INTERNATIONAL WATERS EXPERIENCE NOTES

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Plastic waste – a very visible indicator of pollution

Abstract: Plastic waste is a global issue that has received relatively little attention within the GEF IW community. It is a problem that is recognisable to a wide population and the source of the problem is often this same wide population. Plastic waste also serves as a very visible indicator of pollution and solving the problem of inappropriate disposal may have additional benefits of reducing other pollutants and helping to engender an enhanced appreciation of the environment. Through a pilot demonstration project, UNDP/GEF have reduced the amount of plastic (and other waste) in the Tisza River Basin and assisted with reducing transboundary tension that this pollution caused. The activities have already been replicated with private sector funds and there is significant regional support to further sustain these activities including a proven willingness of the local population in the pilot area to pay for solid waste collection.

UNDP/GEF Tisza MSP

Plastic waste – a very visible indicator of pollution

Experience of the GEF - sponsored

GEF/UNDP **Integrating multiple benefits of wetlands and floodplain into improved transboundary management for the Tisza River Basin**

GEFID: 3339, [[GEF Agency Project ID]]: 2617

PROJECT DESCRIPTION

The Tisza River Basin is the largest tributary of the Danube River and includes part of the territory of Ukraine, Slovak Republic, Hungary, Romania and Republic of Serbia. Over the last 150 years the basin has been subject to significant anthropogenic impacts that have resulted in a significantly degraded system, particularly in terms of pollution and the loss of floodplains and wetlands. The countries of the basin have requested support to develop an integrated strategy for water quality and water quantity that is incremental to the current work and to implement demonstration projects that test the multiple environmental benefits of wetlands to mitigate impacts of floods and droughts and help to reduce nutrient pollution.

The UNDP/GEF Tisza Project (*Integrating multiple benefits of wetlands and floodplains into improved transboundary management for the Tisza River Basin*) has worked closely with the Tisza countries and the International Commission for the Protection of the Danube River (ICPDR) to develop an Integrated Tisza River Basin Management Plan (ITRBMP). The Project had a focus on wetlands and floodplains to encourage further restorations of these important river basin features that have been lost due to intensive farming and flood protection and undertook three pilot projects addressing land and water management in addition to the co-ordination of the ITRBM support.

The ICPDR is an international organisation consisting of 14 cooperating states and the European Union. Since its establishment in 1998, the ICPDR has grown into one of the largest and most active international bodies engaged in river basin management in Europe. Its activities relate not only to the Danube River itself, but also the tributaries and the ground water resources. The ultimate goal of the ICPDR is to implement the Danube River Protection Convention by promoting and coordinating sustainable and equitable water management, including conservation, and improvement and rational use of waters for the benefit of the Danube River Basin countries and their people.

The Project's objectives were:

- To integrate water quality, water quantity, land use, and biodiversity objectives within integrated water resources/river basin management (IWRM/IRBM) under the legal umbrella of the EU and ICPDR, and;
- To begin implementation of IWRM principles through the testing of new approaches on wetland and floodplain management through community-based demonstration. The community-level pilot activities will link to the development and implementation of an agreed river basin management plan following the principles of IWRM and tested at the regional/local level under the governance arrangements established for management of the Tisza River Basin. The integration of water quality and quantity management is considered to be a significantly innovative approach in the basin and the results of this will be utilised elsewhere in the Danube River Basin through catalytic policies and actions of the ICPDR.

A focus of one of the demonstration projects was to address local problems arising from the inappropriate use of floodplains in the Upper Tisza between Ukraine and Romania that have resulted in floods and

pollution – in particular issues associated with inappropriate disposal of solid waste on river banks and floodplains. The demonstration project team worked closely with local citizens and authorities resulting in a paradigm change in the approach to protecting natural riverine features, understanding and reducing flood risks , and the disposal of solid waste and pollution in general.

THE EXPERIENCE

Issue

In recent years, a new problem has been growing in the Upper Tisza basin in Ukraine and Romania: the pollution of rivers and floodplains with plastic waste. Empty plastic bottles, mixed with other waste, are dumped on the river banks and are flushed downstream during flood events. Downstream the plastic waste is the visible sign of this pollution resulting in curtains of plastic in bank-side trees and floodplains that has resulted in cross-border complaints from downstream countries. The signs of this pollution are visible throughout the whole Tisza basin and into the main Danube River where this plastic waste can also be seen in the main protected areas of the Danube Delta.

In parallel to the UNDP/GEF Tisza project's activities, the four upstream Tisza countries convened a meeting in 2009 of high representatives to highlight the issues of solid waste and to agree a mechanism for co-operation on plastic waste. A catalyst for this was the quantity of plastic waste (in Hungary over 300 tonnes of plastic bottles were being removed a year) being removed from the Tisza and potential concerns for the disposal of more environmentally damaging but less visible waste on river banks.

Addressing the Issue

The solution to the problems of inappropriate waste disposal can be very simple and low-cost. However, a key element in addressing the issue of solid waste is developing a sustainable approach by changing the awareness in environmental issues of the local population including the engaging the support of the administrations within the region.

The demonstration project embarked on a programme working with the local village inhabitants, mayors and suppliers of specialised equipment to:

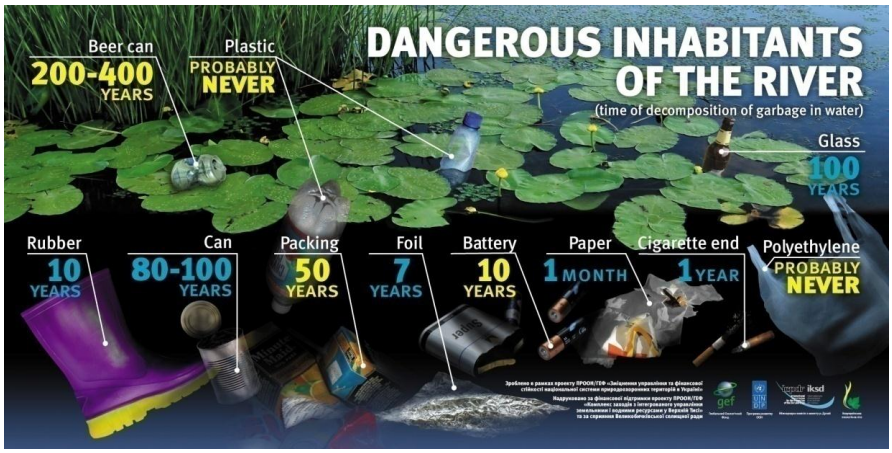
- Collect solid waste from the river banks in well publicised campaigns supported by additional resources from Coca-Cola (see below). Children from Romania and Ukraine worked together in an event '***Two banks – one clean Tisza'*** (the river forms the border in this region) removing 250 bags of waste (estimated at about 6 tonnes of plastic waste) on 1.5 km of the river. The waste plastic was removed to a recycling facility (equipment provided by the project). Through additional co-financing/replication again provided by Coca-Cola in Drotyntsi (Ukraine), children removed over 900 kgs (estimated at over 20,000 bottles) of plastic waste from a 4 km section of the Tisza river.

Two Banks – one clean Tisza

- Providing solid waste containers. Over 300 household containers (120 litre), 50 commercial containers (240 litre capacity) and 30 communal containers for plastic collection (1100 litres) were provided by the project. The local authorities provided collection vehicles for which the local population willingly contributed on a monthly basis.

1100 litre communal waste container

- Purchase of a press machine to compact the collected waste and provision of training on sorting plastic. Current depressed prices for plastic waste has resulted in the pressed material being stock-piled until prices recover.
- Education and awareness material for schools and as posters on the main roads to / from the villages.



The two villages involved are Velyky Bychkiv (UA) and Bocicoui Mare (RO). The names of both translate

as ‘Great Bull’

RESULTS AND LEARNING

The very visible pollution caused by plastic waste has been an important means to galvanise interest and support of the local population and authorities to tackle a range of environmental issues including nutrient pollution, flood risk mapping, flood mitigation and stream restoration. The immediate results achieved by cleaning river banks, installing solid waste containers etc. engendered public desire for an ‘improved’ environment – for which the local inhabitants were prepared to financially contribute and to maintain. The success of the demonstration project (total GEF support 110,000 USD) already had generated interest from neighbouring villages wishing to replicate. In addition the local project team, with the support of the local authorities, had worked closely with suppliers (packaged biological wastewater treatment plant, solid waste contains, plastic waste presses, etc.) to negotiate significant reductions in purchase cost in return for publicity for their involvement.

Through the co-financed project in Drotyntsi an innovative approach involving the local churches has been used to further interest the local population on environmental issues and reducing solid waste pollution in the region.

REPLICATION

The UNDP/GEF Tisza Project has already seen success with replication on selected issues that have been tested under the demonstration activities on solid waste. A parallel project (supported by Coca Cola and WWF under the ICPDR has been implemented in the west of Ukraine and it is likely that the EU will support further interventions at the larger scale on solid waste in the region. A key lesson from the UNDP/GEF Tisza Project has been the significance of the support from local authorities and the willingness of local population to maintain a ‘clean environment’ at their own cost. At the regional level the issue of solid waste management had received wide support from National Government representatives. Widespread national and regional press coverage further highlighted the successes of the local activities and assisted in motivating government representatives at all levels in continuing to support the initiative.

SIGNIFICANCE

Plastic waste is often ignored as a ‘problem’ pollutant. However not only is a ‘pollutant’ that occurs globally there is growing concern of the impact on long-lived plastic waste and bottles in particular on open oceans. During the course of the UNDP/GEF Tisza Project it has been clear that plastic waste is not only a concern throughout the Tisza and Danube Basin (see Drina River photograph) but more widely. During an IW:LEARN project exchange the UNDP/GEF Tisza Project was host to visiting experts from the La Plata Project where the river also suffered from plastic waste forming rafts blocking the river. Potentially these rafts could lead to flood problems in high water conditions.

Flooding waste backs up behind the dam of the Višegrad power plant on the Drina River (a tributary of the Sava River within the Danube River Basin).

Solid waste on the La Plata River

More significantly, plastic waste is a good 'indicator' of pollution. Plastic bottles are a very visible sign of pollution which is more easily understood by the general population than 'invisible pollutants. Solving the visible problems will discourage disposal of all waste on riverbanks and floodplains and, hopefully, reduce overall pollution.

REFERENCES

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UNDP/GEF Tisza Project website: http://www.icpdr.org/icpdr-pages/tisza_undp_gef.htm

KEYWORDS

- Solid waste,
- floodplains,
- community actions,
- Tisza/Danube River Basin
- Plastic Waste

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