

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

Main objectives of the Action

There must be co-operation

The objective of the Project is to study the elimination of fords and bottlenecks hindering navigation along the Hungarian stretch of the river Danube between Szob and the Southern State border of Hungary (from km 1708 to km 1433) so that it meets the requirements set for the Danube-Main-Rhine waterway (UNECE directives).

The fairway fails meeting UNECE VI B and C parameters for approximately half of the year whereas, after the elimination of fords and bottlenecks, this limitation will happen only for 20 days as a maximum. Limiting depth of the waterway will be 27 or 29 dm instead of the present 18 dm. The width of the fairway will be at least 120 m. The project will be implemented with a view to the complex requirements of the sustainable development so as to achieve the improvement of navigability through the improvement of the state of the environment by adhering to the *acquis communautaire* in the field of environment and water protection and management.

The Project will be implemented by surveying the riverbed, drawing technical designs, making the necessary environmental studies and impact assessments, and managing to get the building permissions for all of the sites of the interventions along the said river section from km 1708 to km 1433.

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary

marton.tamas@khem.gov.hu

Based on the considerations of the recently finalised Study the Plans which are presented in the Final Report of the Study on the improvement of navigability of the Danube may only be supported provided if the following recommendations will be respected:

- 1) Measures necessary for the prevention or at least compensation of the side effects of river training will be carried out parallel to training works aimed at the improvement of navigability;
- 2) Implementation Planning for the Training works may be started only after the completion and on the basis of the strategic environment assessment of the training proposals which are part of the Final Report of the Study on the improvement of navigability of the Danube. Special attention shall be devoted to the provisions of the Water Framework Directive and the Implementation Plans are in full compliance with the requirements of the Water Framework Directive.
- 3) Attention shall be drawn to the following aspects:
 - the riverbed of the Danube will suffer further deepening due to erosion caused by flowing water;
 - it will be difficult and expensive to sustain the conditions (which are defined in the Final Report of the Study) and the government shall be informed about the costs and the timetable of financing of the unavoidably necessary maintenance works;

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

- 4) Although the technically reliable training of the river for the long run could have been ensured by the construction of barrage(s), the construction of barrage(s) requires further monitoring and assessments in the light of the requirements of the Water Framework Directive.
- 5) It shall be initiated that a proposal be forwarded by the Hungarian Government to the EU with a request on co-financing from EU budget the yearly costs of the training measures, the maintenance of the fairway and the costs of environmental compensation measures as far as the costs of the necessary training and compensation measures in proportion with the use.
- 6) An investigation on the possibility of alternative solutions for the improvement of navigability shall be initiated and carried out with the aim to find acceptable but less stressing solutions for the improvement of navigability (example: by the adoption of requirements for a narrower fairway).
- 7) The Water Framework Directive monitoring system of the Danube which was started from the beginning of the year 2007 shall be updated so that data collection and assessment of the impacts due to training works in compliance with the requirements of the Water Framework Directive would be possible.

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary

marton.tamas@khem.gov.hu

- Change our approach to transport tasks, what we mean by sustainability, the complexity of the task
- What we really need, it is reliable waterways
- The Danube is a great river
- Limiting factors of inland navigation should be sought not exclusively in rivers



Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

1. Surveying

- Selection of the measurement methodology (single or multi beam)
- Definition of the measurement lines / lanes
- Geodesic definition of the network of the points of references
- Morphological survey of the river-bed
- Measurement of speed and speed direction
- Geodesic surveying of the river bank edge and connected foreshore
- Filtering the false measurement data
- Surface model elaboration
- Elaboration of cross and long sections and contour lines

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary

marton.tamas@khem.gov.hu

2. Physical modelling

- Definition of the places of intervention where physical modelling is required
- Site visit at the modelled area
- Definition of the scale of the model
- Integration of survey results into the model
- Elaboration and integration of profiles
- Building of model according to cultivation arm
- Model calibration
- Modelling (physical running) of plan alternatives
- Evaluation plan alternatives' modelling results
- Control modelling of the final plan
- Mathematical modelling for the places of interventions being in interaction with one another

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary

marton.tamas@khem.gov.hu

3. Technical engineering

- Definition of measures including environmental studies and plan alternatives to be elaborated necessary for the permission procedures
- Definition of the fairway (transport route)
- Additional surveys with navigational point of view (the real utilization of the fairway by vessels)
- Listing of interventions by groups of bottlenecks
- Definition of measurement, planning and construction order
- Interactive planning based on the results of the physical model surveys
- Selection of the final river training alternative based on the results from the physical model surveys and elaboration of the technical plan
- Planning works for river marking and ice-breaking

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

4. Environmental studies and tender documentation

- analysis for strategically evaluating the environmental impact of the given stretches of the network also included the elaboration of the detailed environmental impact assessment study, taking into consideration the impacts of all of the uses of the river, the ecology of the affected river sections, and the natural values of the branches affected by the regulation interventions as set out in the acquis communautaire.
- corridor analysis covering all relevant transport modes without prejudice to the definition of the corridors themselves

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

5. Approval procedures

- Obtaining the approvals of the relevant organizations and authorities defined by law for the totality of sections of the river which are to be trained

Sustainable development of inland waterways transport

Tamás Marton – Ministry of Transport, Communications and Energy – Hungary
marton.tamas@khem.gov.hu

6. Project management

- Management and control of the timetable and expenses
- Selection processes of the planning companies
- Monitoring and controlling the activities of the planning companies
- Organization of forums
- Monthly reporting to the Managing Authority (Ministry) and the Intermediate Body
- Yearly reporting to the DG-TREN
- Studying the best practices on other sections of the Danube
- Plan of the modern equipment of marking and ice-breaking
- Permanent information of professional and civil organizations (website, forums)
- Relations with the European Commission and Hungarian partners

Thank you for your kind attention