

Foundation for Riverfront Improvement and Restoration

ARRN
Asian River Restoration Network

River Restoration in Asia and Connection between IWRM and River Restoration

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- I. Problems of Rivers and Waterfront Environment
- II. Some Efforts for River Restoration in Asia
- III. Connection between IWRM and River Restoration
- IV. Measures to promote River Restoration in Asia

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Problems of Rivers and Waterfront Environment

River environment was weeded out by process of leading life of people

Japan, Korea, Malaysia, Japan

ARRN

Problems of Rivers and Waterfront Environment

River environment was weeded out by process of leading life of people

Japan, China, Cambodia, Philippines

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Problems of Rivers and Waterfront Environment

By the rapid population increase and development according to economic growth...

- Water quality deterioration
- Reclamation of river
- Deterioration of habitat
- Disappearance of hydrophilic property etc.

↓

Activities and research on river and watershed restoration are being carried out throughout the world. These activities are broad in scope, and include....

- Improvement of water quality and quantity
- Improvement of urban landscaping, riverfront amenities
- Restoration of the natural environment, ecosystem
- Urban and human relationship restoration etc.

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Some Efforts for River Restoration in Asia


- Example (1) *Sumida River, Japan*

Before (70's-80's) → **After (now)**

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Some Efforts for River Restoration in Asia

- Example (2) *Tama River, Japan*



Before (70's) After (now)

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This slide shows the restoration of the Tama River in Japan. The 'Before (70's)' image shows a river heavily polluted with plastic waste and debris. The 'After (now)' image shows a clean, clear river with people sitting on the banks, indicating successful restoration.

Some Efforts for River Restoration in Asia

- Example (3) *Old Naka River, Japan*



Before (70's) After (now)

ARRN

This slide shows the restoration of the Old Naka River in Japan. The 'Before (70's)' image shows a concrete-lined, straightened river channel. The 'After (now)' image shows a restored river with a natural-looking meandering course, green grassy banks, and a modern bridge in the background.

Some Efforts for River Restoration in Asia

- Example (4) *Kama River, Japan*



Before (70's-80's) After (now)


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Double-bottomed River

This slide shows the restoration of the Kama River in Japan. The 'Before (70's-80's)' image shows a narrow, urban river channel. The 'After (now)' image shows a wider, more natural river channel with greenery. A diagram labeled 'Double-bottomed River' shows a cross-section of the restored riverbed.

Some Efforts for River Restoration in Asia

- Example (5) *Batch River, Japan*



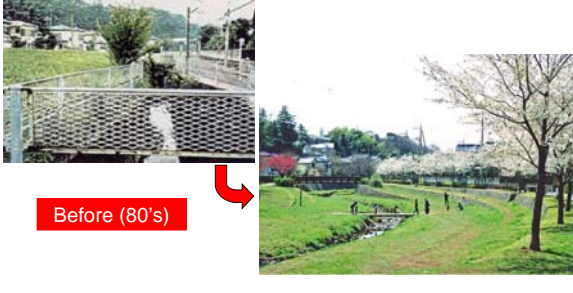
Before (80's) After (now)

ARRN

This slide shows the restoration of the Batch River in Japan. The 'Before (80's)' image shows a straight, concrete-lined river channel. The 'After (now)' image shows a restored river with a natural meandering course and green grassy banks.

Some Efforts for River Restoration in Asia

- Example (6) *Izumi River, Japan*



Before (80's) After (now)

ARRN

This slide shows the restoration of the Izumi River in Japan. The 'Before (80's)' image shows a concrete-lined river channel. The 'After (now)' image shows a restored river with a natural meandering course and green grassy banks.

Some Efforts for River Restoration in Asia

- Example (7) *Moizari River, Japan*



Before (80's) After (now)

ARRN

This slide shows the restoration of the Moizari River in Japan. The 'Before (80's)' image shows a straight, concrete-lined river channel. The 'After (now)' image shows a restored river with a natural meandering course and green grassy banks.

Some Efforts for River Restoration in Asia

- Example (8) *Cheonggyecheon, Korea*

Before (2002) → After (now)

After the removal of the highway

(source: ARRN)

Some Efforts for River Restoration in Asia

- Example (9) *Yangtze River, China*

Before (90's) → After (now)

(source: Wuhan Water Authority)

(source: ARRN)

Some Efforts for River Restoration in Asia

- Example (10) *Suzhou Creek, China*

Before (90's) → After (now)

(source: Shanghai Water Authority)

(source: ARRN)

Some Efforts for River Restoration in Asia

- Example (11) *Zhuanhe River, China*

Before (90's) → After (now)

(source: Beijing Zhuanhe River)

(source: ARRN)

Some Efforts for River Restoration in Asia

- Example (12) *Singapore River, Singapore*

Before (80's) → After (now)

(source: Singapore Public Utilities Board)

(source: ARRN)

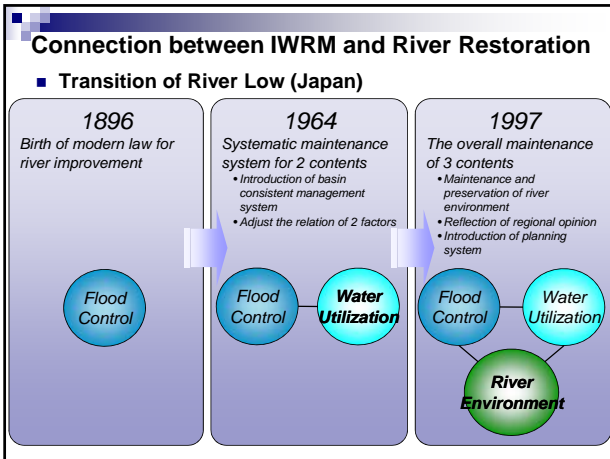
Some Efforts for River Restoration in Asia

- Example (13) *Love River, Chinese Taipei (Taiwan)*

Before (80's) → After (now)

(source: Kaohsiung City Government)

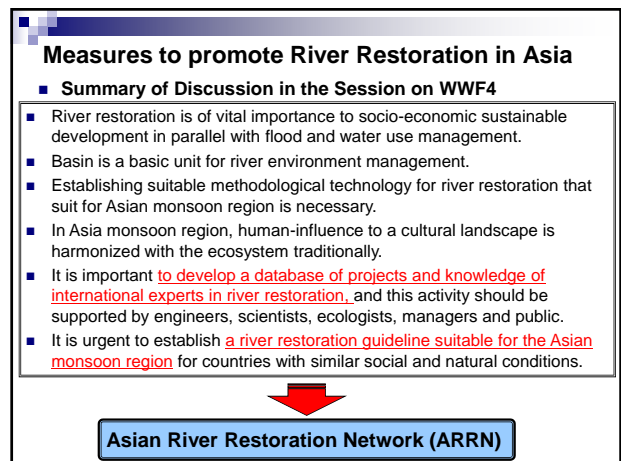
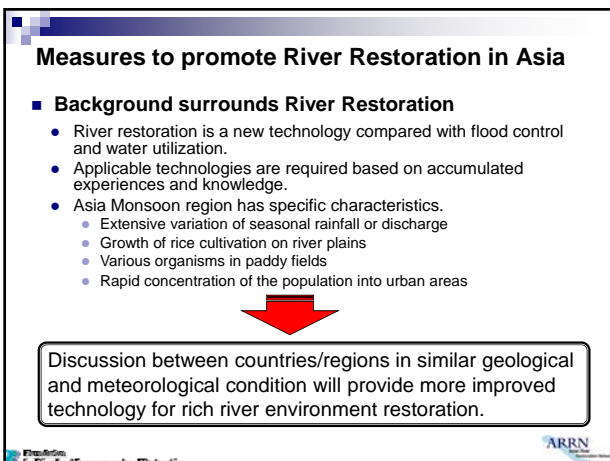
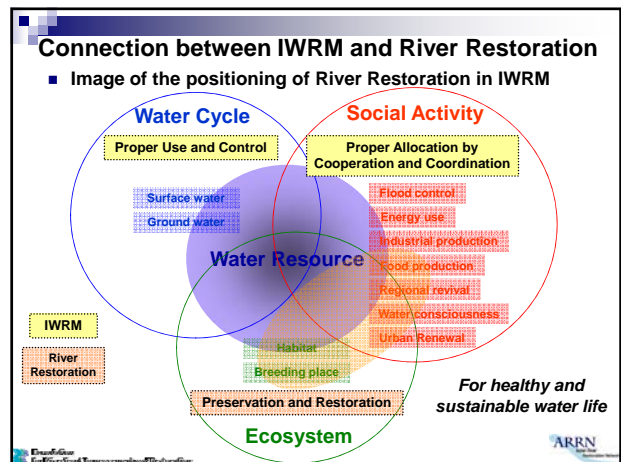
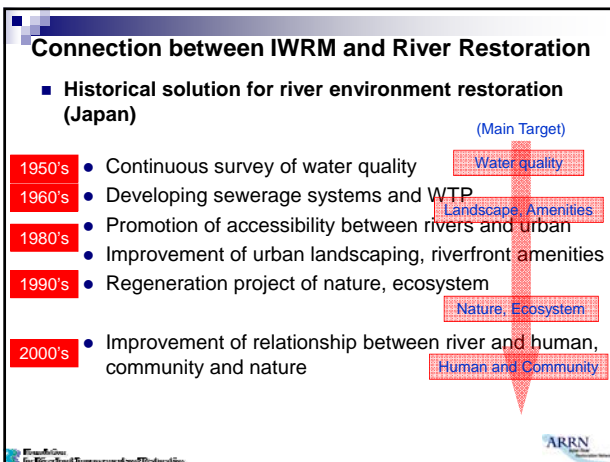
(source: ARRN)




Connection between IWRM and River Restoration

Transition of policy or events for river environment (Japan)

Year	Items	Contents
1958	Beginning of survey of water quality	Improvement for water contamination
1965	Establishment of procedures of occupancy of the river zone	Ensuring of open spaces
1981	Establishment of general plans for rivers and watersheds environment management	Improvement of hydrophilic nature
1987	Establishment of the Foundation for Riverfront Improvement and Restoration	Riverfront improvement, preservation, research
1990	Beginning of Nature-Oriented River work	Focusing on ecosystems
1995	National Biodiversity Strategy has started	Focusing on biodiversity
1997	Amendment to River Law (establishment of basic policy for river improvement and river improvement)	Concern about environment issue
2002	Natural Restoration Project has started	Requesting of nature regeneration
2003	Natural Restoration Low	Concern about natural restoration
2006	Amendment to Nature-Oriented River work	Focusing on ecosystems and human








Development of International Exchange Network for River Restoration in Asia

Masafumi ITO
Asian River Restoration Network
Japan River Restoration Network
Foundation for Riverfront Improvement and Restoration

Outline of ARRN

Contents

1. Establishment outline and background
2. ARRN purpose
3. About organization
4. Major activities
5. Strategies in the coming years

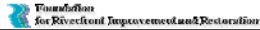


Establishment outline of ARRN

Why is network for river and waterfront focusing on Asia necessary?

Discussion between countries in similar geological and meteorological condition will provide more improved technology to restore rich river environment.

ARRN (Asian River Restoration Network) was established by 3 organizations of China, Korea and Japan. November 2006



Background (Problems of Rivers and waterfront environment)


By the rapid population increase and development according to economic growth...

- Water quality deterioration
- Reclamation of river
- Deterioration of habitat
- Disappearance of hydrophilic property

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Activities and research on river and watershed restoration are being carried out throughout the world. These activities are broad in scope, and include....

- Urban landscaping
- Improvement of riverfront amenities
- Restoration of former river beds
- Restoration of the natural environment



Background (Current Discussion in WWF)


The 3rd World Water Forum

- NARBO as "IWRM"
- IFNet (International Flood Network) as "International Flood Network"
- "International River Restoration Network"
 - "Guidelines for Restoration by Eco-Compatible and Adaptive Management in River Basin" was made in 3rd WWF.

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Asia River Restoration Network as "International River Restoration Network"

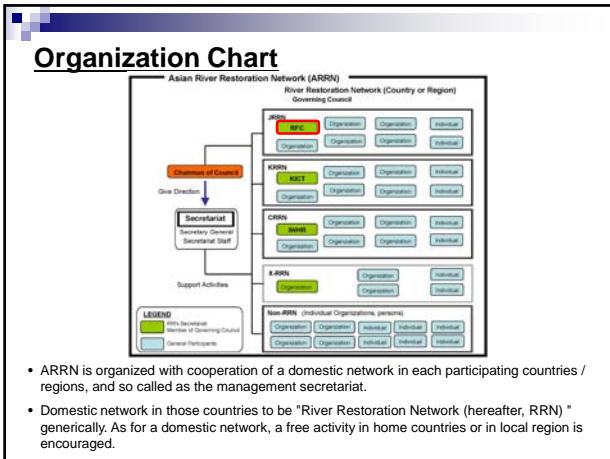
■2005. 1 1st International Forum on Waterfront and Watershed Restoration
 ■2005.10 2nd International Forum on Waterfront and Watershed Restoration
 ■2006.11 Established 3rd International Forum on Waterfront and Watershed Restoration



ARRN purpose

The lost river environment has been preserved or restored in some parts in Asia and new value begins to be recognized to the business on preservation or on restoration of environment.

- ARRN is an international network that ...
 - offers the opportunity to indicate policy of river restoration in which it centered on the Asian monsoon region.
 - offers the opportunity to organizations and the individuals related to the river and basin restoration can share their knowledge and experience, and exchange.



About Japan River Restoration Network

- JRRN is interregional network in Japan as subordinate organization of ARRN.
- JRRN been managed by Foundation for Riverfront Improvement and Restoration (RFC), the non-profit organization specializing in restoring environment in river and basin.

Access "<http://www.a-rr.net/jp/>" for more information for JRRN
 Access "<http://www.rfc.or.jp/>" for more information for RFC.

Foundation for Riverfront Improvement and Restoration

- ### Outline of ARRN Activities
- Public relations**
 - Involving activities and sharing information through the newsletter and on the web-site.
 - etc.
 - Technological support**
 - To hold workshops, forums with a view to sharing latest waterfront environment improvement projects
 - To draw up or revise guidelines for the restoration
 - To dispatch lecturers mutually on participating countries
 - etc.
 - Research and studies**
 - To conduct joint studies to be undertaken by participating countries
 - Support the provision of information with a view to studies
 - etc.
 - Publication**
 - To translate and publish books on the restoration of rivers and watershed
 - etc.

Activities for Public Relations

- Website**

ARRN website (<http://www.a-rr.net/>)

Composition of ARRN website

JRRN website (<http://www.a-rr.net/jp/>)

Activities for Public Relations

- Newsletter**

JRRN Newsletter

- Frequency: Monthly
- Language: Japanese only
- Media: PDF files (website)
- Latest issue: Vol.6 (Nov. 2007)

Back issues: <http://www.a-rr.net/jp/info/letter/newsletter/>

Activities for Public Relations

- News mail**

JRRN News mail

- Frequency: Twice a week
- Language: Japanese only
- Media: E-mail
- Latest issue: Vol. 55

Back issues: <http://www.a-rr.net/jp/info/letter/newsmail/>

Activities for *Technological Support*


- International Forum
- Regional Workshop



Activities for *Technological Support*

- Spread support of technical intelligence (Guideline)

- About 70 published guidelines concerning river restoration has been collected.
- Continue to collect previous guidelines and to publish the index of guidelines to share the know-how in Asian nations.
- ARRN secretariat is currently preparing a system that allows access to these existing guidelines on the website.



Database (JRRN website)

Access URL: <http://www.a-rr.net/jp/book/professional/index.html>

Activities for *Technological Support*

- Others

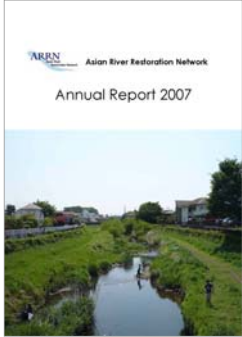


Technical Tour Assistance for Korea Extreme-flood Research Mission

Technical tour assistance for Longbow University students

Activities for *Publication*


- Annual Report 2007



Strategies in the coming years

To play the role of river restoration technological information exchange platform, ARRAN will work for tasks as follows.

- To enrich the communication system, correspond to further enhancement of Web information with several languages.
- Developing skills of members and share the knowledge based on collected information of study cases in each country. (Further enhancement of shared information)
- Continue to collect previous guidelines that relate to the river restoration and to publish the index of guidelines to share the know-how in Asian nations.
- To promote increasing measure for subscribers. (Point at organizations, researches, engineers, etc.)
- To develop exchange system of technical intelligence and human resources of engineers and researchers between members.
- Make opportunity to exchange information and human resources by promoting event such as forum, workshop and seminar




Thank you for your kind attention

Prepared by JRRN Secretariat

