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Overview of the ESCAP Methodology for the Integration of the SDGs: SDG 6 at the Core

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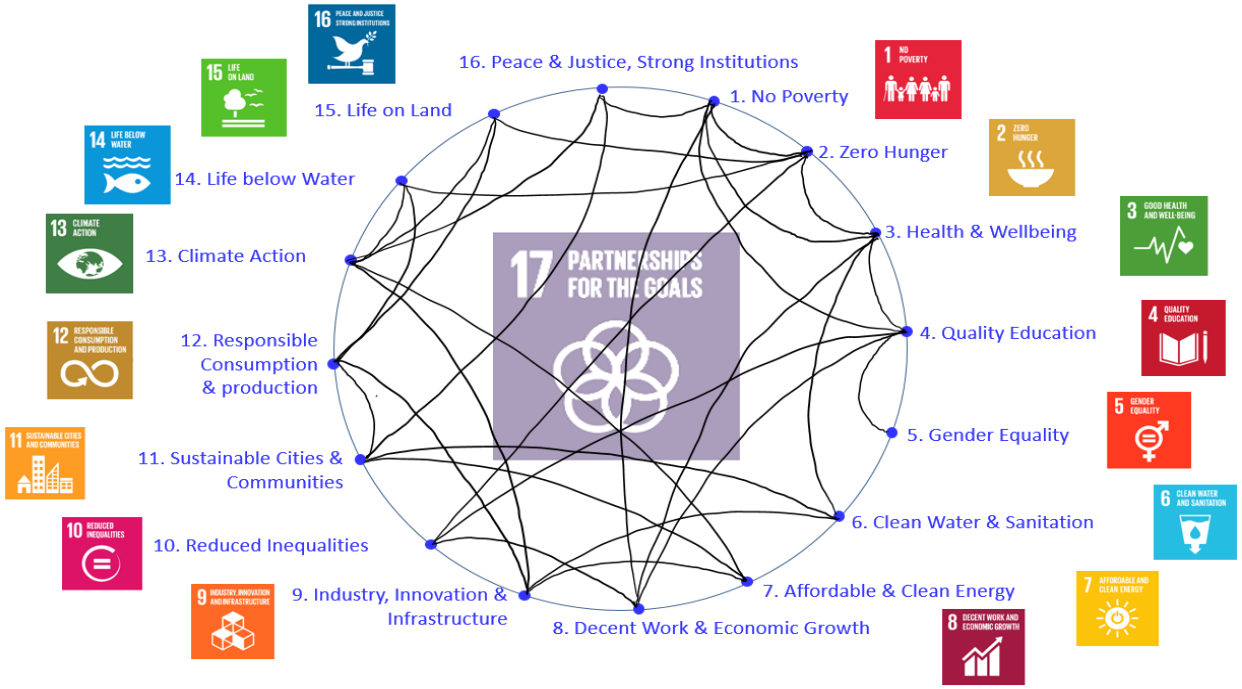
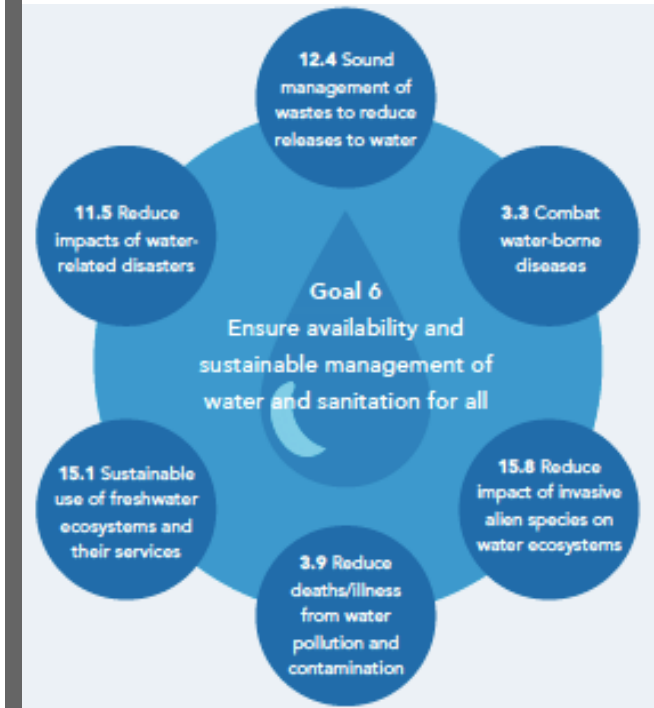
2030 Agenda - requires integrated policy approaches

> The 17 goals represent an indivisible tapestry of thinking and action that applies in every community everywhere in the world. They are universal…and also indivisible. Though they are presented as individual goals, they actually represent a total, completely intertwined lattice of action that is relevant for every human being everywhere.
>
> David Nabarro, Under-Secretary General, Special Adviser on 2030 Agenda



The 2030 Agenda for SD with Emphasis on SDG 6



Interlinkages of SDG 6 with other SDG targtets

ESCAP Methodology for Integration of the SDGs into National Planning

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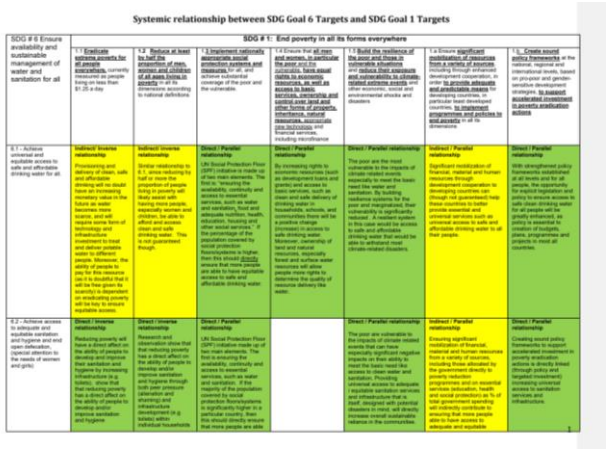
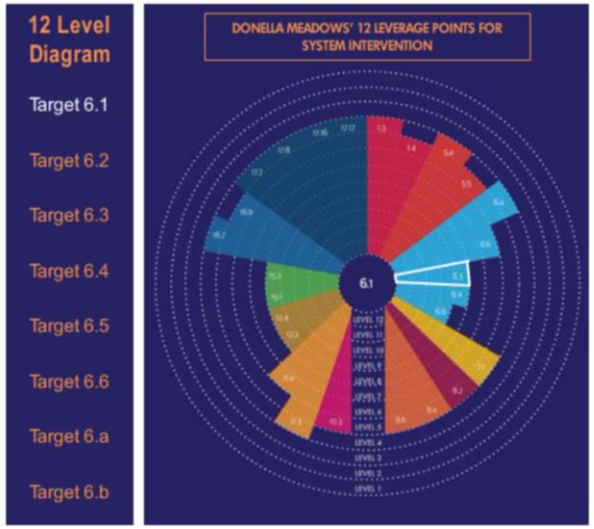
Achieving the SDGs require shifts in implementation strategies

- The achievement of SDGs requires fundamental transformations at all levels
- Beyond finance, a much more comprehensive means of implementation needs to be mobilized to enable implementation
- Meaningful stakeholder engagement will be critical in achieving the SDGs
- There is an urgent need for integrated policy approaches



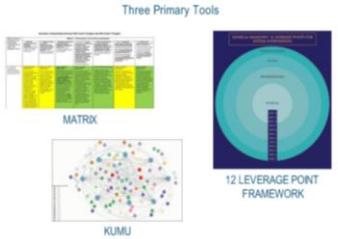
Systemic relationship between SDG Goal 6 Targets and SDG Goal 1 Targets

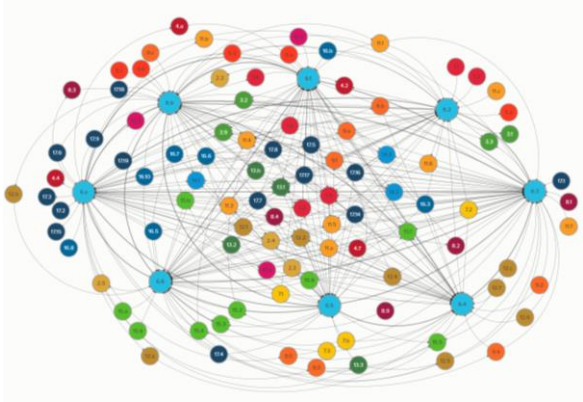
SDG # 6 Ensure availability and sustainable management of water and sanitation for all	SDG # 1: End poverty in all its forms everywhere						
	1.1 Eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day	1.2 Reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.3 Implement nationally appropriate social protection systems and measures for all, and achieve substantial coverage of the poor and the vulnerable	1.4 Ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.5 Build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions
6.1 - Achieve universal and equitable access to safe and affordable drinking water for all	Indirect/ Inverse relationship Provisioning and delivery of clean, safe and affordable drinking will no doubt have an increasing monetary value in the future as water becomes more scarce and will require some form of technology and infrastructure investment to treat and deliver potable water to different people. Moreover, the ability of people to pay for this resource (as it is feasible that it will be priced due to scarcity) is dependent on eradicating poverty will be key to ensure equitable access.	Indirect/ Inverse relationship Similar relationship to 6.1, since reducing by half or more the proportion of people living in poverty will likely assist with having more people, especially women and children, in order to afford and access clean and safe drinking water. This is not guaranteed though.	Direct / Parallel relationship UN Social Protection Floor (SPF) initiative is made up of two main elements. The first is "ensuring the availability, continuity and access to essential services and goods, water and sanitation, food and adequate nutrition, health, education, housing and other social services." If the percentage of the population covered by social protection floors/systems is higher, then this should directly ensure that more people have the ability to obtain and access to safe and affordable drinking water	Direct / Parallel relationship By increasing rights to economic resources (such as development loans and grants) and access to basic services, such as clean and safe delivery of drinking water in households, schools, and hospitals, poverty will be a problem of the past. Moreover, increased access to safe drinking water. Moreover, ownership of land and natural resources, especially forest and surface water resources will allow people more rights to determine the quality of resource delivery like water.	Direct / Parallel relationship The poor are the most vulnerable to the impacts of climate-related events, especially to meet the basic need like water and sanitation. By building resilience systems for the poor and marginalized, their vulnerability is significantly reduced. A resilient system in this case would be access to safe and affordable drinking water that would be able to withstand over climate-related disasters.	Indirect / Parallel relationship Significant mobilization of financial, material and human resources through development cooperation to developing countries can (though not guaranteed) help these countries to better provide essential and fundamental services such as universal access to safe and affordable drinking water to all their people.	Direct / Parallel relationship With strengthened policy frameworks established at all levels and for all people, the opportunity for explicit legislation and policy to ensure access to safe clean drinking water for all people will be greatly increased. This policy is essential to creation of budgets, plans, programmes and projects in most all countries.
6.2 - Achieve access to adequate and equitable sanitation and hygiene and end open defecation, (special attention to the needs of women and girls)	Direct / Inverse relationship Reducing poverty will have a direct affect on the ability of people to develop and improve their sanitation and hygiene. Increasing income (e.g. wealth, assets, tickets) - show that reducing poverty will have a direct affect on the ability of people to develop and/or improve sanitation and hygiene	Direct / Inverse relationship Research and observation show that that reducing poverty will have a direct affect on the ability of people to develop and improve sanitation and hygiene through both peer pressure (alienation and shaming) and infrastructure development (e.g. toilets) within individual households	Direct / Parallel relationship UN Social Protection Floor (SPF) initiative made up of two main elements. The first is ensuring the availability, continuity and access to essential services, such as water and sanitation. If the majority of the population covered by social protection floors/systems is significantly higher in a particular country, then this should directly ensure that more people are able		Direct / Parallel relationship The poor are vulnerable to the impacts of climate related events that can have especially significant negative impacts on their ability to meet the basic need like access to clean water and sanitation. Providing resilience through adequate / equitable sanitation services and infrastructure that is, itself, designed with potential disasters in mind, will directly increase overall sustainable reliance in the communities.	Indirect / Parallel relationship Ensuring significant mobilization of financial, material and human resources from a variety of sources, including those allocated by development cooperation, to poverty reduction programmes and on essential services (education, health and social protection) as % of total government spending will indirectly contribute to ensuring that more people able to have access to adequate and equitable	Direct / Parallel relationship Creating sound policy framework to support accelerated investment in poverty eradication actions is directly linked to creating sound policy (legislation and) and increasing universal access to sanitation services and infrastructure.



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 substantially increasing recycling and safe reuse globally

ESCAP Methodology supporting the Implementation of the 2030 Agenda

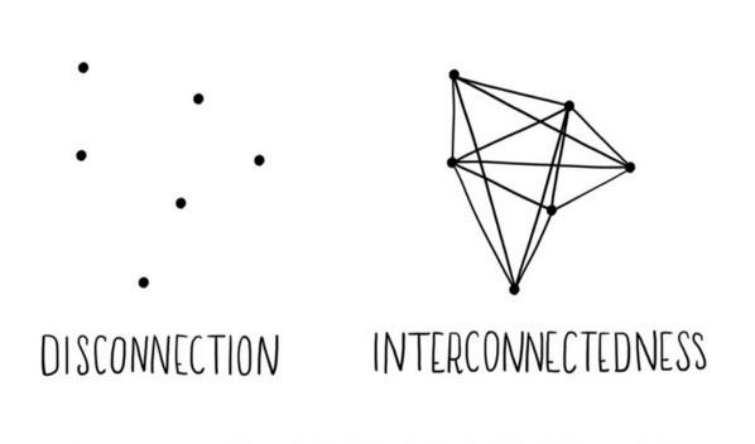




INTERCONNECTEDNESS

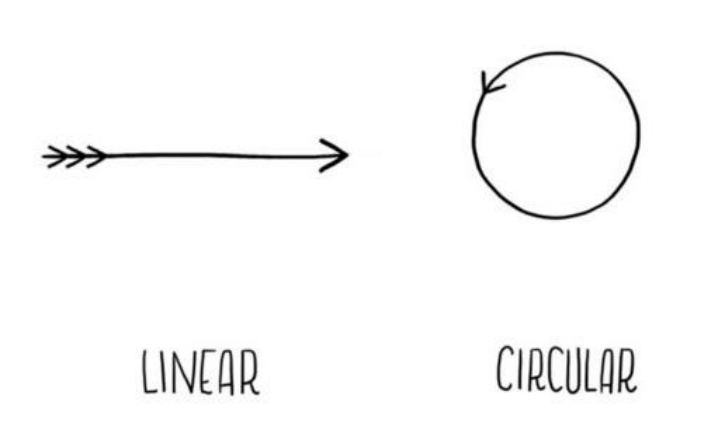
"A system is a set of related components that work together in a particular environment to perform whatever functions are required to achieve the system's objective"

-Donella Meadows-



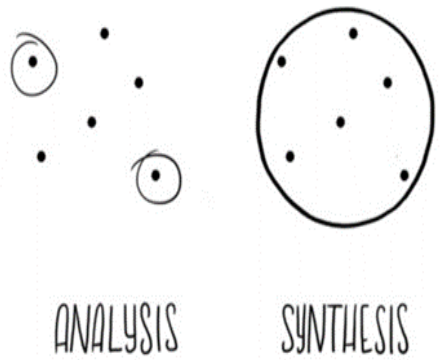
System Thinking

- System mindsets are needed for dealing with complex problem solving
- 4 fundamental concepts:
  - ❖INTERCONNECTEDNESS
  - ❖SYNTHESIS
  - ❖FEEDBACK LOOPS
  - ❖CASUALITY



Analysis

Is about dissection of complexity into manageable components. Analysis fits into the mechanical and reductionist worldview, where the world is broken down into parts

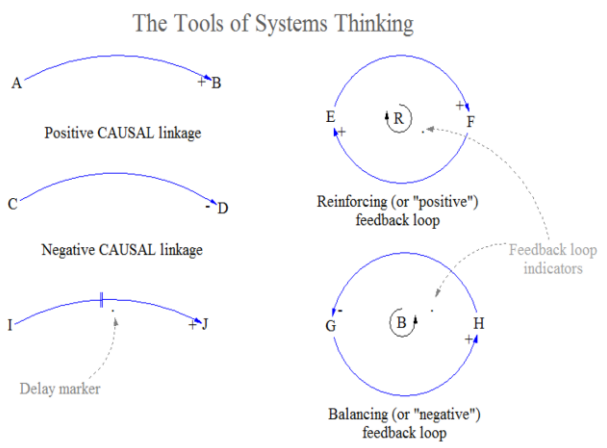


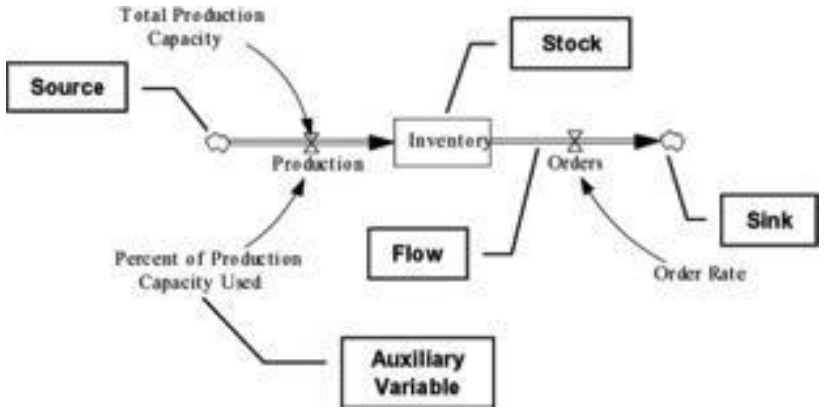
Synthesis

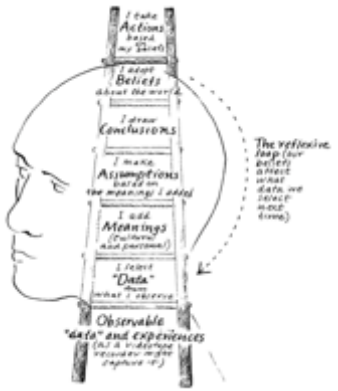
sees the interconnectedness

Synthesis

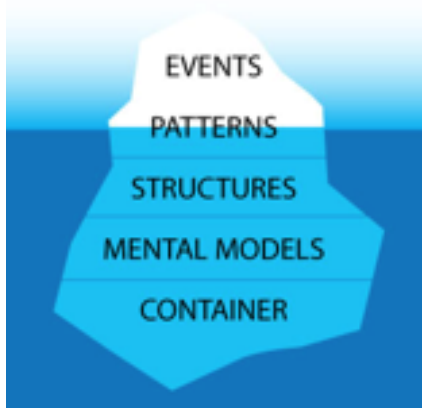
Is about understanding the whole and the parts at the same time, along with the relationships and the connections that make up the dynamics of the whole.

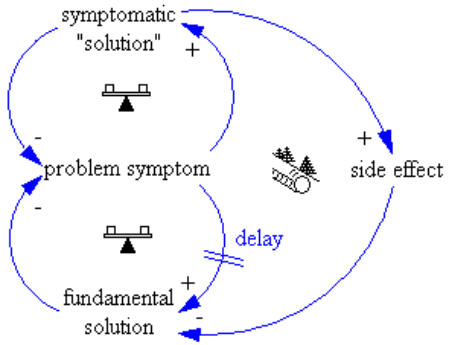






The Tools of Systems Thinking

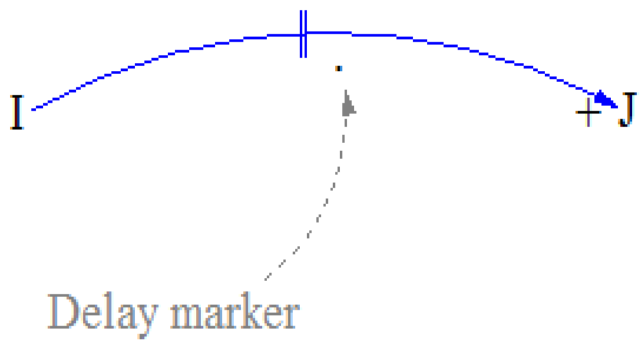


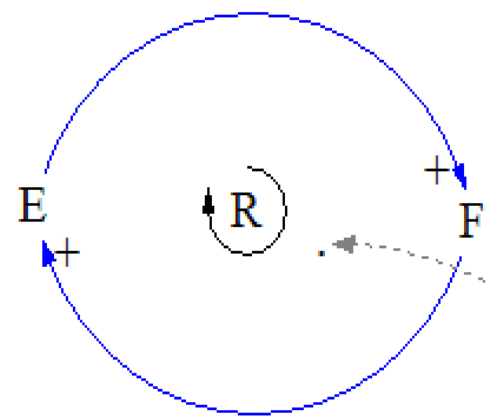


The Tools of Systems Thinking

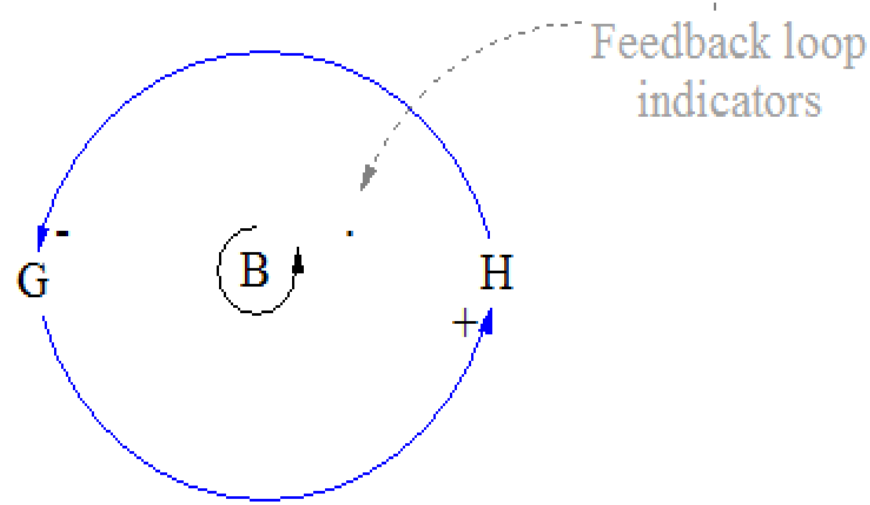
Positive CAUSAL linkage

Negative CAUSAL linkage





Reinforcing (or "positive") feedback loop



Balancing (or "negative") feedback loop

CAUSALITY

To understand the feedback loops we need to gain perspective of causality: how one thing results in another thing in a dynamic and constantly evolving system.

The cause and effect concept in system thinking is about being able to understand the way things influence each other in a system (on agency, feedback loops, connections, and relationships)

System mapping

Systems mapping is one of the key tools of the systems thinker.

System mapping

System Dynamics	Strategic Intervention
System is stagnant or stalled	• Look for constraints
Vicious cycles	• Identify “brakes” • Examine intervention points to return process to virtuous cycle
Reinforce virtuous feedback cycles	
Find the strongest feedback structure operating then review the implications and generic leverage points.	
Examine each link and consider the consequences of strengthening it or weakening it	

Policy Gap

Reduce inertia in the policy-making cycle – rectify the lack of understanding of integrated approaches and tools (e.g. stakeholder engagement, integrated monitoring, etc.)

Governance Gap

Strengthen institutional capacity for stakeholder engagement, set policy targets that acknowledge environmental limits, and establish social flows

Information Gap

Strengthen stakeholder involvement, transdisciplinary approaches, and science-policy interface

Valuation Gap

Internalize social and environmental values in decision-making - market interventions, financial and other incentives

Time Gap

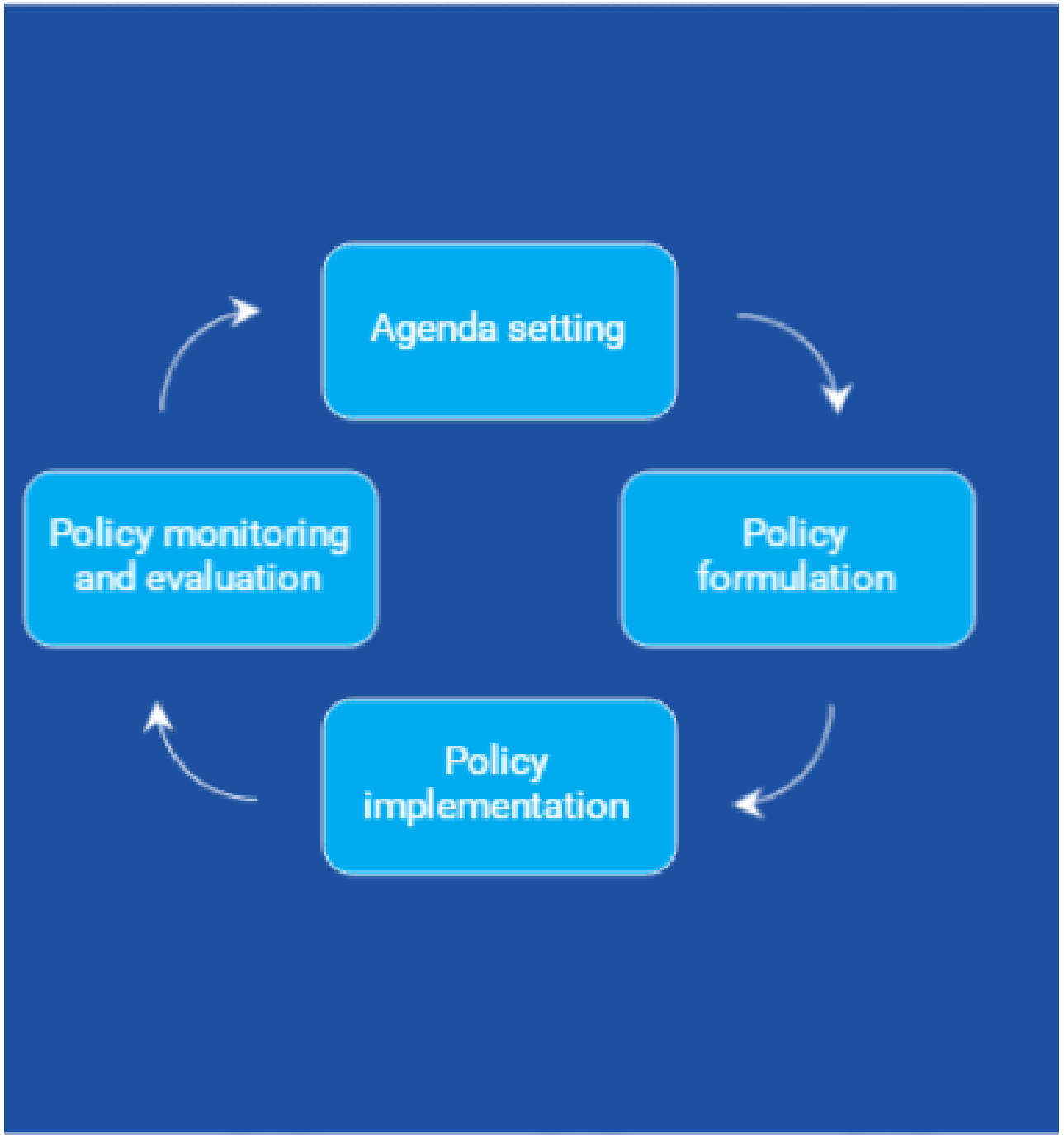
Lengthen stakeholder time horizons through policy and financing interventions

Addressing Trade-offs through Systems Thinking

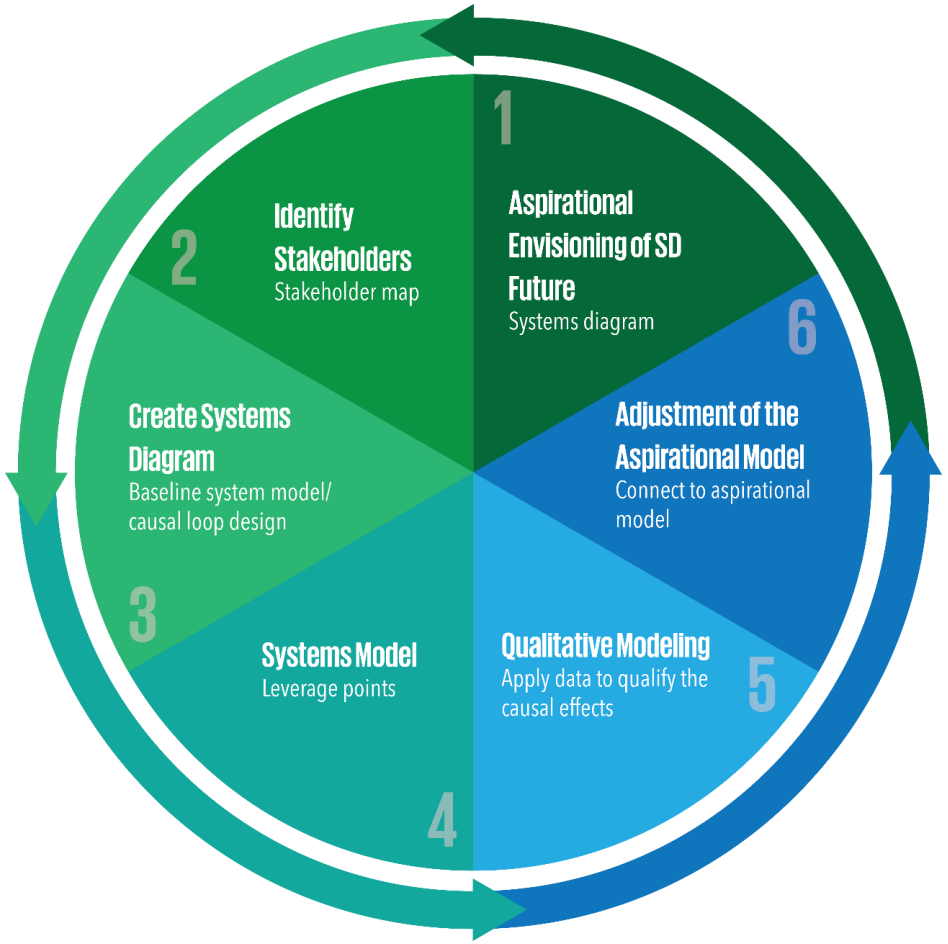
Examples of Addressing the Trade-Offs

Tradeoff source/ Questions to be asked	Strategic intervention	Example
1. Valuation Gap What are the values which are impacted positively and negatively but are not recognized?	Internalize social and economic values in economic decision-making - market interventions, financial and other incentives	▪ Tax/subsidy reform & recycling of savings/revenue ▪ Global carbon markets ▪ Payments for ecosystem services
2. Time Gap What are the time horizons of stakeholders in the different dimensions – how do they differ? How can the short-term time horizons be lengthened?	Change stakeholder time horizons - policy/financing interventions	▪ Tax/subsidy reform & recycling of savings/revenue ▪ Green accounting
3. Information Gap What types of information can influence consumer choices and preferences? What scientific uncertainties need to be addressed? What are the economic benefits of social and environmental investments?	Strengthen integrated analysis, science-policy interface	▪ Eco-labelling ▪ Green accounting
4. Governance Gap Who are the stakeholders ? Which are excluded from participation in decision-making? How can common interests be capitalized upon, or differences bridged through governance interventions? What relevant environmental, social and economic limits need to be defined and implemented in policy?	Strengthen provisions related to social justice, environmental protection, set policy targets, standards and codes of conduct that acknowledge environmental limits, establish social protection floors	▪ Viet Nam green growth strategy ▪ Central bank green finance initiative – Bangladesh ▪ Green accounting
5. Policy Making Gap What are the reasons behind the inertia of policy-making?	Strengthen technical and information capacity about integrated approaches	▪ Systems-thinking applied to policy-making

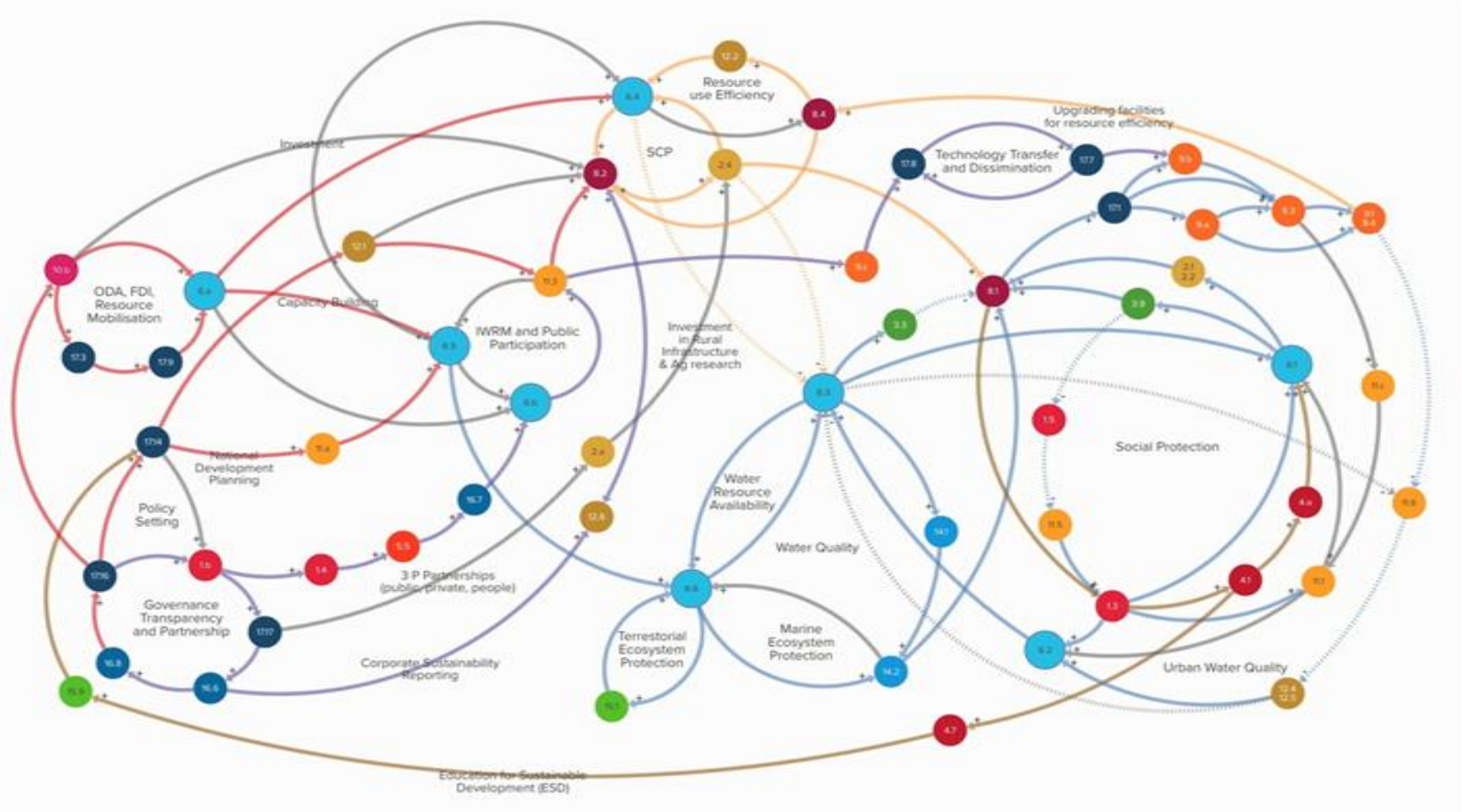
Creating Synergies during Public Policy Cycle



Aspirational Envisaging Policy Cycle



Developing causal Loop Diagram based focused on SDG 6 targets



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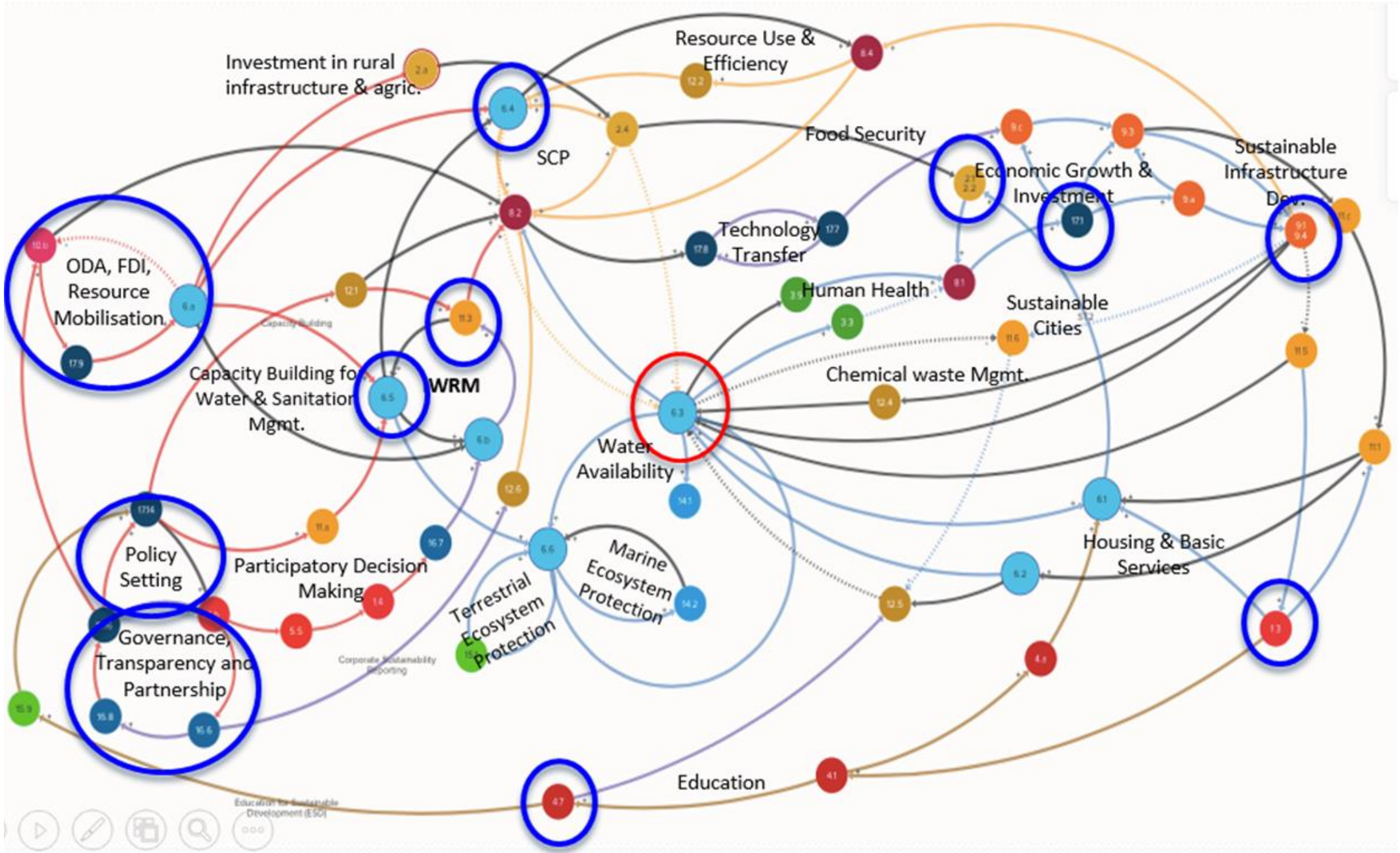


SDG 6 Interlinkages with other SDGs

Target 6.b – Support and strengthen the participation of local communities in improving water and sanitation management.

Fourth most inter-linked target;

Direct causal inter-linkages with 48 other targets from 14 SDGS;

Indirectly linked with another 28 targets;

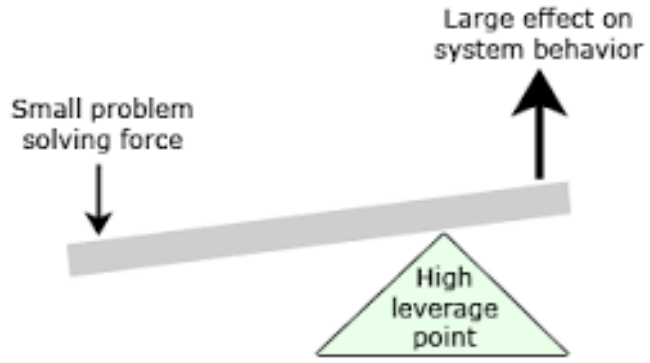
Directly driven/influenced by 27 other targets and is a key driver / influencer of 21 other targets;

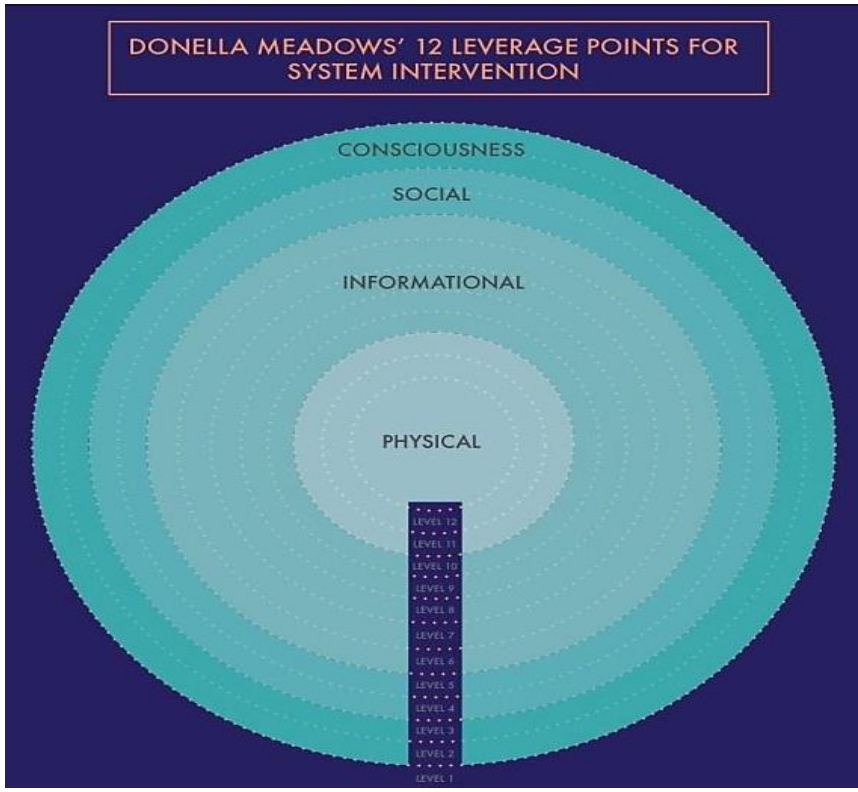
Most strongly influenced by SDG 5, 16, and 17

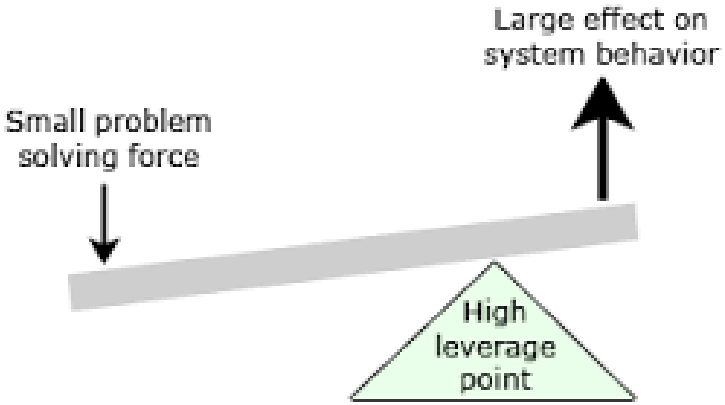
Has the most direct influence on SDG 1, 6, 11, 12, 13, and 14.

Leverage Points

- Meadows (2009) stressed that often the
- best results come not from large-scale efforts
- but from small well-focused actions.
- Thus, there can be “low impact” leverage
- points and “high impact” leverage points.
- High impact leverage points resolve
- underlying causes of undesired system behavior.



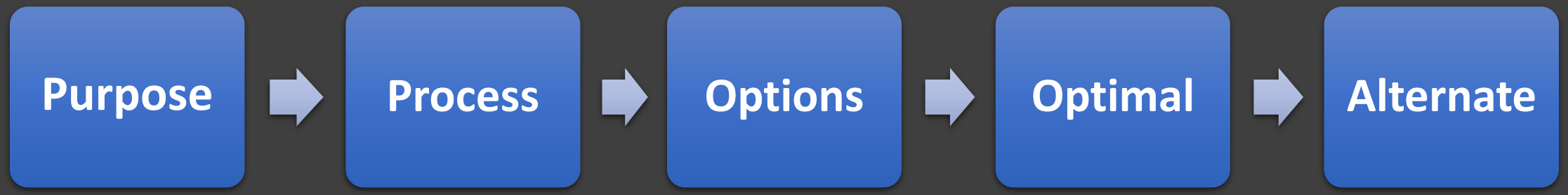




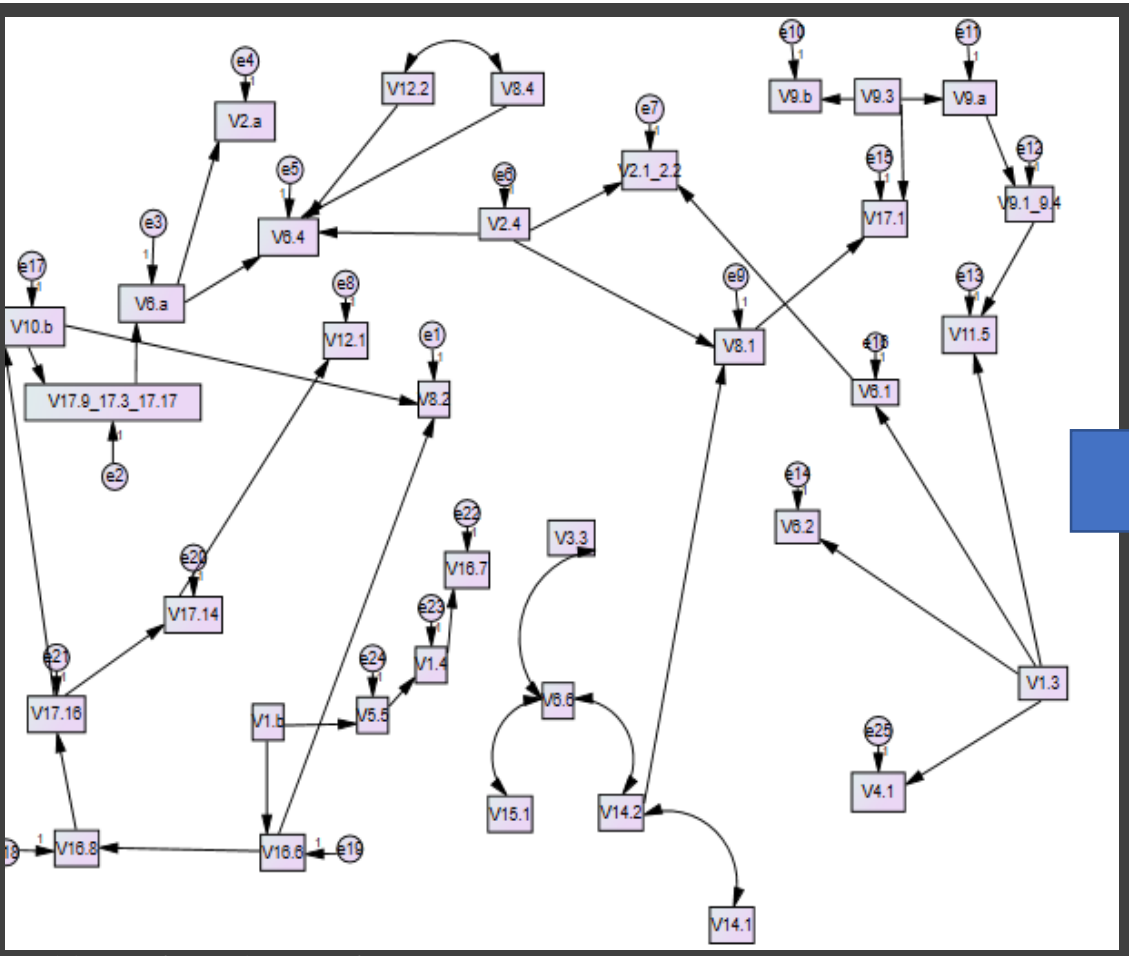
Targets 1.b, 17.16, 17.14, and 6.a	•The loops of Governance, transparency, Partnership / ODA, FDI and Resource Mobilization / Policy Setting are really the ultimate high impact leverage in the short to long term
Target 11.3	•IWRM and Public Participation is another really important loop for achieving sustainable water
Target 6.4	•Water use efficiency is also very important and influential target as it is a fulcrum for water quality and eventually sustainable water (TAWR).
Target 17.1	•Crucial leverage point at the country level as this essentially is all about sustainable financing and resource mobilization for keeping the system going into the future, without outside ODA primarily.
Target 9.1/9.4	•Essential leverage points due to the fact that they are about the system infrastructure in urban commercial, domestic-residential, and industrial sectors, and includes water treatment and provisioning infrastructure.
Target 2.1/2.2	•Extremely important for the overall economic development, as achieving these two targets will insure a health and productive population that will be the greatest resource for sustainable development.
Target 1.3	•Social Protection Floors is also super important leverage for the human wellbeing side of the model (access to sustainable sanitation systems and clean drinking water)
Target 6.3	•Ultimately (in this system model at present) is the core target and indicator for the model. It is where everything lead or is effected by when considering GDP (8.1) and human health and wellbeing (2.1/2.2, etc.)
Target 4.7	•Ultimately is the highest impact leverage for long-term human sustainability, though the delay is longest in terms of cause-effect change and impact.

High Leverage points for SDG 6.3 target

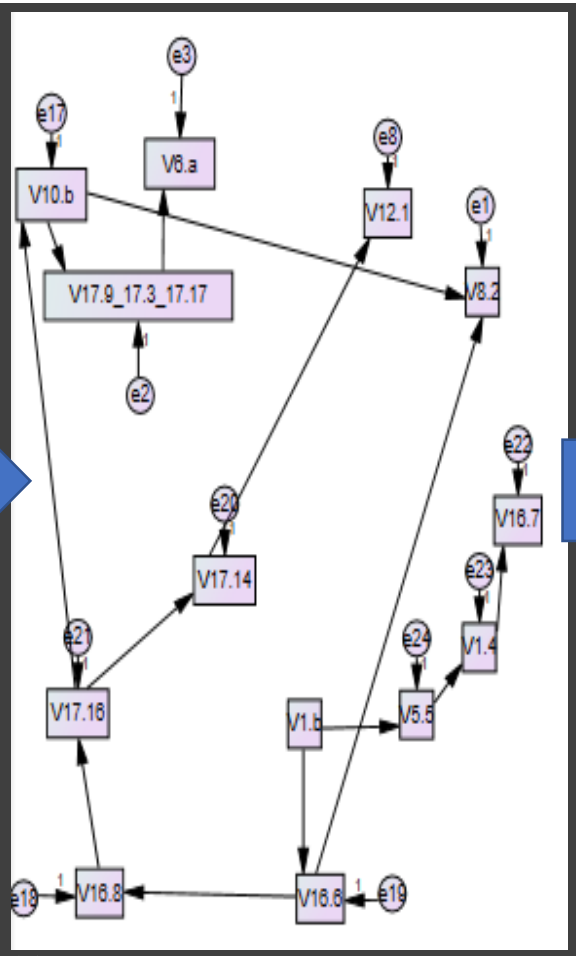
Quantitative Modelling



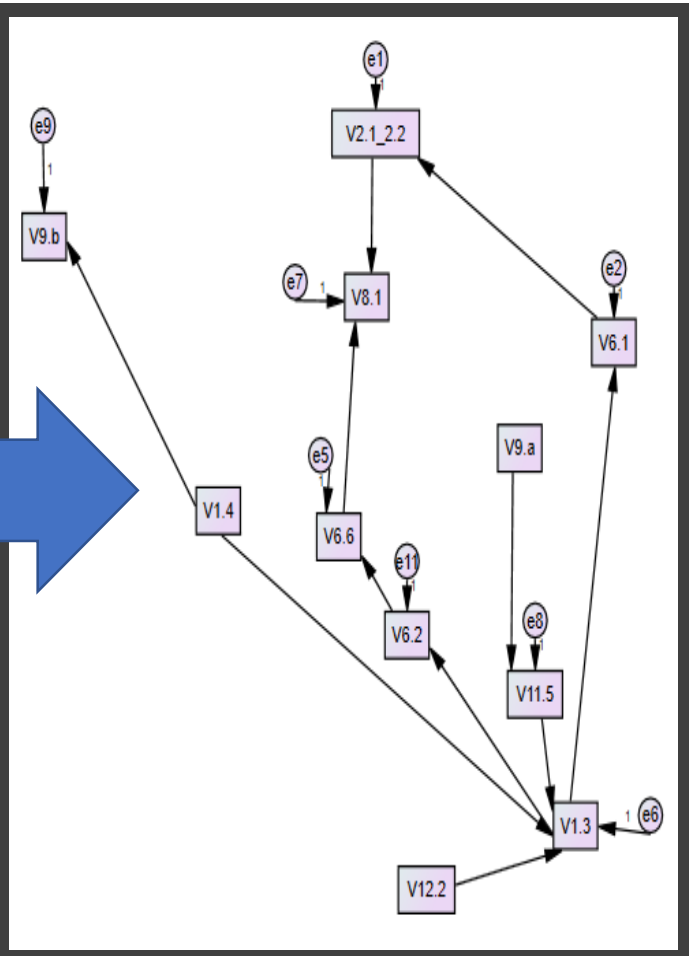
Quantitative Modelling – SEM results



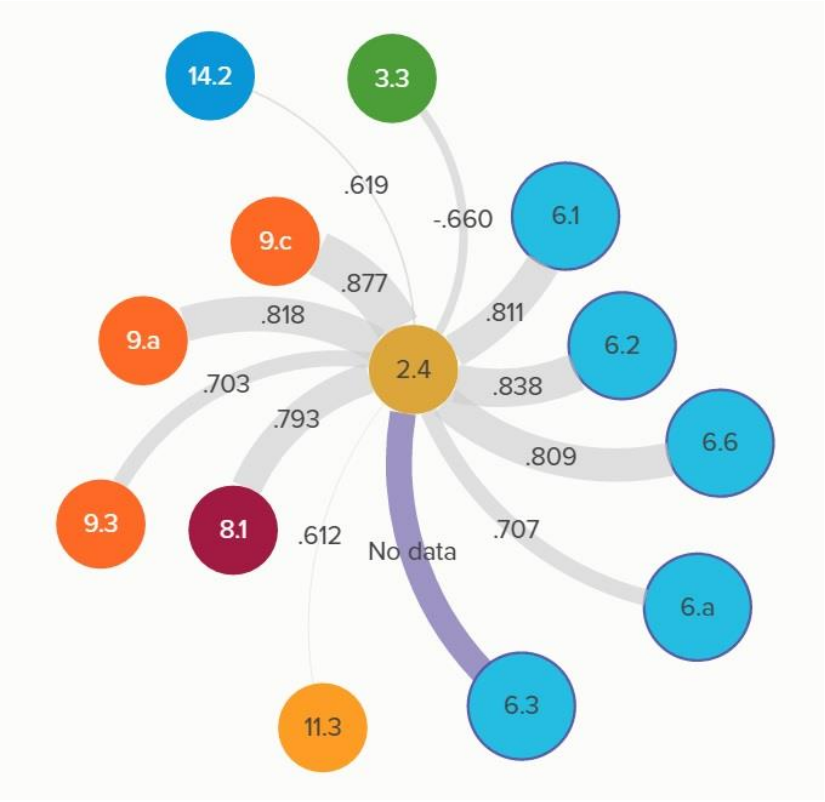
Model 1: Perfect replication of KUMU

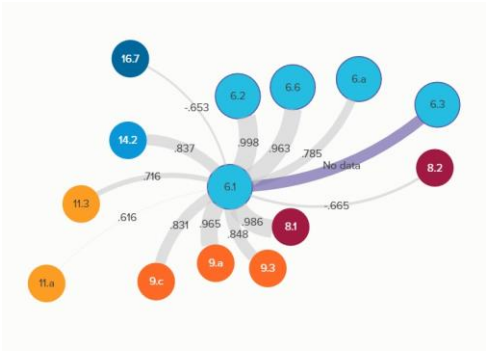


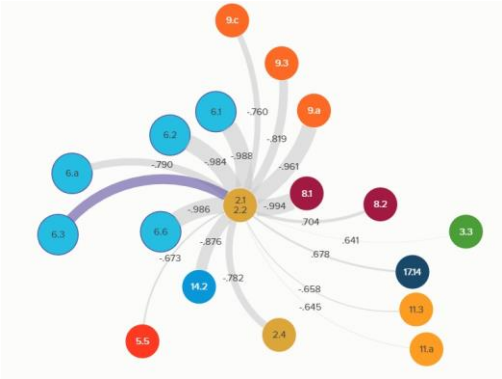
Model 4: Governance Transparency & Partnerships

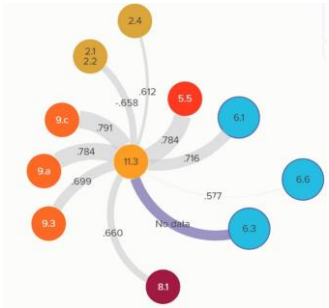


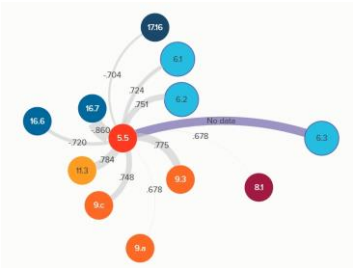
Model 9: FA Original Variables











Qualitative Modelling

In the absence of ideal data – correlational analysis

Lessons learned from the quantitative modelling

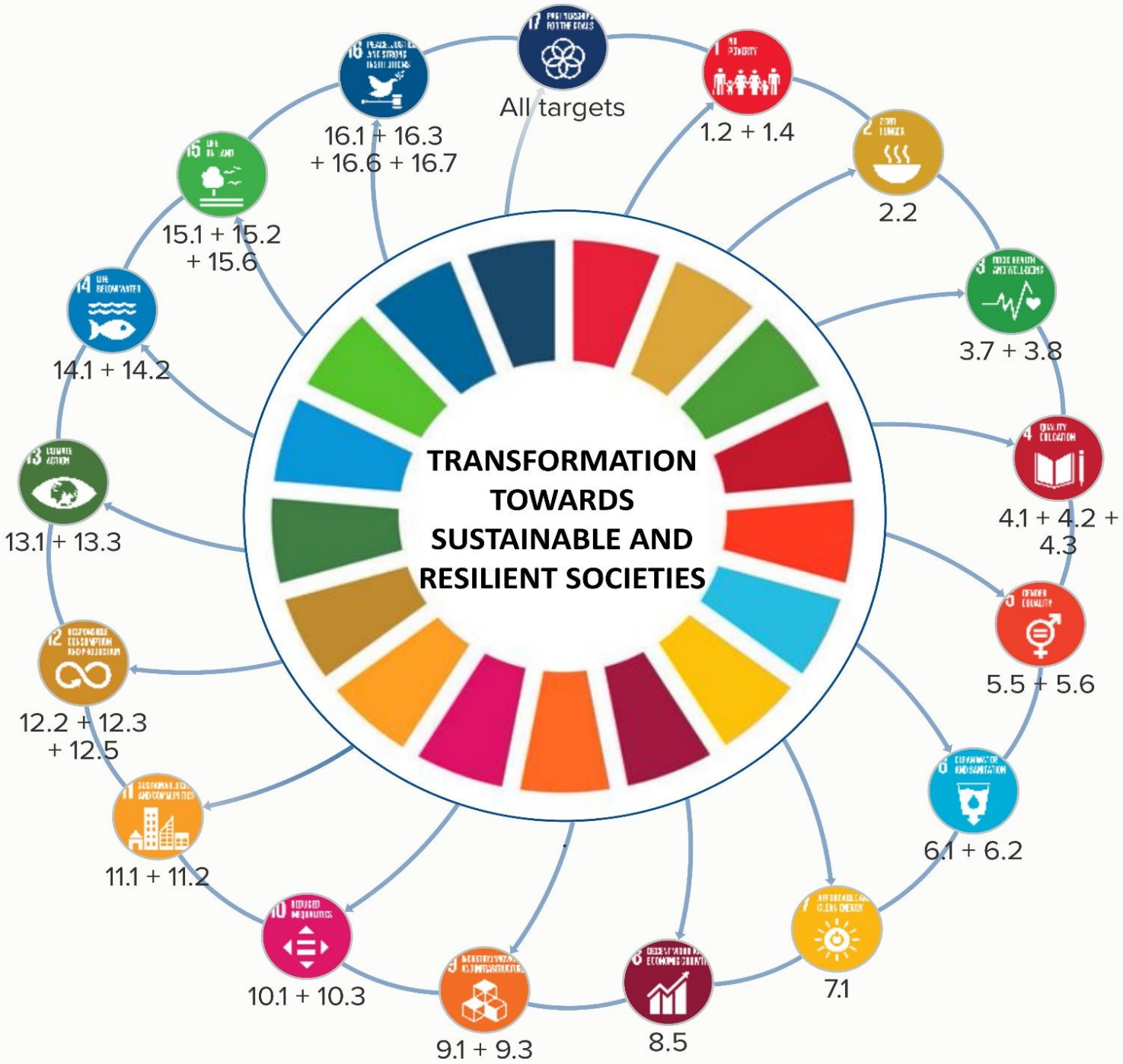
Globally Agreed Indicators: These are linear and were created to measure the progress of individual targets or aspect of these. These do not support sufficiently analysis of inter-linkages. Since the SDGs are viewed as one indivisible whole, additional variables that reflect inter-linkages and integration may need to be identified.

Availability of Data: While a substantive amount of data is available, there are some gaps within the data, which has cased inconclusive results. In order to improve upon our findings new data would need to be produced. (E.g. 6.3 Annual treatment of wastewater flows.)

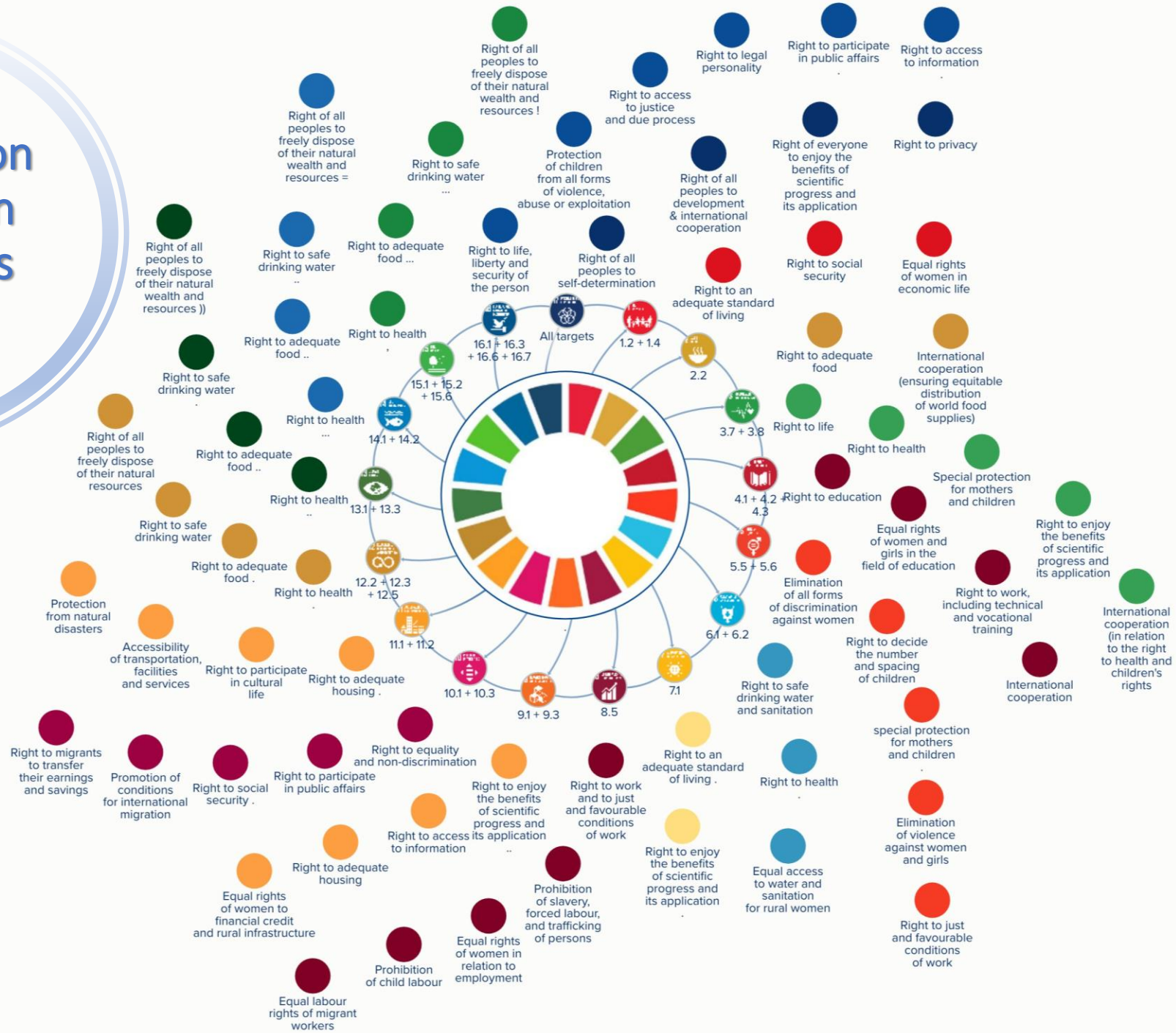
Water Storyline: Unfortunately, several SDG indicators were not tailored for the water context and therefore, do not fit our storyline. Although secondary indicators (e.g. World Bank) were identified, which fit the storyline, they are not globally-agreed.

Systems-Thinking: The analytical framework is addressing inter-relationships based on causality and can be a valuable tool for policy makers to identify the leverage points for most effective interventions.

Transformation towards Sustainable and Resilient Societies



Transformation with focus on human rights



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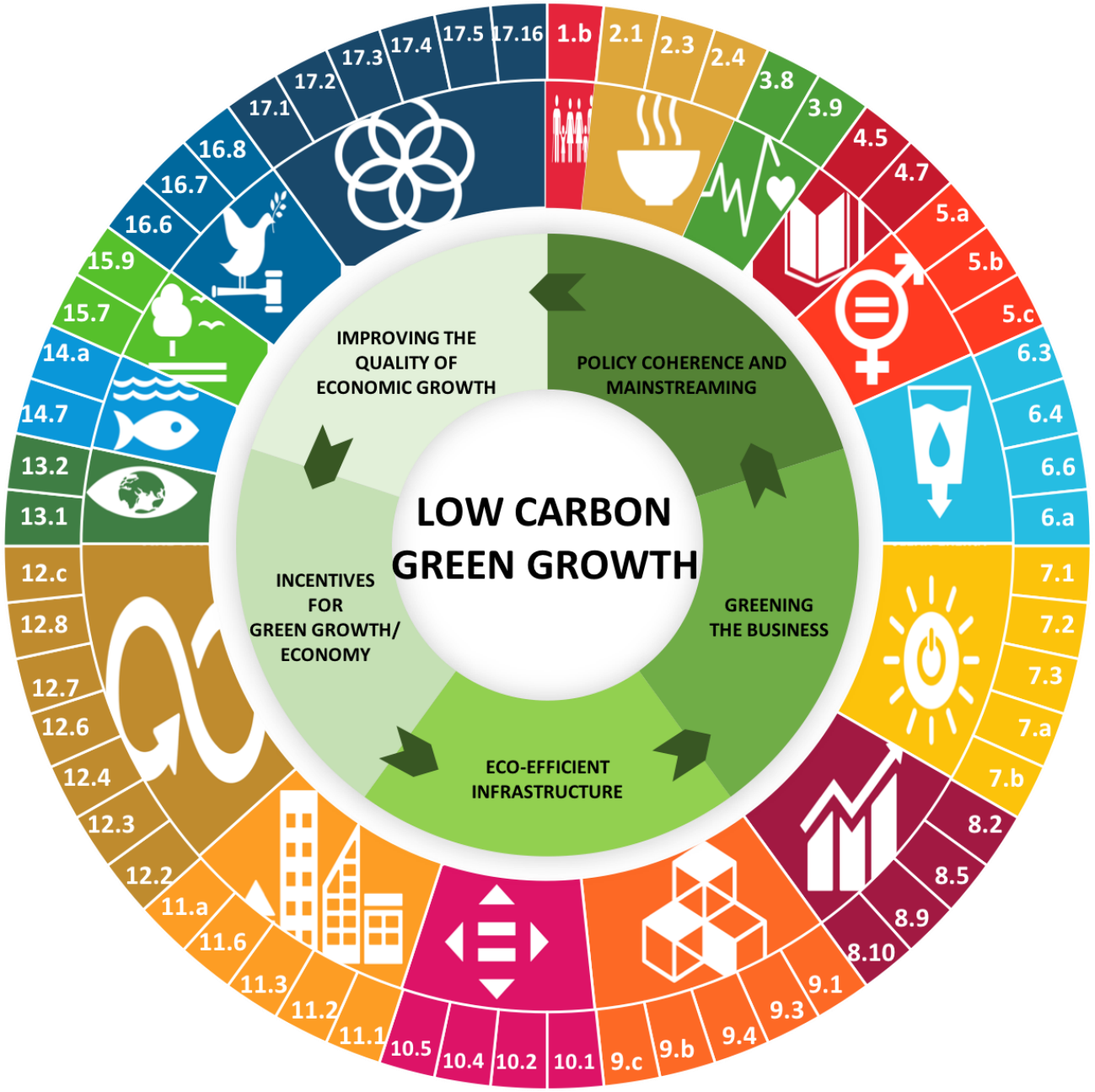
Low Carbon Green Growth-transformation to the New Climate Economy



The Way Forward

Integrated SDG planning with transformative stakeholder engagement

Sustainable financing, including for climate resilient development and infrastructure

Integrated planning to optimize resources; scale up the use of nature-based solutions, including green and blue infrastructure in urban and peri-urban areas

Circular economy approaches to reduce waste and address pollution issues

Low carbon green growth/new climate economy for sustainable development

ESCAP Knowledge Products

Integrating the Three Dimensions of Sustainable Development: A Framework and Tools
http://www.unescap.org/sites/default/files/Integrating%20the%20three%20dimensions%20of%20sustainable%20development%20A%20framework.pdf

Analytical Framework for Integration of Water and Sanitation SDGs and Targets Using Systems Thinking Approach

https://sdghelpdesk.unescap.org/sites/default/files/2018-02/integration%20sdg6.pdf

Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation
http://www.unescap.org/publications/integrated-approaches-sustainable-development-goals-planning-case-goal-6-water-and

Low Carbon Green Growth Roadmap for Asia and the Pacific
http://www.unescap.org/resources/low-carbon-green-growth-roadmap-asia-and-pacific

E-Learning Course: Low Carbon Green Growth Roadmap
https://sdghelpdesk.unescap.org/e-learning/Low-Carbon-Green-Growth-Roadmap
E-Learning Course: Integration of SDG Into National Planning
https://sdghelpdesk.unescap.org/e-learning/Integration-SDGs-into-National-Planning-course

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