

1. Title

153. Global Action on Desert Vegetation Restoration for Carbon Sinking to Tackle and Mitigate Climate Change

2. Background Info

In the 1990s, the UN-sponsored Conventions on Biological Diversity, Climate Change and Combating Desertification constitutes the well-known three environmental conventions under the framework of the United Nations Conference on Environment and Development. More than 190 countries are now contracting parties to the Conventions. Earlier this year, UN designated 2021-2030 Decade of Eco-system Restoration. These conventions and decade plan are undoubtedly meaningful as we still have 1/3 of the planet land area covered by desert. Large scale and severely degraded ecosystem like desert, is hardly to be restored in short term without human intervention. It is worse still that desert regions are generally under both the stress from fragile nature environment and poverty which make then the least resilient places under the impact of global climate change. Therefore, more attention should be paid on the desertification area when we talk about global environment, development and climate change.

For a long time, due to the lack of effective technology system and sustainable business model, seldom substantial progress of vegetation restoration have been seen in desert areas featuring poor natural and social economic conditions. The UNCCD's action mainly focus on land degradation neutrality, which means to restraint further land degradation. However, China is now one of the few countries that took the lead to realize land degradation neutrality through its relevant technology and practice experience accumulation. Among the Chinese achievements, the case of Kubuqi Desert stands out as it is the first desert in the world has been

successfully ecologically-restored in an integrated way.

Kubuqi Desert is the seventh largest desert in China with a total area of 18600 km². With 30-years efforts, Elion has successfully turned one third of the desert area into oasis, carrying vegetation restoration in more than 6000 km². A special partnership has been formulated for the large scale eco-restoration of desert land, and the core collaborative model includes strong policy support from the government, commercial operation of the private company, and market-driving participation of the local communities. Lessons and experiences of the 30 years efforts in desert restoration have been the most valuable resources for combating desertification, and the Kubuqi Model is the most successful model of “desert economics” including the following key factors:

- Dynamic integration of eco-environment protection and commercial benefits, facilitating the 3S (namely stable, sustainable and secure) development in ecologically fragile areas.

- A balanced advancement of desertification control, ecosystem protection, industry development and poverty alleviation, generating financial and social welfare returns from the investment in desert food, energy, vegetation and tourism etc.

Along with the great improvement of local eco-environment, comes the green and low-carbon value which is even more eye-catching than its ecological performance. A 2017 released UN Environment report titled Eco-Restoration and Wealth Creation——Elion’s Kubuqi Business Model designates that the 30-years re-vegetation program in Kubuqi has created 15.4 million ton carbon sequestration, reserved 24.376 billion cubic meter water, released 18.3 million ton oxygen and created more than 500 billion RMB ecological wealth. These evaluation figures attest to the improvement of the micro climate system over the surrounding 18600 km² desert area and restoration of biodiversity from less than 10 species to over

500. During the course of the eco-restoration, 102 thousand local people have got rid of poverty and 1 million job opportunities have been created.

The Kubuqi Model concluded from Kubuqi Desert's successful practice can provide a sustainable and commercial solution on the large scale restoration of degraded eco-system, and its industrial approach to manage desert sets an example for desertification combating worldwide. Through large scale vegetation restoration, the desert eco-system can be rebuilt and thus improve the desert land value by carrying sustainable industries. During the restoration and industry development process, a multi-party cooperation model connecting public sector, private sector and local community is formulated, contributing not only to environment improvement but also a sustainable livelihood for the local people. At the meantime, eco-wealth and carbon-sink creation stands at a huge number.

3. Action Initiative Overview

Base on the Kubuqi Model, we advocate a sustainable industry-driven desert management action plan by utilizing the curable desert land worldwide, aiming at the increase of desert vegetation coverage, improvement of regional eco-system resilience, generation of sizable carbon-sink and resilience to climate change.

The Initiative: To echo the United Nations Decade of Eco-system Restoration (2021-2030), we propose an eco-restoration program on 5% of the total 36 million km² desert land globally (means 1.8 million km²), restoring vegetation coverage to generate carbon-sink and promote regional social economic development.

4. Nature-based Solutions to tackle Climate Change

Vegetation coverage in desert, especially second-formulated desert, can be restored and thus provide a systematic solution on global climate change tackling. For the first step, desert eco-system can be rebuilt to increase biomass and carbon storage through restoration technologies; to follow that,

regional desert ecosystem functioning can be improved to increase ecosystem resilience and climate change response ability.

5. How to support the mitigation and adaption of climate change and reach the social, economic and environmental goals in five years

1) Reduction of green gas emission and carbon capture (G 吨):

It is estimated that a stable carbon-sink storage of 4 billion ton can be realized through the vegetation restoration program on 1.8 million km² desert land in 10 years.

2) Improvement of climate resilience

Eco-restoration program in desert can improve its ecosystem function and rebuild a regional ecosystem with high level resilience.

3) Social influence, for example employment, poverty relief and justice transformation

To promote the Kubuqi Model for regional economic development and better public service: developing desert industry to increase job opportunities and realize industry upgrading; investing infrastructure to improve public service. People benefit from the whole program is expected to be 100 million in 10 years.

4) Net economic influence (USD, how to create):

Based on the statistics of Kubuqi Model, it is estimated that the 10-year program can create 400 billion USD economic benefits, 2000 billion USD ecological wealth, which mean 100 Kubuqi case will be replicated. (Specific figures varies against different economy condition worldwide)

5) Major Impact on the realization of the 2030 SDGs

(1) No Poverty: nearly 100 million desert population reaches

better livelihood to varying degrees.

(2) Zero Hunger: ecosystem restoration can contribute to the increase of arable land area, which means the improvement of land productivity and guarantee of food security.

(3) Affordable and Clean Energy: using desert solar to establish the affordable and clean desert energy system.

(4) Decent Work and Economic Growth: the program will increase job opportunities in desert area, offering decent work and bringing to local people better income.

(5) Industry, Innovation and Infrastructure: the program will develop green desert industrial chain in desert area, realizing relevant industry upgrading and infrastructure construction.

(6) Reduced Inequalities: For most countries, desert areas are lagging behind in development. This program is targeting at economy promotion in desert areas which will contribute to the inequalities reduction.

(7) Climate Action: to form a comprehensive climate change tackling plan based on the increase of carbon capture and improvement of ecosystem resilience.

(8) Life on Land: to increase the bio-diversity in the desert ecosystem.

(9) Peace, Justice and Strong Institutions: to decrease the conflict caused by nature resources utilization for a harmonious social environment. To establish a multi-party institution partnership with both government, private sector and public involved.

(10) Partnerships for the Goals: to rebuild harmonious partnership for sustainable development.

6) Food Security

To increase soil fertility through the desert vegetation restoration program and some of the desert land can be restored into arable land via this method. It is estimated that 10% of the restored desert land can yield 18 million hectare new arable land for various types of grain production.

7) Reduction of species extinction and environment lose, improvement of bio-diversity:

Ecosystem restoration in desert areas can dramatically improve the regional bio-diversity. On the one hand, plant diversity are increased along with the vegetation rebuilding process; to follow that, a better ecosystem will be formed to support higher level of animal and microbial diversity.

6. Participant Countries and Organizations

Countries participate the Initiative include: Belt and Road countries represented by China, countries and regions face the challenge of land degradation or have advanced relevant technologies.

International organizations and institutions include: UN Environment, UNCCD, and relevant research institutions.

7. How to Consult All the Parties (local community, youth, aboriginal people)

The Initiative is a complex system, in which, the Initiative provider proposes its basic methodology with the demonstration of successful cases, all parties figure out their own implementation plan suitable for the regional real situation. Local community and young people's suggestion should be fully considered during the process of plan composition and implementation. Since this Initiative is based on some land projects, regional partnership should be adapted to the local land ownership policy for the guarantee of all parties interests.

8. Where to Implement the Initiative

The Initiative is to be implemented in desert areas worldwide, and the key areas include: Middle Asia, Middle East, Africa and B&R countries.

9. How to Implement the initiative, how all parties to participate, and how to promote transformation

This Initiative will be carried forward along with the implementation mechanism of the three UN environmental conventions and Climate Change Action. Cooperation between international organizations, enterprises and non-public sectors will be relied for relevant capability building and international promotion.

10. Contribution to all the Summit action areas

The Initiative is closely related to almost all the action areas of the Climate Action Summit. An interregional cooperation mechanism is suggested to be established.

11. Existing Experience and How to Use

The successful case of Kubuqi Model has already served as an experience provider. Elion Kubuqi Model has established long-term cooperation relations with government authorities, UN organizations and relevant institutions for technology innovation and capability building, which lays a solid foundation for the Action Initiative.

12. Financing Mechanism

Establishing green financing platform to mobilize global financial resources.

Recent action: TREELION Global Green Eco-fund has been recently established in Singapore with the first phase scale of 1 billion USD. TREELION is aimed at seeking low-cost social capital for green economy investment. Technologies and financing tools, like block chain, green asset, and professional accreditation body are applied on the TREELION platform.

13. Management Method and Monitoring Standard

A specialized Action Plan Agency should be established to provide technology, policy, financing service and monitoring system.

For example, better management of Action Plan implementation, monitoring and evaluation transparency can be realized by using the block chain technology supported-TREELION platform.

14. Promotion Strategy

To promote the program through the Kubuqi International Desert Forum, and to unite all parties to echo the action plan.

To raise people's sense of participation and recognition through pilot projects, and carry on climate change coping capability building during the process.

15. Contact Info

Proposer: MEE of China, China Elion Kubuqi Model provider——Elion Group。 luowei@elion.com.cn

Participants:

1) UN Environment: Eco-Restoration and Wealth Creation——Elion's Kubuqi Business Model, published in 2017; UN Environment Kubuqi Eco-economy Pilot Area, established in 2017.

2) UNCCD: long-term guidance of Kubuqi Desert management under the framework of 2030 Land Degradation Neutrality Goal.

3) Ministry of Ecology and Environment of P.R.C.: Designation of Kubuqi Desert as one of the 16 national practice and innovation bases under the theme of “Green is Gold”, 2018.

4) Ministry of Science and Technology, Ministry of Forestry and Grassland, P.R.C.: co-organizer of Kubuqi International Desert Forum.