

2nd ICA Water Platform Meeting
Wednesday 4th September 2013
Stockholm International Fairs
Room M16

**Identification of Non-Revenue Water
Investment Possibilities and Development of
Regional Financing Mechanisms**

**Overview, Technical Findings,
Institutional and Financing Suggestions**
Work in Progress

Developing An Investment Portfolio, Targeted On Sustainable NRW Reduction

Overall Development Objective

Contribute to bridging the gap in Infrastructure in water supply and sanitation in Sub-Saharan Africa

Primary Goals

- Improving utility operations, efficiency, and, quality of service delivery
 - Performance (thru sustainable NRW reduction)
 - Health (safe water quality thru moving towards continuous supply)
- Creating fiscal space to access additional resources to accelerate the provision of pro poor infrastructure

Secondary Goals

- Improving resilience of water utilities against climate variability and change, by conserving water resources and water demand management
- Mobilizing private sector resources (thru financially viable utilities)

Tertiary Goal

Support the deepening of domestic capital markets.

Towards sustainable NRW reduction: an innovative concept - 1

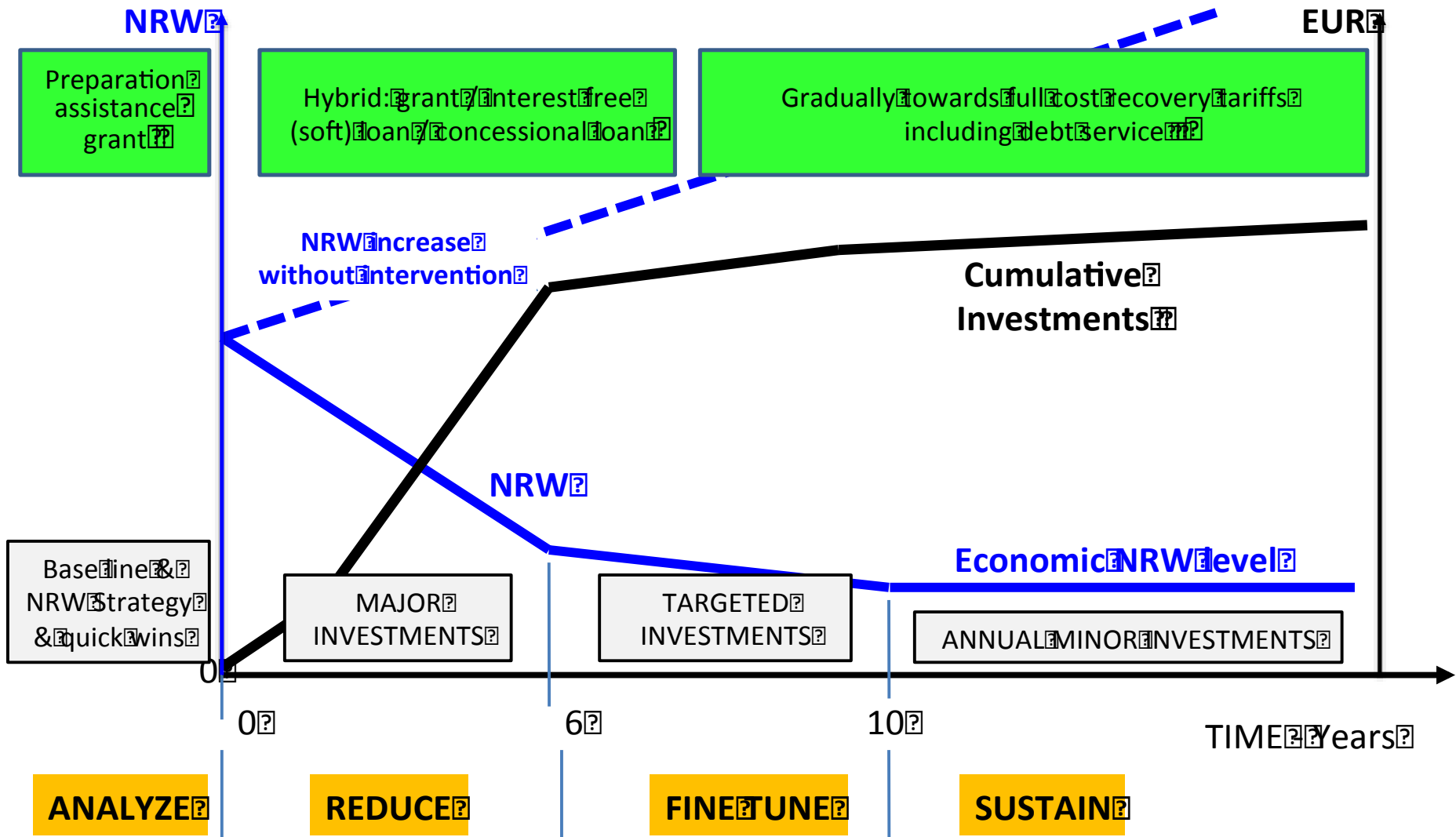
- ◆ The dynamic nature of water losses
Physical and commercial, and their interaction
- ◆ The economic NRW level
The economic level of managing a network (hence the concept of economic level of NRW) is different from the economic level of leakage
- ◆ NRW has a critical and key role in asset management.
- ◆ Short-term interventions need to be integrated within a vision, a strategy, and an action plan for a phased implementation of long-term asset management

Towards sustainable NRW reduction: an innovative concept - 2

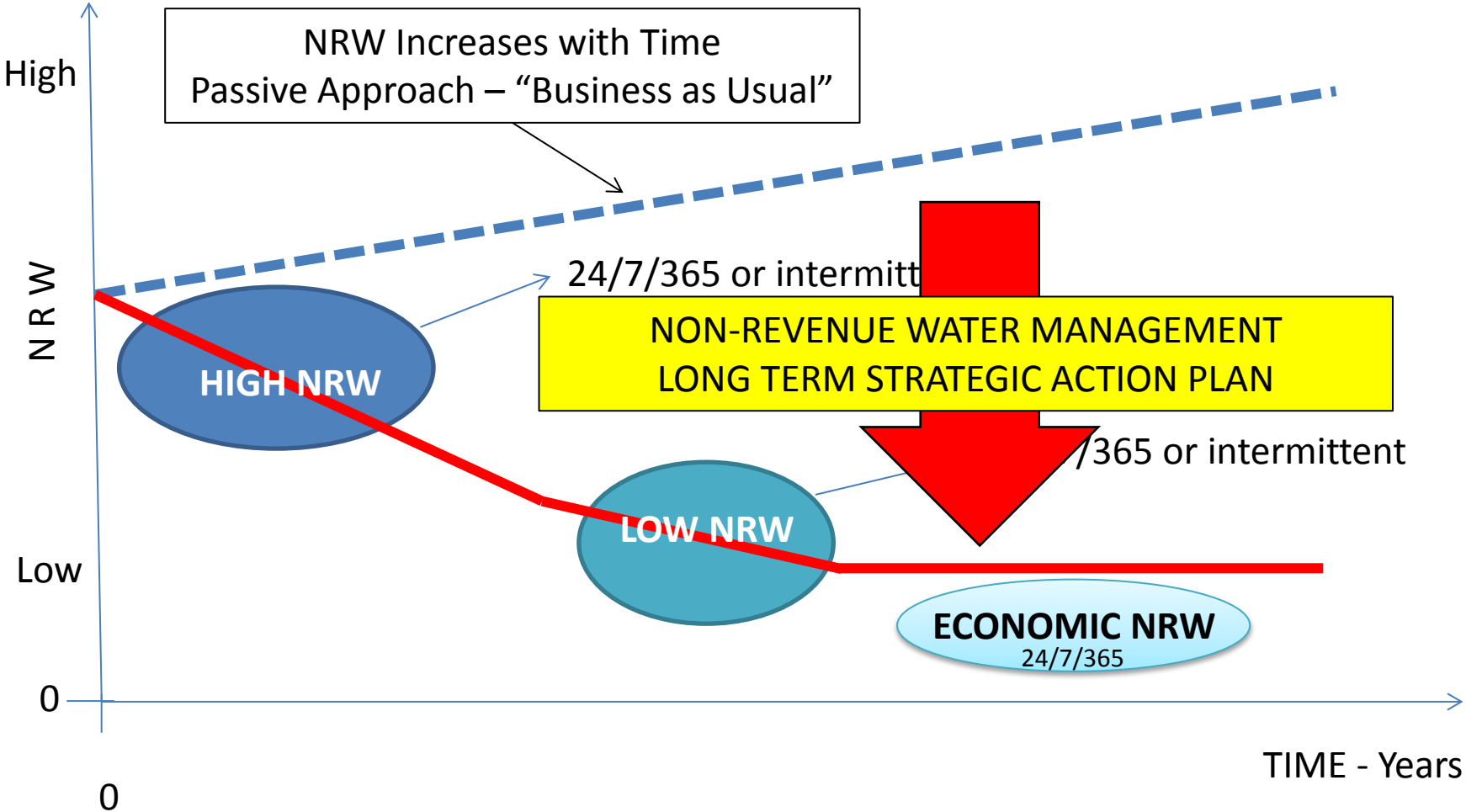
Starting from the concern of how making gains of NRW efficiency sustainable, recent experiences show a tendency to

move away from short-term interventions:

- ◆ Possible PPP recommended options include:
 - a. a performance based delegated management arrangement with emphasis both on performance and capacity building, combining public finance and attracting private efficiency
 - b. a ROT (Rehabilitate Operate Transfer) arrangement attracting private sector finance, in combination with a performance based TA thru a WOP-type arrangement, which will also oversee the rehabilitation component



Moving away from "Business as Usual"





NRW Water Supply Matrix

Priority Actions for Reducing NRW

Secondary Towns (20K– 300K population)

NRW	WATER SUPPLY	
	CONTINUOUS (24 / 7 / 365 DAYS)	INTERMITTENT
HIGH 30%	<ul style="list-style-type: none"> Metering accuracy / Commercial database Leakage detection / Network zoning Pipe rehabilitation / replacement 	<ul style="list-style-type: none"> Availability of water sources Evaluate operational conditions Asset management
LOW	<ul style="list-style-type: none"> Effective maintenance Pressure management Water demand management 	<ul style="list-style-type: none"> Analyze operational conditions in pilot area - Develop action plan for 24/7 supply in pilot area Up-scale to the whole network

Eligibility Criteria for Water Utilities to be considered

- ◆ Demonstrated commitment of top management in NRW reduction programs
- ◆ Established and operationalized cross-departmental NRW unit
- ◆ Validated water audit published in annual report
- ◆ Continued measurable efforts in NRW reduction
- ◆ Marked improvement in the operational efficiency of the utility based on a revolving business plan
- ◆ Proven capacity in project implementation and supervision

Kenya

Urban Water Sector - NRW General Perspective

- Average NRW level:
 - Can be considered as high in the range of 40 to 50%
 - Commercial losses are significant although a reliable estimate is missing with regard to the split between physical and commercial losses
- Political commitment:
 - There is strong political commitment, including at Governmental level, to reduce NRW in a sustainable way
- IFIs active in the NRW domain include:
 - KfW, World Bank, IFC, France (AFD), Japan (JICA), the Netherlands, UK (DfiD), USA (USAID)

Candidate Water Utilities in Kenya – Key Performance Indicators

Key Performance Indicator	Acceptable Limits	MALINDI	NYERI	EMBU	KERICHO
Residual Chlorine	90 - 95	87	100	94	94
Water Quality -Bacteriological	90 - 95	59	98	54	52
Non-Revenue Water (%)	20 - 25	26	26	41	36
Water Coverage (%)	80 - 90	92	72	52	67
Hours of Supply	16 – 20 (popul.>100.000) 12 – 16 (popul.<100.000)	18	16	24	23
Staff Productivity (no of staff / 1000 connections)	5 – 8 (large towns) 7 – 11 (small and medium towns)	8	5	5	11
Collection Efficiency (%)	85 - 90	94	100	80	96
O + M Cost Coverage (%)	100 - 150	99	163	160	132
Metering Ratio (%)	95 - 99	90	100	100	100

Source: WASREB, 2012

NRW – Water Supply Matrix Kenya

NRW	WATER SUPPLY	
	24 / 7 / 365 DAYS	INTERMITTENT
HIGH 30%	EMBU	KERICHO
LOW		MALINDI NYERI

Tanzania

Urban Water Sector - NRW General Perspective

- Average NRW level:
 - Can be considered as moderate to high in the range of 30 to 40%
- Political commitment:
 - There is political commitment for utility efficiency improvement, including NRW
- IFIs active in the NRW domain include:
 - KfW, World Bank, UN HABITAT, USA (USAID)

Candidate Water Utilities in Tanzania – Key Performance Indicators

Key Performance Indicator	Acceptable Limits	ARUSHA	IRINGA	MOSHI	TANGA
Population	N/A	386,747	152,649	160,695	305,713
Non-Revenue Water (%)	20 - 25	32	33	27	26
Water Coverage (%)	80 - 90	79	83	88	86
Hours of Supply	16 – 20 (popul.>100.000) 12 – 16 (popul.<100.000)	20	22	23	24
Staff Productivity (no of staff / 1000 connections)	5 – 8 (large towns) 7 – 11 (small and medium towns)	6	7	8	5
Collection Efficiency (%)	85 - 90	94	80	94	97
O + M Cost Coverage (%)	100 - 150	90	100	93	92
Metering Ratio (%)	95 - 99	100	95	100	100

Source: EWURA, May 2012

NRW – Water Supply Matrix Tanzania

NRW	WATER SUPPLY	
	24 / 7 / 365 DAYS	INTERMITTENT
HIGH 30%		IRINGA ARUSHA
LOW	TANGA	MOSHI

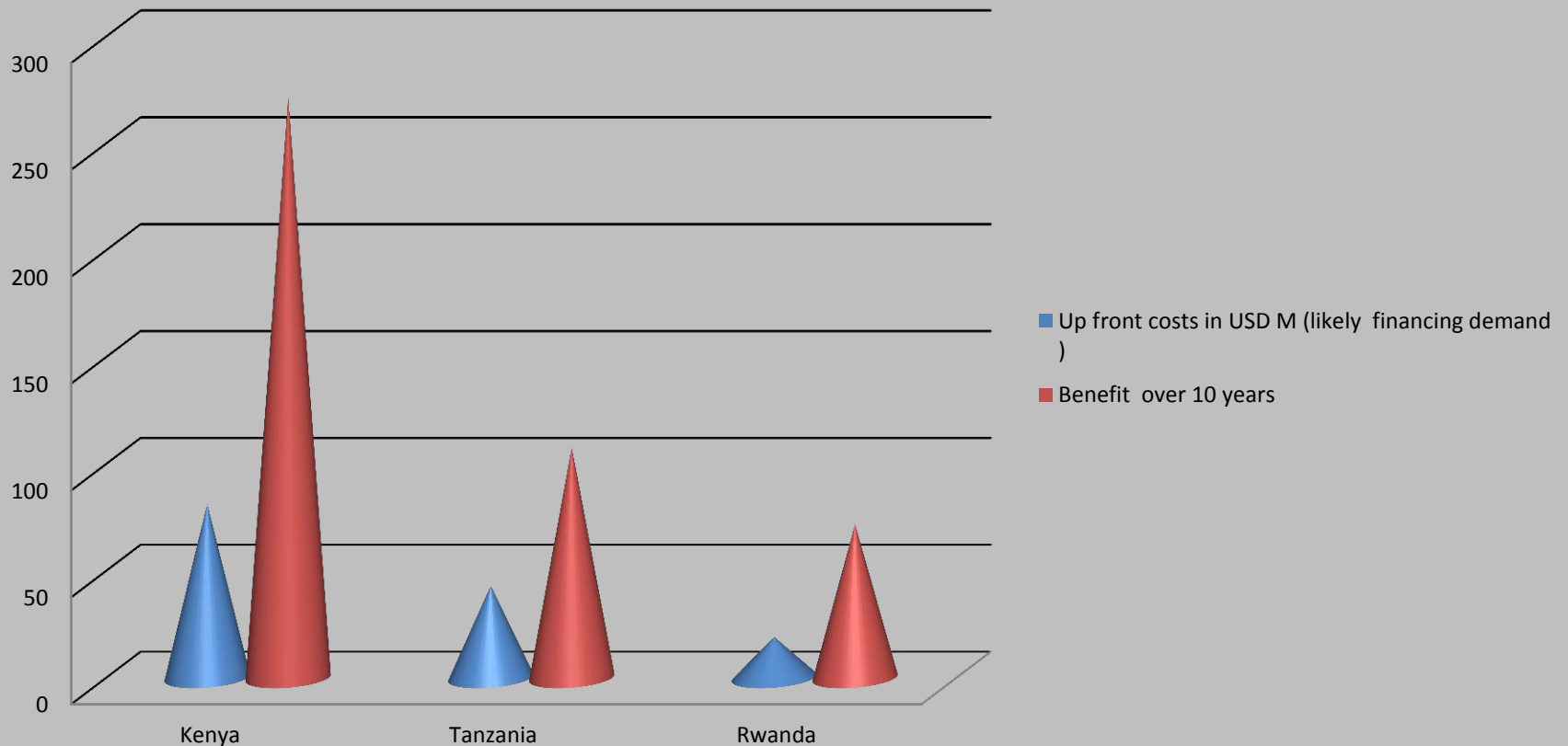
Capacity Building at Utility Level

Water utilities need to understand the complexity of the emerging new long-term approach towards sustainable NRW reduction, which requires capacity building:

- ◆ Determining the economic level of NRW
- ◆ Strategic and business planning, with realistic phasing and target setting
- ◆ NRW target setting linked to priority investments of network rehabilitation and renewal (inverse calculation)
- ◆ Structuring long-term performance-based PPP contracts

INDICATIVE COST BENEFIT AND POTENTIAL DEMAND

Indicative Cost Benefit Ratio in USD Million



CONCLUSION: COST BENEFIT AND QUANTUM DESERVES DONOR SUPPORT

RATIONALE FOR A REGIONAL INTERMEDIARY

- **Economy of scale benefits minimizing transaction costs**
- **Sharing and dissemination of knowledge and experience**
- **Can attract regional donor funds and opens up opportunities to smaller donors and donors not currently active in the sector**
- **Risk of fragmented approaches reduced**
- **Can pool, conserve and coordinate donor resources**
- **Less prone to political influence than a national entity**
- **Facilitates eventual private sector involvement**

CONCLUSION : REGIONAL INTERMEDIARY REQUIRED

OPTIONS TO CREATE A REGIONAL BODY TO ACHIEVE LONG TERM VISION OF SUSTAINABLE FUNDING

- 1. Creating an entirely new body with a full staff complement**
- 2. Capitalize and staff a existing regional body and support it to develop to fulfill the functions**
- 3. Concluding a agreement with a regional body(s) to act as implementing agent and manage an SPV**
- 4. Creating a dedicated SPV using existing bodies with management agreements**

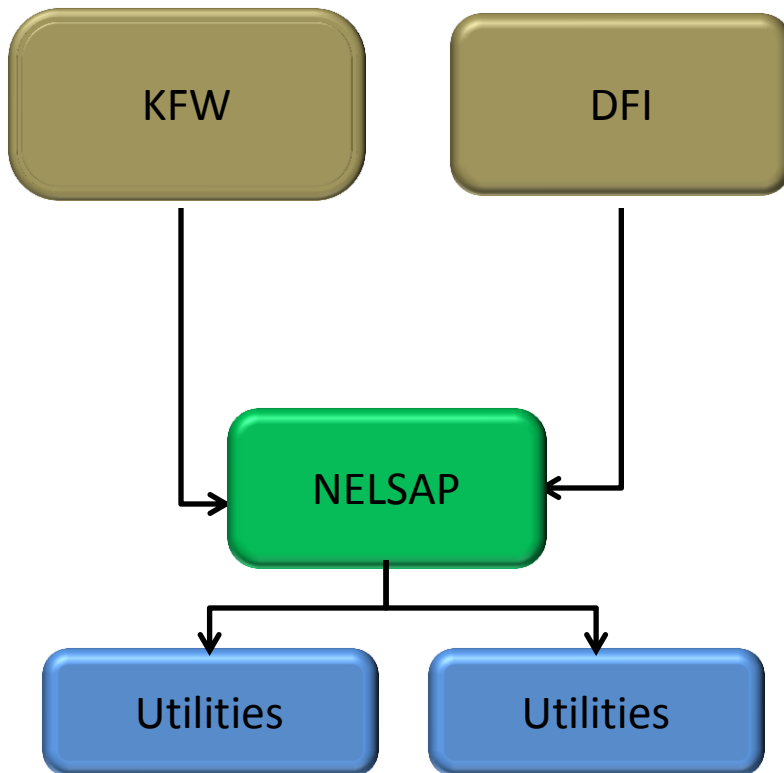
MANAGEMENT AGENT OPTION SUGGESTED

CHOICE OF MANAGEMENT AGENT: e.g. NELSAP

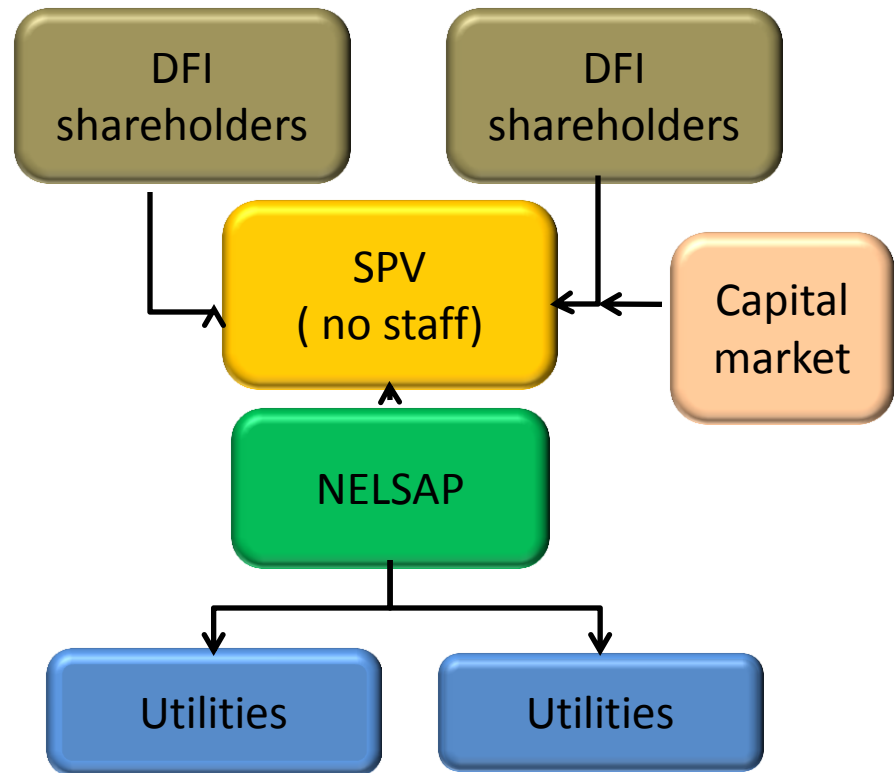
- **Strategic and management fit**
- **Existing institution created by and acceptable to member states**
- **Established infrastructure with core management skills**
- **Must have or be capable of mobilizing expertise**
- **Experience of working with Donors**
- **Experience with water efficiency improvement programmes**
- **Representative office in target countries**
- **Must make maximum use of existing resources and not duplicate other initiatives and be cost effective**
- **Potential to create a regional body of excellence**

START OPTION AND FINAL VISION

Short term option



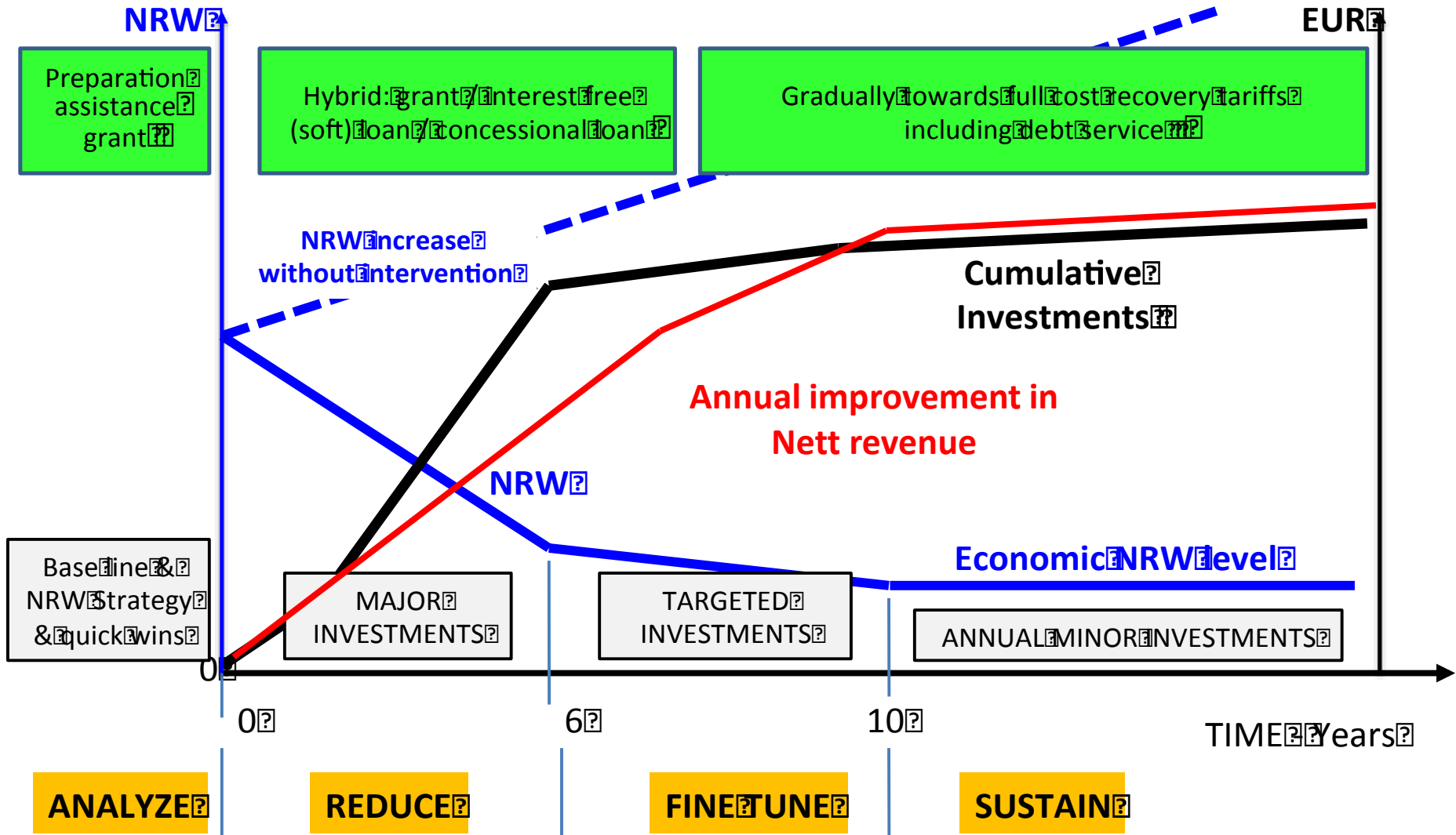
Long term Vision



MAIN FUNCTIONS OF NELSAP

- **Promote awareness of the benefits of efficient use of water**
- **Become a regional centre of excellence to facilitate sharing of knowledge across the region**
- **Receive and appraise applications from utilities**
- **Interact with Funding agent (DFI) and Assist in attracting further funding**
- **Manage, monitor and evaluate the projects and progress**
- **Facilitate in due course private sector debt financing**

Non-Revenue Water Management Funding Proposal



Indicates potential private sector loans and indicates a bond profile

SUPPORT REQUIRED BY UTILITIES

- **Base Line Study, Strategic Plan And Business Case**
Funded through Grants
- **Implementation expenditure- Major investments**
Funded through Debt at nominal market rate with output performance based concessions
- **Implementation expenditure- Targeted and Minor**
Utilities own resource but targeted expenditure if substantial can be an exception and qualify for debt
- **Capacity building**
Technical assistance and grants

RESULTS BASED INCENTIVES FOR UTILITIES

Main incentive an annual subsidy based on output based performance targets

- **Subsidized interest rate**
- **Access to further support**
- **Capitalization of interest in beginning**

FUNDING

Start option

DFI's e.g. KFW cooperating with NELSAP (executive agent) but retaining financial management

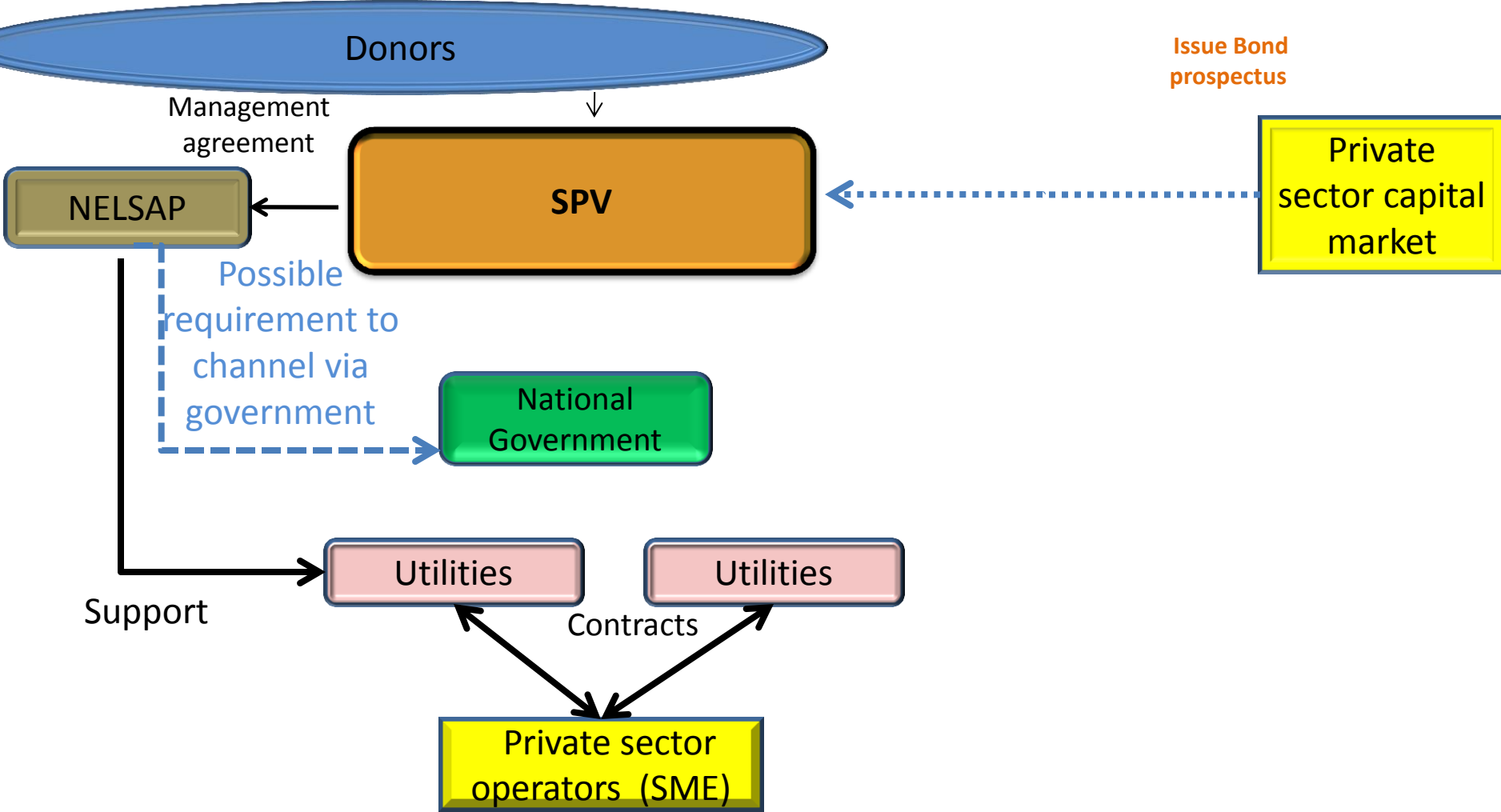
NELSAP

- “Management fee”
- Capacity building grant

EVENTUAL SPV

- Equity grants*
- Grant Funding for paying NELSAP “management fee”*
- Issue of credit enhanced bonds on the local capital market*

MOVING TO THE FINAL STRUCTURE(2ND PHASE)



DISCUSSION POINTS

- Open Questions
- National versus Regional
- Other Donor Appetite and initiatives
- Capacity building Support for NELSAP
- Financial Support for NELSAP
- ...