

# VIETNAM

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**Creating new lakes and restoring the river Sao Khe**

## **PROBLEM**

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### **Ninh Binh, Vietnam**

In early 2000 a local contractor started to create lakes and to restore the Sao Khe river in order to attract more tourism to the area.

The river was shallow and full of vegetation - a difficult location for conventional machinery.



**The Sao Khe river before the restoration work.**





**The Sao Khe river before the restoration work.**





## **SOLUTION**

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### **Ninh Binh, Vietnam**

Trial runs were carried out and Watermaster proved out to be more efficient than their old fleet of small dredgers. With Watermaster they also could go deeper than before and expand their projects. In 2005 the contractor bought their first Watermaster and Sao Khe river was the first project for it.

The accesses to natural grottoes that pass under the magnificent hills were restored to their original state. This allowed small boats with tourists to access the area. The contractor was also constructing new roads to the area and restoring the lakes and the canals nearby.

Watermaster used the 400 l bucket to pull down land to the water. Then the Cutter Pump was installed and Watermaster pumped the material to the discharge area.

Watermaster kept changing the work modes between suction dredging and backhoe dredging until the whole area was dredged to 3 meters depth.

With conventional machinery separate machines would have been required for this work.

**Multipurpose Watermaster changing the work mode.**

**Watermaster**   
case-example





**Watermaster using the 400 I bucket to pull down the land into the water.**

**Watermaster**   
case-example





**Watermaster using the 400 I bucket to pull down the land into the water.**

**Watermaster**   
case-example





**Watermaster working in suction dredging mode,  
deepening the area to 3 meters.**





**Watermaster working in suction dredging mode,  
deepening the area to 3 meters.**

**Watermaster**   
case-example





**Watermaster working in suction dredging mode,  
deepening the area to 3 meters.**

**Watermaster**   
case-example





The discharge area





Discharging.





**Discharged materials.**





**Multipurpose Watermaster removing  
vegetation with the rake attachment.**

**Watermaster**   
case-example



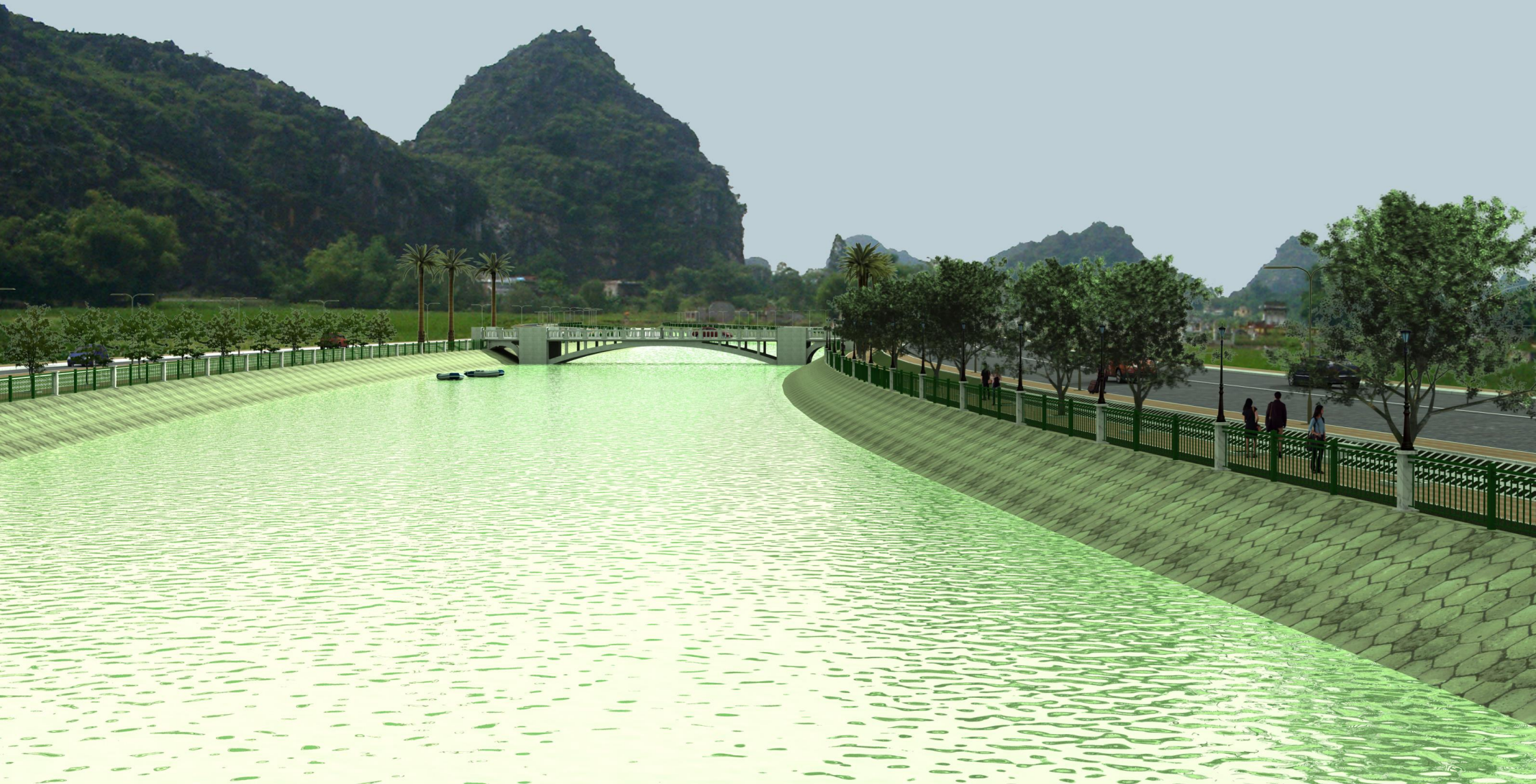


**Multipurpose Watermaster removing  
vegetation with the rake attachment.**





**The restored river and lakes are hoped to attract more tourists to the area. River and lake cruises are among the new activities offered.**



**DỰ ÁN NẠO VẾT XÂY KÈ BẢO TỒN CẢNH QUAN SÔNG SÀO KHÊ**