

	Title: Economic Assessment of the Existing Onsite Wastewater Treatment Systems in the Palestinian Rural Areas
	Prepared by: Abdelhamid Samir Alshami
	Supervised by: Dr. Maher Abu-Madi
	University: Birzeit University
	Funded by: Austrian Development Agency (ADA)
	Email: abed.ss@gmail.com

Abstract:

Palestine is one of the arid and semi-arid countries of the MENA region that suffers from limited water resources and poor sanitation systems. The Palestinian rural areas mainly depend on cesspits for wastewater disposal which pollute the groundwater aquifers and the environment, and need frequent emptying by using expensive private vacuum trucks. Enhancing the sanitation system in the Palestinian rural areas by construction of centralized wastewater systems faces many challenges; these challenges include the low population density in the rural areas which increases the total investment cost of the centralized wastewater system in addition to the Israeli challenges towards implementing centralized wastewater systems. Therefore, the onsite wastewater treatment systems could be an alternative for the centralized systems in the Palestinian rural areas. Many local NGOs have implemented onsite wastewater treatment systems in many rural areas with different technologies and sizes. The aim of this research is to assess the economical aspects of the existing onsite sanitation systems in the Palestinian rural areas. The research study area is the rural areas in the West Bank, and the research level of work is at the household level and the targeted sanitation systems are conventional disposal systems (CDS), Activated Sludge System (ASS) that is used for wastewater treatment and grey wastewater system (UGF). The method used for cost benefit analysis is the Net Present Value (NPV). In West Bank, the highest mean financial NPV is for UGF (-5,809 NIS) then for CDS (-7,285 NIS) and the lowest value is for ASS (-14,978 NIS). The highest mean economic NPV is for UGF (-2,048 NIS) then for ASS (-9277 NIS) and the lowest value is for CDS (-11,189 NIS); so the OWWT units is economically better than CDS. The recommended system for the Palestinian rural areas is the UGF; working in the UGF should be developed to enhance the existing situation of the systems and to increase their economic value.