

RAPID IMPACTS ASSESSMENT OF WATERSHED URBANIZATION AND JEWISH COLONIES ON MAJOR SEASONAL STREAMS IN THE WEST BANK

Rashed Al-Sa`ed and Nidal Mahmoud

Institute of Environmental and Water Studies, Birzeit University, P. O. Box 14, Birzeit, West Bank, Palestine

E-mail: rsaed@birzeit.edu

Palestine, like many areas of Mediterranean zone, is experiencing an increase in urban development, accompanied by a rapid population growth, expanding into remaining natural aquatic ecosystems. In the West Bank, limited natural resources, directly affected by watershed urbanization, are small seasonal streams and associated wetlands. Beside their role in aquifer recharge and as an alternative agricultural water sources, seasonal small stream ecosystems can serve as habitat for several native fish species. The assessment of Palestinian urbanization and Israeli colonies impacts on selected major seasonal streams in the West Bank pertinent to changes in basin hydrologic regime, stream morphology, and water quality is not well-documented. Scientific knowledge about the long-term cumulative effects of these alterations on in-stream habitat structure is still lacking. An increase in impervious cover and the corresponding loss of natural vegetation, land clearing, soil compaction, and riparian corridor encroachment, modifications to the surface water drainage and stormwater runoff infiltration areas all typically accompany watershed urbanization. Considerable evidence about these impacts will be presented, and cause-effect relationships among physical and chemical impacts of pollution loads from Palestinian urban communities and the Israeli colonies will also be presented and discussed. Early obtained results (1997) showed that sudden development pressure in Nablus, and Salfit districts, associated with huge municipal pollution loads, caused soil desertification and negative impacts on streams water quality and on the wetlands along urban streams that are essential to natural stream function. Watershed protection and rehabilitation measures to alleviate pollution loads and impacts on these streams will be introduced. The Palestinian seasonal streams hold great ecological and socioeconomic values to the peoples of the region and huge financial and regional research efforts are needed to protect and sustain these water resources to future generations. Finally, a set of stream water quality indices must be developed for the local key decision makers to use in urban streams management and to reduce the degradation of available scarce water resources caused by the rapid urban development.

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