



Awareness raising through an educational programme

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Summary

Integrated management of the Vietnamese coastal zone is recognised as an important mechanism at the national level. One of the governing elements of an ICZM programme is the participation of the coastal inhabitants, NGOs, and other stakeholders at the local level.

The highest provincial authority, the Provincial People’s Committee (PPC) of TTHue Province welcomed an Awareness Raising project as a part of the Vietnam - Dutch Coastal Cooperation Programme (CCP). Raising awareness on the role of water began with a drawing competition for primary and secondary school children, involving teachers and parents. The educational community of the province and the Ministry supported the three participating schools. An Introductory Booklet was produced in Vietnamese and in the English language, illustrated by the prize-winning drawings and distributed among all teachers in the province. The next product was a comprehensive Training Manual for the teachers with sections showing a conceptual model of the water cycle, the role of water and the use and management of water, with many practical exercises. The success of this awareness-raising educational programme is illustrated by the fact that the two other CCP Vietnamese provinces: Nam Dinh and Ba Ria Vung Tau have applied this material in their provinces.

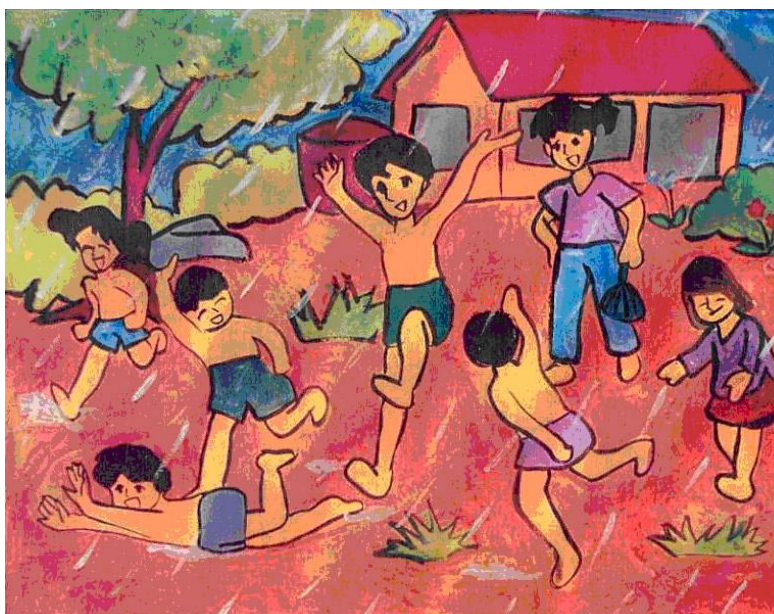
Both, the Introductory Booklet and the Training Manual are made available and can be downloaded through the CCC website (CCC V-1-1).

The next step is for the national Ministry of Education to make these products available for the schools in all coastal provinces in Vietnam.

1. Need for integrated solutions

Vietnam has a coastline of more than 3500 km, comprising a large variety of coastal landscape types. As in other coastal areas of the world, there are many complex threats to the sustainable development of the natural resources such as the scarcity of water during dry months, the effects of salt water intrusion, water pollution, degradation of fresh water and marine ecosystems, flooding and erosion by rivers and sea, and the effect of typhoons. In the future, the impacts of human induced climate change such as sea level rise may intensify these threats even more. These complex threats require integrated responses. The challenge is to find effective solutions with and for the population, combining the knowledge available in the Vietnamese academic institutions (universities and NGOs), with the management capabilities of the Vietnamese national, provincial, district and community authorities.

The Vietnamese government and a number of the coastal provinces have showed commitments to undertake the necessary steps to plan and implement integrated water and coastal zone management programmes with the assistance of the Netherlands government. One of these provinces is the Thua Thien Hue Province, in the coastal zone of northern central Vietnam, bordered by the East Sea. One of the major tasks is to raise awareness of the coastal community to ICZM.



Picture 1: the second prize - category
Le Thi Cam Van, age: 15, Phan Sao Nam secondary school, Hue

Figure 1: **One of the prize winning drawings: children enjoying the rain, providing fresh water in their coastal, brackish water environment.** (source: CCP2002)

2. Awareness raising

Any awareness raising among the general public means influencing attitudes and social norms of communities in such a way that behaviour compliant with sustainable development is promoted, and ultimately, understanding by stakeholders for sound and sustainable policies is stimulated. In the context of awareness raising on water issues in Vietnam, at least three major topics have to be tackled: safe use of drinking water, flood protection, and sustainable use of water environments.

One of the most effective ways of awareness raising is through education and the involvement of children. Education is the key to ensuring the next generation has a healthy, safe and sustainable attitude towards water related issues. Experience has also shown that children are effective communicators, and with their knowledge and enthusiasm, they not only reach their parents, but can also be effective in reaching a wider community. Involving the educational sector provides other great opportunities, since it is a system already focused on learning. Training teachers in water issues and incorporating water issues in regular curricula is very effective. The aim of our activities in the Thua Thien Hue Province was therefore, to develop an educational programme that could be incorporated within the regular school curriculum.

3. Thua Thien Hue Province

Along many large rivers are major rice fields serving as a stable source of food. The coastal lagoon system with an area of 22,000 ha and a diverse flora and fauna is a great resource for rice culture, fisheries, aquaculture and the development of shipping, ecotourism and scientific research. This diversity helps create the much needed balance between preservation and sustainable exploitation. With a coastline of 107 km and a diverse geography, including beautiful beaches and spectacular cliffs, the province is an attractive destination for local and overseas tourists. Along the coastline, there are estuaries and bays favourable for building seaports for developing the commerce and trade with overseas partners. This is good for the province, which is moving towards regional and international integration and development. In addition, the river deltas contain valuable minerals under the coastal sand dunes. In addition to the role as a fishing ground, the marine part of the coastal zone also has a rich resource in minerals and animals and plants, as yet undiscovered and under-exploited. The tourism potential has also not so far been fully exploited.

The Provincial People's Committee (PPC) of TTHue Province, being the highest level of provincial government, welcomed this Awareness Raising project as a part of the CCP (Coastal Cooperation Programme) 2002-2005. This project was executed in close cooperation with four selected schools, the Hue House of Children, the Department of Education and Training (DoET), with many schoolchildren and with the assistance of the Ministry of Education in Hanoi. This Awareness Raising project consisted of series of stepwise, Educational Programme activities:

- Involvement of schoolchildren through a drawing competition;
- Involvement of teachers through creating and distributing an Introductory Booklet;
- Producing Teaching Material for primary and secondary school teachers in TTHue province;
- Preparations for incorporating the Teaching Material into the national educational curriculum.

The Netherlands Ministry of Foreign Affairs, the CZM-Centre/Ministry of Transport, Public Works and Water Management and the Provincial People's Committee of TTHue Province supported this Awareness Raising project.



Picture 6: the first prize - category
Le Thi Hong Thuy, age: 11, Thuan An I primary school, Phu Vang district, Hue

Figure 2: *Children living near the lagoon and marshes, seeing their fathers casting the fish nets.* (source: CCP2002)

4. Drawing contest: “Water as a friend and foe”

As a first step to increase the awareness of ICZM issues among children and their families, a drawing competition was held among about 500 primary and secondary school children in the fishing village Thuan An, rice farming village Quang Thai and in two schools in the provincial capital Hue during January 2002. The contest was organised by the Environmental Education Centre of the Department of Education and Training (DoET) in the Thua Thien Hue Province, the House of Children, Hue and the Vietnam-Netherlands Coastal Cooperation Programme (CCP).

The theme of the competition was “Water as a friend and foe”, in relation to the boundary between the land and the sea, lagoons, rivers and groundwater. The drawings clearly show the main themes important to children: flooding and the fear for flooding and the different uses of fresh, lagoon and seawater.

A committee of educational experts consisting of directors and teachers of the schools, officials of the Department of Education, and the director of the Hue House of Children selected the best 20 drawings in two stages. The four schools involved were given drawing materials, while the winning children were rewarded with some extra drawing materials. The awards were given to the winning schoolchildren during an official ceremony at each school attended by the teachers, all the school children, the parents of the prize winners and the local press. The ceremony was musically accompanied by a school band.

5. Introductory Booklet: “Where waters and land meet”, 2003

The winning drawings were used as illustrations in a special prepared Introductory Booklet on the role of water in the TTHue province. This Introductory Booklet provided the teachers of the primary and secondary schools with basic information on the cycle of water, different forms of water and usages, and about a holistic approach to coastal and water management.

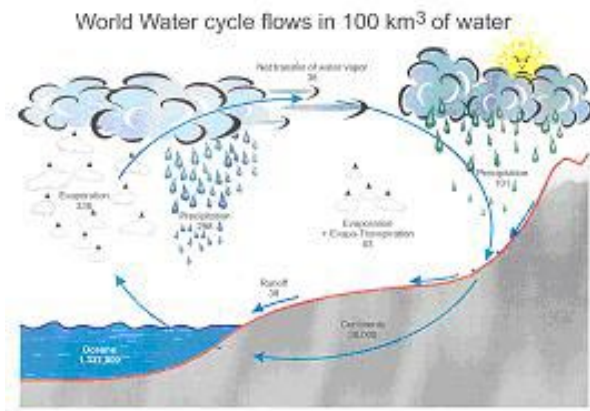


Figure 3: The water cycle of life.



Figure 4: Cover page of the Introductory Booklet for teachers of primary and secondary schools. (source: Vahtar et al 2003; photo: Le Van Thu)

The booklet was published in a bid to enhance awareness for local people via children at primary and secondary schools in the province. This booklet has a clear and concise content focusing on the role of coastal zone and water management. The presentation of the booklet is short, understandable and attractive for teachers and school children. The booklet is available in both the Vietnamese and English and can be used in other Vietnamese provinces and other Asian countries (Vahtar et al, 2003).

About 3000 copies were printed in Vietnamese. These Booklets were distributed among all the primary and secondary school teachers in the TTHue Province by trained students of the Hue University (Science College and College of Teacher's Training).

The Introductory Booklet is available as a PDF report through this CCC Internet Publication, see CCC V-1--3.

6. Teaching Manual: "Where waters and land meet", 2005

The next activity of the Awareness Raising project was the production of a Teaching Manual for teachers, with the same title (Where waters and land meet, 2005). The teaching material is a part of a specific Educational Programme for primary and secondary school children in the TTHue province. The programme aims to provide not only the teachers and the children, but also their parents and other people in their communities and districts basic information on water as a substance, the role of water for mankind and nature and how to manage water in a holistic, sustainable way.

The teaching material is prepared in two parts. Each part of the teaching material has several sections that deal with specific topics. The sections are subdivided into separate lessons that focus on different aspects of a chosen topic. Each lesson has various activities that presented as a set of teaching guidelines. There are also worksheets included into some lessons, which can be photocopied and used in class with the children.

The teaching material includes a lot of information and provides a framework rather than a fixed programme. It is a teacher's duty to adapt each lesson to the age group of their students and to decide which activities to focus on, and how to integrate these activities into the school curriculum. The material provides an information resource for teachers to help develop their activities with children. It also provides basic material from which different users (teachers, children etc.) can develop approaches for different contexts (regular school curriculum, extra curriculum etc.).

6.1 First part of the teaching material: 'Concepts and Processes'

The first part, entitled "Water, water environments and natural processes", deals with fundamental concepts and the most relevant natural processes important for understanding water related problems. Its goal is to present these processes in a simple way through hands on experience of experiments and field tests, and to connect those general experiments to children's everyday environment.

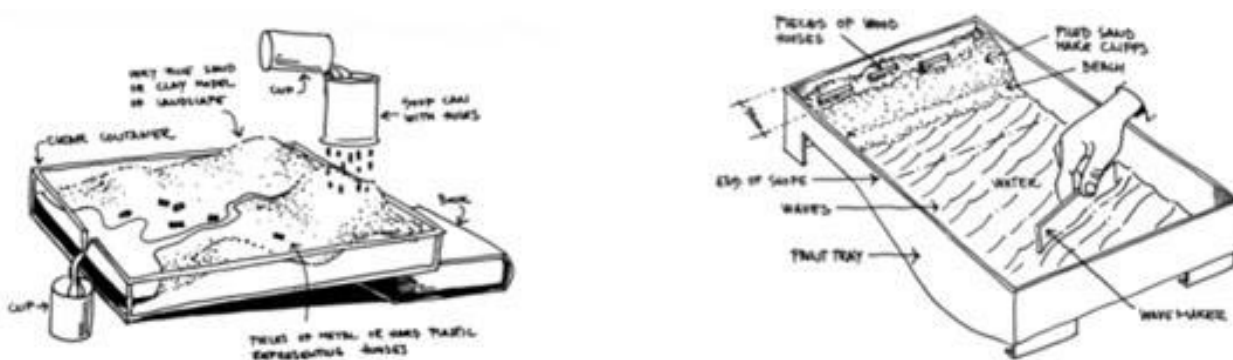


Figure 5: *Experiments with changing rivers and coasts.* (source: Vahtar et al, 2005)

The focus of each section is as follows:

- Section A is focused on basic characteristics of water, such as aggregation states, evaporation, condensation, surface tension, buoyancy, and the differences between seawater and freshwater;
- Section B explores the hydrological (water) cycle ;
- Section C deals with the formation of freshwater flows, their characteristics and the form of the landscape they create. The focus is on the river and the watershed (river catchment);
- Section D explores permeability and porosity of consolidated and unconsolidated soil and rock materials, and explains various types of groundwater;
- Section E explores salt-water environments and their characteristics, as well as the highly dynamic natural processes that form the various coastal landscapes. It also explores the problems related to urbanisation and other uses of the coast;

- Section F connects excessive precipitation (storms, typhoon etc.) with floods (river floods, coastal floods) and erosion (soil erosion, coastal erosion);
- Section G attempts to present the main reasons why wetlands are so important in preserving the Earth's biodiversity.

6.2. Second part: water use: 'Management of Water and Coastal Resources'

The second part deals with the socio-economic aspects of water use, including management of the drinking water supply and dealing with wastewater, the water resource and the coastal zone. Its goal is to present aspects of water and coastal zone management to children through role-playing games and other activities.

The purpose is to help children understand the basic problems and complexity of managing water and coastal zone resources. The focus of each section is as follows:

- Section H explains that the water supply system or drinking water system represents only the first half of a "man-made water cycle", while the second half is represented by the sewage system or a wastewater system;
- Section I focuses on hazard warning systems that are practiced in Vietnam to protect lives and property in case of natural disasters like typhoons, floods, landslides, tsunamis and coastal erosion;
- Section J explains that balancing the multiple use of natural resources with the natural environment, can lead to diverse and sometimes conflicting demands, which require guidelines that help to define sustainable management options.

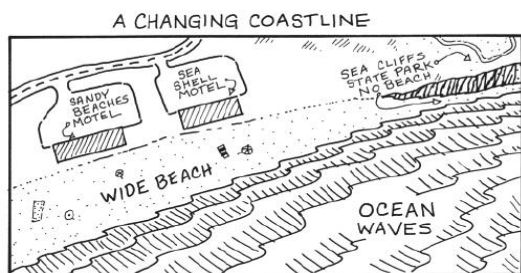
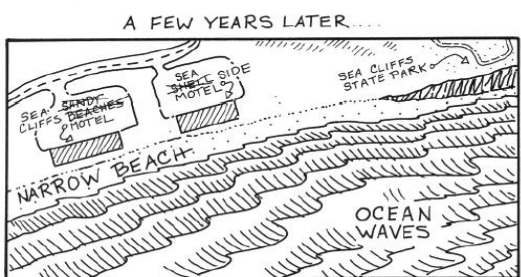


Figure 6: **Coastlines are changing: do not build houses and hotels too close to the water!** (source: Vahtar et al, 2005)



Another example of similar awareness raising efforts

The Water Detective Programme is an initiative in Slovenia, which started in 1997. It involves schools in various small-scale projects that generate local events and publicity in local media. Its aim is to broaden the knowledge about water, water environments, and related problems among the public.

Each year the programme organises research and art competitions on a different general topic. Such topics are: wetlands; the need for a river space; how a river cleans itself; drinking water; the technical heritage of a river and similar. School projects are generally research projects or written and

illustrated literary works aimed at solving local water related problems.

Children are encouraged to actively include their parents, grandparents, and their local community in their research or art project interviewing them about the past, discussing the current problems and visions of the future. Finally, schools are encouraged to report the conclusions of their projects.

The schools' results are sent back to the project in the form of a (local) newspaper article. The prize for the winning school or class is an educational water related field trip. So far, the programme has achieved very good results with very few resources. It attracted the attention of many children, see website of the Global Water Partnership.

To achieve better understanding of water related problems, the programme organises seminars for mentors. Interesting public events draw attention of the media and the public to the subject. The results of children's work, properly presented and accompanied with understandable explanations, not only draws the attention of the public, but also helps educate it.



Figure 7: **Flooding! Red Cross boat and life buoys provide protection.**(source: CCP2002)

The entire, valuable Teaching Manual is made available in this CCC Internet Publication, see CCC V-1-1-3.

7. Conclusions:

Linking educational activities for children, their teachers and parents with large public events and awareness raising campaigns is an extremely powerful tool. It results in effective capacity building and public participation. The CCP Teaching Programme is an example of successful cooperation, with vertical integration at all levels from pupils, teachers, University students and indirectly the parents, as well as provincial departments, national ministries, international expertise and funding bodies. The drawing contest and the involvement of a reputable drawing selection committee proved to be successful in obtaining commitment. The Introductory Booklet and the entire Teaching Material are now available for wider use. The success of the TTHue province project was enthusiastically followed by the Provincial People's Committees of other coastal provinces such as Nam Dinh and Ba Ri Vung Tau and is recognised at the national level. This Vietnamese experience provides confirmation of the success of similar projects in other countries like Slovenia.

The next step for Vietnam is to incorporate the teaching Material into the national regular school curriculum. That is a project in itself, which should be implemented as soon as possible. The first steps have already been made within the Coastal Cooperation Programme.

Other vulnerable coastal nations and educational institutions can use this set of Teaching Materials and the Introductory



Booklet free of charge and Training Manuals under condition of non-commercial use and proper referencing to the developers of the Booklet and Training Manual. All the materials are given references for ease of use and assistance from the producers of the material is available if needed, see the List of Authors (CCC V-2) for contact details.

Figure 8: **Children of the world, united and holding the line, preventing pollution to spread from the brown, chemical polluted land to the healthy blue water, safeguarding the fishes.** (source: CCP2002)

8. References

- **W. Schaap, and F. van Steenbergen, 2001:** Ideas for Water Awareness Campaigns. The Global Water Partnership.
- **Vahtar, Marta, Robbert Misdorp, Le Van Thu and Le Ngo Hung, 2003:** *Where waters meet land - Introductory Booklet for teachers*; Department of Science Technology and Environment, Thua Thien Hue province, Department of Education and Training, Thua Thien Hue province, CZM-C/Ministry of Transport, Public Works and Water Management, the Netherlands, and Institute for Integrated Development and the Environment – Slovenia.; downloadable in the CCC Internet Publication , see CCC V-1-3
- **Vahtar, Marta, Robbert Misdorp, Pham Toan, Le Van Thu, Le Ngo Hung, Phan Thi Le Dong and Maja Zdesar, 2005:** *Where waters and land meet: Water, Water-Management and Coastal Zone Management Education in the Context of Regular Primary School Education: Teaching material for Grade 1 to 12*; Institute for Integrated Development and the Environment – Slovenia, CZM-C/Ministry of Transport, Public Works and Water Management, The Hague, the Netherlands, CCP-Hue, Center for Environmental Education at the Department of Education and Training, Hue House of Children, Hue; downloadable in the CCC Internet Publication , see CCC V-1-1-3

Websites:

- **IIDE - Institute for Integrated Development and the Environment – Slovenia:**
<http://www.ist-world.org/OrgUnitDetails.aspx?OrgUnitId=b9972cb142cf4a8088eec19127318b66>
- **Global Water Partnership – ToolBox : Integrated Water Resources Management:**
<http://www.gwptoolbox.org>
- **Global Water Partnership – ToolBox: Slovenia: Educational awareness campaigns:**
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