KEYNOTE BY BAI MASS TAAL, EXECUTIVE SECRETARY, AFRICAN MINISTERS COUNCIL ON SADC MULTI-STAKEHOLDER WATER DIALOGUE

THEME: WATERING DEVELOPMENT IN SADC: EXPLORING THE WATER, ENERGY AND FOOD NEXUS FOR REGIONAL COOPERATION AND DEVELOPMENT

Chairperson

Distinguished participants

Ladies and gentlement

I thank the Executive Secretary and Management of the Southern Africa Development Community for inviting me to present the keynote at this all important multi stakeholder water with the theme: Watering Development in SADC: Exploring the Water, Energy and Food Nexus for Regional Cooperation and Development. I am delighted that the Southern African region has taken the lead in the continent in discussing the water, energy and food nexus as a regional bulwark for engendering socio-economic development. I say this because I was also privileged to present a keynote at an International conference and exhibition on water and energy nexus hosted by the Ministry of Energy and Water Affairs, Angola last week.

While the conference in Luanda focused attention solely on the water and energy nexus, this particular conference is going a step further to include the food sector in this all important development alignment. Both conferences however provide fitting platforms to bring needed

attention to and unwavering commitment to the intertwining development issues underpinning the water, energy and food sectors. It is evident that in this equation, water becomes the recurring decimal perhaps, because water in itself is life. As it is said, *if you want to discover life follow the water*.

The 2008 World Economic Forum captures the essence of water security within the context of the water, energy and food nexus. Permit me to quote some of the introductory highlights of this report. I quote: *"Water security (whether it be the challenge of too little water over long periods of time, or too much water all at once) is one of the most tangible and fastest-growing social, political and economic challenges faced today. It is also a fast-unfolding environmental crisis. In every sector, the demand for water is expected to increase and analysis suggests that the world will face a 40% global shortfall between forecast demand and available supply by 2030.*

This outlook bears potential for crisis and conflict since water lies at the heart of everything that is important for human life: food, sanitation, energy, production of goods, transport and the biosphere as such; water ensures not only mere survival of humans, but also social well-being and economic growth. In addition, water is a renewable yet not inexhaustible resource – it cannot withstand constant over-extraction and being depleted faster than being renewed. What is more, water cannot be substituted." End of quote.

In 2011 the Government of Germany organized an International conference to deepen the understanding of the linkages between the energy, water and food security and to show the potential for integrated solution. I was fortunate to represent Africa in the International Steering Committee of this conference. It was another eye opener for me to start thinking in terms of the NEXUS.

The demand for water, energy and food will further increase globally.

The demands for the world's water, energy and food resources are set to increase dramatically. A recent study by McKinsey & Company estimated a 40% overall gap between global water supply and demand by 2030. If current trends continue, by 2030 two-thirds of the world's population will live in areas of high water stress. A rapidly growing population (from 6.83 to 8

billion) and economic development of 6% p.a. in developing countries will also drive up global demand for energy by 30-40% (by 2025, Source: IEA) while food demand will increase by up to 70% by 2050 (Source: FAO meat consumption by 2050, Source: IWMI). Without basic water, energy and food security, fundamental development goals will not be achieved. Climate change will affect the water-food-energy nexus in multiple ways. For example, it is likely to increase the incidence of both droughts and floods, thus impacting agricultural production and the reliability of hydropower production. Mitigation of climate change will also affect elements of the nexus: Expanding biofuel production or building wet-cooled concentrated solar power plants can significantly exacerbate water scarcity, especially in areas that already suffer from water stress.

If not properly addressed, these developments will negatively affect water, energy and food security and therefore the well-being of a growing number of peoples. Furthermore, these global trends contribute to diminishing the income generation in developing countries and therefore increasing social inequalities over the long term.

The water, energy and food sectors are closely linked through their need for stable and sustainable water provision.
The availability of water resources in sufficient quality and quantity is very often a major bottleneck for development. Water availability underpins food production as well as the provision of drinking water and energy. 70% of the world´s withdrawn freshwater resources are being used in agriculture, meaning that food production is highly sensitive to any changes in water availability and quality. The industrial sector is the second largest user of water at the global level (16%), with the energy sector accounting for 80% of the total volume withdrawn by industry. On the other hand, for example, sufficient and stable energy provision is vital for water supply and sanitation as well as food production. Decision makers already have to make difficult decisions while trade-offs between these different water uses are becoming inevitable.

Water, Energy and Food Nexus

It is becoming crystal clear to all that there are inextricable linkages between the water, energy and food sectors and measures taken in one of the sector more often than not will impact on the either or both of the sectors. The relationships between the sectors are as old as creation itself but attention on the diverse effects is becoming increasingly critical and evident. This is so because the times are different; we are now in a time when we are witnessing escalating demands on these resources due to multiplying populations and rapid urban migrations.

We are no doubt aware that the world is experiencing a bourgeoning population growth with more than seven billion people. Over one billion scattered across the globe remain largely

undernourished and hungry and opulations. Within this context, food production has become by far the largest consumer of global fresh water supplies. Agriculture is said to be responsible for an average of 70 per cent of freshwater consumption by humans and so is accountable for over-exploitation of available fresh water. Will it surprise you to know that the water we require to grow or produce food is about 70 times greater than the water we use for drinking, bathing and washing combined. To better appreciate the connection between water and achieving food security; let us look at the water footprints on food. To produce 1 kg of rice, you require 2,500 liters of water, 1 kg bread – 1,600 liters, 1 kg of beef – 15,400 liters, 1 kg cotton – 10, 000 liters, 1 liter of milk – 1,000 liters, and wait for it, for every 1 liter of beer you guzzle, 300 liters of water is needed for the production.

Rising scarcity of fresh water therefore poses one of the greatest threats to food security in a world with projections of astronomical increases in population. For instance, it is estimated that global population will hit 8.9 billion by 2050 from the year 2000 figure of 6.1 billion, an increase of 45 percent. Matters are made worse by the fact that an estimated 3.5 billion people live in countries that will be unable to feed their populations by 2025. Add this to other issues of the impacts of agriculture and food production such as land degradation, changes in runoff, disruption of groundwater discharge, water quality and availability of water and land for other purposes such as natural habitat.

Looking at the inter connection with energy, irrigation requires more energy than rain-fed agriculture. The increased yields that have resulted from mechanization and other modern farming measures have come at a high energy price It is estimated that the entire food and supply chain claims approximately 30% of total global energy demand.

We can safely conclude then that the linkages between water, energy and food can either positively or negatively impact the other one or two sectors. There is therefore a continuing dawning awareness on the need for more deliberate and considered utilization and management of these vital resources in more efficient and effective manners. Experts are now

agreed that for such efficiency and effectiveness to be achieved, there must occur a paradigm shift from the way each sector formerly operated in own silo, unfamiliar and nonchalant concerning the effect of its actions on the others to a more strategic approach of concerted planning, measures and actions. This is the reasoning that underpins the new paradigm called the water, energy and food nexus approach.

Being prepared for a resource scarce future while meeting today's access challenges requires solutions that identify shared opportunities by taking into account all three sides of the water, food and energy nexus. However, in reality such insights are confronted with fragmented sectoral responsibilities, lack of coordination, inconsistencies between laws, norms and directives, and often lead to perverse incentives. If water, energy and food security are to be achieved simultaneously, sectoral decision-makers must consider their impacts on the other two sectors, including conflicting

Outcomes of the African Dialogue on the Water-Food-Energy Nexus

Excellences, Ladies and gentlemen, I have been asked to share with you the outcomes of the African Dialogue on the Water-Food-Energy Nexus convened in Nairobi in November 2012 by the African Union and the United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) supported by the Kenyan Ministry for Water Resources and the German government. The Nairobi Nexus Dialogue is the first of its kind and served as a reference for placing the nexus perspective in concrete regional contexts while fostering dialogue between key stakeholder groups.

The discussions focused on

- The overall relevance of the nexus perspective in Africa, in particular in the Eastern African region
- The implications of foreign investments in land for water, energy and food security policies
- Regional approaches for addressing trade-offs between water, energy and food security, and implications for private and public investments.

The conference highlighted the fact that regional approaches are increasingly becoming important for tackling challenges in the different economic sectors such as trans-boundary water resources issues, interconnecting electricity networks, developing hydropower potential and integrating food markets. This is because regional approaches enable the use of economies of scale in managing trans-boundary resources at the appropriate level. Furthermore, a major benefit of regional approaches is to create opportunities for optimized use of water, renewable energy and land resources, the distribution of which is irrespective of national boundaries. For example countries with geothermal potential can export power to countries with less geothermal potential, leading to an increase in the share of renewable in the overall energy mix in the region. The multi-billion dollar Lesotho Highlands water project for the transfer of water and hydro-power between Lesotho and South Africa readily comes to reference. Another example is regionalizing food markets to improve the availability of food at local level.

The conference however noted that a regional approach in one sector can have major impacts on other sectors. Transferring the sector silos from national to regional level would lead to significant burdens and risks, in particular for private investors. In most cases, considering the inter-linkages between water, energy and food security and in the same time between regional, national and local levels remains a challenge. Participants highlighted that countries with low utilization rates of renewable water resources face water-related challenges. For example Uganda has to face higher water resource variability in the Lake Victoria basin with flooding in 1998-99 and 2008, as well as a dramatic drop in Lake Victoria level in 2005-07 affecting hydropower generation, urban water supply, fish landing sites, navigation and fears for health of ecosystem.

Good practices as the cooperation between the Nile Basin Initiative and the Eastern African Power Pool in the scope of the Nile Equatorial Lakes Subsidiary Action Program show that investments for implementing regional Nexus approaches can be mobilized in the framework of multi-sectoral infrastructure planning for irrigation, power production, municipal water supply and watershed conservation. Multi-sectoral investment opportunity strategy brings together a

series of interdependent opportunities – it helps identify key strategic questions, basin-wide assessment of available resources, and development of structured stakeholder participation strategies as well as the pragmatic phasing of regional as well as national projects.

The conference made some key policy recommendations including:

- Assess and address trade-offs between water, energy and food security, through analysis and cross-sectoral dialogue, taking into account the vulnerability of the rural poor to any changes in access to water, energy and land for their basic livelihoods in the context of climate change.
- Develop benefit sharing frameworks for addressing trade-offs and synergies among water, energy and food security, among member states and among regional, national and local levels. This includes, in particular, a multi-purpose approach for water infrastructure to provide solutions to food security issues by increased irrigation, and at the same time provide water supply, energy, flood protection, jobs and economic development.
- Ensure that mechanisms for mitigating negative externalities are integrated in the regional schemes for water, energy and food security. For this purpose, a possible approach is to ensure payment for ecosystem services in order to protect natural capital and to maintain ecosystems functions and livelihoods.

As SADC engages in the water, energy and food nexus dialogue in the context of regional synergies, I urge you to consider these key policy recommendations as well as monitor ongoing actions and recommended actions to be taken by certain actors such as the programme on incentive mechanisms for reducing negative externalities of regional infrastructure projects (in particular within the scope of PIDA), considering middle- and long-term availability of water, energy and land resources for achieving water, energy and food security which the AUC has been mandated to undertake with support from UNEP. Another action to keep an eye on is the mandated dialogue between UNSGAB and the Sustainable Energy for All on how to address Nexus trade-offs in regional energy approaches.

In conclusion, let me say that today's challenges in water resources management call for the nexus approach and requires thinking outside the box to bring forth new innovations for enhancing greater efficiency in water, energy and food mix. How can efficient water utilization and technology be used to improve power generation, drive energy efficiency and climate change mitigation? What better ways can we harness energy and technology to improve irrigation and food production; water storage and rain harvesting? Can we develop new technology to increase access to safe drinking water, and improve sanitation and hygiene? We must remain open minded to building synergies between sectors to bring the solutions we so urgently need.

I look forward to the discussions during this conference as we share experiences and lessons learned and chart the way forward. I wish you fruitful deliberations.

Thank you for listening.