

Paper ID	270
Author(s)	Maho Takagi
Title	Factors for the Continuation of Collective Farmland Use and Water Conservancy Practices in the Nara Basin: A Case Study of an Agricultural Settlement in Sakurai City
Abstract	
<p>Japan's agricultural culture has long focused on rice cultivation, with significant efforts directed toward improving water supply and minimizing demand to ensure sufficient resources for farming. Historically, agrarian settlements have managed land and water effectively; however, recent issues have surfaced. These include the decline of agricultural communities due to people leaving the farm sector for part-time jobs, leading to a weakening of the ties within water conservancy organizations integral to village life. The Nara Basin, characterized by low rainfall compared to national averages and a limited river basin area, has struggled with water shortages for paddy cultivation. To counter these challenges, the region has employed intensive agricultural practices rooted in innovative land use and water management, fostering strong local water conservancy efforts. An examination of agricultural settlements in the Nara Basin, particularly those outside the Yoshino River watershed, reveals two key insights. First, the collective use of farmland and coordinated water conservation methods allow for rice cultivation even with constrained water resources, simultaneously supporting farmland maintenance. Second, these collective practices not only mitigate the risk of water shortages but also encourage the perseverance of rice farming. This, in turn, holds social significance as it contributes to the sustainability of local villages. For Japan's agriculture to be truly sustainable, it is essential to consider not only its economic aspects but also the importance of village social structures, ensuring a holistic approach to agricultural and community resilience.</p>	
Keywords	rice cultivation, water conservancy practices, paddy-upland rotation

Paper ID	196
Author(s)	Sayako Kanda
Title	Water, Varieties, and the Market: Declining Rice Production in Bengal in the Early 20th Century
Abstract	
<p>In the early modern period, Bengal was renowned for its abundant rice crops, drawing praise from visitors to the region. Rice was exported over a wide area, from the western Indian coast to the Maluku Islands, earning Bengal the title of the 'rice bowl of the Indian Ocean.' After the British East India Company colonized Bengal in the late 18th century, the region continued to be a significant exporter of rice, catering to various global markets with different rice varieties to meet demand. However, by the early 20th century, rice production in Bengal stagnated, and the region shifted to being a net importer of rice, sourcing much of it from nearby Burma. This paper examines the factors that contributed to the decline of rice production and per capita consumption in Bengal prior to the Great Famine of 1943, particularly focusing on changing hydrological conditions and strong market forces. It also examines the differences between Eastern and Western Bengal. In water-rich Eastern Bengal, the deterioration of the hydrological environment hindered the production of winter rice, or aman, which is a deep-water variety traditionally grown for export. As a result, most of the rice imported from Burma was sent to the eastern districts to compensate for production deficiencies and to support the region's growing population. In contrast, Western Bengal, where hydrological conditions were much inferior to those in Eastern Bengal, became increasingly commercialized, focusing on cultivating rice varieties suitable for export outside the districts.</p>	

Keywords	Foods, Water
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Paper ID	152
Author(s)	Haruhisa Asada
Title	Disaster, development, and changing rice cultivation in rural Assam, India
Abstract	
<p>Northeast India has long been one of the least developed regions in the country. However, since the BJP government came to power in the mid-2010s, the region has experienced rapid development, including roads, buildings, and industries. Nonetheless, some researchers point out the negative aspects of government-initiated development, particularly the disregard for the voices of rural residents. Recent climate change has also affected the livelihoods of the rural residents; rice cultivation. The rainy season now begins earlier than before, with heavy rainfall occurring in April and May. The major floods of 2022 in the Brahmaputra valley in Assam may have been exacerbated by these climatic changes as well as unplanned infrastructure development. The flooding affected the middle plains of the valley, a region where the traditional rainy-season rice is grown by the indigenous Hindu population, and where flooding has been rare in the past. Due to recent hydrological and environmental changes, they are no longer able to sustain their cropping system. This study presents some findings from villages on the north bank of the Brahmaputra River to explore how these communities are responding to these challenges. In conclusion, the study reveals multiple patterns of agricultural and rural development in the region, triggered by interactions with different communities. It also suggests that for sustainable regional development, it must not only involve top-down infrastructure development but also require a deep understanding of the local context and the needs of the local communities.</p>	
Keywords	Water, Land, Disasters, Foods, Humans

Paper ID	278
Author(s)	Hsin-Hua Chiang, Yukinaga Nishihara and Yuki Sano
Title	Irrigation systems management under changing environmental and political contexts: A comparative study of Japan and Taiwan
Abstract	
<p>Rice cultivation in Asia has long relied on irrigation systems that integrate water, land, and agricultural production. These systems are shaped by both community-managed commons and state control. With increasing climate variability and extreme weather events, effective water management is crucial for rice farming. This research focuses on Japan and Taiwan, examining how irrigation management influences the balance between grassroots and state authorities, shaping water governance and rice farming in changing climates and political contexts. At the regional level, irrigation associations historically ensured equitable water distribution. Nationally, irrigation management is tied to broader state goals, including economic development and disaster resilience. Taiwan's irrigation system, formalized under Japanese colonial rule, transformed post-WWII before being absorbed into state control, while Japan maintained a decentralized, community-driven model despite demographic challenges. The study traces these institutional shifts, reflecting the broader context of state-making and political-economic changes. In both countries, irrigation management has evolved from promoting agricultural production to managing water resources across sectors. This study draws on secondary data such as government reports and news articles to compare how Taiwan and Japan address water challenges and natural disasters, and how state and irrigation associations negotiate governance changes. By exploring these dynamics,</p>	

the research contributes to understanding the complex interactions between local and national authorities in managing environmental challenges, with broader implications for sustainable agriculture and water resource governance.

Keywords	Irrigation, Water resources management, Disaster, Agricultural policy, Commons
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