



Study of the design, pilot implementation and readiness of Nexus pilot projects for EU Blending Financial Instruments under a Phase II

Feasibility Study – Summary Presentation Nexus Steering Committee Meeting Bonn, June 2019

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THE NEXUS DIALOGUE
PROGRAMME

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1.1 About the Feasibility Study

- Examine Nexus (multi-sector) pilot project proposals and/or partially implemented projects within the regional components that could be funded in a Phase II
- All Regions were tasked to identify pilot Nexus infrastructure (investment) projects that could be either trialled under Phase I or with the support from a Lead Financial Institution via a Blending Facility under Phase II
- Provided lists of projects are still at a **“Draft Stage”**

This feasibility report is developed as the second core output under the assignment *“Mid-term Evaluation of the “Nexus Dialogues Phase I”*

1.3 Feasibility Study Approach

Development of **Project Assessment Framework** by evaluation team, as:

- The review should consider the **overall solidity of project concepts** in addition to their Nexus Dimension;
- Projects were at **very different stages** of development and maturity
- Nexus Region **were not working from standardised/harmonised project development template**

As such, the Review Framework considered:

1. **Relevance at national , regional and EU level**
2. **Project rationale and core objectives**
3. **Expected outputs and expected results**
4. **Potential Impact and sustainability**
5. **NEXUS dimension and WEF synergies**
6. **Risk identification and potential mitigation**



Finally, the Review Framework offer suggestions for development, strengthening and areas for clarification to strengthen the Project Draft

1.3 Feasibility Study Approach: example

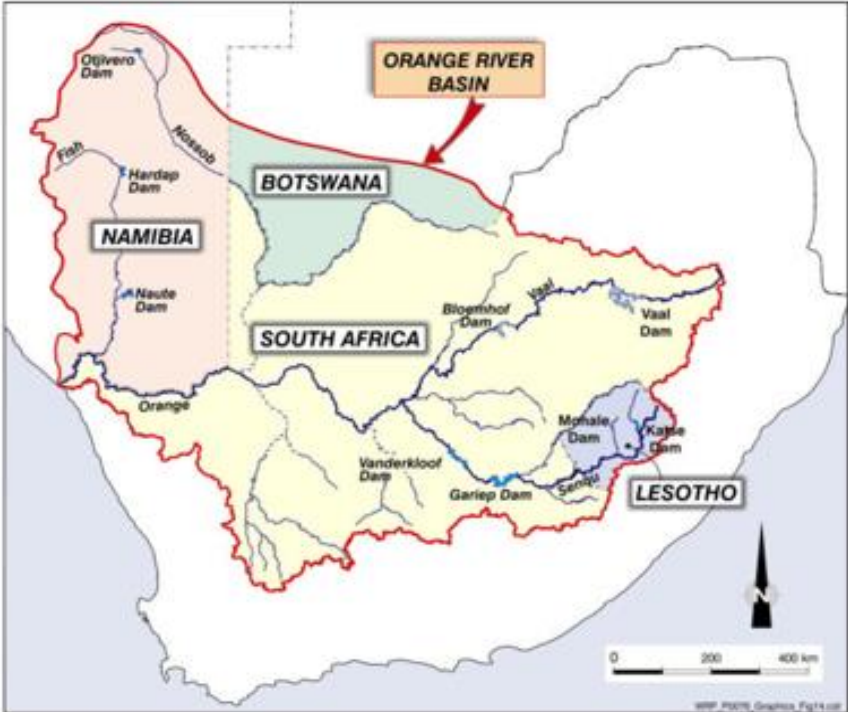

The assessment was presented as follow:

Project 3	Lesotho Highlands-Botswana Water Transfer (LBWT) Study + Orange Senqu Basin investment planning
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Project location and technical info

The LBWT Study & Orange-Senqu Basin investment planning project aims to generate hydropower, irrigation, water supply benefiting Lesotho, South Africa and Botswana. Located in the Orange-Senqu River Basin the project intends to build a “aqueduct” that will provide water to Botswana and South Africa and will generate hydropower for the region.

Beneficiary countries: Lesotho, South Africa, Botswana.



With the next page detailing Review Framework criteria (justification) as well as the recommendation and areas for improvement

1.3 Feasibility Study Approach: example

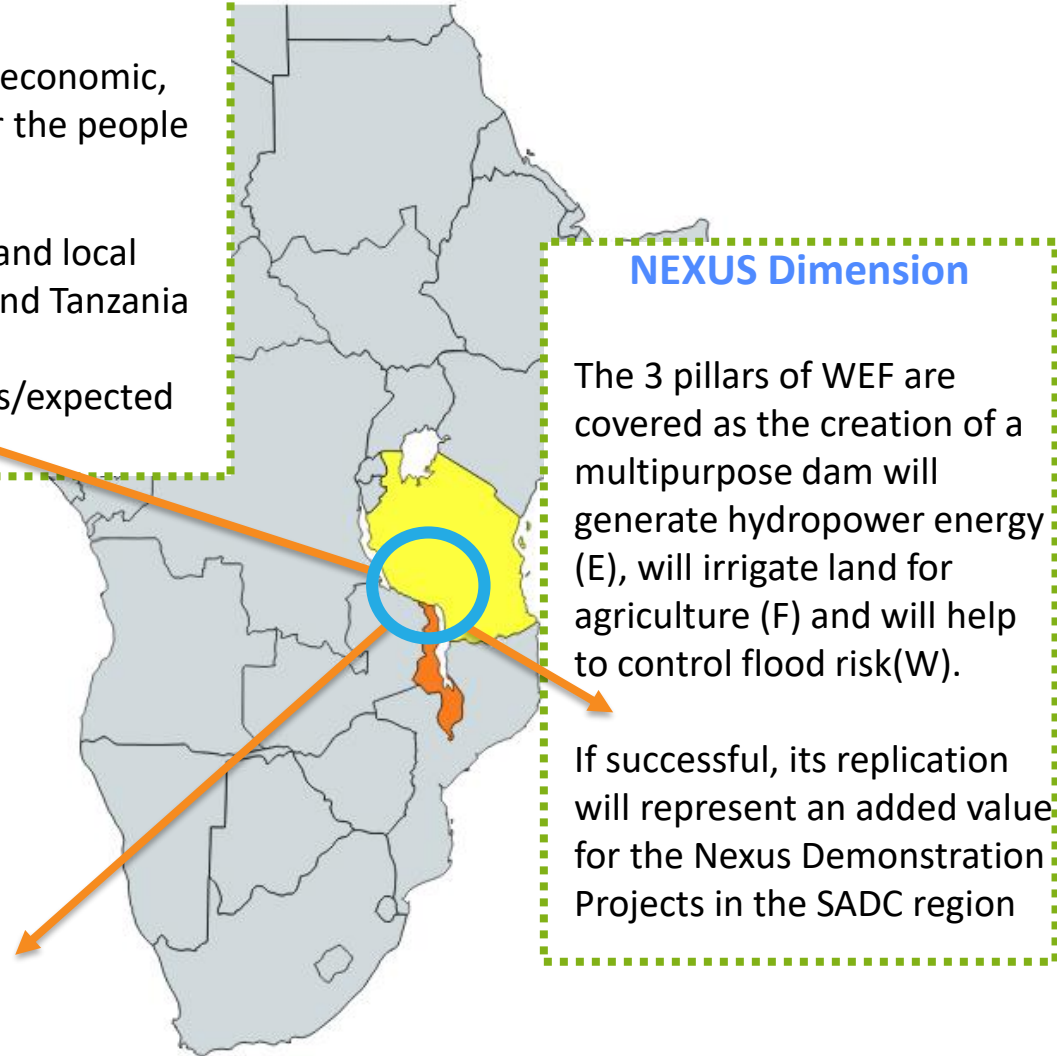
Project 1: Songwe River Basin Development Program

Construction of multi-purpose dam to generate economic, social, environmental and livelihood benefits for the people of Songwe Basin.

Strong aspects: highly relevant to SADC RIDMP and local needs; ongoing financing mobilized by Malawi and Tanzania gov (preparation studies)

Areas for improvement: lack of detailed outputs/expected results; id of linkage with other projects

Songwe River Basin



NEXUS Dimension

The 3 pillars of WEF are covered as the creation of a multipurpose dam will generate hydropower energy (E), will irrigate land for agriculture (F) and will help to control flood risk(W).

If successful, its replication will represent an added value for the Nexus Demonstration Projects in the SADC region

1.4 Feasibility Study Challenges



Challenge 1 – Somewhat Varying Approaches to Selection of Nexus Investment Projects across the Nexus Regions

- ***Solution Adopted:*** to review each region's list of draft investment project concepts on their own merits, and take account of the region-specific context, including NEXUS challenges, Nexus NRD history



Challenge 2 – No overall Nexus Framework, in particular indicators, exists at present

- ***Solution Adopted:*** To assess projects using more general criteria using the EC's project cycle management, and not to comment against a defined set of Nexus indicators, as this would effectively mean assessing against criteria/indicators that were not available to Nexus Regions.



Challenge 3 – Nexus Investment Projects at Different stages of development and differing levels of information available:

- ***Solution Adopted:*** To focus on reviewing the draft investment projects provided by the three Nexus Regions mentioned above, without waiting for the other regions.

1.4 Feasibility Study Challenges



Challenge 4 – Lack of Nexus Investment and Financing Indicators:

- ***Solution Adopted:*** focus on reviewing the draft investment projects provided by the three Nexus Regions previously mentioned , without waiting for the other regions.



Challenge 5 – Addressing both the Investment Project Level and the Nexus Programme Level

- ***Solution Adopted:*** The team’s approach has been to focus on reviewing the draft investment projects provided, and use the findings of the Mid-Term Evaluation to help other issues and suggestions / recommendations for Nexus Phase Programme in general, as well as for each region.

Part II: Assessment of Nexus Phase 2 Investment Projects

2.1 Overview of Project Development & Selection Process

2.2 List of Projects per Region

2.3 Review of Projects Drafts – NEXUS Dimension in Regional Projects

2.4 Ranking of Draft Nexus Projects

Part II: Assessment of Nexus Phase 2 Investment Projects

2.1 Overview of Project Development & Selection Process

2.1 Overview of Project Development & Selection Process

Niger Basin (*Project Development & Selection Process*)



- Use of Nexus vision to conduct diagnostic around NBA Operational Plan 2016-2024: addition of Nexus criteria for OP selection of projects
- Based on workshops, discussion, and Key Informant Interviews carried with major stakeholders in the Niger Basin (ex: GWP-WA, ECOWAS-WRC)
- Identification of a number of Nexus **criteria** (to mainstream a Nexus angle in the NBA OP) and Nexus **principles** (for Nexus ranking) developed with NBA staff and regional participants to identify (i.e.):
 - Projects with **clear intersectoral dimension** with at least 2 WEF sector
 - Projects that were identified as **having a Nexus angle in the current OP** by several countries during Nexus Workshop
 - Projects on **key issues identified with NBA and Key informants**
 - Projects that reflects the **geographic diversity of the basin**
- Use of **7-point scoring framework** developed by [ICSU](#): +3 to -3 notation to assess trade-offs and synergies across Nexus Sector (positive or negative relation)

2.1 Overview of Project Development & Selection Process

Central Asia (*Project Development & Selection Process*)



National Level selection process

- Establishment of Inter-sectoral Working Group (ISWG) involving the sectors of energy, agriculture, environment, investment and finance (main project partner + ministry or agency)
- Desk research on Nexus WEF potential projects
- List discussed at ASBP-4 working group

Regional level selection process

- List of projects was created by the Nexus Central Asia Dialogue Project experts and based on previous regional initiatives, programmes and intergovernmental agreements, in particular ASBP-3.

The criteria used for selecting projects are as follows:

- i) Contribution to the water, energy and food security of the countries and the region as a whole;
- ii) Regional or transboundary nature of the project
- iii) Compliance with the main directions of ASBP-4
- iv) Environmental sustainability.

2.1 Overview of Project Development & Selection Process

Southern Africa (*Project Development & Selection Process*)



Based on an impact and assessment tool named “Nexus Tool”:

- This tool was not available to be assessed during the feasibility study but it is understood that it is aligned with the FAO NEXUS Indicators and Approach and UNU-FLORES NEXUS Approach
- The Tool is currently being finalised by SADC, and will be available to all SADC members

Nexus Tool is an Excel-based work sheet divided in three sections:

- **Project Identification and description:** provides the list of all the potential projects and their general information and WEF related characteristics
- **Project screening:** done using a decision-tree based on yes or no questions to analyse the extent of alignment with Nexus objectives and support of SADC Nexus ideals
- **Project Impact assessment:** short-listed projects will be submitted to a multi-criteria-decision-analysis (MCDA) with respect to the project’s impact on water, energy and agriculture/food productions

2.1 Overview of Project Development & Selection Process



MENA & LAC Region (1/2)

(Project Development & Selection Process)

Similar process presented through GIZ MENA Report and Action Plan for Nexus Phase II (and a similar report for LAC):

Action Identification and Selection Criteria:

- **Multisectoral actions**, involving at least 2 WEF Sectors
- Action that will **generate concrete results** during and after project implementation
- Results are **measured and verified** during project implementation
- Results are **transferable** to other contexts
- Main implementing partner **shows strong interest and commitment**

MENA	LAC
<ul style="list-style-type: none">• Urban Nexus (integration into large-scale urban development projects)• Solar Powered Irrigation• Wastewater Treatment• Solar desalination• Ecosystems maintenance• Livelihood approach (sustainable farming)	<ul style="list-style-type: none">• Urban Nexus (reuse of wastewater in peri urban agriculture)• Integrated Water Resources Management (IWRM)• Green infrastructure• Sustainable bioenergy• Efficient E&W use in agriculture and solar pumping• Development of multipurpose infrastructure

2.1 Overview of Project Development & Selection Process

MENA & LAC Region (2/2)

Identification of **several potential Action types for Phase II**, that later serve categorizing the Action List:

1. **Action supporting Nexus projects**

- integration of Nexus perspective into infrastructure projects, preparation of Nexus-relevant projects and implementation of pilot projects

2. **Action creating favourable framework conditions for Nexus**

- support the establishment of more holistic and integrated coordination mechanisms for multisectoral policy development or investment planning

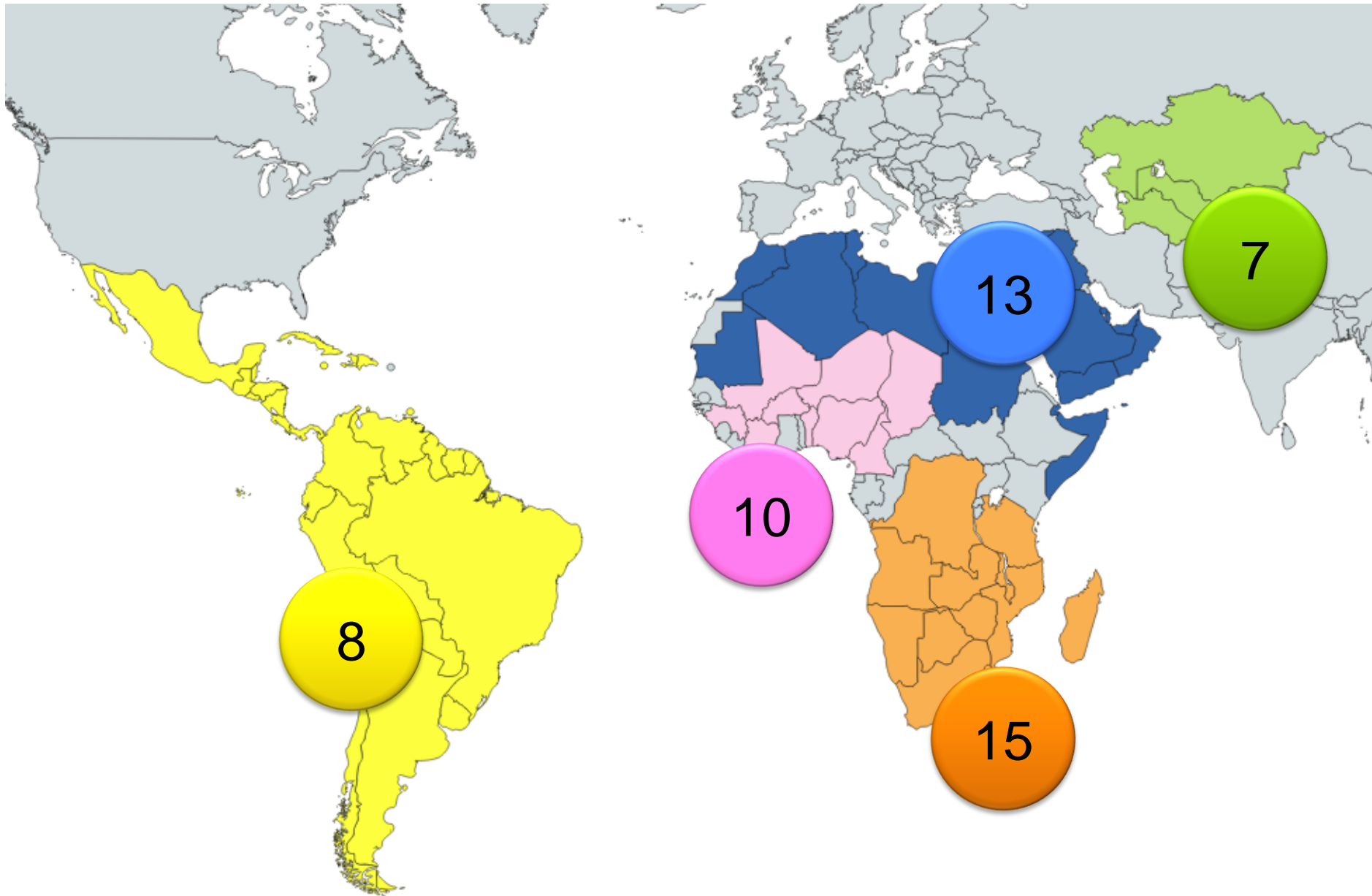
3. **Supporting Activities**

- Feasibility Study focus on the assessment of the **first category “Action supporting Nexus project”** as it answers the need to provide Nexus flagship/demonstration projects.
- The two other categories can be seen as part as the overall regional GIZ strategy to implement Nexus through supporting actions.

Part II: Assessment of Nexus Phase 2 Investment Projects

2.2 Overview Projects per Region

2.2 Projects Drafts per Region – Number of Projects per Region:



Projects Drafts per Region – List of Projects: Central Asia

No	Project Tittle
1	Upgrading of the water management system in the Amu Darya and Syr Darya river basins.
2	Rehabilitation of the ecosystems of the Aral Sea basin to combat desertification and land degradation
3	Improvement of the ameliorative condition of the irrigated lands in the Amu Darya and Syr Darya river basins.
4	Rehabilitation of the waterworks facilities in the Amu Darya and Syr Darya river basins
5	Ensuring sustainable water and energy supply in the rural areas of the Central Asian countries.
6	Integrated disaster risk management in the Aral Sea basin
7	Integrated development of eco-and agro-tourism with elements of ethno-tourism based on specially protected natural areas (PAs) in the Aral Sea basin

Part II: Assessment of Nexus Phase 2 Investment Projects

2.3 Review of Projects Drafts – NEXUS Dimension in Regional Projects

2.3 NEXUS Dimension in Regional Projects



Niger Basin

Significant variety of projects:

- Most prevalent types are **Knowledge generation & Capacity Building for WEF management**
- Second most common type is **Agriculture Management** (irrigation plan, access to water-points for cattle, and aquaculture development)

Connection with Nexus: The vast majority projects cover 2 or more Nexus sectors, and particularly tend to focus on water resources and their various impact on other sub-sectors (energy, environmental impact, agriculture, irrigation, aquaculture).

Synergies between Sectors: Most projects have a strong inter-relation and synergies between Nexus sectors. The synergy between nexus sectors is visible either directly as part of activities or used as a correcting and mitigation measures

Good practice: 2 projects are aimed at helping NBA manage the Niger Basin by identifying Nexus criteria and help the NBA become a knowledge centre for the whole Niger River Basin.

Main areas for improvement: need for identification of sustainability and provision of mitigating measures when potential negative impact is identified (this is the case for some projects)

2.2 NEXUS Dimension in Regional Projects



Central Asia

- Projects mainly focus on **Water Management & Maintenance Plan** (management of resources, optimization of agriculture)
- Ranking Second are **Environmental Management** (Combat desertification through soil and forest management; eco-tourism development).

Nexus Sectors Covered: The projects in Central Asia cover all the three WEF sectors with a slightly higher number of projects focusing on Water and Food security.

Synergies between Sectors: the three WEF sectors interrelations are present, and ecological and socio-economic aspects are often taken into account. The synergies between the three sectors are often directly mentioned in the project objectives or description of the action, or as expected results or effects.

Main areas for improvement: need to show alignment with regional needs and countries' involvement in the implementation; deepen presentation of activities & potential results.

2.2 NEXUS Dimension in Regional Projects



Southern Africa

- Majority of proposed projects focus **on Infrastructure Construction** (multi-purpose & hydropower dam).
- Ranking Second are **Studies & Investment Planning** (Water transfer study and Investment Planning and Hydrogeology Study).

Connection with Nexus: The main covered sectors are Water and Energy, mainly through water resources management and irrigation, as well as hydropower generation.

Synergies between Sectors:

- Some of the projects have a strong synergy between the Water and the Energy sectors; as well as Water-Food Security.
- However, some have **no clear synergy between Food Security-Energy** [ex: biomass].
- Nexus dimension and synergies are **only implied** in the action, but never explicitly mentioned as a priority vision and orientation.

Main areas for improvement: Some presented projects are at a rather advanced stage, with many of them having reached the Feasibility Study stage: it is necessary to further invest as these projects are characterised by a complex, elaborated combination of technical, regulatory and governmental fact

2.2 NEXUS Dimension in Regional Projects



MENA

- The proposed list is different from Niger, SA and CA: it is not a list of Nexus project but a mix between projects with Nexus potential and the proposed potential action of GIZ to help them implement Nexus.

Connection with Nexus:

- Some proposed action have a strong Nexus dimension with important inter-relation and synergies between WEF Sectors in most projects.
- The Nexus dimension is however less clear in some actions (ex: modalities of implementation, activities, expected results...)

Synergies between Sectors:

- Mainly Water-Food linkage (water resource management for irrigation and livelihood) and harvesting of solar energy

Main areas for improvement:

- Proposed action are often complementary to already ongoing projects/programs
 - It would be necessary to specify the degree of commitment of GIZ “potential” action
 - Clarify modalities of GIZ action & Nexus activities

2.2 NEXUS Dimension in Regional Projects



LAC

- As for MENA, the LAC proposed list is different from Niger, SA and CA: it is not a list of Nexus project but a mix between projects with Nexus potential and the proposed potential action of GIZ to help them implement Nexus.
- In LAC, proposed NDR Projects are complementary of supporting projects linked to much larger infrastructure projects that are under development and/or securing financing

Connection with Nexus:

- Strong Nexus dimension and inter-relation between WEF Sector

Synergies between Sectors:

- Mainly water-food or water-energy
- Most actions focus on irrigation infrastructure and dam support

Main areas for improvement:

- Proposed action are often complementary to already ongoing projects/programs
 - It would be necessary to specify the degree of commitment of GIZ “potential” action
 - Clarify modalities of GIZ action & Nexus activities

Part II: Assessment of Nexus Phase 2 Investment Projects

2.3 Ranking of Draft Nexus Projects

2.3 Ranking of Draft Nexus Projects: general comments

Provided on EC's request in the Feasibility Report: Ranking of Projects per Region

Ranking is based on the assessment of the NEXUS Dimension Criteria, that considers:

- Project's integration of a WEF NEXUS dimension for each project;
- Project's transboundary dimension
- Potential of a given project to become a "NEXUS Flagship Project".

Important! It should be emphasised that this intra-region ranking is **significantly dependent on/influenced by the level of information provided by each Region** for their respective projects at the time of the Feasibility Study.

As such, **this ranking should be seen as highly indicative and is likely to evolve (and in some cases evolve significantly)** as projects' development progresses.

- Could be used in future for potential ranking between Regions?

Part III: NEXUS Programme-level & Strategic Considerations

3.1 Nexus NRD Investment Project - Observations w.r.t to Formulation

3.2 Feasibility Study Recommendations

Part III: NEXUS Programme-level & Strategic Considerations

3.1 Nexus NRD Investment Project - Observations w.r.t to Formulation

3.1 Nexus NRD Investment Project - Observations w.r.t to Formulation

Review work has been carried out on working drafts of projects, and is **meant more as a dynamic feedback look on evolving project drafts** rather than a definitive assessment.

Phase 2 project development work to-date shows the importance of greater approach providing **standardised processes and tools**

NRDs may benefit (to varying degrees) from **more support in formulating** projects. Support could cover:

- i) Efficiency of implementation arrangements;
- ii) Risk identification and mitigation;
- iii) Results-based target setting and results-based monitoring;
- iv) Maximising impact and
- v) Developing clear sustainability strategies

There is significant potential to **develop the Nexus Dimension and added value** in many of the projects

3.1 Nexus NRD Investment Project - Observations w.r.t to Formulation

Some of the elements that seems to have been missing from the project assessment and selection work:

The understanding of:

- i) the implementation risks and
- ii) the likely scale and complexity of a given project and
- iii) the timeframe in which it will be implemented and generate results.

- This could be supported by **more explicit consideration of projects implementation risks, budget financing/scale and implementation timeframe**
- It could be helpful to **categorise projects between pilot projects, demonstration projects, replication projects** (ex: GIZ LAC and MENA lists)

3.1 Nexus NRD Investment Project - Observations w.r.t to Formulation

Development of Nexus during Phase 2 and beyond will be aided and accelerated if Nexus stakeholders develop a medium-term strategy:

Nexus Medium-Term Strategic Vision – Sample Elements	Example of Benefits
<ul style="list-style-type: none"> a. Development of a strategic Vision for Nexus b. Development of headline target impacts, globally and by impact region 	<ul style="list-style-type: none"> - A bigger, longer-term vision that helps NRDs secure increased interest and support, with clear strategic approach. <i>Ex: attraction of greater targeted contribution to selected SDGs.</i>
<ul style="list-style-type: none"> a. Nexus Value Proposition (scope of coverage, for all types of actors) 	<ul style="list-style-type: none"> - Sharper definition of what is the added value of Nexus, adapted for specific stakeholder groups etc. (e.g. government ministries, farmer networks, SMEs, NGOs, banks, etc.)
<ul style="list-style-type: none"> a. Development of a partnership/partnering vision and strategy 	<ul style="list-style-type: none"> - Increased clarity about to engage with different organisations/stakeholder groups and how to maximise effectiveness and synergies

Part III: NEXUS Programme-level & Strategic Considerations

3.2 Feasibility Study Recommendations

3.2 Feasibility Study Recommendations



R1: Providing Feasibility Study Feedback to Nexus Regions

- It is recommended that the individual reviews of the working drafts of the NRD projects reviewed be shared with the NRDs

R2: Project Formulation Support for NRDs and Regional/National Partners

- Importance of greater approach providing standardised processes and tools, to allow greater comparison of approaches, work and results

R3: Increased Standardisation of Project Formulation and Support for NRDs

- Greater support for feedback and sounding board role in discussion strengths and weaknesses of project and how the fit in the wider NRD regional work programme
- Greater support in advising on core project design elements

3.2 Feasibility Study Recommendations



R4: Increased Guidance for Nexus Region Project 'Formulators' on Optimising the Nexus Dimension and Added Value

- Focussed guidance material on optimising the Nexus dimension and added value is provided to Nexus Regions as a matter of priority

R5: Creating a Clear Phase 2 Framework in which Nexus Investment Projects will Operate:

- Selection process for Nexus Phase 2 Projects take more explicit account of project implementation risk, budget/financing scale, and timeframe.
- Clearer framework in which Nexus projects operate with a focus on selecting demonstration projects that can be driven by NRDs to quickly show success and impact (and build credibility and momentum) and larger projects where the Nexus support project driven by third parties.

3.2 Feasibility Study Recommendations



R6: Creating a Clear Phase 2 Framework in which Nexus Investment Projects will be financed

- It is recommended that the formulation of at least some Nexus Projects devote much more focus to financing aspects and financing model



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Thank you for your attention!

Projects Drafts per Region – List of Projects: Niger Basin

No	Project Tittle
1	Water-Energy-Environment-Food Nexus governance and key decision making for the multi-purpose dam of Fomi/Moussako
2	Enhanced Kandadji Program Resettlement Action Plan 1
3	Erosion/siltation/sedimentation of the Niger River: Rehabilitation of 3 hotspot areas
4	Multiple Use Small-Scale Irrigation Projects in 5 Niger Basin Countries
5	Assessment of the potential of navigation on the Niger River
6	Climate Change Resilient Fish Farming: Pilot implementation in Mali
7	Improvement of livestock management through solar-animal watering points
8	Identification of management options to enhance the roles of wetlands for WEF
9	Development of the NBA as a knowledge generation and diffusion center
10	Expansion of the existing NBA Observatory monitoring system

Projects Drafts per Region – List of Projects: S. Africa

No	Project Tittle
1	Songwe River Basin Development Program (SRBDP)
2	Batoka Gorge Hydro-Electric Scheme
3	Lesotho Highlands-Botswana Water Transfer (LBWT) Study+ Orange-Senqu Basin investment planning
4	Multi-sectorial Investment Opportunity Studies – Okavango
5	Portfolio of livelihood projects in Zambezi river basin
6	Kobong Pumped Storage Dam and Hydropower Plant
7	Polihali Hydropower Dam and Transfer Tunnel to Katse Dam
8	Nondvo multipurpose dam
9	Ruhuhu Valley irrigation scheme
10	Makhaleng Basin Integrated catchment management
11	Lower Mazowe Dam
12	Lomahasha/Namaacha water supply
13	Water supply and sanitation—Kinshasa
14	Lesotho lowlands water supply scheme—Zone 1
15	Mupamatenga Hydropower Project

Projects Drafts per Region – List of Projects: MENA

No	Project Title
1	Azraq constructed wetlandE44:E56
2	Integration of the Nexus approach into urban development
3	Supporting the market penetration and auditing of SWH
4	Technical support for Nexus Regional Exchanges
5	Strengthening private sector integration into water management
6	Nexus analysis and guiding scheme for El-Kalb River
7	Replicate WWTP good practice As-Samra to SONEDE
8	Solar Energy Farming, Azraq Case Phase 2
9	27 MW solar plant for water purification and production, Ghadir Al-Qalah
10	Nexus integration to 1.5m Feddan Project
11	Rainwater harvesting in the Arab Region
12	RWH and SPIS project in South Sinai
13	Introducing Nexus at phosphate company (OCP)

Projects Drafts per Region – List of Projects: LAC

No	Project Tittle
1	Development of Nexus smart water distribution statutes for a multipurpose dam
2	Nexus pilot project to demonstrate the use of solar and biomass applications for water, energy and food security in rural areas
3	The use of payments for Ecosystem services for the Rehabilitation of ancestral lagoons to improve WEF securities in rural a community
4	Integration of the Nexus perspective in hydropower plant and related basin management and climate change adaptation
5	Integration of the Nexus perspective in the design of a substantial cross-province water transfer
6	Development of sustainable bioenergy projects
7	Transforming water-centred IRWM into truly multisectoral and Nexus smart river basin planning
8	Design of a multipurpose dam