

エコシステム

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川は 治める から 共存する へ

川の法律改正から20年

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河川法の目的に「環境」が加えられ、今年で20年の節目を迎えます。この間、ある一定の成果は得られましたが、取り組みはまだまだこれからです。50年先100年先を見据えた川づくりが、いま、求められています。

This year marks the 20th anniversary since “Environment” was added as a new objective to Japan’s River Act. Certain positive results have been achieved during this period, but we still have a long way to go to make real improvement. We need a 50-100-year management plan for the restoration of natural rivers in Japan.

From “Control of Rivers”. to “Coexistence with Rivers” -Twenty Years Since the Amendment of Japan’s River Act-

In September, 2015, Kinugawa River that runs Kanto Plain was hit by a tremendous storm with heavy rain. Its levee at the mid-stream finally broke and caused catastrophic damage to more than 9,000 homes along the river. This levee breach has made two things clear. First, the growing impact of climate change has increased probabilities of catastrophic weather beyond previous estimates. Second, old management strategies to control floods (by building dams and levees) cannot protect lives and properties any longer.

Academic societies specialized in Ecology and civil engineering have analyzed and summarized the breach and flood of the Kinugawa River and made their recommendations as follows: 1) land use should be based on risk management of topography; 2) ancient flood management methodologies of the Japanese people should be put into use; and, 3) floods should be directed to sparsely populated areas or to flood control basins.

In the past, people who did not have modern flood control technology would build their houses on a higher ground such as a natural bluff. They would also use floodplains where floods naturally occur as rice paddies and vegetable fields. They also constructed aqueducts to direct flood water to areas where few people lived and they built houses on raised ground and planted trees to encircle the houses to protect them from floods. Ancient people were wise enough to accept natural disasters such as flood to a certain degree and tried to live with nature.

Some countries have changed their river management strategies from “flood control” to “coexistence with rivers”. At the Elbe River of Germany, a part of its levee was removed to make an

opening and a new levee 1.7 kilometers away from the river bank was constructed to create a new floodplain with enough area so that floodwater can run through it without flooding land beyond the new levee. On the Havel River, a tributary of the Elbe, the government has removed a part of the levee and bought farmlands behind it in order to let floodwater spread through the newly created floodplains. In the United States, the approach to river management has changed from “control rivers” to “move houses out of harm’s way”. Some local governments have received subsidies from the Federal government to buy private lands and relocate houses and people from floodplains to higher and safer places.

Even though conditions in Japan are quite different from those of other countries, we can still learn many things from ancient Japanese people, from Europe, and from the United States. In Japan, we need to manage rivers over entire river basins or watersheds not just their mid and lower stream sections. We should protect healthy forests around headwater areas to hold water as much as possible. We need to revert abandoned farmlands to wetlands and floodplains. Citizens must learn that floods can occur at any time and there are actions they can take themselves to better prepare for them.

This year marks 2 decades since the River Act was amended to add “Environment” as a new objective the existing 2 objectives, “flood control” and “water utilization”. At the 20th anniversary of the Act’s amendment, we should further restore our rivers, that once were transformed by outdated strategies that control nature with dams and levees, to a more natural condition. We need to create “ecosystem networks”.

It is also time for us to start new programs to change the river management strategy from “control of rivers” to “coexist with nature”. We must develop a sustainable society by creating healthy national lands that will coexist with nature by accepting our traditional river culture.



Levee breaches have proven that dams and levees alone cannot prevent floods.



Ecologists and civil engineer point out the necessity of a new land use strategy based on topographic assessment.



Along the Elbe River in Germany a nature restoration project has been implemented in which farmlands were bought and a new levee was constructed away from the river bank.



Japan also needs to change its river management strategy from “flood control” to “coexistence with nature” by “accepting” floodwaters throughout the entire river basin.

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海外との情報交流促進のため、要約を英文で掲載しています