

Citizens' Activities Toward Restoration of Lake Biwa

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Abstract

We celebrated our Tenth Anniversary of Establishment last year. Before the establishment in Shiga prefecture there were citizens' movements against using detergent. These movements lead to the establishment of our organization, Akanoi-Biwako Environmental Citizens' Initiatives or AKANOI. During 10 years our activities have covered a lot of topics and our knowledge about environment have increased. The basics of our activities is survey of water quality and based on the results we plan programs or events to let people know the state of Lake Biwa and rivers and pay much attention to them, which are enlightenment programs such as Akanoi-Bay Exploring Study Tour, River Watching and things like that. Making a model river activity is, in a way, to maintain rivers in an ideal state or in its natural form with hope that there people can enjoy playing in rivers. Recently many university students gain many valuable experiences in their internship with AKANOI, Which is environmental education of sorts, we think. And for us members getting them is also favorable as our activities become activated. We need to collaborate with universities, enterprises and government to expand our activities.

Briefing of Lake Biwa

Our activity field is Akanoi-Bay basin which is located on the south-eastern bank of Lake Biwa which is in the central part of Japan. Lake Biwa is the biggest lake in Japan and is the world's third oldest lake. Thanks to its long history, Lake Biwa is rich in biodiversity, offering more than 600 species, including 57 endemic ones. The lake provides water to some 14 million people in the Kinki region. The lake is also a scenic spot, with about 30 million people visiting the lake every year.

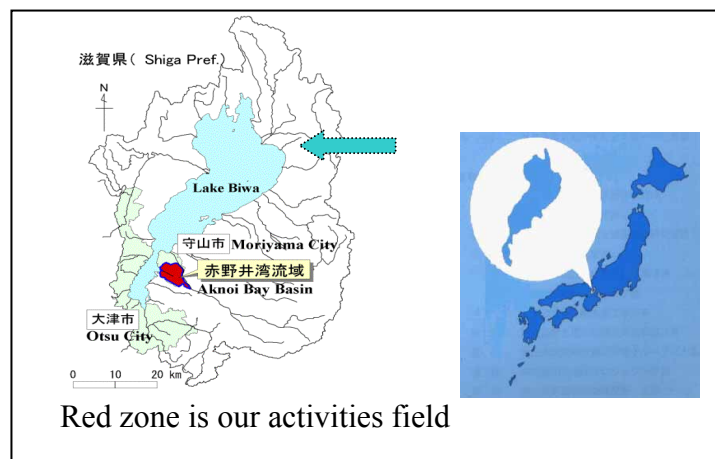


Figure 1. Lake Biwa's position.

Background of NPO's establishment along with citizens' movement



Figure 2. Gathering to promote usage of natural soap.



Figure 3. Inacing ordinance.

During '70s to '80s, fresh red tide and blue-green algae frequently occurred because of lake eutrophication which was caused by phosphorous of detergent. Shiga prefecture enacted the "Ordinance for Prevention of Eutrophication of Lake Biwa" and built the sewage system. People felt the sense of crisis toward these phenomena. In 1970 housewives initiated the Soap Movement, a campaign encouraging people to use natural soap instead of detergent. The movement was so powerful that Shiga Prefecture Congress declared the Eutrophication Control Ordinance in 1977 and enacted it next year. All detergent disappeared from shelves of stores in Shiga prefecture and members of women's organization continued to walk around to tell the merit of natural soap. Although a slight improvement had been observed in the water quality, COD (chemical oxygen demand) and TN (total nitrogen) were still increasing gradually. Red tide and blue-green algae had continued to occur. In the meantime an organization, which became parent organization of our organization, AKANOI, was set up to promote activities, but civil activities such as promoting use of natural soap burned down somehow.

People felt the need to raise environmental consciousness among people. In 1987 about two hundred sixty thousand people stood hand in hand along lakeshore of Lake Biwa to face Lake Biwa. Tremendous huge circle of people was made along the Lake Biwa lakeshore, which meant so much environmental consciousness was paid to Lake Biwa. But rivers and the lake had been very contaminated and they had given off a terrible smell due to the rapid urbanization, industrialization, and growth of population, in other words lake eutrophication progressed due to much influx of phosphorous. Having felt the sense of crisis, in 1996 the organization noted above established present organization, "Akanoi" to restore Lake Biwa with help of government. We set our aim to improve water quality and restore a rich ecosystem of Lake Biwa. Our specific goals are to get back fireflies and seta shijimi shell, both of which were abundantly observed in our area before and were symbols of clean natural environment.

Partners and Collaboration

We have about 350 individual members and 110 organization members which include community association and companies. We are also working closely with the local government., Moriyama city. Annual budget of this year is about thirty million yen including about 7 million trust money from national government. Especially this year we have undertaken big two projects sponsored by Ministry of Land, Infrastructure and Transport and Ministry of the Environment. We are so proud that it shows a high appreciation of our activities. Our body consists of two functional groups, Research and Conservation group and Educational group, and management of Firefly-Wood Reference Library and three project groups. Each member is supposed to join at least one of the groups. We have now 15 directors and hold a board of directors once a month to decide course of action.

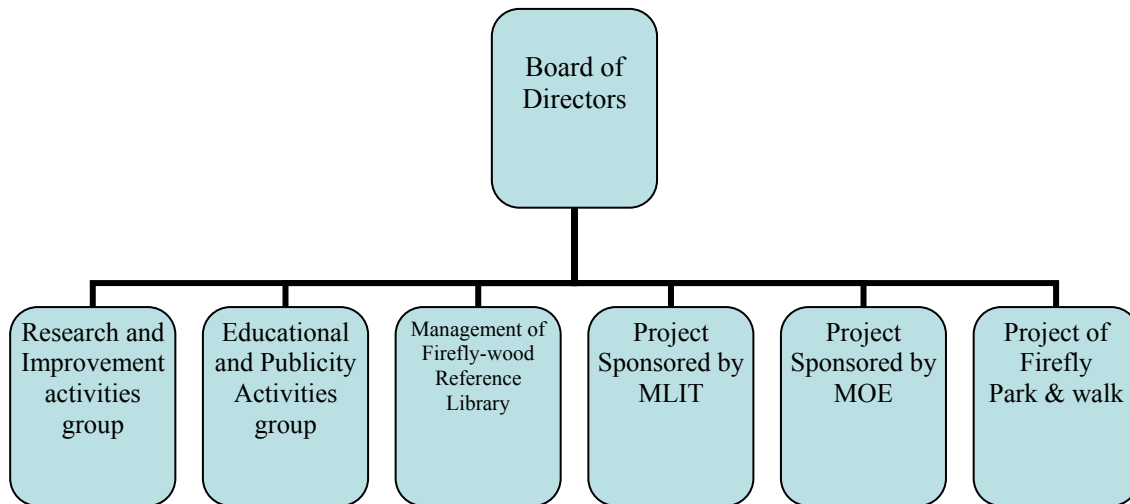


Figure 4. Organization chart.

Leading activities of AKANOI

1) Water quality survey and monitoring

When we established our organization we thought that it was most important to know the state of Lake Biwa as the basis of planning our activities. Since then we have made a survey of water quality five times a year at 100 points along 8 rivers in Moriyama city which follow into Lake Biwa by using easy-to-use simple test kit so as to handle easily for everyone. We have processed a large amount of data using GIS software with help of specialists and put them on web or our homepage to share them with people. This year we have just gathered data of these 5 years and made the third issue book. Through the survey we have found that water quality has become better in terms of Total Phosphorus and Total Nitrogen but in terms of COD we have not found any improvement. Unfortunately we don't know the reason.



Figure 5. Survey of water quality

2) Environmental Education

In olden days our dairy life had a close connection with rivers, such as we washed dishes in rivers and we drank river water. So we had always payed much attention to rivers not to make a mess of rivers. But compared with those days we have now little chances to get close to rivers, which means our interest in rivers wane off. To raise public concern about rivers we have several educational program with a belief that we restore Lake Biwa by cleaning neighborhood rivers which flow into Lake BIwa.



Figure 6. Water environment map.



Figure 7. Study tour on the boat.



Figure 8. Identification of plant.

A. Akanoi-Bay Exploring Study Tour

Every Marine Day we hold Akanoi-Bay Exploring Study Tour for especially children to have a chance to go out to the Bay on the boat and to see Lake Biwa directly. On the boat they make a survey of water, collect living things and soil, take pictures and so on. Returning to the lakeside they make survey on the samples with the help of specialists and share the result with others and make discussion. They also enjoy having gift from Lake Biwa, fish dishes and traditional dishes and do craft with materials of nature. We think that we need to get out of nature and have a good time, which leads to think environment. Every year over 100 people join this study tour and they have a good time in nature.



Figure 9. River watching.

B. River Watching

The purposes of this event are to see rivers very close and understand the state of rivers from upstream to downstream. Participants walk alongside rivers from upstream to downstream, making survey of water, collecting living things and cleaning up rivers. On this occasion participants can learn the state of near-at-hand rivers closely and understand the role of rivers. Also they notice the difference of the state of rivers between upstream and downstream.

C. Making a model river

Every third Saturday morning we gather at Meta River to maintain the river. This activity started about 6 years ago aiming that we make a model river in Moriyama city. At that time the river was very rough with grassy bank and heap of waste. At first we designed the river after having discussion about the ideal rivers for people. Thanks to our efforts, the river is now a good place to have a good time and children can have a good time there with fishing, playing in the water and collecting insect at bank. We hope that this river area is a safe place to play for children and anybody can go there and play there and relax in nature. Recently we can see many fireflies flying there at early summer night. This is because good environment for living things to live there comes back, we think.



Figure 10. Firefly Bus.

D. Firefly Park and Walk Project

At one time Moriyama was famous for Genji firefly. But destruction of environment led to their extinction. However, recently, thanks to the efforts made by our members and the support from Moriyama city, many fireflies have come back to Moriyama. And many people from another prefecture have come to Moriyama to see fireflies flying. Four years ago we planed a project, "Moriyama firefly Park and Walk" with aims to control the traffic around firefly viewing spots so that people can

watch fireflies comfortably, while giving due consideration to the peace and quiet of the people living in the neighborhood and invigorating Moriyama city.



Figure 11. Work by students.

Another aspect in terms of environmental education

For these years we have accepted university students as interns. Although they have their own purpose to learn as intern at

AKANOI, it is a good chance for them to learn environment totally, which means internship program is a sort of environmental education for them. Some take part in water survey activity, some take part in planning events, some take part in analyzing questionnaire and so on. Their internship term is about 6 months or shorter than that. But after their term is over, some still continue to join our activities and become regular member of AKANOI. Their roles are very important for us, such as they give us a new idea, they are so powerful to plan events, they are good at playing with children, they are good at operating PC and so on. For both side this internship program is very attractive in terms of environmental education and cooperation of labor.

Challenges for the future

1) Expanding partnership with wider concerned bodies

Recent projects sponsored by other businesses need some skill and much labor to accomplish. Our own capacity has limit, so we must cooperate with other organization which has some skill or labor that we don't have. In other words, partnership expands our activities.

2) Giving way to the emergence of school education as yearly program

We are requested to teach children water environment at school. In future taking advantage of our knowledge and experience we hope to expand this opportunity to enter school environmental education curriculum because giving children time to think environment throughout years is very important. So as to do that, we need to plan school annual curriculum making the most of our experience in the field.

3) Forming a group consisting of children

It is important for children to get close to water in their childhood, which lead them to pay much attention to water or water environment when they grow up. To let them have a chance to get close water on an ongoing basis and to promote independent efforts, we hope to form a new group consisting of children.

We have a lot to be thankful for celebrating our tenth anniversary, and members' voluntary activities with eagerness are most important of them all to continue our work. We would like to continue our work thinking highly of members' will and keeping up with the need of the times and we hope our activities will expand to other places.