GOVERNMENT OF UGANDA

MINISTRY OF WATER, LANDS AND ENVIRONMENT
DIRECTORATE OF WATER DEVELOPMENT

Draft Concept Note on Principles for Sector Allocation

March 2004

Foreword

The Joint Sector Review (JSR) held in September 2003 identified 9 key policy undertakings for the sector. The first of 9 undertaking relates to the revision of sector investment and operational plans (objectives, targets, allocation principles, service levels, etc). This note introduces de conceptual framework to work on undertaking one; specifically on the "Allocation Principles" to help guide the preparation of future MTBFs. Subsequently, using this framework all revised sub-sector investment plans based on the agreed sector allocation principles will be developed.

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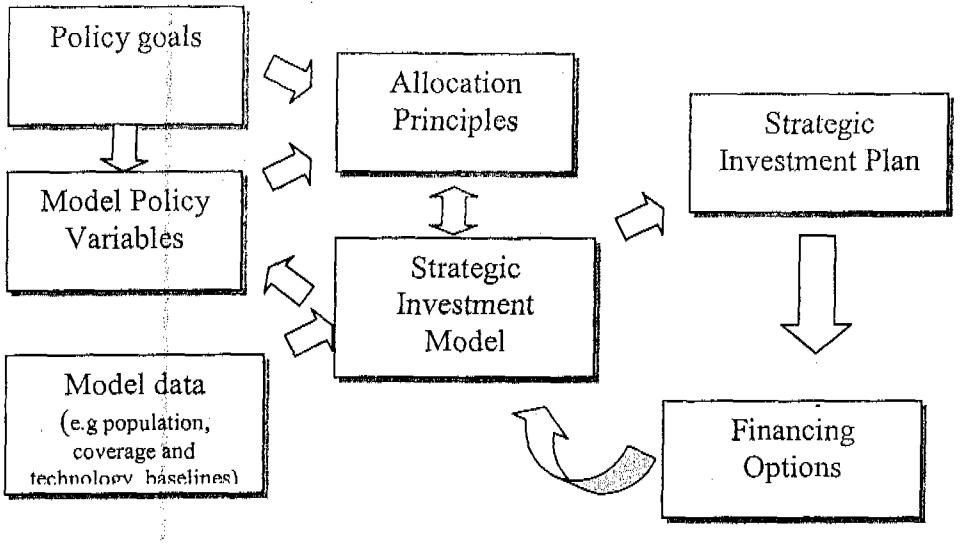
1. Aspects of the overall concept

There are 3 levels that have been distinguished for this discussion:

- Policy goals
- Model Policy Variables – the building blocks for allocation principles
- Allocation principles

The approach to reaching the policy goals and choices on the policy variables will give rise to allocation principles that will determine a strategic investment plan. Such strategic investment plan (SIP) will be generated by the model simulation of alternative scenarios.



The Strategic Investment Plan will consider both the MTBF financing and financing from the beneficiaries (tariffs in the urban sector, household sanitation, community contributions etc) as well as investments from the private sector. The focus is on the drinking water and sanitation sector; however the water for production and water resources management sub-sectors will also be covered in the model and in the investment plans. Both urban and rural are included but the model will initially focus mainly on the rural sector.

2. Policy goals

The overwhelming policy goal in Uganda is poverty eradication balanced with economic growth and equity. Such policy goal will be the reference to establish principles of allocation as follows:

PEAP Pillar 1: Creating a framework for economic growth and structural transformation and Pillar 3: Increasing the ability of the poor to raise their incomes.- An economic focus according to Pillar 1 would concentrate on investing to maximize GDP growth. This implies uplifting those areas that are strong and have potential to be a driving force for the rest because they have high production potential with significant job creation, where water is clearly an economic constraint. It would imply for example that water resources development for water for high return production schemes would be favored, and public investment that triggers private investment should be encouraged. E.g. a large dam could trigger investment in irrigation schemes, a large pipeline could allow easier future upgrading to higher domestic water supply service levels.

Pillar 2: Ensuring good governance and security.- A political focus would concentrate on achieving equity between the different regions and areas of the country, improving the basis for decentralized governance. Such focus is not in contradiction to a social or economic focus but the emphasis is on spreading the benefits geographically to avoid glaring disparities. In a sense it delegates the choice on the approach to reaching the overall policy of poverty eradication to improved governance at local government level.

Pillar 4: Directly increasing the quality of life of the poor.- A social focus would concentrate on the more immediate potential for poverty alleviation and the improvement in quality of life rather than longer-term economic growth that could rely on trickle down mechanisms that are not tested. In other words: the poor first. In simple terms this implies investment in low cost technology that would serve the most number of people. It implies a focus on the most remote and least accessible areas and it may also imply a cross subsidization policy in terms of tariff setting and allocation of government support.

Water Sector Strategic Objectives (MTBF-2004/05): (i) Provision of Sustainable Safe Water Supply and Sanitation Facilities; (ii) Hygienic Use of Water; (iii) Commercialized Urban Water and Sewerage Systems; (iv) Integrated and Sustainable Water Resources Management; (v) Provision and Effective use of Water for Production;

3. In Search of the Allocation Principles

The recommended allocation principles will emerge from consideration of a number of alternative scenarios. These scenarios will be derived from an iterative combination of alternative approaches to achieving policy goals and alternative policy variables using a Strategic Sector Investment Model (SIM). Policy variables (also referred as allocation "parameters") are subject to decision making by senior sector policy makers and include those described in section 3.1 below. Full description of other model parameters is attached as Annex 1.

Allocation principles will focus on:

- **Sub sector allocation.-** Sub sector allocation is needed between rural, urban, water and sanitation and between domestic level services, overall water resources and water for

production. These allocations will broadly be informed by the approach to reaching the over arching goal of poverty eradication.

- **Geographic allocation.-** Considerations on equity, impact on economic productivity and social impact on poverty will all affect the allocation between geographical areas. A minimum based on equity concerns can be allocated, and thereafter allocations could be based on performance according to value for money indicators.

3.1 Main Policy Variables leading to Allocation Principles

The main policy variables that can form the basis for scenario building are:

Sector and sub sector targets.- Variations include the present PEAP and SIP 15 targets of 95% coverage by 2015 and the achievement of the MDGs of 65% by 2015. There are also variations between the sub sectors. Sensitivity analysis on targets will provide various investment scenarios that can be compared against ceiling provided by MTBF.

Sector Ceilings.- Upper limits on the sector investment will have implications on the attainment of targets. The sensitivity of ceilings on targets can be explored to identify best strategic investment options. In doing so, it should also be realized that there are macro-economic forces at play, which determine the sector ceilings and which are much larger than the water sector.

Service level and technology mix choice.- Considerations on service level and technology mix choice will be influenced by a technology mix assessment, currently underway, specially in rural areas.

Operational performance and cost recovery policies.- Options to improve operational performance can also lead to scenario building, specially when we consider that water utility operators in small towns and urban centers are expected to raise revenues (tariffs and connection fees) in line with cost recovery policies, which will be an easier task if they improve cost efficiency and billing and collection efficiency.

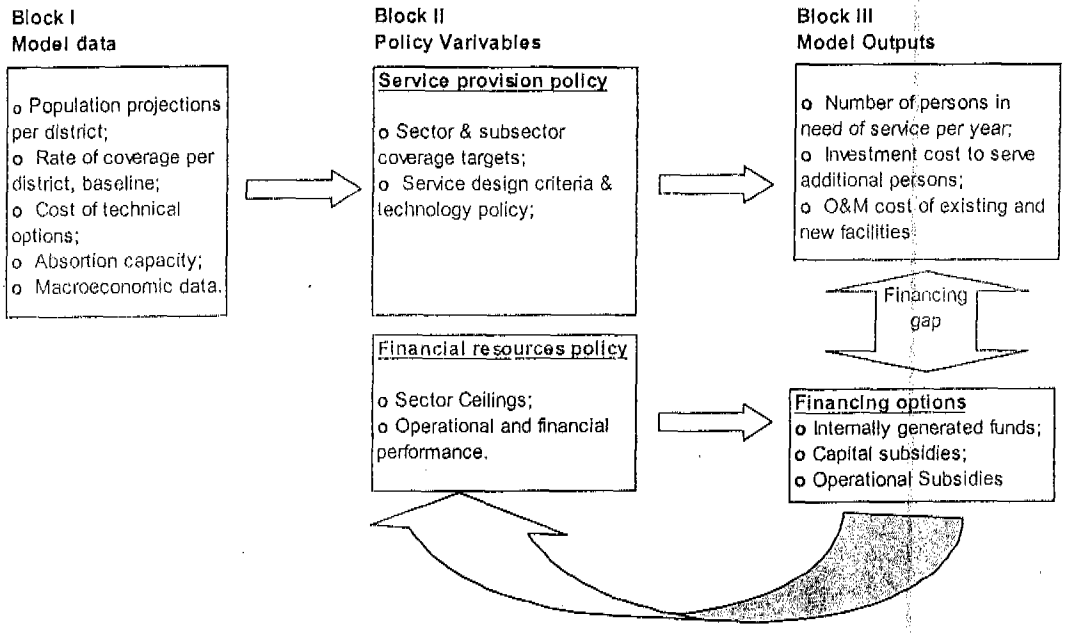
Value for money indicators.- Value for money indicators can lead us to allocate more to best performers and less to worse performers. Value for money indicators are a subset of M&E indicators, which can also be taken into account to set allocation principles.

3.2 Strategic Sector Investment Model

The SIM will have three main blocks, see Model Architecture below. The first block will contain model data such as baseline information (e.g., rates of coverage) and projected information on variables that are governed by processes beyond the control of the water sector (e.g., demographic information). The second block will contain the policy variables, based on the discussion in section 3.1. The third block will contain outputs of simulation information, summarized in the Strategic Sector Investment Plan (SIP). Block

one and two will form the inputs for the SIM to generate the outputs in block three. In block three financing option will be incorporated and a financing gap and strategic options to close it will be identified. Based on the model simulations, a rational for Capital and O&M subsidies will be developed as part of the allocation principles.

Model Architecture



The SIM will need to strike a balance between simplicity and transparency and its sophistication in reflecting all the inter-linkages and dependencies of a complex sector. Where in doubt, the simpler option has been chosen so as to limit the number of parameters and derive a robust model that can then be expanded in complexity if later found appropriate.

3.3 Emerging Allocation Principles

Based on the allocation options and scenarios built up recommended Allocation Principles will be put forward for sector consideration and approval. These will then determine the chosen investment plan. The following main approaches will probably follow from a policy driven investment planning initiative. Examples of the typical principles that might emerge are given in the tables below.

Economic Approach – poverty eradication through growth				
Targets/ceilings	Regulatory aspects	Subsidy policies	Sub sector allocation	Geographic allocation
• Target will be general and ceilings will be set to allow the water sector contribute to economic growth.	• Keep regulatory aspects on a minimum long term cost basis but ensure that technology standards are long lasting.	• Use subsidy alternatives that encourage market responses; • Develop credit instruments especially for urban sector.	• Focus on urban areas, growth centers and areas of high rural productivity or potential; • Policies for results based allocation.	• Geographic weighting to those areas with economic potential; • Weighting towards those areas where they can demonstrate VFM; • Allocate according to demand more than need.

Social Approach – poverty eradication through targeting the poor				
Targets/ceilings	Regulatory /enabling aspects	Subsidy policies	Sub sector allocation	Geographic allocation
• Targets will be sub-sector specific and geographically specific and ceilings will be set to allow the water sector contribute to poverty eradication by targeting the poor.	• Keep regulatory aspects flexible to allow appropriate technology e.g. improved even if not high quality water. • Affordable and self maintained solutions encouraged. • Encourage small scale service providers.	• Use subsidy alternatives that target the poor. • Allow significant subsidy on community based participation and capacity building. • Assess ability to pay and introduce very low or zero minimum tariff to achieve basic service. • Connection charges to be obtained over the tariff. • Reduce the 1.5 km distance.	• Weight investment on the rural and remote areas and on the high density and informal urban areas.	• Weight investment to the poor districts and allocate according to unmet need.

Allocation principles can also be results based.- Regardless of focus (Economic Approach or Social Approach) allocation of financial resources to the various institutional agents could be done in ex-change for tangible results (contributing to the policy goals) according to well defined performance Monitoring and Evaluation (M&E) indicators. For doing this more emphasis on the development of M&E capacities at DWD would be required. Under this context, efficiency if pursued as a single-minded aim in itself would mean that towns and districts that found to be wasting investment would not be allocated as much as those that used the funds wisely. In other words where VFM is high the investment is high. This implies a geographical variation.

Annex 1: Model Parameters and Policy Variables

1. Explicit parameters

Guideline- based parameters

These are parameters that have cost implications and that are determined by guidelines. They typically relate to sustainability issues such as the degree of community involvement. They also relate to the transaction costs of investment in the water sector. That is the cost of supervision and monitoring and ensuring that there is a reasonable balance between the costs of preventing inefficiency and the cost of the inefficiency itself. The parameters have an impact on the unit costs but are considered explicit rather than implicit variables as they are not governed by law. A first list of parameters for the rural water sector is:

- % of the investment cost allocated to community mobilization
- % of the investment cost allocated to capacity building (e.g. in the rural setting the TSU function)
- % of the investment cost allocated to design
- % of the investment cost allocated to construction supervision
- % of the investment cost allocated to monitoring (local, directorate, ministerial level) including VFM, performance measurement, tracking study, auditing
- % of the cost of increasing sanitation service level that should be spent on hygiene promotion and other demand led initiatives.

The guideline parameters will tend to feature more in the rural than urban sector.

Institutional support based parameters

These are parameters that reflect the level of costs for maintaining the necessary institutional framework other than the more direct transaction costs above. The parameters typically reflect the cost of providing the regulatory function and the overheads involved in channeling and accounting for the funds (other than the more direct project related monitoring above) as well as the important function of providing an enabling environment i.e. development of strategies for spare part chains, gender policy etc. The overhead costs of DWD and the NWSC are direct MTBF related items on the sector budget. The costs of the district and town based institutional set up as well as the Ministry of Health and Ministry of Education set up (related to sanitation) is not on the sector budget and thus not taken account of in this analysis. The cost of the District Water Office could be considered but would need to be earmarked as not being allocated to the sector. A first list of parameters are:

- % of the investment allocated to DWD (for small towns and rural areas)
- % of the investment allocated as operating subsidy to NWSC (for urban areas)

It might be necessary to consider a parameter that is based on an absolute rather than expressed as a percentage of the investment. It could be possible for example to directly estimate the cost of the sector support and capacity building programmes at DWD level as was attempted in the first trial version of the 5 year plan of operation for RWSS.

Investment efficiency parameters

Not all funds are used optimally. The tracking study of 2003 showed that funds transferred through the government system reach their intended destination i.e. they are spent in the sector. But the VFM study of 2002, although flawed, showed that there was wastage at district and town level that varied considerably between districts and towns. Investment efficiency parameters reflect the relative efficiency of different districts and towns. This parameter will allow the allocation to be focused, if desired, on those areas that provide value for money and not on those that don't. It might also be used as an instrument to encourage greater efficiency. A first list of parameters are:

- % investment efficiency of the district/town (a high value could be 95%, low could be 50%)*[1]

Demand for basic level of service parameters

The demand for the basic water supply service level is commonly assumed to be close to 100%. However, in areas where water is readily available from traditional sources this may not be the case and it may not be the case where people are poor and subsidies are low. Demand for the basic level of service is thus a variable, although the default would be 100% demand. It should be noted that this parameter is influenced by the subsidy policies and is thus a dependent variable.

Sanitation at household level is a private investment that is not featured in the MTBF but which is still a very critical part of the overall sector investment. The targets for sanitation are wholly dependent on the level of demand which in itself will vary between areas and will probably also vary depending on the degree of investment made in health and sanitation awareness.

Technology mix for the basic level of service is partly dependent on geographical factors (presence of springs, shallow groundwater etc) and although variable with time (as the easier sources get selected) the geographical variation is treated as model data rather than as a model variable. However, the choice of technology is also influenced by demand and by the subsidy policy. It is here (in this initial consideration) judged unwise to attempt to model this feature of the sector. Instead a subsidy policy concerning the basic level of service involving different technology options will be considered outside of the model.[2] Changes in the subsidy policy will in effect form a special series of scenarios that will need to be manually reconsidered.[3]

- % demand for basic water supply service level [4] *
- % demand for household sanitation[5]*

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[1] The * denotes that the parameter varies geographically and thus has to be applied to each district/ town.

[2] Probably the key factor here is the extent to which subsidy is offered for a basic level of service which is more expensive that the cheapest technically feasible option i.e. if shallow borehole is feasible will a subsidy be provided for a deep borehole ? Different subsidy policies will thus influence the ultimate technology mix.

[3] The default scenario will be based on the current tariff and subsidy policy. Alternative scenarios can be constructed using alternative subsidy policies. These scenarios cannot be generated automatically and it will be necessary to make a manual re-consideration of the policy variables.

[4] The parameter is dependent on subsidy parameters.

Subsidy for higher levels of service related parameters
The current policy for rural areas is that there is no subsidy for higher levels of service. The policy for urban areas is that there is capital subsidy for household connections and sewerage services and in some cases also a subsidy to recurrent (operating) costs.

In the rural areas a number of assumptions will have to be made about demand for a higher level of service. Without a change in subsidy policy the demand for a higher level of service is likely to be very low and probably restricted to wealthy individuals or communities with connections to wealthy people. The main prospects for a higher level of service will be through a village being declared a rural growth center and becoming eligible for subsidies related to piped systems. Thus there will be a parameter for increase in the number of rural growth centers. This will be parameter that is geographically variable and dependent on population and wealth statistics.

Within the urban areas there will be a private investment made in water supplies through the conversation from communal standpost to house connection. This will need to be modeled and can be expected to vary geographically from town to town. It will most likely be dependent on wealth statistics.

The subsidy to recurrent costs is likely to continue for the small non-viable piped systems that only have a few connections and where it is expected that more consumers will connect. This parameter is linked to the subsidy and tariff policy.

- Increase in population converting from rural areas to rural growth centers*
- Increase in urban population converting from stand post to household connection*
- Increase or decrease in subsidy to recurrent costs for small urban systems*

Implementation capacity parameters
Implementation capacity varies from district to district and from town to town. The capacity to implement is a parameter that will affect the upper limit of investment. Implementation capacity will itself vary over time and thus it can be expected that the capacity will increase gradually.

- Implementation capacity (money per year) *

Parameters related to capital and recurrent investment
Apart from the presence of temporary subsidies for small town operating losses and the coverage of NWSC deficit there are not recurrent sector obligations that fall on the MTBF. The major recurrent investment is provided through community-based cost recovery and though urban tariffs. However it is an assumption that such mechanisms are effective enough to provide adequate maintenance. If they are not the depreciation costs (because of early rehabilitation) will be higher than estimated. Therefore a parameter is necessary to estimate the potential obligations on the MTBF for rehabilitation due to poor maintenance.

[5] The parameter is dependent on the parameter on health education investment. It might be considered dependent on wealth and will thus be geographically variable and this also a dependent variable on wealth statistics (that would then have to form part of the model data)

The subsidy policy for rural systems covers depreciation i.e. the MTBF will have to bear the depreciation costs. The life time of well maintained rural infrastructure and the consequent deprecation costs are thus a parameter.

The subsidy policy for urban systems is that the tariff i.e. consumers will have to cover the depreciation charges. Thus for urban systems depreciation is parameter but only one that affects the private sector part of the sector investment.

- Early rehabilitation costs due to failure in cost recovery systems
- Depreciation of rural infrastructure
- Depreciation of urban infrastructure

2 Implicit parameters

Regulatory-based parameters
These are parameters that have cost implications and that are determined by regulations. They typically relate to overall policy goals that are emphasized in the constitution such as providing a safe and healthy environment (e.g. regulations around the disposal of liquid waste). They relate also to protection of the consumer (e.g. minimum technical standards to ensure that advantage is not taken of lack of consumer familiarity with technical aspects) and also safeguarding of use of public funds (minimum technical specifications to ensure a reasonable balance between operation and maintenance and capital cost). The regulatory parameters have an impact on the unit costs of different technologies. The parameters are thus implicit rather than explicit variables.

Subsidy policy scenarios
The present subsidy and tariff policy is taken as the default. The impact on the investment of varying the subsidy and tariff policies will be possible to run as scenarios but it will require that the full range of parameters are reviewed manually rather than being generated automatically.

Management of subsidy scenarios
The subsidies to the sector that to a large extent make up the MTBF part of the investment plan can be managed in different ways. They can be paid annually to investment projects or transferred as district grants or alternatively a proportion of them can be provided through various credit instruments. Alternatives include revolving funds, loan guarantee funds and micro credit support mechanisms. It might be possible using such means to extend the impact of limited public sector investments i.e. achieve higher targets with the same funds. Such instruments could also encourage a firmer application of demand responsive and market led sector development which is expected to lead to more efficient sector allocation i.e. allocation based on consumer demand rather than rationing of subsidies.

3 Summary of parameters

Explicit parameters	Geographical variation	Dependency	Time variation	MBTF/Private sector
% of the investment cost allocated to community mobilization	N	N	N	MBTF
% of the investment cost allocated to capacity building (e.g. in the rural settting the TSU function)	N	N	Y (less)	MBTF
% of the investment cost allocated to design	N	N	N	MBTF
% of the investment cost allocated to construction supervision	N	N	N	MBTF
% of the investment cost allocated to monitoring	N	N	Y	MBTF
% of the cost of increasing sanitation service level that should be spent on hygiene promotion and other demand led initiatives.	Y	N	Y	MBTF
% of the investment allocated to DWD (for small towns and rural areas)	N		Y	MBTF
% of the investment allocated as operating subsidy to NWSC (for urban areas)	N		Y	MBTF
% investment efficiency of the district/town (a high value could be 95%, low could be 50%)*	Y		Y	MBTF
% demand for basic water supply service level *	Y		Y	MBTF
% demand for household sanitation*	Y		Y	PS
Increase in population converting from rural areas to rural growth centers*	Y		Y	MBTF
Increase in urban population converting from stand post to household connection*	Y		Y	MBTF
Increase or decrease in subsidy to recurrent costs for small urban systems*	Y		Y	MBTF
Implementation capacity (money per year) *	Y		Y	MBTF
Early rehabilitation costs due to failure in cost recovery systems	Y		Y	MBTF
Depreciation of rural infrastructure	N		Y	MBTF
Depreciation of urban infrastructure	N		Y	PS
Demand for household sanitation*	Y		Y	PS