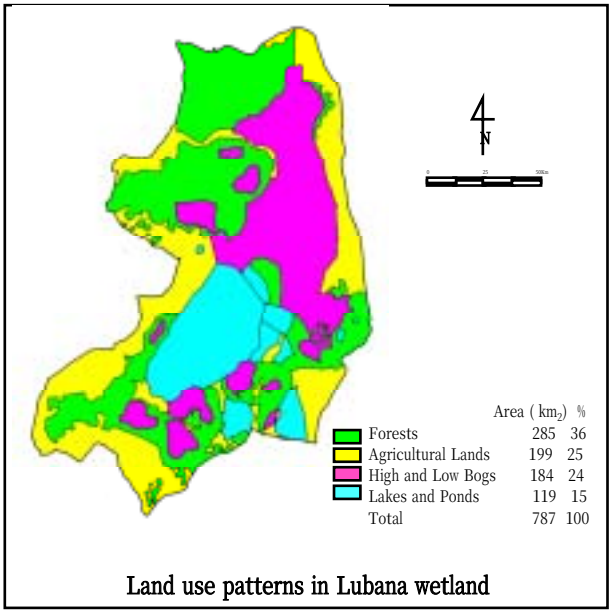
Mini-Series: Natural Environment of Wetlands (3)

Part 3: Lubana Lake in Latvia

As featured in AAINews Vol.18, in the Baltic country of Latvia there is a wetland known as Lubana Wetland. It is named after the largest lake in the country. The land use pattern of this wetland is as follows; To the north-east and south-west of the Lubana Lake and the fish farming ponds, are high and low bogs, and the land around the bogs is used for agriculture. There are also patches of forest in the area. In terms of acreage the forested areas account for 36% of the wetland, and the agricultural land and marsh areas occupy some 25% each. The marsh areas are made of a complex mixture of high and low bogs as well as those which are somewhere mid-way. Moreover, along the rivers there are water meadows, which account for about 10% of the entire wetland. Here you can see fragments of various biotopes neighboring each other like a mosaic, forming a complicated ecosystem. The biodiversity in this area is correspondingly rich with a number of valuable species of wild fauna and flora.

In the past, the area surrounding Lake Lubana used to suffer frequent floods. Then dikes were built to prevent such damage. Today the water level can be controlled by operating floodgates. However, while a high and stable water level is necessary for the wellbeing of fish species in the lake, a relatively low water level is desirable for agriculture and forestry in order to facilitate draining of excessive water after floods. Thus there is a conflict of interests among the beneficiaries of the lake and the surrounding wetland. Once the flood control was in place, the number of migratory birds such as mallards and green-winged teal which used to visit this area decreased drastically. After being drained of water, peat becomes dry and hard, which in turn affects the subsequent course of vegetation growth. Therefore, the water level control for the sake of human economic activities has caused the drying up of the wetland, accompanied by various adverse impacts on the conservation of biodiversity in the area. People used to use grass harvested from the water meadows as forage for their livestock, but today this practice has become rare. As a result bushes have started growing in the water meadows, which may transform the area into forested land in the future. It can be said that this is one example where human activities are maintaining certain types of biotope which are important for the conservation of biodiversity.

Various human-related phenomena in this area, such as fish farming ponds, water meadows, agricultural fields and plantations are closely linked with the surrounding ecosystem in and around the wetland, and the relationship is especially dependent on the water level and water quality of the lake. Therefore, in order to promote both development and conservation in a harmonious and compatible manner, a complex system of water level control is necessary. In order to assess the main factors and their function in affecting the water quality and water level of Lubana Lake, a development assessment is in progress conducted by a Japanese Development Study Team. Already study has been on-going for a long time and various data are available on the ecosystem of Lubana wetland. In Japan, especially in Hokkaido, there are a number of researchers who are studying the hydrological and ecological aspects of peat bog development and conservation. We hope that the development study activity in Lubana wetland will contribute to facilitating communication interaction, and collaboration among such researchers. We also strongly hope to see an environmental management plan for conservation and sustainable utilization of the wetland being established as a result of the research process and with a full understanding of the present environment of the area.



Land use patterns in Lubana wetland


Handle-free flood gate