The DT XVI International Conference on Arid Land

The **DT XVI International Conference on Arid Land**, held in Tokyo from **10–12 November 2025**, provided a highly engaging and productive environment for scientific exchange. Organized by the **Japanese Association for Arid Land Studies (JAALS)** in cooperation with the **International Desert Council (IDC)**, the conference brought together researchers and specialists from many countries. The atmosphere was collaborative and inspiring, with active discussions and valuable opportunities to connect with distinguished scientists working in arid-land studies. Notably, the organizers were very considerate of participants' diverse cultural and religious needs, providing a dedicated prayer space for Muslim attendees and offering halal and vegetarian meal options to accommodate different dietary requirements. This thoughtful inclusiveness greatly contributed to the event's overall positive experience.

On 10 November**, Prof. Mikiko SUGIURA**, in collaboration with co-authors **Samir ELGWELY, Ahmed ABDELHAFEZ, and Erina IWASAKI,** delivered a presentation on Challenges of Groundwater Governance in the Western Desert of Egypt: Based on Common-Pool Resource Theory. The talk explored how the Common-Pool Resource (CPR) theory can be applied to groundwater governance in Egypt's Western Desert. Using Ostrom's framework for the sustainable management of shared resources, the speaker emphasised how principles such as clear boundaries, collective decision-making, and nested governance can help create more resilient groundwater systems. The presentation highlighted the potential of polycentric governance, especially through Water Users Associations (WUAs) as intermediaries connecting state regulations with local practices. Although WUAs offer valuable opportunities for information sharing and collaborative management, several challenges have been identified, including the need to enhance participation incentives, improve dispute-resolution mechanisms, and ensure a fair distribution of benefits. The session provided useful insights into how CPR theory could help guide more sustainable groundwater management in the Western Desert.

On the other hand, **Erina IWASAKI**, together with co-authors **Yuki MARUYAMA, Bayan ALSAAIDEH, Samir ELGWELY, Ahmed ABDELHAFEZ, and Kenichi KASHIWAGI,** discussed Understanding Desert Development from Household Economy in the Western Desert,

Egypt. The presentation explored desert development in Egypt's Western Desert from an economic perspective at the household level. While much existing research focuses on large-scale agricultural companies and major national projects such as Toshka and West Oweinat, this presentation highlighted the often-overlooked significance of small-scale farmers as key contributors to land reclamation. By analysing household behaviour and decision-making, the speaker demonstrated how small farmers play a notable role in expanding irrigated land and advancing desert development. The findings showed that these farming households engage in land reclamation not only as a production method but also to stabilise household income and consumption. This viewpoint provided an essential counterpoint to narratives centred solely on significant investments, illuminating the socioeconomic motivations driving smallholder involvement in desert agriculture.

On the final day, 12 November, **Kyotaro Kurokami,** along with co-authors **Akira HAMA, Bayan ALSAAIDEH, Kaisei ASAMI, Adel SHALABY, Hoda NOUR-ELDIN, and Erina IWASAKI**, presented Land Use in the Global Era – Dakhla Oasis, Western Desert (Egypt) 1984–2025, focusing on land-use changes in Egypt's Dakhla Oasis from 1984 to 2025. The presentation was set against the wider context of increasing food security concerns in the Middle East and North Africa since the 2008 global food crisis. The speaker highlighted how Egypt's efforts to boost food production have led to extensive land reclamation in the Western Desert—an expansion driven not only by major investors but also by local farmers. Utilising satellite imagery and remote sensing analysis, the study identified clear differences in agricultural expansion before and after the Arab Spring. Between 1984 and 2011, agricultural land grew at a rate of 2.48 km² per year, followed by a sharp increase to 13.32 km² per year after 2012, indicating a significant acceleration in land development. The presentation also displayed seasonal variations in agricultural land, with peaks during the winter wheat season. Notably, the standard deviation of cultivated land area has risen since 2023, a trend the researcher linked to increased food security concerns following the war in Ukraine. This analysis provided valuable insights into how global events, national policies, and local farming practices together influence oasis landscapes in the modern era.