

**UNITED NATIONS**

**Economic and Social Commission for Western Asia**



# Mapping the Nexus within the context of Sustainable Development: A Global and Regional Perspective

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**5th BEIRUT WATER WEEK**



- ❑ Since the **United Nations Conference on Sustainable Development (Rio+20)**, in June 2012, a plethora of UN bodies, think tanks, and advocacy organizations, etc. has presented **suggestions and approaches to a post-2015 development agenda and the SDGs**
- ❑ It is now widely agreed that a **single, balanced and comprehensive set of goals, universal to all nations**, should form the core of the post-2015 agenda

# Key Global and Regional Processes on the Post-2015 Development Agenda and the SDGs



## ❑ At the **Global Level**:

- **UNTT** Report to SG: “Realizing the Future We Want for All” (June 2012)
- **HLP** of Eminent Persons Report to the SG: “A New Global Partnership” (May 2013)
- **OWG** on the SDGs - : as an outcome from Rio+20, established by the General Assembly to prepare a proposal for the SDGs; the OWG will prepare **a proposal for the SDGs by September 2014** for consideration by the 68th Session of the General Assembly
- **HLPF** – High-Level Political Forum on Sustainable Development: established by the General Assembly in June 2013

## ❑ At the **Regional Level**

- **Joint RCs Report**: “A Regional Perspective on the Post-2015 United Nations Development Agenda” (2013)

## ❑ **Arab Consultative Process on Post-2015 and SDGs**

- **ESCWA and its partners conducted a series of consultations with governmental and non-governmental stakeholders** in 2013-2014 to help distill **a regional perspective** on the Post-2015 development agenda and the SDGs
- The **Arab High-Level Forum on Sustainable Development** (April 2014, Amman)

- ❑ Proposes a future vision based on **the core values of human rights, equality and sustainability**
- ❑ Suggests the format to be based on goals and targets that are reorganized along **four central pillars:**

Inclusive  
economic  
development

Inclusive  
social  
development

Environmental  
sustainability

Peace and  
security

# HLP Report Key Messages



## Five key messages:

Leave no one behind

Put sustainable development at the core

Transform economies for jobs & inclusive growth

Build peace & effective, open & accountable institutions for all

Forge a new global partnership

## 12 global goals, as well as several (national) targets within those goals:

1. End poverty	2. Empower girls and women and achieve gender equality	3. Provide quality education and lifelong learning	4. Ensure healthy lives
5. Ensure food security and good nutrition	6. Achieve universal access to water and sanitation	7. Secure sustainable energy	8. Create jobs, sustainable livelihoods, and equitable growth
9. Manage natural resource assets sustainably	10. Ensure good governance and effective institutions	11. Ensure stable and peaceful societies	12. Create a global enabling environment and catalyze long-term finance



**Peace**

**Poverty Eradication**

**Sustainable agriculture, food security and nutrition**

**Means of Implementation**

**Health and population dynamics**

**Ecosystems and Biodiversity**

**Education**

**Marine resources, oceans and seas**

**Gender Equality and Women's Empowerment**

**climate**

**OWG Focus Areas**

**Water and sanitation**

**Sust. Consumption and production**

**Energy**

**Sustainable cities**

**Economic growth**

**Equality**

**Industrialisation**

**Employment and Decent Work**

**Infrastructure**

# The Joint RCs Report: Regional Priorities



	Economic sustainability	Social sustainability	Environmental sustainability	Governance and institutions
<b>Africa</b>	Absolute poverty levels; adding value to raw material-based growth; enhancement of resilience to external shocks.	Youth unemployment; provision of basic social safety nets.	Urban slum growth; food insecurity induced by drought.	Reduction of conflict risk; strengthening of state capacity.
<b>Latin America and the Caribbean</b>	Income inequality; international competitiveness; promotion of knowledge-intensive sectors.	Reducing inequities based on gender, race, ethnicity, age and location; guaranteeing social protection.	Biodiversity protection; floods and storms; small island inundation/sea water incursion internalizing the environmental and social costs (and benefits) of public and private economic decisions.	Efficiency of state and economic governance institutions; new social compact order to reach a fiscal pact that enables higher and productive public investments.
<b>Asia and the Pacific</b>	Absolute poverty levels; promotion of high-value manufacturing; building domestic demand.	Strengthening and extension of social protection systems.	Large internal displacement induced by floods and storms; small island inundation/sea water incursion; megacity challenges.	Decentralization; devolution of governmental services.
<b>Western Asia<sup>ab</sup></b>	Inclusive growth; employment generation; economic diversification; regional integration.	Reduction of inequalities; strengthening social protection; youth exclusion and unemployment; women's empowerment; broad participation.	Water scarcity; sustainable natural resource management; food insecurity.	Set-up of democratic institutions; strengthening governance; security sector reform and rule of law; freedom of information; managing conflict; ending Israeli occupation of Palestine.
<b>Europe and Central Asia</b>	Income inequality; unemployment; economic diversification; innovation and international competitiveness; population ageing.	Social exclusion; unsustainable and poorly targeted social protection and pension systems; women's empowerment.	Climate change; resource depletion and environmental degradation; water basin management; energy efficiency and security.	Government effectiveness; evolution of democratic institutions; human rights.

Source: ESCWA et al, 2013, *A Regional Perspective On The Post-2015 United Nations Development Agenda*

# The Joint RCs Report: Priorities for the Arab Region



## Economic sustainability

Inclusive growth and diversification

Adequate mapping and reduction of poverty

Employment, especially youth and women

Trade, investment and technology

Regional cooperation and integration

## Social sustainability

Education

Health

Gender equality and women's empowerment

Social protection

Social justice

## Environmental sustainability

Climate change

Water and food security

Desertification

Urbanization

## Governance & institutions

Democracy and the rule of law

Effective institutions

Rights and freedoms

Conflict resolution and self-determination

Global and regional governance



## Global

- Set up **HLPF** as an outcome of Rio+20: 1st inaugural session, Sept. 2013, 2nd session June/July 2014
- RCs invited to hold annual regional preparatory meetings (GA resolution 67/290)
- **OWG** to develop SDGs: 70 MCs on 30 seats, 6 Arab Countries, 10 sessions so far with 16 issues developed, report in Sept. 2014

## Regional & ESCWA

- **LAS** Councils: CAMRE & Social Affairs Ministers 2012-2014 (discuss post Rio+20, MDGs progress)
- **RIM**, Dubai May 2013
- 3 consultative **EGMs** on SDGs, & conceptual framework in 2013 (August in Amman & November in Tunis)



**AFSD**

Arab High Level Forum on Sustainable Development

## Review MDG progress

Means of accelerating their  
achievement & sustaining gains

## Arab Strategic Framework for SD

Green economy, Technology,  
R&D as operational arms

Regional position  
regarding the **SDGs**

## Set the stage for future **AFSDs**

Modalities & Functions

# SDGs: An Arab Perspective



Few **imperatives** rather than goals for all SD Issues:

1. End extreme **poverty** & **hunger**
2. Create decent **jobs**
3. Provide quality **education** & lifelong learning for all
4. Empower girls & women, achieve **gender** equality & the full realization of women's human rights
5. Ensure **healthy** lives
6. Secure access to **water and sanitation** for all and promote the sustainable use & management of natural resources
7. Secure access to **sustainable energy** for all
8. Promote sustainable **food production**
9. Ensure quality **housing and infrastructure services** in rural & urban settlements
10. Secure **peaceful** societies & effective **institutions**
11. Advance global **partnerships** for sustainable development

# Water – Food –Energy: Some Shared Characteristics



- All three areas have billions of people **without access** (quantity or quality or both)
- All have rapidly growing **global demand**
- All have **resource constraints**
- All are “**global goods**” and involve international trade and have global implications
- All have **different regional availability** and variations in supply and demand
- All have strong **interdependencies with climate change** and the environment
- All have **deep security issues** as they are fundamental to the functioning of society
- All operate in heavily **regulated markets**
- All require the **explicit identification and treatment of risks**

- ❑ **The interwoven concerns of water, energy, and food policies** fully recognized by the global community
- ❑ **Segmented, fragmented, and uncoordinated sectoral decision making** is being increasingly identified as a key problem leading to **wasteful, inefficient and unsustainable resource use**
- ❑ Gave birth to the Nexus as an approach to look at three spheres as an interrelated system
- ❑ **Systems thinking** is required for the development of **appropriate frameworks to manage trade-offs, target synergies and avoid tensions across sectors**
- ❑ A holistic perspective is required which considers the **interconnections of the natural resources** as well as the **interlinkages of sectors and policy objectives**

# Broadening the Nexus



- ❑ The nexus is **not limited to the three-way water-food-energy security** concept but evolved to include other concerns
- ❑ **Broadened to cover competing land uses**
- ❑ **Two-way relationship between LEW and Climate**
  - Efficient resource management is of great importance, **both for mitigation and for adaptation** purposes
  - **Feedback loops and interdependencies between the different resources, against the backdrop of climate change** are adding an additional layer of complexity to this situation
- ❑ It is therefore important to have **insights regarding the trade-offs between conflicting uses of natural resources** and to **highlight potential synergic solutions to overcome them** :
  - **investigate interconnections between these different resource sectors**
  - **determine the effects changes in one sector might have on the others**
  - **identify counter-intuitive feedbacks in these integrated systems.**

# Some approaches to the Nexus

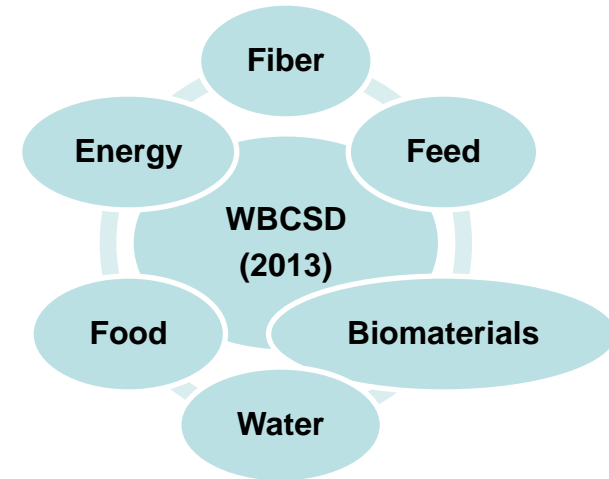
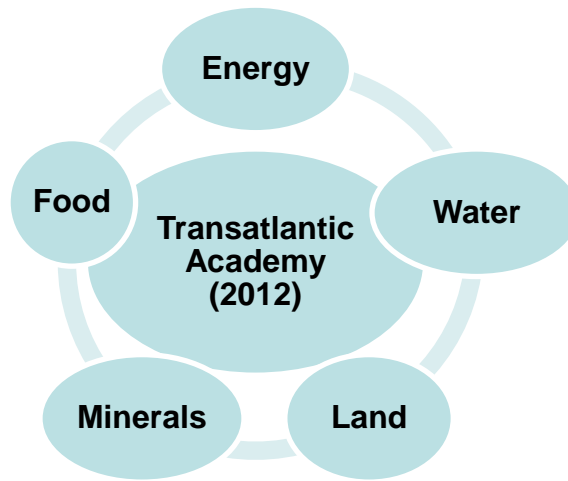
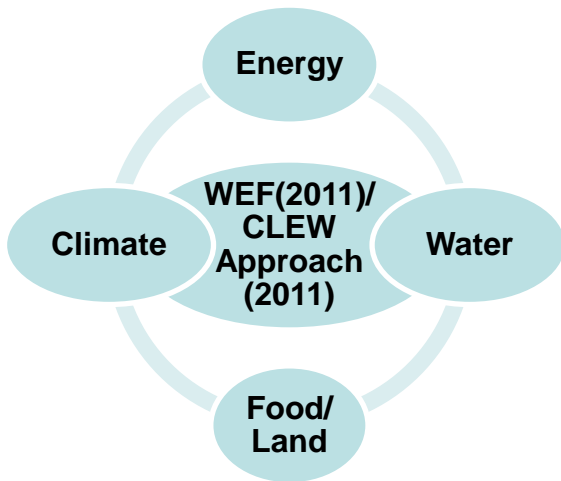
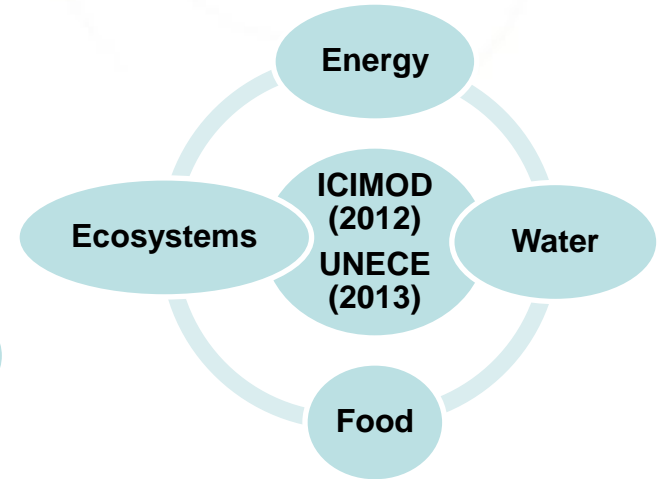
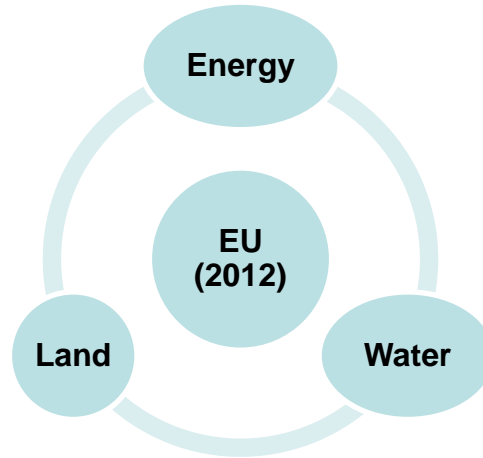
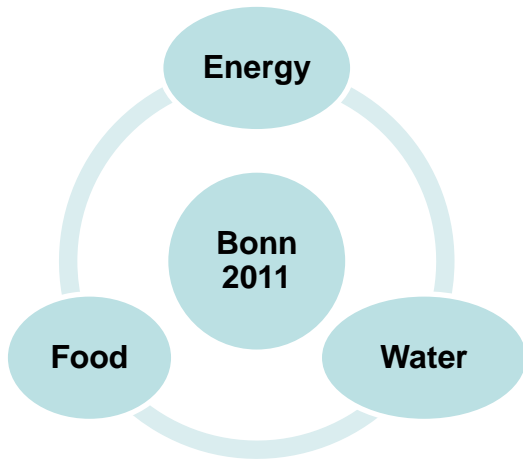
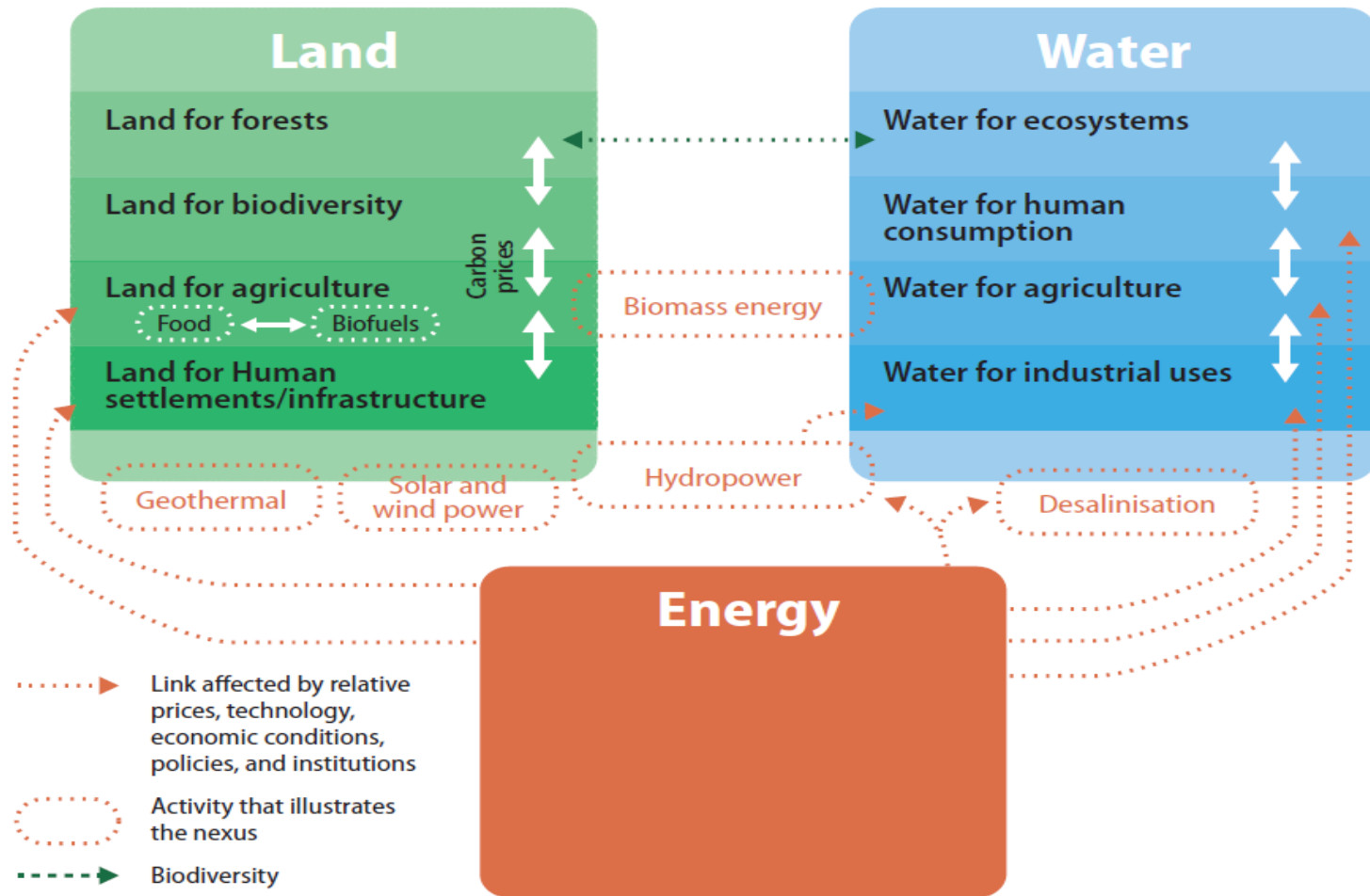


Figure 1: The Water-Energy-Land (WEL) nexus

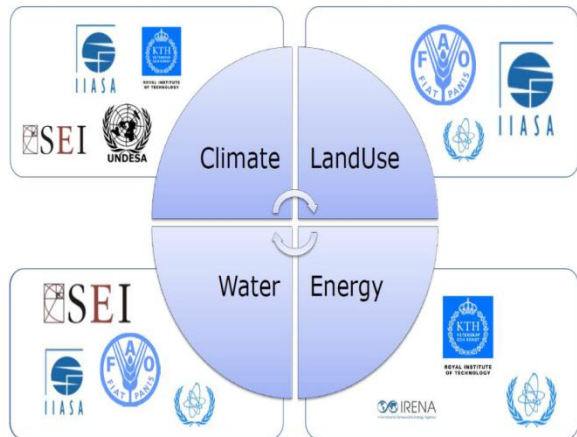




# CLEWs - A Breakthrough on the Quantitative Front



Application on Mauritius:  
 Development and calibration of  
**water, energy and land use  
 models** using 10 years data  
 (1996- 2005)  
 WEAP - water  
 LEAP - energy  
 AEZ - land production planning



collaboration between a number of leading international institutions including FAO, IAEA, IRENA, IIASA, SEI, UNDESA and UNECE

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## Energy Policy

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**Considering the energy, water and food nexus: Towards an integrated modelling approach**

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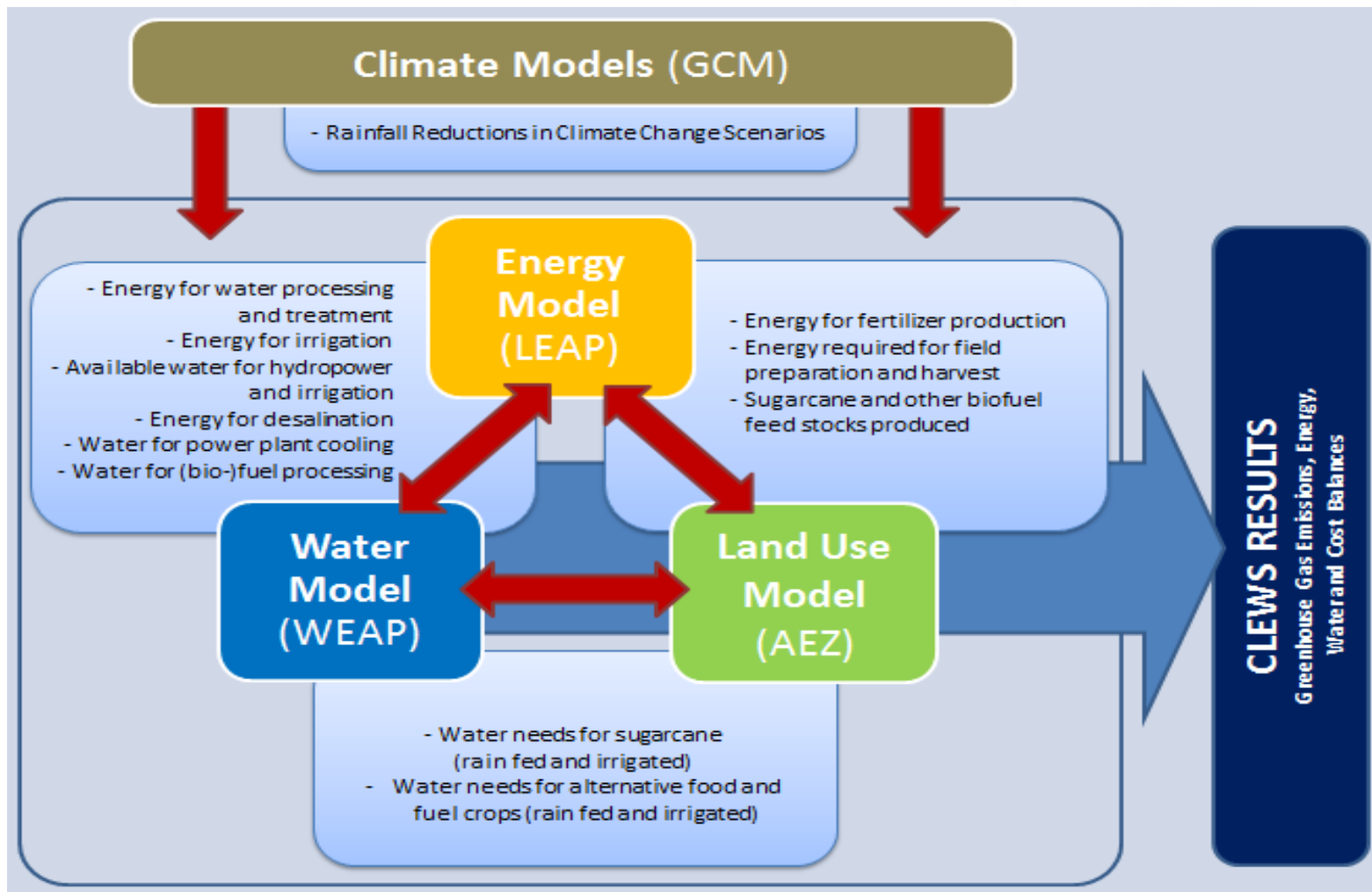
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**ABSTRACT**

The areas of energy, water and food policy have numerous interwoven concerns ranging from ensuring access to services, to environmental impacts to price volatility. These issues manifest in very different ways in each of the three "spheres", but often the impacts are closely related. Identifying these interrelationships a priori is of great importance to help target synergies and avoid potential tensions. Systems thinking is required to address such a wide swath of possible topics. This paper briefly describes some of the linkages at a high-level of aggregation – primarily from a developing country perspective – and via case studies, to arrive at some promising directions for addressing the nexus. To that end, we also present the attributes of a modelling framework that specifically addresses the nexus, and can thus serve to inform more effective national policies and regulations. While environmental issues are normally the 'cohesive principle' from which the three areas are considered jointly, the enormous inequalities arising from a lack of access suggest that economic and security-related issues may be stronger motivations of change. Finally, consideration of the complex interactions will require new institutional capacity both in industrialised and developing countries.

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# CLEWs - A Breakthrough on the Quantitative Front

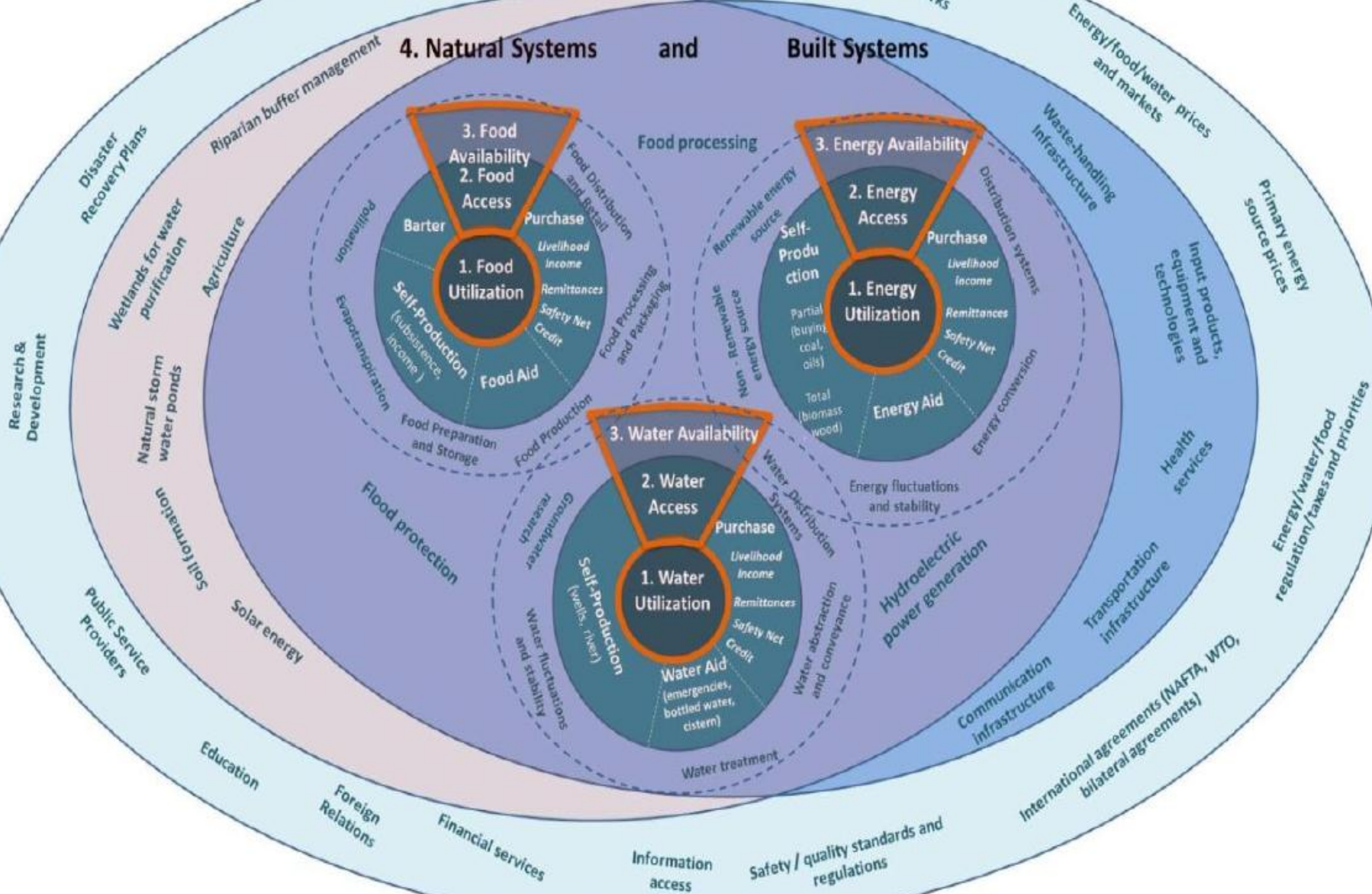


- ❑ **Ecosystem-based approach** recognising that **restoring and managing EGS provides a practical means to optimizing WEF security**
- ❑ **Recognises the need for an integrated approach linking not only the three securities, but also their underlying capitals and their sources**
- ❑ **Framework built around:**
  - **three independent security frameworks, each one around utilization of each resource**
  - **The next layer describes how watershed communities access their water, energy and their food**
  - **Access to water, food and energy is determined by their availability** (water flow, agricultural production, food processing, energy production, and energy supply)

- **Two overall contextual systems then influence availability and access**
  - **Natural systems and built systems** – where EGS are seen as specific elements of natural systems. **Built systems include** aspects such as irrigation pipes, hydroelectric generators, food production and storage facilities.
  - **Human systems** are institutions such as markets, transportation infrastructure, and communication networks, including the rules that govern their behaviour.

# 5. Institutions and Governance

## 4. Natural Systems and Built Systems



- ❑ **Two approaches to the post-2015 Agenda: an MDG-based approach and a more integrated approach to SDGs which recognizes and embraces the interdependencies of social, economic and environmental goals**
- ❑ **Need to distinguish between :**
  - **« Intra-goals » and targets integration**
  - **« Inter-goals » and targets integration**
- ❑ **Nexus thinking can be instrumental for both, through qualitative mapping and quantitative modeling of nexus interactions**

# Open Working Group's March 2014 update



## Open Working Group on Sustainable Development Goals

### ANNEX 1.

#### INTERLINKAGES

**Emphasizes that goals related to poverty eradication, sustainable agriculture, food security and nutrition, water and sanitation, health and population dynamics, sustainable cities and human settlements, ecosystems and biodiversity, climate, and sustainable production and consumption will necessarily be linked**

#### **Focus area 1. Poverty eradication**

Since poverty is multidimensional, progress is linked to action in all other focus areas.

#### **Focus area 2. Sustainable agriculture, food security and nutrition**

Interlinkages with other focus areas include poverty eradication, health and population dynamics, gender equality and women's empowerment, water and sanitation, energy, climate, conservation and sustainable use of marine resources, oceans and seas, and ecosystems and biodiversity.

#### **Focus area 15. Climate**

Interlinkages to other focus areas include: sustainable agriculture, food security and nutrition, health and population dynamics, education, gender equality and women's empowerment, water and sanitation, energy, , promote sustainable consumption and production, sustainable cities and human settlements, conservation and sustainable use of marine resources, oceans and seas, ecosystems and biodiversity.

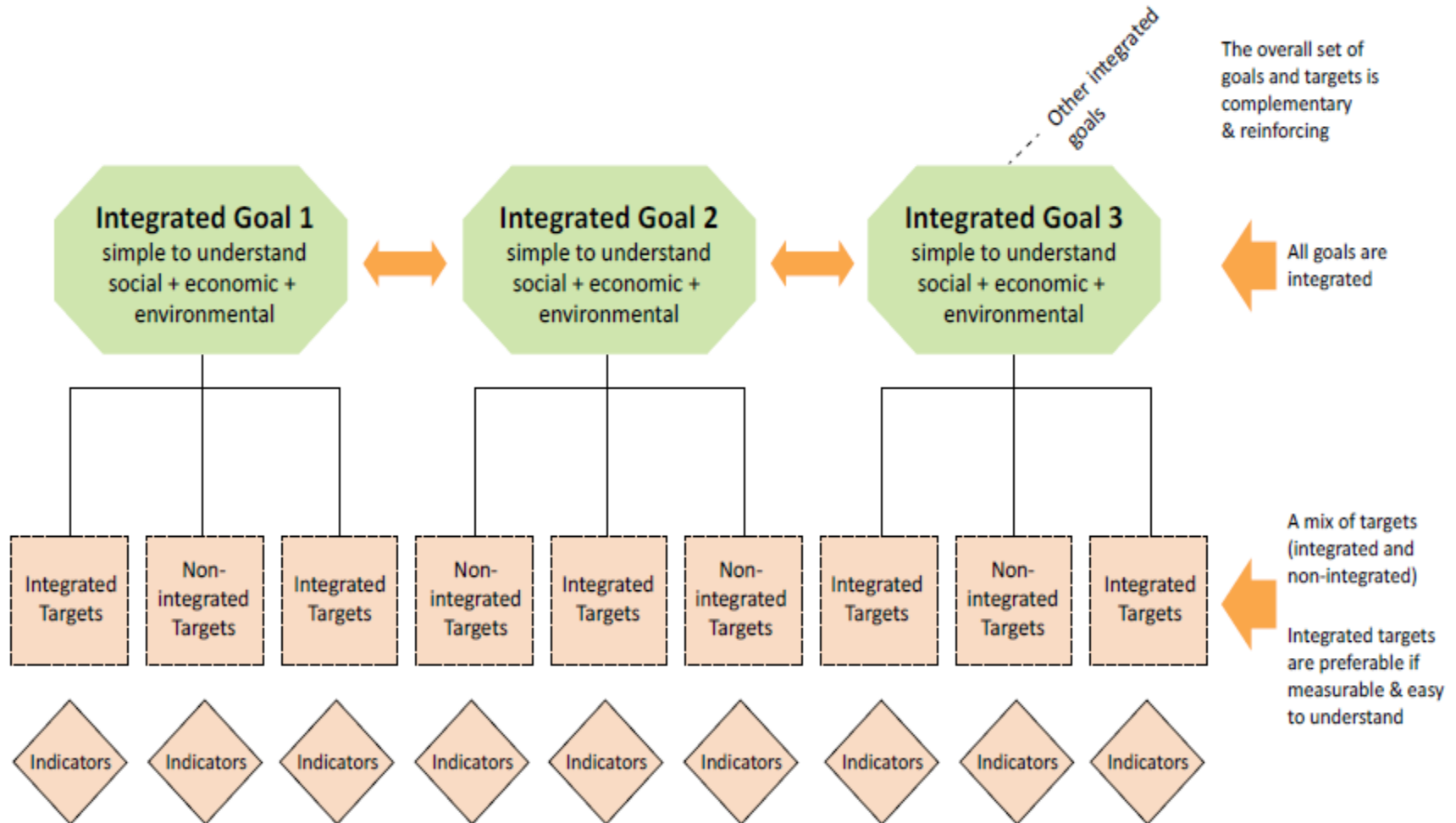
#### **Focus area 16. Conservation and sustainable use of marine resources, oceans and seas**

Interlinkages to other focus areas include: sustainable agriculture, food security and nutrition, water and sanitation, economic growth, employment and decent work for all, climate, ecosystems and biodiversity, and peaceful and non-violent societies, rule of law and capable institutions.

#### **Focus area 17. Ecosystems and biodiversity**

Interlinkages to other focus areas include: poverty eradication, sustainable agriculture, food security and nutrition, health and population dynamics, water and sanitation, employment and decent work for all, promote sustainable consumption and production, climate, and peaceful and non-violent societies, rule of law and capable institutions.

# UNEP (2013) – Embedding the Environment in Sustainable Development Goals





# UNEP (2013) – Embedding the Environment in Sustainable Development Goals



**Example Integrated Goal 1. *Ensure worldwide food and nutrition security through (i) adequate nutrition for all, (ii) equitable access for all to food supplies, and (iii) expansion of environmentally sustainable fisheries and agriculture .***

## **Example Targets**

### ***Integrated Target 1.1***

Increase access to food and reduce the environmental consequences of food production by reducing food loss and waste by XX% by 2025.

### ***Integrated Target 1.2***

Expand the coverage of early warning systems for food shortfalls from XX to YY countries by 2025 in order to provide a more reliable food supply system and as an aid to climate change adaptation.

### ***Non-Integrated Target 1.3***

Increase access to sufficient, safe, affordable, and nutritious food, thereby reducing the absolute number of children suffering from malnutrition from XX to YY% by 2025.<sup>46</sup>

### ***Non-integrated Target 1.4***

Phase out subsidies and incentives by 2025 that are harmful to the continuous ability of ecosystems to produce food and fish.

### ***Non-integrated Target 1.5***

Expand the coverage of sustainable agriculture and fisheries by:

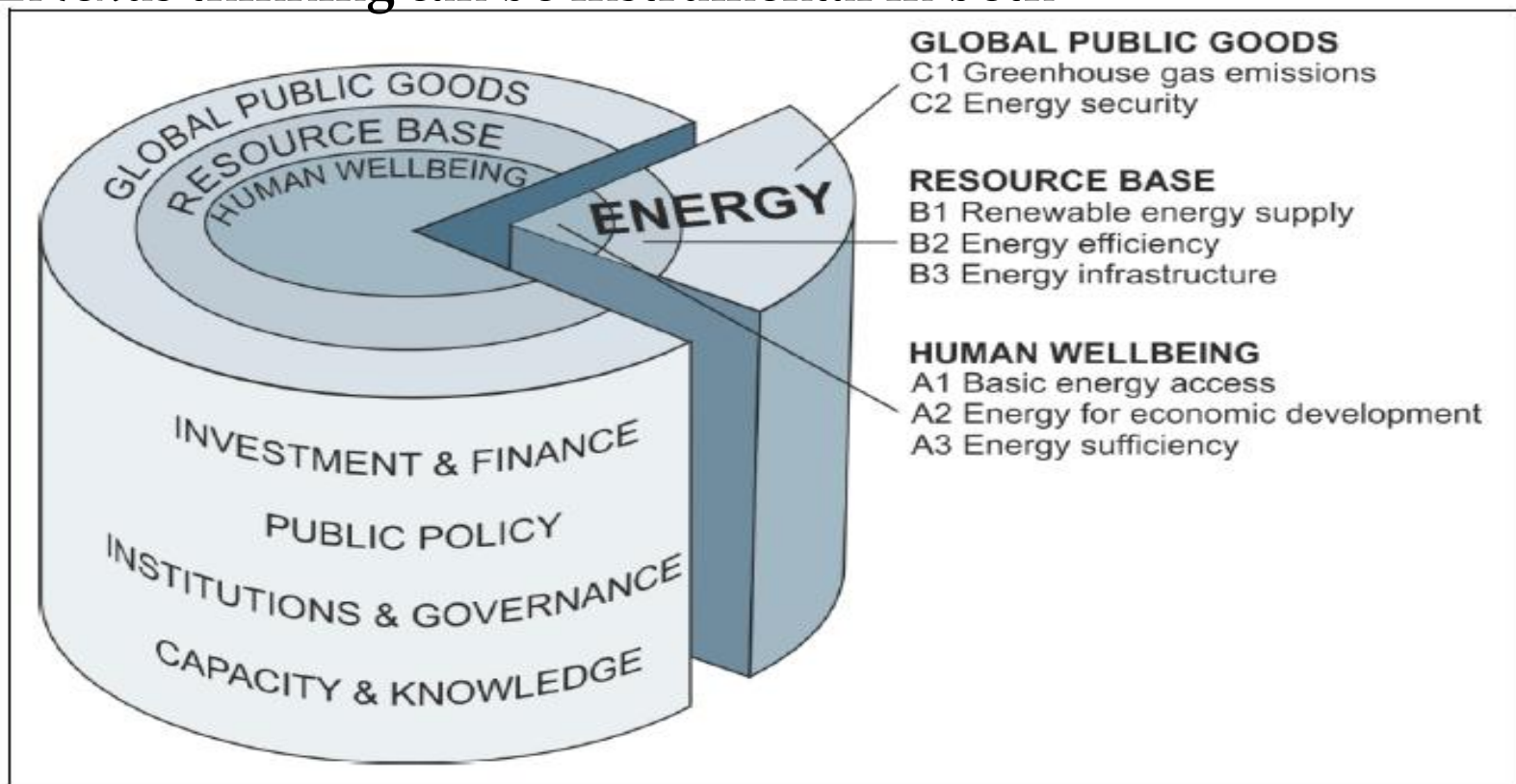
- increasing the area of land under sustainable agriculture from XX% to YY% by 2025<sup>47</sup>;
- ensuring that XX% of fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, by 2025; <sup>48</sup>
- reducing by XX% the environmental pollution caused by agricultural fertilizers by 2025.<sup>49</sup>

- ❑ **Draw inspiration from early deliberations of the High-level panel in 2012 where a three-tiered approach was considered around: building individual capabilities, expanding national opportunities, and managing global risks**
- ❑ **Build a basic framework for identifying relevant targets for specific goal areas, putting human wellbeing at the core, while integrating environmental and economic aspects as critical conditions in additional tiers**
- ❑ **Additional four layers of enabling goals, representing areas of action and intervention by different actors**

• Nilsson et al (2013)

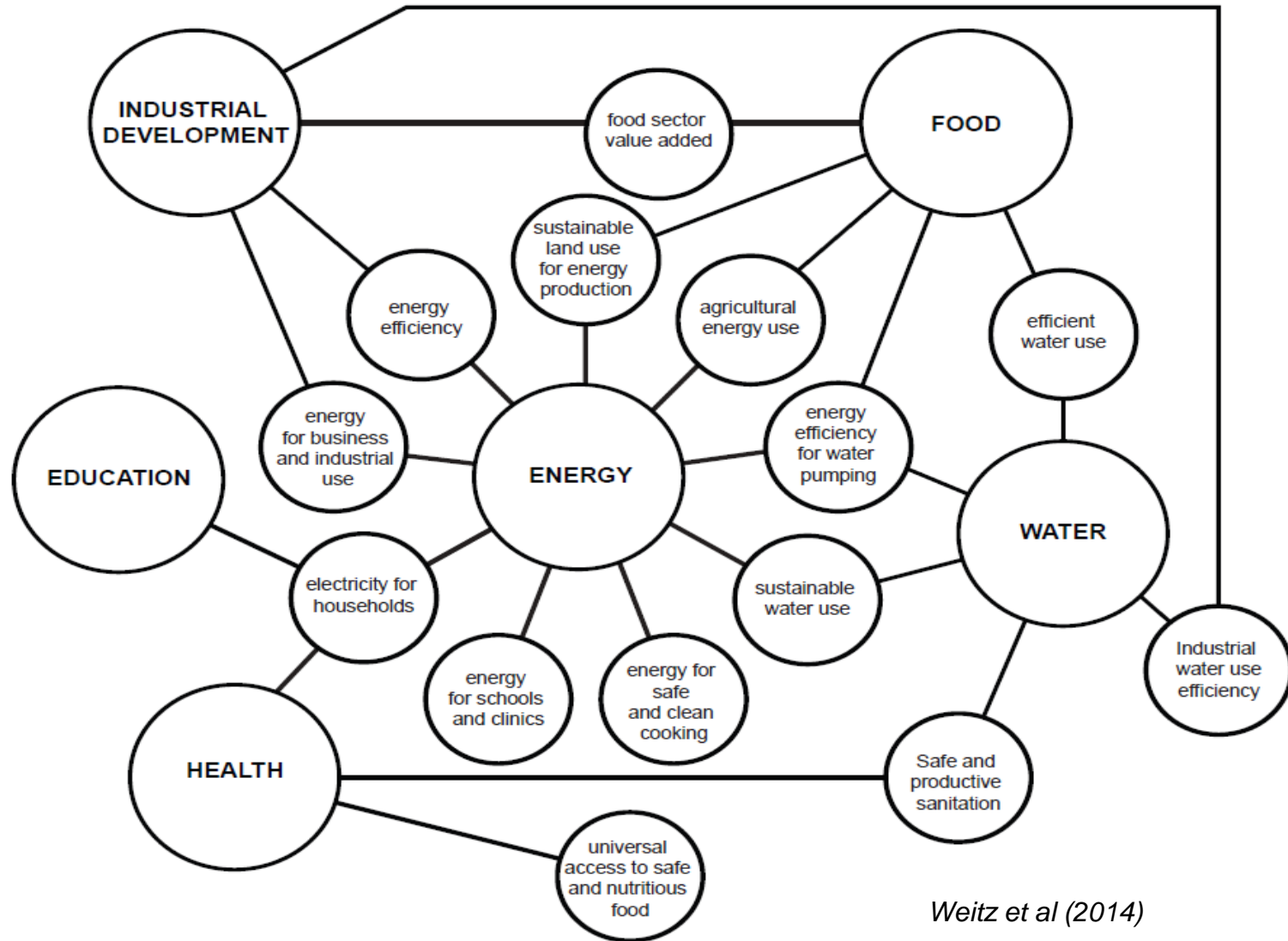
❑ Three-tiered ultimate goals and targets ; and four layers of enabling goals

❑ Nexus thinking can be instrumental in both



- ❑ **SDG targets cut across and support multiple development goals**
- ❑ **Proactively addressing the interactions between targets and goals in the formulation of the SDGs is desirable**
- ❑ **Nexus thinking can be instrumental in producing a more concise SDG framework with more robust solutions, avoiding redundancies and contradictions, while helping managing complexity**
- ❑ **Nexus helps in mapping out the connections and identify linking targets at the nexus of different sectors**

# Mapping Nexus Targets between Goal Areas: An Energy Perspective



Weitz et al (2014)

# THANK YOU

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