

**KEY NOTE ADDRESS TO THE GLOBAL PARTNERSHIP NETWORK: Linking
Water -Energy – Food nexus: South African perspectives**

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SHERATON HOTEL, TSHWANE

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1. On behalf of HE President Ramaphosa and the Minister Sisulu of Human Settlements, Water and Sanitation I would like to take this opportunity to convey our gratitude and thank the opportunity afforded to us as Government, representing the people our country to interact with you.
2. In few a hours' time our country will welcome home the Webb Ellis Cup Holders, the Rugby World Cup Champions, our Springboks On the 2nd of November, many South Africans were glued into their screens live and punting for our boys to bring the cup home. Most of us were in tears when HE President Ramaphosa, Captain Siya Kolisi and the rest of the Springboks hoisted the trophy. We needed this as a nation and people. Despite all odds we once demonstrated that united in our diversity we can achieve our goals.
3. The words of our first democratic President HE Nelson Mandela remained timeless and profound during this epoch when he said: *"Sports have the power to change the world. It has the power to inspire, the power to unite people in a way that little else does. It speaks to youth in a language they understand. Sports can create hope, where there was once only despair. It is more powerful than governments in breaking down racial barriers. It laughs in the face of all types of discrimination. Sports is the game of lovers."*
4. Over the last twenty five years we have made strides in building a truly united, nonracial, nonsexist, democratic and prosperous society but we are the first to admit that more still needs to be done.
5. Since 2011, the Water – Energy – Food (WEF) nexus stories have been shared, highlighted and also championed across the globe. During the World Economic Forum in Davos, Switzerland, global leaders agreed that there is a need to drive the WEF nexus in a sustainable or integrated way. Although the Millennium Development Goals missed an opportunity to clearly factored the WEF activities especially in its targets.

6. After the Sustainable Development Goals agenda was established by the United Nations (UN) in 2015, the WEF nexus activities were factored as part of the SDG goals especially goals 2 (Zero hunger), 6 (Clean water & sanitation) & 7 (Affordable and clean energy). Based on the decisions taken by the UN on SDGs various countries including South Africa are at various stages of driving the WEF nexus both at technical and policy levels.
7. The water–energy nexus emphasizes the intricate linkages between water and energy. The Southern African Development Community's (SADC) water and energy sectors are under increasing pressure due to population growth, urbanization and economic development. In addition, climate change is negatively impacting on water resources and energy generation. With a significant proportion of SADC's population still living in poverty, regional development and integration are underpinned on water and energy security.
8. The global importance of WEF nexus cannot be overstated; it is crucial for all life and important for human socio-economic wellbeing; hence its value is seen from the context as an environmental, social and economic good. The well-being of human society through the ages has been dependent on secure sources of WEF nexus; conversely, its absence has seen the demise of often well-established societies.
9. Equally, where different societies depended on WEF nexus from a common source, this would result in competition when the resource is limited or in times of scarcity, which could escalate into conflicts among the competing parties. However, there are also many recorded instances of cooperation between competing societies for common resources with little evidence of armed conflict for the resources itself, including in our continent-Africa.
10. The World Economic Forum has tabled the global risk of water as a generally limiting resource in terms of its availability for social and economic well-being, a situation that continues to deteriorate because of the ever-increasing demands of modern society (population growth, urbanization and technology changes), further exacerbated by climate changes. The concomitant potential

for conflict for water where its availability is limited therefore cannot be understated nor underestimated.

11. There are many challenges from the perspective of Water-Energy-Food-Ecosystem (WEFE) nexus that we need to confront head-on and find sustainable solutions as thought leaders and practitioners in the sector.
12. Currently, there is a gap between water and energy sector planning within the region in terms of policy alignment and technical convergence. In order to meet the objectives of sustainable energy and access to water for all, the water– energy – food nexus needs to be recognised and championed in an integrated and sustainable manner.
13. The fact that SADC countries share similar climate, hydrological and water resources governance provides a strong case to create a water–energy -food nexus platform to support regional planning. For example, Mozambique, Zambia and Zimbabwe share the Zambezi water basin, while South Africa supplies energy to several countries such as Zimbabwe, Botswana, and Swaziland. In order to stimulate economic growth, alleviate poverty and reduce high unemployment rates, the water–energy -food nexus needs to be championed by all SADC member states at technical and policy levels. The shared nature of water and energy resources requires for more trans boundary water–energy -food nexus studies to be done. These would be more beneficial to regional efforts on integration and policy formulation.
14. Cooperation and governance systems therefore become imperative and are critical success factors in addressing water resources and associated issues and challenges
15. I am was informed that one of our public entities which is the Water Research Commission (WRC) started the WEF nexus lighthouse/flagship programme in 2012 in order to start championing the water, energy, food issues in a sustainable manner. Since then, the WRC through the Research & Development (R &D) branch has organised various activities under the banner of this lighthouse, for example:

(a) Profiled WEF activities championed by the WRC and its partners to facilitate knowledge sharing, and co-ordinate & align activities.

(b) Hosted dialogues with various strategic partners including DWS to improve understanding of the nexus and the opportunities for integration of knowledge and solutions for improved uptake, for example, DWS, WRC and GWP organised a dialogue on WEF nexus last month in Pretoria, Gauteng Province

(c) Hosted dialogues and workshops on specific thematic focus areas such as biogas and biofuel generation.

(d) Hosted international workshop & science-policy dialogues with key strategic partners and global communities of practice. (e) Published scientific papers for knowledge dissemination.

16. The three elements (Water – Energy and Food) cannot be considered in isolation as water is the key resource to energy generation and food production. Notably, crop production is the largest regional consumer of freshwater resources and currently consumes a lot of energy. Water - Energy and Food are inextricably linked as energy is required to produce and distribute water and food, to pump water from groundwater or surface water sources, to power tractors and irrigation machinery, and to process & transport agricultural goods. This interrelationship is referred to as the Water – Energy –Food nexus.

17. It is clear that the WEF nexus means that the three sectors — water, energy and food (agriculture) are inextricably linked and that actions in one area more often than not have impacts in one or both of the others. However, there are key challenges that we're facing across these three sectors such as potential agricultural land is now used for residential or industrial purposes. This posed serious challenges on the food security and the agricultural sector. If this issue is not tackled, we will end losing some of the most productive farming

areas due to none agricultural development taking place on potential agricultural land.

18. These impacts are not only impacting on the natural resources but threaten the livelihoods of the majority of the farmers, affect income and production of these farmers, threaten job opportunities and food security.

19. At the same time, the challenges posed by climate change, water, nutrients and energy are converging. About 12 million hectares of land becomes degraded each year. Droughts and floods are becoming more frequent and larger. For a host of reasons Africa is at the eye of this storm.

20. Some reasons include the fact that southern Africa has already lost 25% of its soil fertility. And some countries on the continent have some of the highest population growth rates globally.

21. The recent World Economic Forum (WEF) report indicates that a quarter of the world's human population already living in the regions that suffer from severe water scarcity for at least six months of the year.

22. A proper coordinated Water –Energy –Food nexus approach stimulates economic growth, alleviates poverty and also reduces high unemployment rates as has been highlighted by several developed countries. There is a need for South Africa to drive the Water – Energy – Food nexus and also narrow the policy gap between water, energy and agricultural planning.

The community of practice & policy makers should emphasise the need for an integrated approach (Water- Energy- Food nexus). South Africa has limited options, as a country, we need to adopt the Water –Energy – Food nexus. As highlighted earlier on there are several reasons which forced us to drive the WEF nexus initiatives such as:

(a) Rapid urbanization,

- (b) Threats posed by high extreme climatic events, climatic variability and change,
- (c) Population growth,
- (d) Challenges that affect water and energy planning for economic development.

23. The WEF nexus is one of the priority streams of work in the WRC corporate plan and is has been positioned as one of the 'lighthouse' initiatives in the organisation since 2012. This is routed in the recognition that the WEF nexus in SADC has not been explored to the extent that it is easily implementable in governmental standards and policies. Knowledge gaps remain, and these must be addressed to promote WEF nexus adoption and operationalization. Particularly, trade-offs between the WEF nexus sectors need to be described, evaluated or monitored to the greater degree, such that they can adequately inform the development of policies, tools and guidelines.

24. Through a series of specialised stakeholder engagements and the commissioning of several studies done by various institutions/organisation, the WRC has recently developed a WEF nexus strategy which prioritises the following:

- a. review of the applicability of available WEF nexus models
- b. conduct a series of assessment and scenarios studies to understand: the potential impact of climate change on water availability; energy generation capacity and food production; WEF nexus contributions to achieving SDGs 2, 6 and 7 by 2030; water scarcity implications for food- and energy security; water and land requirements for bioenergy implementation; tipping points for fossil-fuel based energy security and food security
- c. Development of a series of analytical tool for various spatio-temporal scales, including a WEF nexus index; assessment tools for water usage per energy generation technology type; frameworks for evaluating upstream and downstream trade-offs; analysis of WEF related city metabolisms

- d. Policy studies to explore how to sustainably embed WEF nexus approaches in sector specific policy
 - e. Create regional and national WEF nexus forums to facilitate co-learning and influence the enabling environment for WEF nexus implementation There are currently 7 researches and innovation projects active focusing on areas in South, Southern and East Africa. These projects are collectively valued at several millions and will be active over the next 2-4 years. These projects would form part of the knowledge output of the proposed WEF nexus regional innovation hub.
25. Lastly but not least, efforts to sustainably increase area under irrigation in South Africa for increased food production and improved food security should be matched with available water and energy resources i.e. adopt a water-energy-nexus approach. This allows for coordinated interventions and sustainable improvements in agricultural productivity, water and energy supply. The Water – Energy – Food nexus has become a central theme in sustainable development as the interconnections between these three vital commodities are increasingly recognized. The recognition of the fact that food, energy and water production and consumption are strongly interlinked has given rise to a growing need for integrated natural resource management.
26. Addressing these complexities requires collaboration on human capacity development. We need to continuously obtain new knowledge, develop new skills and tools for the changing conditions. We need to investigate opportunities to leapfrog to alternative pathways for delivering and managing water-energy-food nexus.
27. We can and must build on these small developments. The path is clear. But we all need to work together and walk together to get to the destination we seek.
28. We continued to be inspired by the selfless contribution that the Global Partnership Network. You are the shining light as Madiba echoed when he

said.” *As we let our own light shine, we unconsciously give other people permission to do the same”.*

29. We wish you productive deliberations during your session and enjoy your stay in our beautiful country.

30. God bless Africa, her sons and daughters.

31. I thank you!