

## **LOVCEN project recommendation for developing and enforcing the Specific Regulative Framework for the Integrated Mosquito and Mosquito Borne Diseases (MBD) Surveillance and Control System (IMSCS) in Montenegro**

### Specific framework

*Montenegro as a candidate to become the Member State has imperative to harmonise regulations in the domain of public health (PH) and environmental protection (EP) with EU legislative. In that sense three important drafts of environmental related laws were adopted: Law on Environmental Protection, Law on Environmental Impact Assessment and Law on Integrated Prevention and Pollution Control, in accordance with EU directives and modern environmental practice. Complementary to mentioned Montenegrin laws, proposed Integrated Mosquito and mosquito borne diseases (MBD) Surveillance and Control System (IMSCS) research strategy is also relevant to WHO Human Health and EU Community action in the field of health (2008-2013). New technologies in prevention and control of mosquitoes and MBD, developed within LOVCEN are tailored to European Parliament directive P6-TA-(2009) 0010.*

*Policy recommendations are based on social impact assessed by survey, dissemination and feedback on stakeholder's opinions about direction of the research in vector borne disease prevention. The recommendations towards coordinated surveillance systems and policies; standardized sampling and diagnostic of vectors/vector-borne infections will lead to improvement of action plans and expected adjustments in the Montenegro national legislative framework in line with "Europe 2020" strategy: "towards mitigation of evolving [...] new risks for health".*

*Social impact and policy recommendation sustainably extend the project results to the stakeholders' network improving management practices and the impact of the public policies.*

*Innovative research on social impact and policy recommendations determined the previous performance, the current state of mosquito and MBD control and the stakeholders' position, setting the grounds for formulating best practices and support for decision makers to implement policy recommendations and specific public communication strategy to support the dissemination.*

*Sound policy recommendations and specific public communication strategy deliver clear and crisp policy recommendations to decision makers with specific elements supporting their integration into the public communication strategy.*

## Issue

**Hazard high risk for public health from mosquitoes' born diseases (MBD) with further negative economic outcomes for the country's economy (productivity, healthcare and tourism)**

## Recommendation

**Develop and Enforce the Specific Regulative Framework for the Integrated Mosquito and MBD Surveillance and Control System (IMSCS)**

## Analysis

Current worldwide research shows that mosquitoes are the most dangerous insects on Earth because they can pass on deadly and debilitating diseases such as malaria, West Nile virus disease, Dengue hemorrhagic fever, Chickungunya and Zika virus disease for which mosquito control is still the only way of controlling their detrimental impact. Economic effects of the MBDs are tremendously high. The estimated cost of the West Nile virus outbreak in Texas in 2012 exceeded \$47 million with average per inpatient costs of (medical and loss of productivity - absence from the job) of \$25,000/patient and per outpatient cost of \$1,200/patient. The average yearly economic cost for dengue in Puerto Rico is over \$38 million, average per patient cost for non-hospitalized versus hospitalized patients was estimated at \$1.610 versus \$17.803, respectively. The cost-benefit ratio of 8.64, indicates that each \$1 spent on control of Asian tiger mosquito in New Jersey gave adults additional porch and yard time worth over \$8. In Rhine Valley Germany, the consumer surplus, provided by mosquito control to 2.000.000 inhabitants is estimated to €6.165 million.

The socio-economic analysis accomplished within the frame of the LOVCEN Project proves that currently the Montenegrin system in place fails to comply in terms of impact with European standards regarding the Integrated Mosquitoes' Surveillance and Control. Almost 60% of the interviewed respondents fail to recognize the effect of the current efforts in mosquitoes' control acknowledging that coordination at municipality level is not even regulated by law contrary to the legislative reality. At the same time, over 95% of the total urban respondents acknowledge that tourism sector could suffer due to mosquitos or diseases carried by mosquitoes chasing away the tourists.

The quasi-majority of the respondents (over 98%) would support the initiative of establishing a national monitoring system for mosquito control. At the same time, 97% of the total urban respondents indicated the need for an independent and objective quality control check of the supported system.

Furthermore the interviewees underline the readiness and willingness to contribute and support (financially included) the implementation and enforcement of an IMSCS. Results indicate a large availability to assume a direct contribution, two out of three urban

respondents are willing to financially support with different amounts of money a national monitoring and control system for mosquitoes and MBDs the private contributions representing: up to 5 Euro/year for the large majority (~60%), 10 Euro/year for ~25% of the respondents, 20 Euro/year for over 10% while over 5% could contribute with 30 Euro/year or more.

The respondent's view regarding the potential support offered for the national mosquito monitoring and control system shared between the main categories of actors indicate that the state should contribute with 50-100% of the systems' needs; 25-50% should represent the communities (municipalities) contribution while the citizens should cover at most 20%.

The integrated system is only effective if all three components: Surveillance (mosquito and MBDs), Control and Quality Evaluation are assumed and properly enforced by the national legislation. The quality evaluation of the mosquito and MBDs control closes the circle of Surveillance>Control>Assessment>Surveillance...

The enforcement of the current policy recommendation is fully supported by the LOVCEN Project Team with expertise and selected best practices in regulation enhancement and a tailor-made implementation/communication strategy for the future IMSCS leading to an increased visibility of the state administration efforts.