



THE EAST ASIAN SEAS CONGRESS 2015

Global Targets Local Benefits

Setting the Sustainable Development Agenda
for the Seas of East Asia beyond 2015

16-21 November 2015 • Danang, Vietnam

(Case Study)
**Climate-friendly Urban and Coastal
Development
Nampho, DPR Korea**



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Nampho, DPR Korea

- Industrial and port city with dense population located in the estuary of Taedong river that is 450km long.
- Annual average air temperature 8~12°C
- 23~27°C in August
- -5~20°C in January
- Annual average precipitation 823mm
 - 22.7% in spring (March ~ June)
 - 62.9% in summer (July ~ Sept.)
 - 7.5% in autumn (Oct. ~ Nov.)
 - 6.8% in winter (Dec. ~ Feb.)



Integrated Coastal Management in Nampho

- Nampho was selected as a National ICM demonstration site of DPR Korea in 2000
- Under the PEMSEA's SCD framework, a series of ICM projects were developed and implemented
 - Nampho Coastal Strategy developed and adopted
 - Institutional mechanism strengthened
 - National ICM Learning Center organized
 - IIMS and IEMP implemented
 - SCWSP implemented



Integrated Coastal Management in Nampho

In General,

- ◆ Understanding of the ICM benefits among the decision makers and stakeholders improved.
- ◆ ICM enabling capacity of the relevant agencies strengthened.



Implementation of the Safe and Clean Water Supply Project

65% of population used city water and the rest dug wells or tube wells

Worsening of the condition of water supply

- Dwindled water resource under the influence of climate change
- Lowered groundwater level by continuous use of groundwater
- Increase in population
- Increase of per capita water consumption
- Insufficient pumping capacity for water supply



Implementation of the Safe and Clean Water Supply Project

To combat serious drought, people limited water consumption by fixing up opening hours of the wells and drilled the wells even deeper.

But it was in vain.

Almost all wells got dry, showing their bottoms.



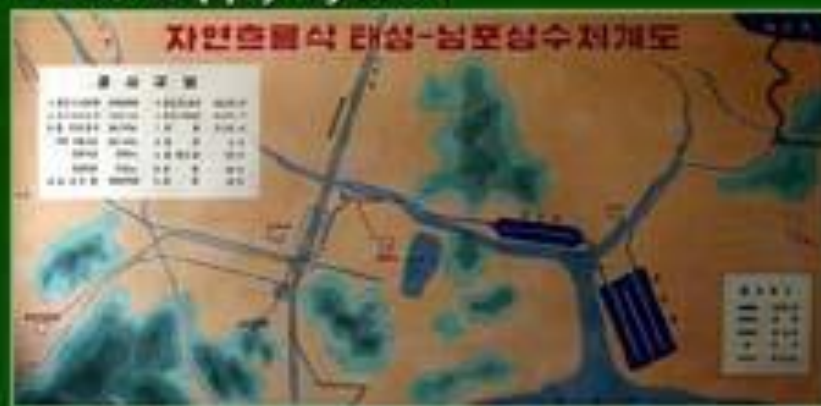
Implementation of the Safe and Clean Water Supply Project

Initiation of the Safe and Clean Water Supply Project (2006)

- Supported the local government to address the water supply problem
- Inspired the people with confidence of the water supply

TWG

- Assessed the demand for household water
- Confirmed water source that could counter climate change
- Developed the Safe and Clean Water Supply System



Implementation of the Safe and Clear Water Supply Project

- Under the guidance of Chairman of the People's Committee of Nampho City, a series of consultations conducted
- To create active involvement of the stakeholders to the project, propaganda campaigns undertaken. It brought about voluntary labor and contributed funds and building materials among the stakeholders.



Implementation of the Safe and Clean Water Supply Project

- Amid strong support of the people, the 100,000m³/d capacity waterway extending 32.215.km was completed in June, 2008 since its ground-breaking in Oct.2007, in less than one year.
- Three 2,200m³/h capacity water pumps, three 630kw electric motors and a 1,000KVA transformer were installed to pump water to the Sangdaedu water-purification station situated 100m above sea level in Hangu District



Implementation of the Safe and Clean Water Supply Project

- On October 18, 2008, trial operation of the SCWSP was successfully carried out to the delight of people.
- The implementation of the project provided a guarantee for supplying sufficient amount of water to 160,000 people of Nampho, regardless of climate change. It was, without doubt, a result and benefit of the ICM implementation.
- Wide publicity to the successful implementation of the project offered conditions favorable for the ICM activities in Nampho and brought the population to the knowledge of ICM program.



Implementation of the Integrated Environmental Monitoring Project

- The mission of the project is to establish effective environmental monitoring system based on close collaboration among the monitoring agencies.
- There are several professional monitoring agencies, academe and others
- The agencies were undertaking different monitoring activities with their own monitoring plan.



Implementation of the Integrated Environmental Monitoring Project

- Responses of the monitoring agencies to the project were different.
- Some took a skeptical approach to the implementation of the project, insisting on the traditional monitoring approaches under their own monitoring plan.
- The problem was how we can involve them to the implementation of the project.
- The only way for inducing them to the project was to optimize the monitoring network design so that it could bring all of them benefits.



Implementation of the Integrated Environmental Monitoring Project

TWG reviewed the existing monitoring activities and capacity of the monitoring agencies.

- The monitoring activities using their own observation vessels in the same water undertaken individually. Consequently, it resulted in the overlap and discrepancies in monitoring among the agencies, to say nothing of the excessive use of resources and labor.
- Overlap of chemical reagents, equipment and effort was also exposed in sample analysis due to each analysis by different agencies.
- Moreover, there was margin of difference in the analyzing method used by the monitoring agencies and this raised a question as to the credibility of data.



Implementation of the Integrated Environmental Monitoring Project

- Consultations and discussions conducted
- Draft monitoring network plan was developed and distributed to the monitoring agencies to review and refine.
- Thanks to PEMSEA's cooperation, the Nampho Coastal Analysis Center (NCAC) was organized
- QA/QC training workshop in the Philippines University established standard sample analysis approach in Nampho.



Implementation of the Integrated Environmental Monitoring Project

- Pursuant to the pilot monitoring plan, monitoring activities were undertaken using an observation vessel of the WSORI.
- Analysis of the samples was carried out by the NCAC.
- Measured and analyzed data by the pilot monitoring activities was shared through the IIMS network among the agencies.
- On the basis of the result of the pilot monitoring, TWG developed long-term environmental monitoring program. It contributed to the implementation of various projects for coping with climate change.



Implementation of the Integrated Environmental Monitoring Project

The IEMP benefits are as follows:

- Saving 40% as much fuel as that used before
- Overcoming overlap in the use of equipments, chemical reagents and human resources
- Improving data quality
- Building data sharing system among the relevant agencies



Experience and lesson learned ?

- The smooth implementation of the ICM program is ensured by the active participation of the stakeholders.

For this,

- It is important for them to understand the ICM and enhance responsibility and role.
 - The priority should be given to the ICM activities that can contribute to the welfare of the people.
 - And PMO and TWG should develop the ICM program so that the relevant agencies can gain benefit through the implementation of the ICM program.
- Responses of the stakeholders to the ICM activities are different.
Public awareness and consultation are essential for consensus building towards targeted goal of the project among the stakeholders.

The Nampho ICM scaling up program is under development.

We have lots of things to do in future.

The experience and lesson learned will be a valuable foundation for the implementation of the ICM scaling up program in Nampho.



Thank You