Irrigation wheels operated by hydraulic power is noted to be an Indian invention around A. D. 1 and afterwards spread to China via West Asia. It was introduced to Japan in the year 829 by the memorial of the official (dainagon) Yoshimine Yasuyo and spread mainly through Ujigō in the Yamashiro district (Yamashironokuni). By the introduction of this irrigation device, irrigation from canals became extremely easy and the medieval agricultural production increased rapidly; this lead to double cropping and triple cropping. Meanwhile, in China, rotating irrigation wheels progressed rapidly mainly in the districts of Jiangxi Sheng and Gansu Sheng and the structure was illustrated in Nông Shū written by Chén Fǔ during Yüan, Nông Zhèng Quán Shū written by xū Guāng qi during Ch'íng and Tian Gong Kai Wu written by Song yíng-Xíng. Today, big wheels with a diameter over than 10 meters are found in many districts in China and are still utilized. In Japan, in Ishiyamaderaengiemaki, a screen painting produced after 1375 in the last period of “Nanbokucho” when Kyoto split into North and South, the irrigation wheel placed at the foot of Uji Bridge was illustrated in detail. After the publication of Nông Shū, the painting is noted to be the second oldest research data of the wheel including illustrations found in East Asia. Other than wheels that served agricultural purposes, records tell that irrigation wheels had been used to pump water to ponds in the temple gardens around Kyoto. In medieval Korea, these irrigation wheels weren’t used and a special envoy that was sent from Korea in 1429 was surprised to find this device, made a model and suggested to spread its use in the county. This a good example that shows the standard of Japanese irrigation wheels.

In order to restore these irrigation wheels that contributed to medieval agricultural production, an investigation was conducted on the actual condition of the wheels mainly found in Northern Kyushu and Western Chugoku including actual measurements. By referring to research data such as Ishiyamaderaengiemaki, it was decided that a model of the irrigation wheels that are assumed to have been used in the medieval farm villages will be reproduced at our museum. This study serves as an academic basis to reveal the historical development of the irrigation wheels and presents research conducted on the theme.