

Ref no:	Project title		PRELIMINARY ASSESSMENT FOR THE IDENTIFICATION OF FLOOD RISK AT THE CATCHMENT SCALE (EWA/CFT/2/2018)					
Name of legal entity	Country	Overall contract value (€)	Proportion carried out by legal entity (%)	No of staff provided	Name of client	Origin of funding	Dates (start/end)	Name of consortium members, if any
	Malta	65.000	100	4	The Energy and Water Agency (EWA)	EWA	07/2018 12/2019	-
Detailed description of project						Type and scope of services provided		
The overall objective of the contract is the preliminary assessment of the Malta River Basin District for the identification of catchments with a potential significant flood risk, including the development of a national scale predictive model which allows the quantification of runoff volumes at the catchment scale and the identification of the catchments in which the runoff volumes generated could potentially pose a significant risk to populated areas or areas of economic, cultural and environmental importance. The availability of this information shall help with the implementation of the flood mitigation measures identified in the 2nd WCMP, as it will enable the development of the measures necessary to tackle flood risk at the catchment scale and the implementation of the Floods Directive (2007/60/EC). A national scale hydrological predictive model was developed that allowed for the quantification of runoff volumes at the catchment scale taking into consideration of different land-uses within the catchment. The national scale hydrological predicative model has been developed based on the following criteria: ✓ The review and updating of the existing catchment boundaries in order to take into consideration any infrastructural projects which might have altered the boundaries of the catchment ✓ The development of a rainfall-runoff model application to obtain intensity-depth-duration curves ✓ The production of design-discharge values for each catchment for events occurring at low, medium and high probabilities (5,50 and 200 years). For the assessment of the potential adverse consequences of future floods (for human health, the environment, cultural heritage and economic activity), it was assumed that the prone to significant flood risk areas are those that include: Cities and settlements, Industrial and commercial areas, Agricultural land of considerable economic value, Production units that may cause pollution, Protected areas, Monuments of cultural heritage, Infrastructure (road, railway network, ports, airports, hospitals, large dams) and the related datasets were collected in order to imprint the above areas. Following field survey, the catchments where further delineated, control points and sub catchments where identified. The control points result from the intersection of the watercourses with the areas with a potential negative impact on future floods already identified taking into account the topography, the hydrological and geomorphological characteristics of the watercourses and the effectiveness of existing storm drainage infrastructures (built as part of the National Flood Relief Project (NFRP), valley dams, reservoirs and soakaways). Further on, in order to calculate the flood discharge SWMM has been applied to the outlet nodes and to specific control points Given that the risk is a combination of the consequences of a flood event and the associated likelihood /probability of its occurrence (ISO 31010), a risk matrix was created / catchment / return period, resulting to a flood risk categorization, applying a weight factor on affected areas/activities under consideration and a scale factor for the exposure / consequence. Aiming at prioritizing the risk, for each subcatchment and for each return period T (5,50,200) a risk indicator has been produced and a table was created presented the study results.						• Mapping of the area (resources, social, economic) • Statistical analysis • Hydraulic calculations • Multicriteria analysis • Integrated management of the water resources of the region. • Risk analysis • Maps production • Development of the Geospatial database, maps and metadata • Capacity building offered to Ministry • Drafting reports and recommendations		
						<u>Key Words</u> River basin, scenarios, flood rooting, modelling, environment, integrated management, mapping, hydrological data & simulation, hydraulic simulation, mathematical models, matrix, weight factors,		