

IOB Policy Note

Long-term strategies for food security, water and climate

Accompanying the ECDPM report: Long-term strategies for climate action, food security and water in developing countries (2022).

Introduction

To assess the temporal coherence of Dutch policy with international long-term strategies, IOB commissioned ECDPM to make an inventory of the most relevant global and African long term strategies for food security (SDG 2), water management (SDG 6), and energy and climate action (SDGs 7 and 13). To qualify, long-term strategies needed a time horizon of at least 10 years, be evidence based, and reflect a consensus or consultative process. The ECDPM report presents short summaries for each of the qualifying strategies: global strategies (Chapter 2) and African regional strategies (Chapter 4). The ECDPM report also presents tropical forest strategies (Chapter 3) and strategies for Bangladesh (Chapter 5), but these are not discussed in this policy note.

We re-assessed the most important global and African strategies from the ECDPM report, complemented with a few recent strategies. First we analysed the strategies for each of the SDGs separately, and grouped the strategies per SDG target, in some cases further divided in sub-themes. This enabled us to synthesise the strategy documents, and to extract a number of overarching strategies that are valid across the SDGs. In the main text, we present the overarching strategies, sometimes with examples of how these are presented in strategies for food security, water and climate. In the Annexes 2, 3 and 4, we present more detailed strategies for food security, water, and climate separately, following the SDG targets. This overview not only serves IOB to assess the temporal coherence of Dutch policy, country strategies and activities, with global and African long-term strategies, but can also be used as guidance for future policies, strategies, programmes or projects.

Overarching strategies

Some strategies mentioned under a specific SDG target are also valid for the whole SDG, or even across SDGs. They are more related to recommended approaches than to a specific objective. We present the following nine overarching strategies, each accompanied by examples for food security, water or climate.

1. System approach
2. Governance
3. Addressing short- and long-term objectives simultaneously
4. Targeting the poorest
5. Access to technology
6. Private sector involvement
7. Considering costs and benefits
8. Type of donor support

1. System approach and transition thinking

In many strategies, for all the SDGs (food security, water, energy and climate), a system approach was mentioned as crucial for results¹. This is often combined with transition thinking: which changes, in which direction, are needed from the current situation to a desired future situation. A few common aspects are worth mentioning: the desired ecological services (food, water, energy) need to be produced in a sustainable manner, within ecological boundaries (agricultural land, water resources, limited GHG emissions), also in the long term. Only when the whole system is considered, the needed shifts towards sustainable production and consumption (SDG 12) become clear, for example the globally needed shift to low meat – high vegetable diets.

System approach in food security

Although the term ‘food system’ gained more popularity with the UN Food System Summit in 2021, already in 2012 the UN Committee on World Food Security stressed the importance of linking increased smallholder food production to nutrition and natural resource management^{1,2}. The Eat Lancet report of 2019³ is an excellent example of food systems thinking at the global level: optimising agricultural production for nourishing the world population within ecological boundaries. Their main conclusion is a shift (globally) from cereals and animal products to vegetables. Note that in many poor countries an increase of the current low intake of animal sourced food may still be desirable. Another aspect of food system thinking and analysis is that the starting point is the food insecure consumer, from which one can envision the desired agricultural development (including trade). This system thinking avoids that agriculture provides products that are not meeting nutritional demands, or are not affordable for poor consumers. The African Common Position towards the UN Food System Summit (2021) does apply food system approach to some extent: revaluing traditional and indigenous food crops would provide a livelihood for smallholder, often women farmers, while increasing the availability and affordability of nutritious food⁴.

Not mentioned in the selected strategies, but a consequence of system thinking, is the notion of unintended effects. Working with one target group may affect others indirectly, positively or negatively.

Systems approach in water management

A systems approach in water management is captured in SDG target 6.5: Integrated water resource management^{5,6}. Moreover, we found the following overarching strategies.

(i) Do a good analyses of water availability, now and in the future, anticipating climate change, to avoid water is overexploited. (ii) Be aware of unintended, possible negative effects elsewhere. (iii) Use water and economic accounting for integrated water resource management, and follow this up with regulation and monitoring. (iv) Address inefficient water use in agriculture, which is caused by wrong incentives: water is priced too cheap (or free), and agriculture, a large water consumer, is still heavily subsidised⁷.

System approach in energy and climate

In order to reduce greenhouse gas emissions and increase carbon sequestration, various transitions are needed to make production and consumption more sustainable⁸. One transition is from fossil

¹ A systems approach considers a system of different components that influence each other, and as a whole is affected by its context. In the long-term strategies, components can be different actors or geographical locations, but also different objectives and outcomes that influence each other.

fuel to renewable energy. Another transition is a shift to food systems in which agriculture emits less GHGs, agricultural expansion is reversed and forested area is protected and expanded, food losses and waste are reduced, while producing sufficient healthy food to feed the world. This requires a shift in diet to less animal products and more vegetables, more or less in the same direction as the required food system transformation^{8,3}.

Landscape approach

A landscape approach, a spatial form of a systems approach, using land use planning with attention to tenure of land, fisheries and forests, can accommodate agriculture and the management of natural resources (forests, biodiversity, water), for food security, water management, climate mitigation and climate adaptation. This helps managing trade-offs, between different uses and different users, and minimising negative effects. Various strategies implicitly include a landscape approach. It is most found in water management plans, sometimes at a national level, and to a lesser extent in agriculture, livestock and forest management plans, often at a much smaller, subnational scale. Most food systems strategies, still in development, don't include a landscape approach yet.

2. Governance

Many global and most African long-term strategies stress the importance of country ownership and multistakeholder dialogue for inclusive policies. This also requires inter-ministerial mechanisms (e.g. health, agriculture, environment, trade), and build institutional capacity.^{4, 12, 13, 14, 18}

For food security, governance is recommended at different levels:

- Global: coordinate actors, support regional and national governance and national plans, and encourage programme support rather than isolated projects.
- Regional: facilitate regional food markets.
- National: develop a nutrition policy, inter-ministerial coordination, multistakeholder dialogue, and institutional capacity building for policies, planning, coordination, and accountability.²

3. Addressing short- and long-term objectives simultaneously

Immediate action is needed to address the current needs of people deprived from food, drinking water or energy. At the same time action is needed to address structural problems and support long-term development. This requires a combined approach. In food security, assisting food insecure people, for example with a social safety net, should be combined with long-term structural agricultural development to increase production and income, and sustainably manage natural resources.² In water management, access to drinking water should be combined with hydrological studies, water use plans and monitoring, and infrastructure to assure long term sustainability⁹. We should avoid that short-term results receive all attention while long-term results are neglected.

4. Targeting the poorest and most vulnerable people

Prioritise the poorest and most vulnerable households, women and youth, who require more support for food security, agricultural development, access to WASH, and resilience to climate change.^{2, 5, 10, 11, 12} Often, different support is needed for the poorest and most vulnerable. For example, most food insecure people benefit from a social safety net; subsistence farmers with little commercial potential benefit more from low-input agriculture of traditional nutritious crops, rather than new high input cash crops. Similarly, the poorest people can be exempt from paying for drinking water, even though the whole drinking water system aims for a cost recovery system.

5. Access to technology

Invest and collaborate in research and capacity building for technology development^{13, 14}. In food security, south-south partnerships are suggested for technology development, and the transfer of technology and intellectual property rights should be facilitated.² For water management, support hydrological studies, climate change scenarios, and water monitoring systems to assure long-term water availability.⁶ For climate, facilitate access to climate information services, renewable energy technology and digitalisation.^{12, 15}

6. Private sector involvement

Encourage local SMEs.^{4, 10, 12} Governments should improve the enabling environment for the private sector, including infrastructure, and set regulatory frameworks to align private sector to public goals. Combine public and private finance and investments.^{6, 14} In food security, public and private finance are needed to invest in the agrosector, develop local value chains and self-sustaining development, and regional inter-African food trade.^{4, 14, 16} Constraints for SME's should be addressed.¹⁰ In water management, the government should correct wrong incentives and make the sector interesting for investments by MDB's, banks, investors and private sector.⁷

7. Considering costs and benefits

Investing now avoids higher costs later. First mentioned for climate change: investments in energy transition now avoids much higher costs by climate change damage later¹⁷. Later also mentioned for food system transition: investment in sustainable food system now avoids higher costs for health, environment and economy⁸; and for water: investment in water efficient use and storage, reduced use now, avoids higher economic costs related to water scarcity later. This requires water and economic accounting for integrated water resource management, with regulation and monitoring. It also requires rectifying wrong incentives: water is priced too cheap, while subsidised agriculture uses water excessively.⁷ Similarly, inefficient fossil fuel subsidies should be rationalised.¹³

8. Type of donor support

The recommended governance, mentioned earlier, has consequences for the recommended type of donor support. (i) Comply with the principles for aid effectiveness: ownership by developing countries, alignment of donor countries, harmonization, and coordination between donor countries; results measurement and managing for development; mutual accountability.¹⁸ (ii) Support country-led investment plans, and provide programmatic support, rather than isolated projects. (iii) Comply with the internationally agreed 0.7% GDP for ODA (and 0.2% for LDC).^{2, 13}

The long term strategy documents contain many more interesting strategies, most of which are linked to an SDG target or sub-theme. These are presented in the detailed annexes.

References²

- ¹ Committee on World Food Security. 2012. [Increasing agricultural productivity and production in a socially, economically and environmentally sustainable manner.](#)
- ² Committee on World Food Security. 2017. [Global Strategic Framework for Food Security and Nutrition.](#)
- ³ EAT Lancet Commission. 2019. [Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems.](#)
- ⁴ African Union. 2021. [Africa Common Position on Food Systems.](#) Regional Submission to the UN Food Systems Summit.
- ⁵ African Ministers’ Council on Water. 2018. [Strategy 2018-2030.](#)
- ⁶ African Union. 2020. [Framework for Irrigation Development and Agricultural Water Management in Africa.](#)
- ⁷ Global Commission on the Economics of Water. 2023. [Turning the tide. A call to collective action.](#)
- ⁸ UN Economic and Social Council. 2021. [Long-term future trends and scenarios: impacts in the economic, social and environmental areas on the realization of the Sustainable Development Goals,](#)
- ⁹ UN-Water. 2020. [2030 Strategy.](#)
- ¹⁰ UN. 2021. [The Food System Summit](#) 23 September 2021. New York.
- ¹¹ African Union Commission. 2021. [Land Governance Strategy.](#)
- ¹² United Nations. Economic Commission for Africa; African Union Commission. 2022. [Africa’s Climate Change and Resilient Development Strategy and Action Plan for 2022-2032.](#)
- ¹³ UN. 2015. [Addis Ababa Action Agenda of the Third International Conference on Financing for Development.](#)
- ¹⁴ African Union. 2013, ongoing. [Agenda 2063: The Africa We Want.](#)
- ¹⁵ [African Adaptation Initiative](#), including: Enhancing Climate information services
- ¹⁶ African Union - IBAR. 2019. [Africa Blue Economy Strategy.](#) Nairobi Kenya
- ¹⁷ Stern e.a.. 2006. [The economics of climate change: The Stern Review.](#)
- ¹⁸ OECD-DAC. 2015. [The Paris declaration on aid effectiveness: five principles for smart aid.](#)

² Only long-term strategies referred to in the main text are presented here. More long-term strategies were used by ECDPM and for the detailed annexes per SDG.

Annex 2 Detailed long term strategies for food security (SDG 2)

2.1/2.1 End hunger and malnutrition	<p>Global: Develop a nutrition policy and work on food environment. Mapping food security and target the most vulnerable people (in particular women), help them coping with conflict and natural disasters, through safety nets and elimination of poverty. Diversify diets with a shift from staples to vegetables, and (globally) less animal products.</p> <p>African: Target most vulnerable through safety nets and school feeding. Promote exclusive breast feeding. Revalue traditional food crops and promote fish as affordable nutritious food. Food fortification and bio-fortification.</p>
2.3 Double production and income of smallholder farmers	<p>Global: Secure access to natural resources: land, forest and fisheries. Farm and crop diversification. Increase market access, and develop local value chains, and regional / inter-Africa food trade. Address constraints for smallholders and SME along value chains, to assure a fair share of value addition, and create employment and decent work. Reduce production losses by cross boundary pest management, plant health and animal health.. (Water for agriculture is presented under 'Water management'.)</p> <p>African: Secure access to land, forests, fisheries. Access to improved inputs, by local private sector development. Public and private finance to invest in the agrosector, for inclusive growth. Mechanisation. Develop local value chains, and regional / inter-Africa food trade.</p>
2.4 Sustainable food production systems	<p>Global: Make agriculture climate resilient and make better use of water for agriculture (For irrigation, see 'Water management'). Assure that agricultural and fisheries / aquaculture development fits in ecologic boundaries, uses nature based solutions. Increase consumer demand for sustainable food. Reduce food loss and waste, and recycle food resources. Reduce greenhouse gas emissions. Use advantages of biofuels but avoid competition with food crops.</p> <p>African: Make agriculture climate resilient and use early warning systems. Improve governance of natural resources.</p>
2.5. Maintain genetic diversity	(these aspects were not mentioned in the selected strategies)
2A. Increase investment in agricultural production	<p>Global: Develop and support country led investment plans and priorities, and invest in country capacities. Invest in smallholder farmers, and encourage responsible investment (avoiding negative effects). Invest in rural infrastructure: roads, electricity, ICT. Build capacity for agricultural research and extension. Use technical cooperation and south-south partnerships for technology development.</p> <p>African: Develop and support national agricultural investment plans. Use 10% domestic budget to invest in agriculture. Access loans from AfDB and GAFSP. Combine public and private finance. Invest in rural infrastructure: roads, electricity, ICT. Use digital tools for agricultural extension. Facilitate transfer of technology and intellectual property rights.</p>
2B. Correct and prevent world market trade distortions (Doha)	<p>(not mentioned in selected global strategies)</p> <p>African: Transparent and equitable negotiations about world trade.</p>
2C. Functioning food markets, reduce food price volatility	<p>Global: Regional trade, pooling risks and responses, to reduce food price volatility.</p> <p>African: Local value chains, and regional / inter-Africa trade to reduce food price volatility.</p>

Annex 3 Detailed long term strategies for water management (SDG 6)

6.1 / 6.2 Drinking water, sanitation and hygiene (WASH)	<p>Global: WASH, human rights based approach. Prioritise marginalized groups in fragile countries (20.2)</p> <p>African: Invest in WASH, and in monitoring</p>
6.3 Improve water quality	<p>Global: Reduce pollution and untreated waste water, increase recycling and treat waste water for safe reuse.</p> <p>African: Develop policies for waste water and water quality.</p>
6.4 Water use efficiency in all sectors; sustainable withdrawal.	<p>Global: Reduce water use and address scarcity. Improve water efficiency, and manage water leaks. Manage trade-offs between different water uses (Wash, agriculture, industry, ...). Water economics: price water, stop domestic water subsidies, stop agricultural subsidies that lead to excessive water use and increase water efficiency in agriculture, to reduce wastage and increase water efficiency. Attract investment in water by MDB, FDI, PS, banks, investors. Disclose water footprint of products. At the same time, target the poorest (subsidy?) to assure water access. Develop urban circular water system.</p> <p>African: Economic accounting for water mgt, water use productivity and efficiency, increased investment in water. In rainfed agriculture, use rainwater harvesting; in irrigated agriculture: develop policies, modernise irrigation, promote inclusive and farmer-led irrigation, increase water productivity and recycle wastewater, involve private sector, provide microcredit, guard water and soil quality, and invest in research, M&E and knowledge transfer.</p>
6.5 Integrated water resource management (IWRM); transboundary cooperation	<p>Global: Assure long-term water security, considering anticipated climate change; support transboundary water management. IWRM and nexus water-food-energy-environment. Stabilise water cycles.</p> <p>African: Long Support water governance, and national and transboundary water management, for water shed management and water sharing. Support hydrological studies and water monitoring, and make water info available, for long-term water security considering climate change. Economic accounting for water management. Coordination for sustainable small scale fishers and aquaculture.</p>
6.6 Protect and restore water-related ecosystem	<p>Global: Treat water as global common good, protected collectively. Restoration and Protection of green basins wetlands for ground water storage.</p> <p>African: Green basin and storage development</p>
6.A International cooperation, capacity building, support developing countries with water technologies	<p>Global: Cooperation and partnerships, multistakeholder, PPP; implement related programmes, esp in LICs and MICs. Knowledge generation and access to technology. Mobilising finance and TA. Investing in IWRM now to avoid pollution and high costs in the future.</p> <p>African: finance for WASH. (see 6.3, 6.4, 6.5). Involve PS and increase access to micro credit. Research, knowledge and M&E.</p>
6.B Support participation of local communities in WASH	<p>Global: Stakeholder participation, inclusive: women, youth, elderly, disabled, indigenous and local communities.</p> <p>African: Farmer-led irrigation development. Inclusive for women and youth.</p>

Annex 4 Detailed long term strategies for energy (SDG 7) / climate action (SDG 13)

The strategies follow a selection of relevant SDG 13 'Climate action' targets, and SDG 7 'renewable energy' targets. For climate adaptation in agriculture and water management, see SDG 2.4 and SDG 6.4, 6.5.

13.1 Resilience and adaptive capacity to hazards and disasters	<p>Global: Climate adaptation: reduce vulnerability and build resilience. Reduce deforestation, for climate adaptation and mitigation; increase forest cover by efficiency in agriculture. (for adaptation in agriculture, see SDG 2.4)</p> <p>African: Support social protection. Manage risks and increase adaptive capacity. Enhance biodiversity and use nature based solutions. Work on climate resilient agriculture, and green and resilient cities.</p>
13.2 Integrate climate change in policies, strategies and planning	<p>Global: Reduce emissions to keep temp rise < 1.5C; climate neutral in 2050. elaborate policies into strategies. For climate mitigation: National Determine Contributions, Long-term Low emissions development strategies (LT-LEDS), or equitable low emissions pathways. For climate adaptation: National Adaptation Plans. Shift to sustainable production and consumption. Sustainable food system: Low-emissions agriculture, shift to low-meat diet.</p> <p>African: Policies should be inclusive and provide room for SMEs. For climate mitigation, develop Long-term Low emissions development strategies (LT-LEDS), and work on sustainable forest management. For climate adaptation, assure ownership by national government and stakeholders, include climate resilient development, and assure scaling up and replication of successful climate adaptation practices.</p>
13.3 Education, awareness and institutional capacity	<p>Global: climate related capacity building. Technology development and transfer.</p> <p>African: Strengthen governance and climate info.</p>
13 A. Climate finance from developed to developing countries	<p>Global: Paris agreements: \$100b/y, for CM and CA, in most vulnerable countries; steer all financial flows to climate objectives.</p> <p>Africa: Access to climate finance. Other countries to keep their Paris promises. Finance for loss and damage.</p>
13 B. raise capacity in LDC, SIDS, vulnerable communities.	(see 13.3)
7.2 Increase the share of renewable energy.	<p>Global: Increase renewable energy supply, energy access to all.</p> <p>African: Invest in renewable energy in general and hydropower in particular.</p>
7.3 Double energy efficiency	Global: Reduce energy demand and increase energy efficiency (energy, water, land and materials). Energy efficient transport, housing, industry.
7.A International cooperation for access to clean energy technology.	<p>Global: Double investment in RE for all (3.2)</p> <p>African: Support access to energy technology, and keep other countries to their promises in the Paris Agreement of 2015.</p>
7.B Expand infrastructure for sustainable energy services, esp in LDC, SIDS, land-locked countries	Global: Digitalisation, for new service providers, integrating consumers into grid (time of use pricing, electric vehicles to grid), decentralised energy supply (peer to peer trade, domestic storage). (3.2)