PROJECT NAME: Research and Demonstration of Key Technologies for Vegetation Restoration and Reconstruction of Desertified Land in Uzbekistan

Research Report

Research group of Samarkand State University visited during July-September 2020 to Kyzyl-Kum desert in Karakul, Bukhara. This project focuses on the very important issue-climate change and desertification. As an important economic corridor of the “Belt and Road”, Central Asia is the most convenient land route connecting China, North Africa and Europe. As an important cotton producing area in the world, Uzbekistan is rich in mineral resources and ecological landscape types. However, due to the unreasonable development and utilization of water resources, the ecological environment of the Amu River Basin and the Aral Sea has deteriorated, forming the current "The Aral Sea Crisis", such as land degradation (desertification, salinization) and salt dust. Environmental problems are getting worse and need to be resolved immediately. Vegetation restoration and reconstruction of the desertified land is an important content and fundamental guarantee for promoting ecological security, ecological civilization and sustainable socio-economic development in this region.

In this timeframe we were involved in the following:

1. Establishing the demonstration sites for vegetation restoration and reconstruction demonstration in the desertified land of Karakul. Meteorological instruments and plant transpiration measurements are installed. Four types of technology carrying out for comparative experiments and observations (a: drought tolerance of germplasm resources screening technology in sandy areas, including *Haloxylon aphyllum (Black Saxaul), Haloxylon ammodendron, Radix Paeoniae Alba, Salsola chinensis*, perennial herb and annual *Artemisia*; water-saving and drought-resistant

vegetation reconstruction technology, degraded vegetation community restoration technology, and enclosure for self-repairing technology)

2. To get climate data by Logger Net in Karakul site (Fig. 1., Fig. 2.).

3. We are going to analyses and write the joint abstract and paper under this project.

Figure 1. General view of study area

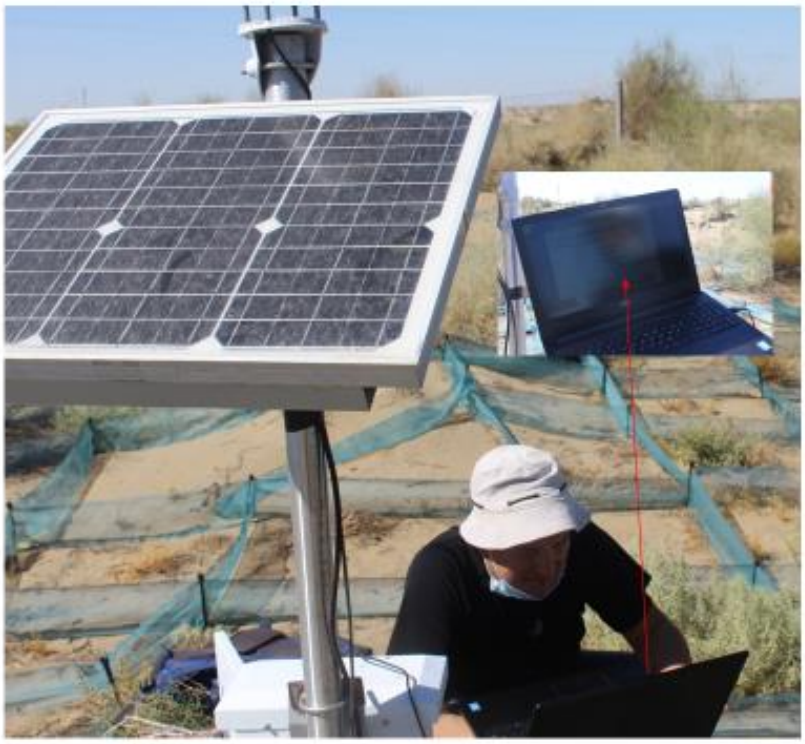

Figure 2. Getting the process of climate data in the desert area

Sincerely,

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