WATER FOR GROWTH AND DEVELOPMENT ROUNDTABLE DISCUSSION

Proceedings and Outcomes of the Meeting Held on 08 & 09 November 2008

Riviera on the Vaal, Vereeniging

"Water is Life

Securing the Nation's Needs Across Generations."

DWAF hosted a two day roundtable discussion at the Riviera on the Vaal, Vereeniging to discuss the Water for Growth and Development (WfGD) draft framework. The discussion was attended by international and local key role-players in the field of water services and resource management. The first day focused on the draft framework document on WfGD, while the second day focused on key issues such as Mining, Energy, and feedback from International Experts.

DAY ONE: 08 NOVEMBER 2008

1 WELCOME REMARKS

The Director-General of the Department of Water Affairs and Forestry (DWAF), Ms P Yako, welcomed everyone to the discussion and thanked them for their attendance. It was explained that the Water for Growth and Development (WfGD) framework was still a draft version and as such, not yet in the public domain. The intention is to finalise the framework for submission and endorsement on the concept and process to be followed at the January 2009 Cabinet Lekgotla.

The aim of the roundtable discussion is to gather input from international experts, identify challenges and gaps in the documents and to finally prepare a document that reflects how water can become an instrument to stimulate current and future growth and development. Some improvements in certain parts of the framework were anticipated through constructive inputs and critique on the framework itself by international water experts.

It was acknowledged that the document needed more attention on economic instruments, the implications of the "Polluter Pays Principle", water security for the future and measures to address behavioural change in water management practises by water users at large.

Finally, the WfGD programme needs to consider the next 40 years and beyond.

2 SETTING THE SCENE (STRATEGIC OVERVIEWS): DDG: POLICY AND REGULATION

2.1 Overview on the Framework on WfGD

The WfGD framework approach acknowledges the need for stimulating economic growth and development in order to halve poverty by 2014 as per the Millennium Development Goals (MDGs), however additional water is required. All South Africans have the right of access to water, sanitation and basic services, but this needs to be reconciled with the fact that South Africa is a water scarce country.

Making water available for economic benefit and social development requires planning and time. In the agricultural sector for instance, water must be made available to redress past inequalities.

Planning for future water needs is complicated by the uncertainty of the hydrology due to climate change. Whilst our infrastructure is good, there is a need for rehabilitation. The skills shortage that the country is facing means that time is needed to develop young engineers. Some of the other challenges facing the sector which are highlighted in the WfGD framework include unlawful use of water, increased pollution of the resource, raw and drinking water quality and poorly managed waste water works.

The mitigation measures needed to ensure future growth and develop must reflect the sustainable and equitable use of the resource with clearly defined roles and responsibilities.

It was agreed that the framework could be further improved with respect to the social implications and the benefits of WfGD.

2.2 Summary of the Key Comments from all Participants.

Below is a summary of the key comments raised by participants during the first session.

- Other instruments for water resource planning must be considered if planning is to move beyond a primary focus on dams;
- The framework must include the threat of alien invasive vegetation on the resource;
- Incentives for the different sectors must be based on what is to be achieved by the different sectors;
- When considering the feasibility of desalination plants the energy cost associated with the process and the transportation costs of raw water to coastal cities must be considered in the cost benefit analysis;
- The full implications of the targeted 6% growth in the economy must be quantified and must also inform the development of a set of indicators for the WfGD programme. The document must clearly articulate the current situation and where the water sector wants to be in 20 year's time;
- The planning component of the document must state how WfGD will influence spatial planning. Also, the carbon footprint of the water sector must be included in the planning section of the document;
- The current document only reflects the South African position, instead the document should highlight linkages to the MDGs, regional cooperation and other international obligations;
- The document must provide more substantial information on the history, need and justification for inter-basin transfers;
- A chapter should also be included on water and rural development; and
- A cost benefit analysis of moving water between catchments is required.

Finally it was concluded that the WfGD programme is intended to lead towards the process of:

a. Setting high level indicators (indicators for growth targets from a water perspective?);
b. Cabinet approval to proceed with the concept in January 09; and
c. Further negotiations with sector partners on the implementation of the document.

2.2.1 Reconciliation Strategies

Water availability *vs*. water use: In the Eastern Cape there is scope to develop water resources. Some reconciliation strategies and studies have been completed to ensure that future demand is met. Water conservation and demand management must be

implemented as the demand will soon exceed the supply. Solutions in terms of the efficient use of groundwater, which is undervalued in South Africa, must be considered.

2.2.2 DWAF's Response to Strategic Needs

It may not be possible to make water available for new developments in the agricultural sector however this cannot compromise making water available to redress past inequalities.

Forestry should be located in wet areas of the country to ensure that people and other sectors are not deprived.

2.2.3 Risks, Threats and Challenges

There are many risks that can be mitigated but cannot be completely averted – climate change is a very good example.

Infrastructure is old both with regard to water services- and water resource infrastructure, hence there is a need for refurbishment. The backlogs in maintenance remain a very costly activity.

The South African water sector is facing a critical skills shortage; long term (especially in the engineering sector) skills development strategies need to be put in place, as skills development is a very long process.

The unlawful use of water without a licence is on the increase.

Water pollution in especially urban areas remains a problem. The treatment of pollution from mining activities and municipalities that do not properly operate waste water treatment plants is expensive.

2.2.4 Key Recommendations

The following recommendations were made:

- We need to improve the water mix and harness all possible resources for water;
- Infrastructure should be multi-purpose e.g. dams should not be exclusively for agriculture;
- Increased focus on Water Conservation and Water Demand Management needs to take place;
- Afforestation should not impact negatively on water resources;
- Water quality management and pollution control should be a daily activity;
- "War on poverty" – need to consider how dams can benefit poor communities that live near the dams but are not receiving a benefit;
- Skills development for the Water Sector (especially community-based skills development) is needed; and
- Better enforcement of current legislation is critical.

3 INTERNATIONAL PERSPECTIVE

3.1 African Ministers Committee on Water (AMCOW)

During 2009 AMCOW will be chaired by the South African Minister of Water Affairs and Forestry. South Africa uses potable water for all sectors, but elsewhere in Africa, potable water is only used for domestic purposes. In Africa, 325 million people do not have access to drinking water. The impact on women who need to fetch water was also highlighted, as it can take 3-6 hours per day and thus restricts their time for economic activities. Water is the cornerstone of development and is cross cutting. Improving water services and managing water well are amongst the most effective ways of boosting economies and reducing poverty. 96 million people per year do not have access to water in Africa and it is predicted that the number will be 700 million by 2015. South Africa has more dams than any other country in Africa and this illuminates the need to find ways to store water for drier times and ensure that this is done equitably. Also, in most countries of Africa water is only for agriculture, and not for industry and development. African countries are being encouraged to invest in water and not only rely on donors. Water is a good investment, 7 billion dollars invested in water brings 47 million dollars in returns. Resources need to be allocated for the best purposes; resources like groundwater are undervalued and must be re-assessed. It is important to ensure equitable distribution of water – the role of power relations needs to be highlighted. Irrigation schemes should be applied to multiple purposes and not just in the agricultural sector. South Africa should lead the way forward for the rest of Africa.

3.2 Mexico

Every year the number of over exploited aquifers increases, even though Mexico has the information and the tools to monitor the situations. Mexico and South Africa have excellent water legislation, however they are difficult to implement. It is important not to look for the perfect solution before committing to doing anything. South Africa is trying to do too much to ensure success, there is a need to focus on priorities in order to maintain credibility. In 1992 the Congress of Mexico enacted the new water law. All water users had to be registered or permitted within 1 year. In practice it took place over 10 years. This is a consequence of being over ambitious. This example illustrates the need to define realistic goals, be strict about compliance, having a structured approach, to align water tariffs to water users and the need to charge irrigators because they are the biggest users. It was thought that Industry should pay less however this was not accepted due to social considerations in Mexico. Water levy collection started in 1989. This had to be aligned with economic theory. Mexico calculated their tariff on the total budget of water institutions and then divided it between water users. There has been an increase in the use of ground water aquifers hence more regulatory measures were put into place but tariffs were not increased. It was noted that South Africa and Mexico have almost the same qeni co-efficient. It was recommended that focus should be placed on priorities such as:

a. Go for simple systems;
b. Meaningful stakeholder consultation; and
c. Give implementation a chance.

It was suggested the following programmes could be put on hold:

- Classification system

- Waste discharge charging systems
- CMA establishment
- Climate change adaptation? - Learn to cope with variability (e.g. climate change), be adaptable

3.3 Summary of Comments

Below, is a summary of the key comments raised after the presentation:

- Do we have the capacity to manage systems? Business knowledge is important. We create data but do not make it available;
- Lessons learned from other sectors on institutional realignment must be factored into the document;
- Infrastructure and Institutions go hand in hand. There is a need for sufficient investment;
- High level goals to an implementable level are lacking in the approach.
- We must relook our priority actions: What is the best level of interventions?;
- Need to consider economic water scarcity *vs.* water scarcity;
- Need to consider institutional capacity, review what is implementable before rolling out an implementation plan;
- Decide to bring in an implementation team to look critically at the time frames of legislation;
- Include focus on implementation: how should it be done? Put in strict deadlines. DWAF to monitor and regulate performance;
- Should use a flexible/phased approach – however there must be deadlines and timeframes that should be realistic in terms of what can be done with what is available (resources, finances, and capacity);
- Define very concrete, realistic goals and make sure you meet these goals;
- Need to align water tariffs/levies with economic theory. Charging irrigation too little and industries too much;
- Over exploited aquifers are a problem in Mexico, we need to consider this within the South African context;
- Global Water Partnerships are needed;
- Calculate cost and benefits of each actions;
- WAR (Water Allocation Reform) is very complex and must be simplified, establish simplified procedures within your ability and/or capability;
- Focus needs to be on: water allocation reform (WAR). This should be simplified, including validation and verification and compulsory licensing;
- Stakeholder participation must be meaningful. You must propose to users implementable measures;
- Emphasis on giving incentives, regulation and solicit participation; and
- Should we put any legal and institutional reform on hold? We have enough and give implementation a chance.

3.4 Namibia

The centrality of water for growth and development was acknowledged, but it was emphasised that a common understanding is needed. There is a focus on access to water. If the quality is bad, the cost is 10 times higher. Rain does not mean access to

water, access to water is not proportionate to the amount of rainfall. Namibia gets close to 9000 ml of rainfall per year, yet less than 10 % of the population have access to water. Improving access to water means the enhancement of infrastructure.

3.4.1 Water Sector Policies

- Policies aren't stagnant and must be reviewed to stay relevant. Water policy must manage limited water resources. There should be a policy for flooding and disaster management as well;
- Policies impact other sectors, sectors should not put in place a policy that contradicts water sector policies. When distributing land to people how will this impact water utilisation?; and
- Mining, local authorities and water quality are to be considered with respect to the impact on dams.

3.4.2 Treaties and Conventions

Historical agreements between countries pre-dating the "new South Africa" must be honoured. How do we manage relationships with neighbours when it comes to water issues?

3.4.3 Geopolitics of Water

Water knows no political boundaries. Who is polluting? Who is taking responsibility for managing upstream pollution?

3.4.4 Institutional Arrangements

Empower institutions and ensure that they function well.

3.4.5 Infrastructure Development

- Planning: how do we plan? Today, tomorrow/next ten years. In most cases we are too reactive to the needs instead of adopting a pro-active approach. Politicians and community must be involved from very beginning. Piggy back on big industry;
- Development: embarrassment: The Head of State opened a new water scheme but after two years it was not functioning properly;
- Pay attention to cost;
- Who will manage projects?; Not just water and cement. Must consider human factor during engineering projects;
- Finance: investigate possible financing options;
- Compile complete costing before project starts;
- Be conscious of cost;
- Operations and maintenance: lifespan of product might be shortened because you don't have proper operations and maintenance strategy;
- Do we have capacity?; and
- Do we have the best team/software?

3.4.6 Payment for Water Services Cost

- Do we get subsidies, where do we get these from, can a community afford costs?;

- Money: where does government inject project funds?;
- The true cost of water provision should determine water tariff;
- On what do you want to recover your costs? On tariff cut only?;
- Subsidisation is important.

3.4.7 Science and Technology of Water

Exploring of non-rational water sources e.g. water recycling, desalination must be considered.

3.4.8 Flood Management

- Flooding can disrupt water supply; and
- Policies in terms of neighbouring countries must be considered.

3.4.9 Human Resources

We must deal with the shortage of skills, appropriate payment of people and staff retainment.

3.4.10 Summary of Comment and Discussion

Did government listen to the water experts? How was it established that groundwater is in a bad state? In 2007 Namibia set up a national water institution and the different ministries are represented on the Board as a way of involving the politicians. When the politicians are approached it is solution driven. Politicians always want solutions that can be realised before the next election.

- There still are problems e.g. Namibia has an issue of who is responsible for dealing with pollution;
- Agricultural industry: the industry underwent major changes. Water allocation works on a quota basis. Only a quarter of quota is guaranteed. Agriculture is using treated effluent. For the past 17 years water management fell under the ministry of infrastructure. Water commission supervised by Department of agriculture, until 12 years ago. Currently, water commission falls under ministry of infrastructure;
- Investment in technology training is required, but currently there is no long term budget allocated for this which has become a major constraint.
- National ideology: movement of citizens to establish people in areas (security purposes);
- Namibia is a very arid country therefore the country tries to optimise utilisation and has a 15 year planning horizon. Every year planned use is compared to actual use and plans are adapted thereafter;
- Namibia looks at new sources and new possibilities;
- The investor should contribute to the bulk infrastructure, example the Uranium development: The investor was responsible for the capital injection of the investment. Namibia gained from the new technology; and
- South African waste treatment plants will have to be upgraded in order to have treated water of a high standard. Need to set up agreements. Public-Private-Partnerships (PPPs) take time to be put in place.

3.5 Comments and Questions From the Session on Day One Regarding the International Perspective

Below is a summary of the comments raised during the session.

- Concern: who has the capacity to manage the entire infrastructure? Should think about the management of water resources, not only about the institutional aspects;
- Do not agree that you don't have to look at institutional development and planning. There needs to be the right balance. The time has come to look at water beyond basic services;
- How do you move from high level goals to implementable detail?;
- Prioritisation: more complex than a list suggests. E.g. in Western Cape (WC), climate change needs priority although in other catchment areas it might not be an issue;
- Infrastructure development in Africa is necessary. The issue is not so much water scarcity than water development scarcity; and
- Reuse of sewage water is the highest in the world, but they still want to double the percentage (±35%).

DAY TWO: 09 NOVEMBER 2008

3.6 Presentation 1: Israel

The presentation done by Israel noted that transboundary import of water was done first and sea water desalination was the last option. There was an interesting perspective on the ranking of water supply alternatives by marginal cost. Renewable water sources were identified as: Brackish water, Storm water, Treated effluents, sea water, and Fossil water. It was noted that groundwater is an undervalued resource but one needs to be careful not to exhaust it as it can cause irreversible damage. Pollution also needs to be prevented now. The value of our water must be reflective of the future generations needs. (Water tariff – water production cost + transportation cost + users cost (scarcity rent). The concept of bringing people to water or water to people? And who will pay the price?

3.6.1 Specific Comment on the WfGD Framework Document

- DWAF must coordinate, cooperate and relate to government or decision makers where they fit in terms of the scope of the document;
- The public must be engaged with from now. We need to encourage behavioural change. Once the public understands, they will realise there is a value to water. We have to think today;
- There needs to be public awareness to water shortages, pollution, climate change and the value of water:
- The document must address how to educate & train (how each individual household, farmer, firm can contribute);
- A knowledgeable public might be willing to accept price increases, quotas, etc. It is therefore important to have a transparent relationship with public. Government is accountable to the public;
- Legal department must also be strong;
- The document must give prioritisation to planning;
- Leakage detection and fixing have not been mentioned – It can make a big difference and resources should be directed toward leakage detection and fixing; and
- Involve Private companies in water sector and get their cooperation - Public Private Partnerships (PPPs) - Build economic mechanisms and incentives for PPP.

3.6.2 Comments on the Presentation from Israel

Below is a summary of the comments and questions from the presentation.

- It was indicated the graph on Ranking Water supply alternatives by marginal costs is a good graph. DWAF must use this. The question was asked: Are we as South Africa able to populate such a graph?;
- The legal functions *vs.* the DWAF functions must be considered. If there is specific need for the legal function to be increased, DWAF may consider the option of outsourcing legal expertise;
- The slide on technologies is good and Eskom are engaging in a similar process;

- We need to influence spatial planning/national development perspectives. Bring the people to the water e.g. in Limpopo where there is a potential for mining or water to people. We need to influence at a Presidential level. We need to look at local economic development and planning now.
- We must plan according to water availability because of the effects that it would have on costs;
- It is very important that pricing and resources be taken into account (cheaper to bring water to coal than coal to water);
- We must look at interventions such as small packages for isolated communities who are completely overlooked;
- We must note that pricing and the resource are important and the resource can be the constraint; and
- The DG commented this was useful and it helped to clarify her thinking on WfGD. She asked the question: Are we able to populate the slide on ranking water supply? There needs to be a mind shift. Where can you get maximised benefits with minimal initial investment? Effluent needs to be looked at. Need to understand the cost of both ways activity. Future growth areas *vs.* distribution. But where there is potential for mining, etc. we must influence planning to be realistic.

4 PRESENTATIONS BY WATER SECTOR PARTNERS AND DEPARTMENT OF WATER AFFAIRS AND FORESTRY

4.1 Presentation 2: Deputy-Director General: Regions

It was stated that water should also be viewed as a Social good. The rationale behind this needs to answer the question; “How can we use water to deal with the growth trends and food security? There is also a need to respond to other policy developments addressing social issues. A gap was identified in terms of the little work done on water and poverty. If the water sector does not meet its targets, other sectors will also be affected. It was commented that sanitation issues must come out more clearly in the document. It was also stated that water is not appreciated for the role it can play in development. If we really want to send a message: WATER IS A CATALYST TO DEVELOPMENT, we need to re-look our approach to business. It is also imperative that the document not only relate to politicians, but also to ordinary people. There is a need to accelerate delivery. If there is economic development in South Africa, there will be more investment in social infrastructure. We are a developing country and it is necessary to re-look our RDP standards. Do they make sense in the rural context? Consider alternatives eg. Yard tanks. There is a need for the development of small rural schemes, to promote multiple use of water, and to diversify investment in infrastructure. We need to ask ourselves if we can we afford to separate water and sanitation? Are we not neglecting sanitation? (Department should address both water and sanitation). As much as we are looking at accessibility, the importance of water quality must be acknowledged. A change of mindset is required. Water not appreciated for the role it can play in development. We should change how we manage water.

4.1.1 The Following Points Were Highlighted

- Water is the catalyst for development;
- If we want to send the message, we will have to revisit our approach to business;
- Accelerate access to water: this remains our basic obligation;
- If an ordinary person cannot relate to document, we have a problem;

- DWAF will have to be in the driving seat although responsibility lies with local government;
- Balancing infrastructure for domestic use, and industry;
- Appropriate models that will yield results to meet targets;
- Current RDP standards might be too high for deep rural areas of KZN – 200m distance: adapt standards, or yard tanks as an alternative;
- Multiple use of water has to be considered;
- Diversify your investment in infrastructure;
- Need to revise Municipal Infrastructure Grant (MIG) policy: development of infrastructure for basic use only, that needs to be expanded to include water for development;
- Example of Orange Farm: small community, high HIV and Aids infection,
- Water Allocation Reform (WAR) – we need more investment in this programme;
- Refurbishment of infrastructure – cooperation with the Department of Agriculture to be improved;
- Water for livestock and Working for water have multiple benefits. Invest more in this initiative.

4.1.2 Conclusion

- Access to water is our highest priority; and
- Anti-poverty strategy will have to guide content of this document.

4.1.3 Comments

- The document hasn't properly addressed the value of water and the cross cutting issues. We need to identify what requires finances and financial strategies – this should be a section in the document;
- Need a new perspective or something different otherwise we will just be perpetuating the past;
- Look at recycling drain water/ grey water;
- If DWAF has been doing all these things, why do we still have backlogs?;
- We have to go back to the drawing board. If you overlay this with water availability vs. use, there is something seriously wrong;
- Fundamental challenge: we will have to bring in something new;
- We have big dams, but people still don't have access;
- WfGD: why are people living along side dams, watching the water and they don't have access? This document must change this picture;
- Rainwater harvesting: not new, 35 tanks were delivered last year to the nation, yet 5.7 million people have no access to water! ;
- Revisit old things and make existing initiatives more effective;
- Look at new options;
- Policy Issues: RDP Standards: Need to question the policy. Will require a process in government on how we relook this;
- Look at new technology options. At what point do we scale up from pilots to expand it to the country level?;
- Apply knowledge gained from pilot studies to rest of South Africa;
- Swaziland example: pump water from a river to high ground – too costly. We should re-think the way we do business. We should get water from the mountains and distribute from there. New approaches are required.

4.2 Presentation 3: Nikisi Lesufi Chamber of Mines – Mining Perspectives

4.2.1 The Following Points Were Made by the Chamber of Mines:

- Mining is a key contributor to the South African economy. There are positive and negative legacies. Positive legacy: many major SA cities emanated from mining; even establishment of our learning institutions were in support of the mining industry. Negative legacy: price that we paid; labour relations, capitalist interest at the expense of migration and social implications; environmental footprint – degradation of environment as result of mining. Regulatory inadequacies and corporate greed were also explained;
- Key mining issues: Mining accounts for 6.8% of GDP, of which 17.5% have indirect multiplier effects. It remains a key pillar of our society and accounts for 35% of the JSE;
- Business imperatives for Mining were noted as water is increasingly being recognised as a business risk (shortage, excess, pollution);and that water is irreplaceable and there are no alternatives available.
- There are various factors determining the impact of mining on water resources. Some of these are that of old mines and the mixing of clean water and polluted water...
- It was also noted that listed companies are required to have a carbon and water footprint.
- Regulatory challenges noted were we should recognise that the “one size fits all approach” is not working; and the regulatory approach should take variability into consideration. Mines with highest pollution potential should be targeted by regulation. Also the inability to implement legislation and policies must be prioritised. Authorisations, enforcement, compliance and monitoring must be effective.
- The issues around poor cooperative governance and the need to improve on cooperative governance were noted.(DWAF/DME/DEAT);

  Threats were identified as polluted water seeping from old abandoned mines. This is a serious problem and there is no one to prosecute as the mines are closed. Also the problem of inter mine flow (water flowing from one mine to another that is polluting groundwater flowing between up to 7 mines and no one can be pinpointed or held responsible. This is fast becoming a real, current and present danger.

  There are opportunities for win-win private public partnerships. The example of Witbank was noted: Anglo Coal and BHP coal: in Witbank. Put up a waste water treatment facility. It costed 250 million rand to put up. Owned by the Department, but not operational. In the past it used to wait for a flood event, released into Oliphant’s River. Water available for local communities. Gypsum is available for building activities.

- Conclusions.

- Water is an essential component of mining;
- Every mining operation should have authorisation to proceed with Mining;
- DWAF must have the regulatory capacity to enforce laws or else there will be regulatory issues;
- There needs to be a strategy to deal with the legacy of abandoned mine sites; and

- Co-operative governance agreements need to be fine tuned.

4.2.2 Comments on the Presentation:

- Mining: what about self-regulation? Why don't they regulate themselves on pollution?;
- Abandoned mines: what does the sector do about this? How is reclaiming of old mines going to impact on pollution?;
- When are we going to replicate the Witbank example in other areas?; and
- The DG made the following comments:

  - What is the collective responsibility of the mining industry?;
  - DWAF welcomes the idea of working together – need for dialogue between mining sector and government at a high level;
  - Self regulation- interesting and should be taken further;
  - There is certainly the need for government to cooperate on authorisations;
  - Appreciate the recognition that one size does not fit all. Question: impact of pollution on water services and resources. (What is the impact of pollution, to whom and at what price?) You need standard regulations for all types of mines and mining; and
  - Welcome emphasis that mining is not exempt from authorisation.

4.2.3 Response from Chamber of Mines

Mining responded to the comment on the collective responsibility of the mining sector on the issue of acid mine drainage and decanting of mines to indicate that there is no legal imperative on the mining industry as the responsibility lies with the state. The sector needs to support and plan for the rehabilitation of these abandoned mines collectively.

On the question on Private Public Partnerships, it was noted the goodwill from industry is there.

Self regulation is a problem as it requires that there is normal regulation. As ISO accreditation is not attained this creates a constraint to self regulation. The example of Witbank was sited as an example: Pilot in Witbank: frustration of regulations therefore only a pilot; Win-win solutions only possible if regulations are in place; and it takes the collective responsibility of the sector.

It was further noted that the Chamber of Mines will provide further written comments as per the request from the DWAF DG.

4.3 Presentation 4: Nanda Govender: ESKOM

4.3.1 The Following Points Were Noted From the Presentation:

- A lot of water is needed to meet the electricity growth targets;
- Eskom targets to save 8000MW electricity by 2025;
- Hydropower, solar energy and wind have been identified as future renewable energy sources;

- Drivers of uncertainty were noted as we do not know what will the actual Gross Domestic Product (GDP) growth be, how will the nuclear program evolve, the locality of power stations and future potential coal fields; Life expectancy and decommissioning; and availability of the Water Resource.
- For new coal capacity, Nuclear options will have a major impact;
- Future coal fields are planned for Limpopo. Water will have to be transferred there. There is low potential for more power stations in Mpumalanga. The Eastern Cape is also being investigated as a future coal field area.
- Water availability should be mapped to coal availability and power needs
- Eskom have projected their water needs and demand;
- A risk is that water costs can go up significantly from the planning to the implementation phase;
- Treatment cost impacts on the cost of water;
- Research: This is an area of cooperation with DWAF and Eskom;
- Need to integrate WS/ WR planning; and
- Potential risks were identified.

4.3.2 Comments on the Presentation:

- If we get savings from Mines and Industry, we must consider how to utilise this to address the backlogs; and
- We need to strengthen PPP's in the WfGD document.

4.4 Presentation 5(a): Rashid Khan : Desalination

4.4.1 Notes From the Presentation:

Mr Khan made a presentation on wastewater and desalination in the Western Cape. Key points to note: Cost calculations don't always take all cost factors into consideration. A detailed description of various capex cost factors and cost analysis and benefits of desalination were explained. The concept of serialisation was also explained and the benefits for reducing wastewater and water re-use. Desalination is an important option for drought and climate change emergency situations, it allows for security of water.

4.4.2 Comments:

- Also look into Storm Water options used in America; and
- We must consider the energy costs for desalination and the true cost of desalination.

4.5 Presentation 5b: Helgard Muller:

Our provision of services is not in line with the population growth. Treatment of excess water from mines for industrial and domestic use- (process can include desalination). A win-win situation as pollution from acid mine drainage is minimized whilst creating additional domestic supplies such as Anglo Coal/ Witbank project. Local feasibility studies will determine actual choice. Feasibility must include full life-cycle costs.

A slide on the water mix with approximated figures was presented. To be verified and finalised through WR Planning and Information.

WATER SUPPLY FROM:	2008	Mid term 2020	Long term 2040
Surface water	**77%**	**65%**	**50%**
Groundwater	**9%**	**10%**	**10%**
Return flows (treated effluent)	**14%**	**20%**	**30%**
Desalination	**< 1%**	**4 %**	**7 %**
Treatment of excess mine water	**< 1 %**	**1 %**	**3%**

5 CONCLUSION

5.1 Summary by Director General

- The document must focus on prioritisation;
- We must note the concept of One size does not fit all;
- Behavioural change is critical in the process.
- There is a need for regulatory and economic tools across sectors;
- The document must take into consideration what are the capacity levers;
- Consider: How long is long term? Until 2020 …;
- Manage supply and demand is critical;
- The document must be clear in terms of what the objectives are;
- Dialogue or working together must exist between Government and sectors;
- Costing and technology surrounding water must be looked into;
- Cost of water Namibia, need to balance with broad economic framework;
- When talking of the value of water and the underlying principles of the framework we must consider the value of water to each sector- What information must be communicated and to which sector.;
- What are the underlying principles must be clearly identified;
- There drafting team must note comments for addition from DDG:Regions;

- DDG: Regions' spoke on domestic side, in addition further analysis is needed to improve on the implications;
- Mining sector inputs identified the need to recognise no one size fits all and we need to deal with issues of regulation and do more on government's side to understand the business;
- Eskom identified also that there needs to be more integration between WS and WR on planning.
- The slide identifying Risks (from Eskom) is critical.

6 WAY FORWARD

The DG summarised the way forward as follows:

- A priority area for the document: A lot of information needed. An analysis for short, medium and long term planning is needed;
- Areas for future work need to be identified and addressed?;
- The initiative needs to pull out key lessons, get key lessons from all initiatives (e.g. pilot studies) and define/derive the way forward;
- For purposes of going to Cabinet: 6 slides for the Cab Lekgotla: To put us on a new path; and
- Some issues do need bilaterals. Mining, Agriculture and Eskom are requested to provide the drafting team with dedicated representation for the drafting of the document after Cabinet Lekgotla.

7 CLOSURE

The session was adjourned at 13h00 and delegates were invited to lunch. DWAF delegates were requested to join the working team meeting.