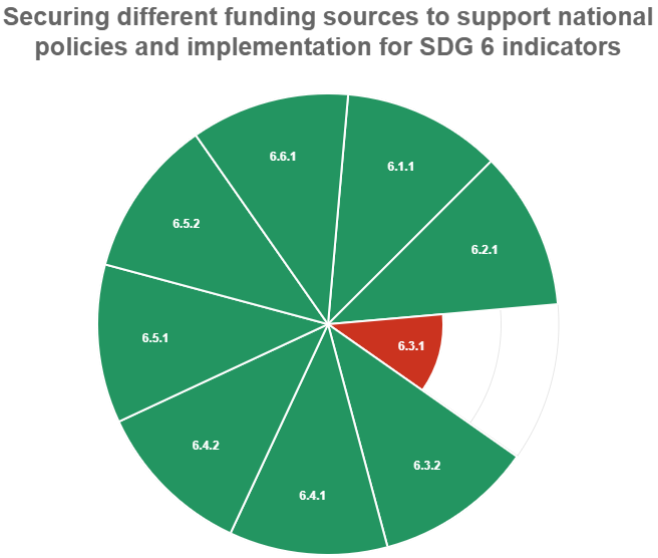
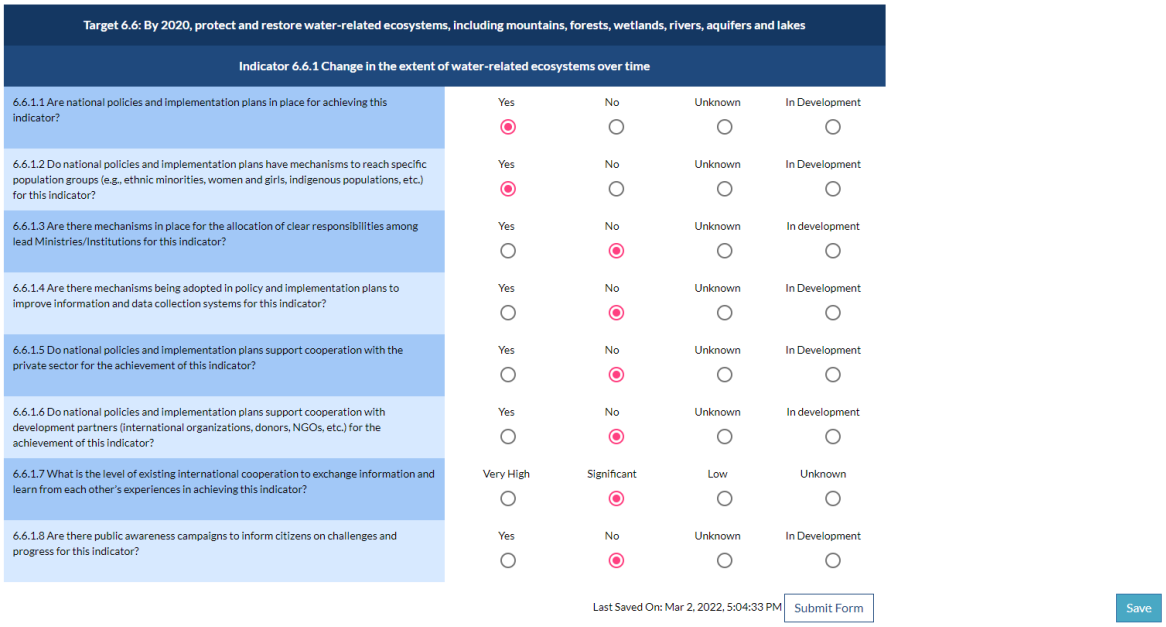


Figure 11: Reporting in Financing Component

Note: In this section, you have to report the systems that are in place for financial management against SDGs indicators. Merit of their functionality will be determined in transparency.

4.4. Policy and Institutional: Questionnaire

Switch to “Policy and Institutional” component by clicking on the relevant tab. This questionnaire is composed of qualitative questions only. All questions seek the answers on the scale of; Yes, No, In development and Unknown. The question regarding the need for collaboration is measured on the scale of; Very high, Significant, Low and Unknown. For all SDG 6 targets and indicators, the collaboration among the institutions is very critical but faces highs and lows under different indicators. Similar to other qualitative questionnaire, same set of questions repeat for each indicator. A glimpse of questionnaire for this indicator is provided in figure 12;



Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Indicator 6.6.1 Change in the extent of water-related ecosystems over time

6.6.1.1 Are national policies and implementation plans in place for achieving this indicator?	Yes ◉	No ○	Unknown ○	In Development ○
6.6.1.2 Do national policies and implementation plans have mechanisms to reach specific population groups (e.g., ethnic minorities, women and girls, indigenous populations, etc.) for this indicator?	Yes ◉	No ○	Unknown ○	In Development ○
6.6.1.3 Are there mechanisms in place for the allocation of clear responsibilities among lead Ministries/Institutions for this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.6.1.4 Are there mechanisms being adopted in policy and implementation plans to improve information and data collection systems for this indicator?	Yes ○	No ◉	Unknown ○	In Development ○
6.6.1.5 Do national policies and implementation plans support cooperation with the private sector for the achievement of this indicator?	Yes ○	No ◉	Unknown ○	In Development ○
6.6.1.6 Do national policies and implementation plans support cooperation with development partners (international organizations, donors, NGOs, etc.) for the achievement of this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.6.1.7 What is the level of existing international cooperation to exchange information and learn from each other's experiences in achieving this indicator?	Very High ○	Significant ◉	Low ○	Unknown ○
6.6.1.8 Are there public awareness campaigns to inform citizens on challenges and progress for this indicator?	Yes ○	No ◉	Unknown ○	In Development ○

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Figure 12: Policy and Institutions Questionnaire

Reporting of Policy and Institutions is developed in the form of pie-chart showing progress on policy and institutions with respect to each indicator;

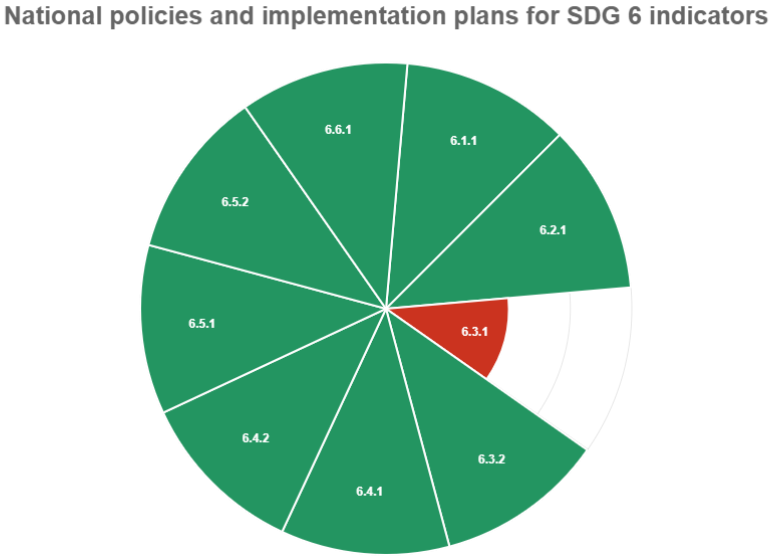
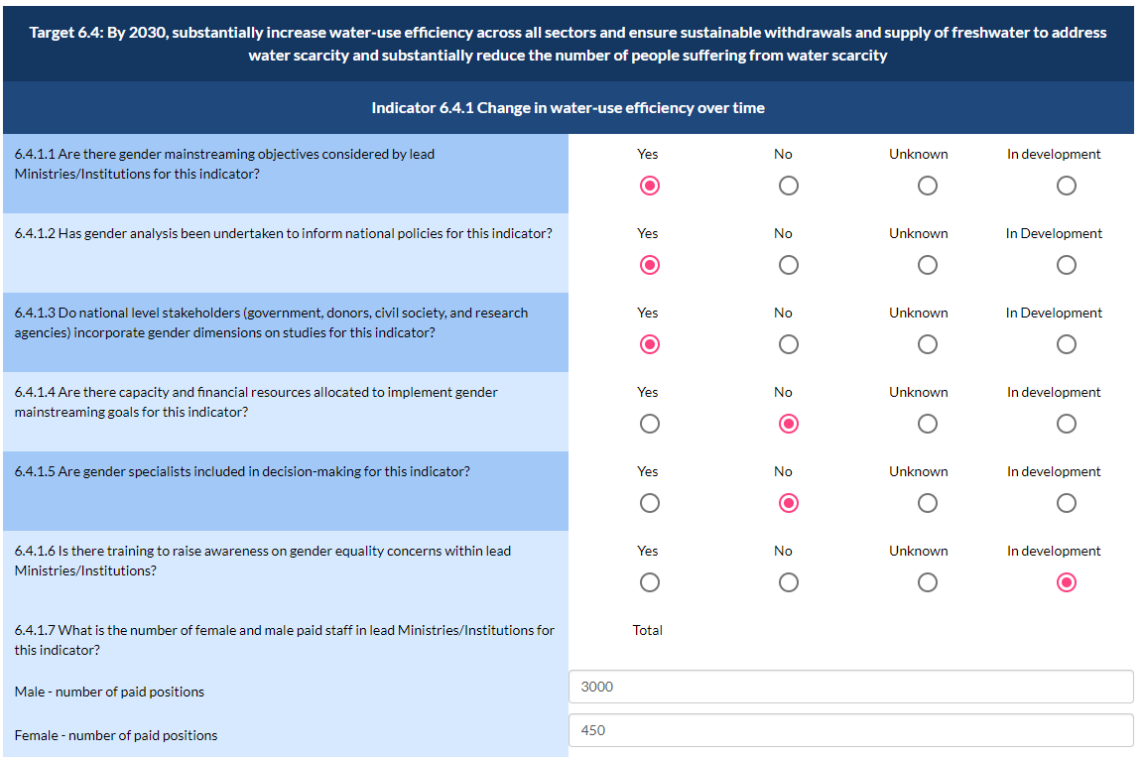


Figure 13: Reporting in Policy and Institutions

The figure 13 shows the policy and implementation mechanism for all indicators except for SDG 6.3.1. Policy and institutions also cover how these polices reach to relevant population groups and what the data sharing mechanism among the key institutions. This component also includes cooperation with private sector as well as international development partners.

4.5. Gender: Questionnaire

Switch to gender component by clicking on “Gender” tab and click at questionnaire option. This questionnaire is a mix of qualitative and quantitative information. This questionnaire enquires about number of paid positions for male and female in institutions working in a particular indicator. This section also covers the key qualitative questions regarding gender main streaming. Same set of questionnaires are repeated for each indicator. The key questions include; gender mainstreaming objectives, gender dimension studies, decision making, gender equality concerns and relevant trainings (Figure 14);



Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Indicator 6.4.1 Change in water-use efficiency over time

6.4.1.1 Are there gender mainstreaming objectives considered by lead Ministries/Institutions for this indicator?	Yes ◉	No ○	Unknown ○	In development ○
6.4.1.2 Has gender analysis been undertaken to inform national policies for this indicator?	Yes ◉	No ○	Unknown ○	In Development ○
6.4.1.3 Do national level stakeholders (government, donors, civil society, and research agencies) incorporate gender dimensions on studies for this indicator?	Yes ◉	No ○	Unknown ○	In Development ○
6.4.1.4 Are there capacity and financial resources allocated to implement gender mainstreaming goals for this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.4.1.5 Are gender specialists included in decision-making for this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.4.1.6 Is there training to raise awareness on gender equality concerns within lead Ministries/Institutions?	Yes ○	No ○	Unknown ○	In development ◉
6.4.1.7 What is the number of female and male paid staff in lead Ministries/Institutions for this indicator?	Total			
Male - number of paid positions	3000			
Female - number of paid positions	450			

Figure 14: Gender Questionnaire

Similar to other critical components reports against gender component are presented in pie chart format for qualitative questions and in bar graph form for quantitative questions.

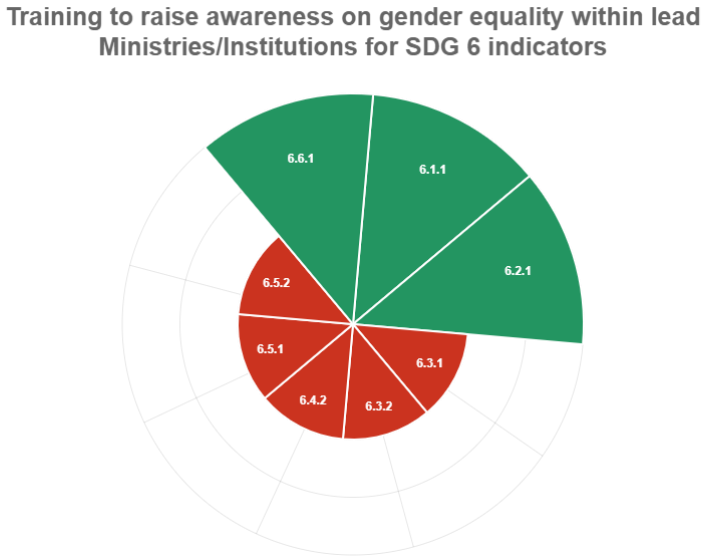


Figure 15: Reporting in Gender

This pie chart (Figure 15) reports official awareness raising trainings for gender mainstreaming under various indicators of SDG 6. This pie chart indicates adequate trainings imparted only in 6.1.1, 6.2.1 and 6.6.1. It also shows that the answers to most questions are in “no”. The information may be updated according to the actual information of the users.

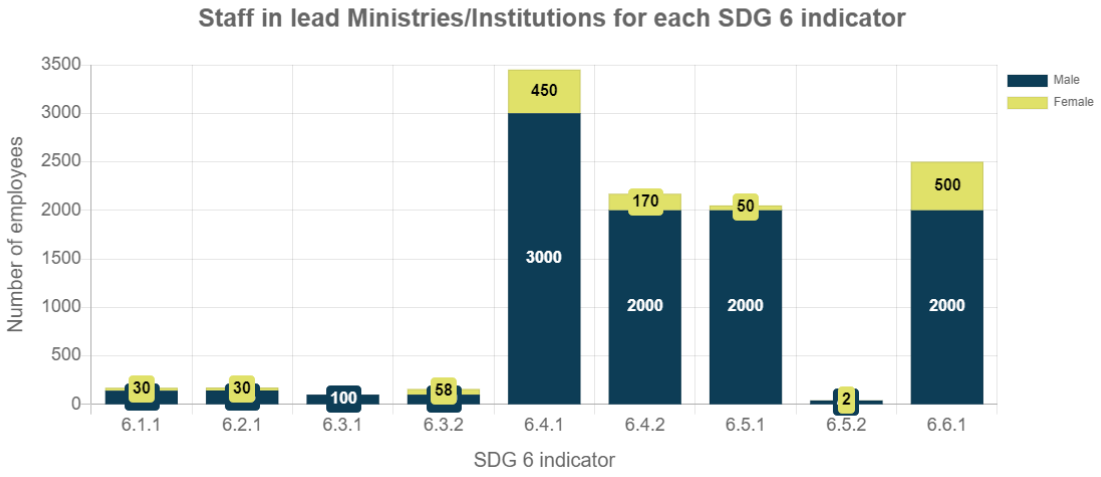
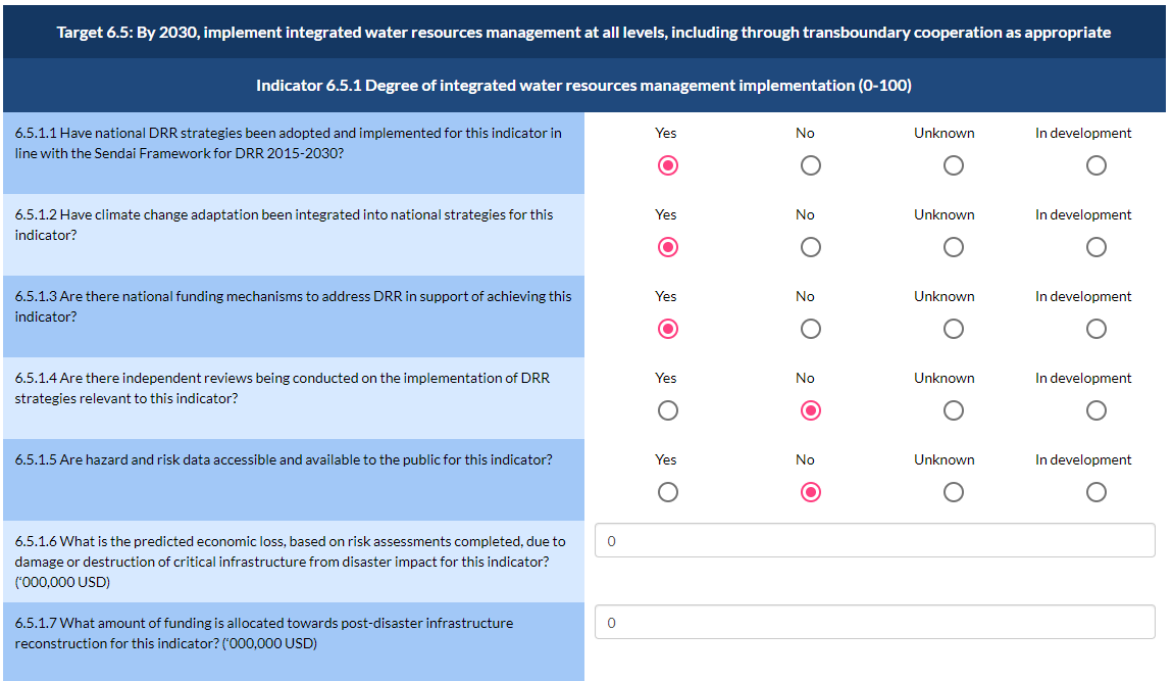


Figure 16: Male-Female Paid Staff Positions Relevant to SDG 6

Number of staff entries are just working examples not final values. Figure 16 demonstrates how PSS plots male-female number of professionals employed in institutions working with respect to different SDG 6 indicators.

4.6. DRR/Resilience Component: Questionnaire

Disaster Risk Reduction (DRR)/Resilience is actually not the part of SDG 6, but it has been included from target 11.5 of Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. This component is added because water related indicators are subject to disasters such as floods and droughts. In case of floods, loss of water supply infrastructure is very common. Therefore, this component also requires esitmation of losses in quantitative terms. In Pakistan, National Disaster Management Authority (NDMA) documents national annual losses in monetary terms due to such disasters. Differentiating this disater with respect to different indicators of SDG 6 requires consultation among the stakeholders. Likewise, all the questionnaire for DDR/Resilience are also repeated for each indicator of SDG 6, figure 17;



Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate				
Indicator 6.5.1 Degree of integrated water resources management implementation (0-100)				
6.5.1.1 Have national DRR strategies been adopted and implemented for this indicator in line with the Sendai Framework for DRR 2015-2030?	Yes ◉	No ○	Unknown ○	In development ○
6.5.1.2 Have climate change adaptation been integrated into national strategies for this indicator?	Yes ◉	No ○	Unknown ○	In development ○
6.5.1.3 Are there national funding mechanisms to address DRR in support of achieving this indicator?	Yes ◉	No ○	Unknown ○	In development ○
6.5.1.4 Are there independent reviews being conducted on the implementation of DRR strategies relevant to this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.5.1.5 Are hazard and risk data accessible and available to the public for this indicator?	Yes ○	No ◉	Unknown ○	In development ○
6.5.1.6 What is the predicted economic loss, based on risk assessments completed, due to damage or destruction of critical infrastructure from disaster impact for this indicator? ('000,000 USD)	0			
6.5.1.7 What amount of funding is allocated towards post-disaster infrastructure reconstruction for this indicator? ('000,000 USD)	0			

Figure 17: DRR/Resilience Questionnaire

Similar to other components, questionnaire requires answers on the scale of Yes/No, Unknown and In development. These questionnaires are also designed according to the United Nation's and Sendai Framework requirements.

Note: Sendai Framework for DRR is an international Framework adopted on international level.

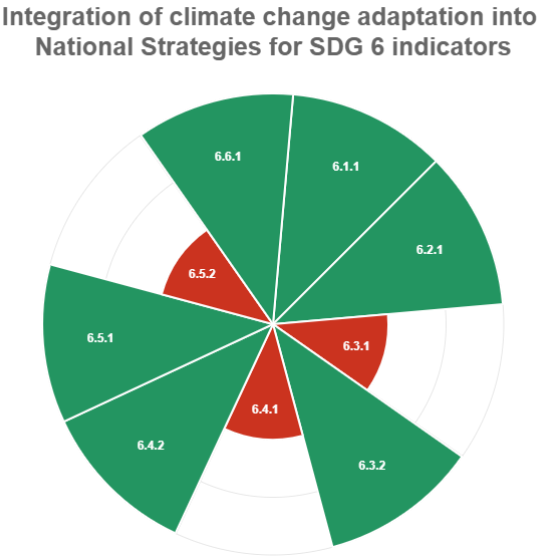


Figure 18: Reporting in DDR/Resilience

Since the questions are same, the answer to each question is plotted in the form a pie chart. Figure 18 indicates climate change adaptation integration in national strategies. For some indicators of SDG 6, it has been adequately achieved. However, in the case of 6.3.1, 6.4.1 and 6.5.2. is has not been done yet.

4.7. Integrity Component: Questionnaire

In the questionnaire part of integrity, it has been quoted that no international database is yet available against this component for filling the information. In this regard, the entire generic information on integrity needs to be explored if documents and information are available on local scale. Under this component, PSS questionnaire for integrity requires responses to 5 questions in four options; Yes, No, Unknown, In development (Figure 19). The option “Unknown” may be used if the mechanism is not known to the user. The option “In development” is used to inform PSS that a certain mechanism is being developed.

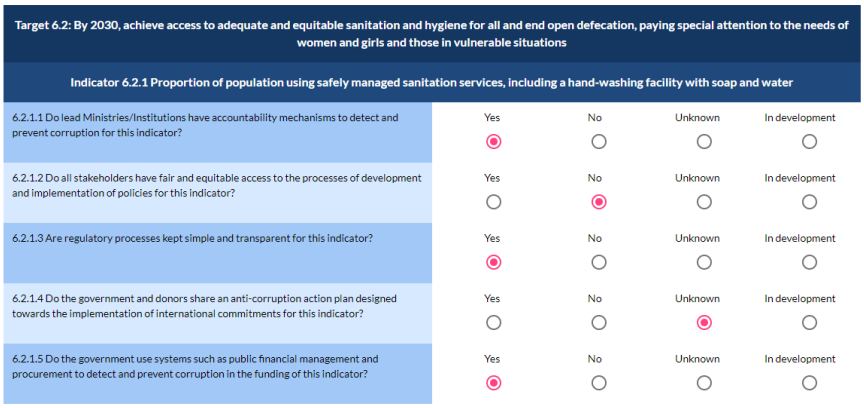


Figure 19: Integrity Questionnaire

The same set of questionnaire repeats against each indicator and target. Reports of these questions will be generated in graphical form against these responses (Figure 19).

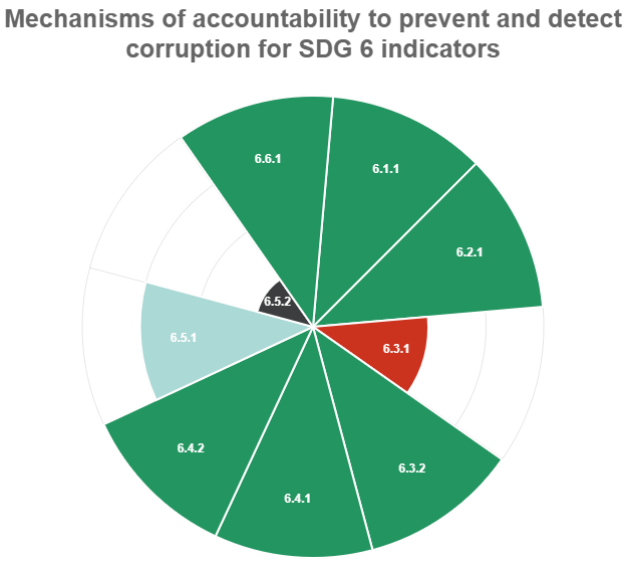


Figure 20: Reporting on Integrity Component

Among institutions, it is very difficult to measure integrity when there are a number of mechanisms in place to ensure these. Figure 20 indicates the mature mechanisms of accountability in all indicators of SDGs except for 6.3.1, 6.5.1 and 6.5.2. The implementation of these mechanisms to curb corruption is entirely a different question. Therefore, presence of large accountability mechanism is not the assurance of integrity.

5. Possible Limitations

While working with PSS in Pakistan's context, following limitations may be kept in mind:

i. SDG 6 is generally perceived as goal for "drinking water and sanitation". Instead, it is wholesome goal covering irrigation water use efficiency, IWRM and ecological aspects of water resources.

ii. SDG 6 once perceived as only "drinking water and sanitation" goal, leads to another misconception that, it is a provincial responsibility to respond against SDG 6. In fact, for SDG 6, the provinces have to act under federal government policies.

iii. Government has its uniform policy for gender mainstreaming up to 30:70, female to male employment ratio. However, even 30% of female vacancies are not completely filled.

iv. PSS does not accommodate a realistic/low aspiration.

v. Status information logs information for consecutive years, i.e., 2016, 2017 and so on. However, in Pakistan statistics do not change so often

vi. Current PSS is designed to suit the national perspective. The provincial users have to perceive it in provincial context, which often confuses the users.

vii. PSS is a comprehensive tool, which is difficult to grasp with inconsistent use.

viii. Transparency for SDG 6 is not clearly defined at Federal government level. It exists at provincial level in some forms but it is not documented separately. It is necessary to go through it's questionnaire to identify the level of transparency.

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About PCRWR

PCRWR is an apex body of the Ministry of Science and Technology and is mandated to conduct, organize, coordinate and promote research on all aspects of water resources including irrigation (surface and groundwater), drainage, soil reclamation, drinking water and wastewater. It has eight regional offices located at different agro-ecological zones and each centre conducts research on water related issues of the respective zones. These Regional Offices are located at Lahore, Bahawelpur, Tandojam, Quetta, Peshawar, Karachi, Gilgit and Muzaffarabad. Besides these eight Regional Offices, PCRWR has a setup of 18 water testing laboratories in major cities of the country. It has all types of infrastructure such as soil and water testing laboratories, groundwater assessment equipment, research farms to conduct and disseminate the research. It is the only organization in Pakistan that owns drainage type lysimeters in Lahore, Tandojam, Quette and Peshawar. PCRWR has done considerable work on crop water requirements, tile drainage, soil reclamation, on-farm water management technologies, rainwater harvesting, artificial recharge, groundwater assessment and management, skimming wells, drinking water, and indigenous development of salinity and moisture sensors.

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