

# Distribution and utilization of aquatic plants in Bo river, central Vietnam

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## 1. Introduction

Aquatic plants are producer of the river ecosystem, and they have various functions such as offering of the habitat to aquatic animals, water quality purification, a nutrient salt removal, and etc. Aquatic plants are sensitive to environmental changes on the other hand, and it is known to be affected by various habitat factors, and to decrease rapidly. Central Vietnam, the study area is a region where the conservation of the aquatic plants will be a problem because of the water pollution in recent years. On the other hand, Vietnamese usually use wild vegetation on a daily basis. Aquatic plants grown in the river and rice field are also thought to be an important, natural resource for a lot of residents. The aim of this study is to reveal a distribution pattern and the regulating factor of the aquatic plants communities in the rice field and the river of each study area, understand the state of the resource use of the aquatic plants by the resident, and to clarify the relation between the regional society and the aquatic plants.

## 2. Methods

36 quadrats (2m×2m) were set in the habitat of aquatic plants such as river and rice fields in three study areas (Intermountain region, flood plain and delta along Bo river), and species name and cover ratio (%) of the hygrophyte that appeared in a quadrats were recorded. The interview survey from the resident and the field investigation for utilization of aquatic plants were done in the village in three areas, and useful plant and the usage of them were recorded.

## 3. Results and discussion

A total of 52 wild aquatic plants or hygrophytes species, representing 39 genera and 25 families were recorded from the 36 points. Among them, the species that appeared in the rice field of only one region was assumed to be a peculiar regional species. In intermountain region, there was no species in common with the species from the river and the peculiar regional species from rice field. In flood plain there was nothing of peculiar regional. In delta, there were a species in common with the species from the river and peculiar regional species and all of common species were aquatic plants. The degree of similarity calculated was the highest value in delta. As a result, it was suggested species of each study area are thought to be composed by paddy weed + peculiar regional species. The peculiar regional species in the delta were thought to consist of the one brought by overflowing water of flood and flood resistant species. The peculiar regional species in the intermountain were suggested to be unable to live in the eutrophic river and their habitats were fragmented in rice field in small valley. In the interview survey, use of 26 species of aquatic plants was recorded. A remarkable difference of the usage of species and the way of use them were seen in the village on the intermountain and other villages in two areas, and the reason is guessed to be the difference of ethnicity and the life style. In delta, pasturing of the duck was popular and it was suggested that pasturing the overcrowded ducks influence the cover degree of the aquatic plants colony in the region.