



**Title: Role of Hydroponics in Attaining Water and Food Security in Palestine**

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**Abstract:**

his study has been conducted in the period between the months of September, 2014 and November, 2015. It covered the hydroponics farmers in the West Bank. The study focused on the cultivation of barley and comparing that with the cultivation of barely in one of the farms in which the barley is grown in the rain-fed traditional way as a case study of one of the barely farms owned by a farmer of Tubas province. A comparison between the cultivation of strawberry using the traditional way and that cultivated hydroponically was also conducted .All this was preceded by conducting exploratory interviews with experts on hydroponics which included Academians, farmers and donors (financers). This study aims at the identification of the role of hydroponics in attaining water and food security as well as production of water and food by this technology. The research sample was purposive and was chosen after a comprehensive survey of all hydroponics farms in the West Bank which are (73 farms).37 barley farms were chosen which were worthy of study in terms of the availability of equipments and its continuity that enables the conduction of research through an already prepared questionnaire on which 30 interviews were conducted. The researcher has followed the analytical descriptive methodology which is the best and most appropriate for this kind studies and which can achieve the goals of the study. The researcher collected the data from different sources: experts, private institutions, ministry of agriculture and he reviewed the previous literature on the subject. He then he designed an interview questionnaire and which was later statistically analyzed and the outputs were processed using the statistical SPSS band. The study has arrived at various conclusions (results) amongst which: This is kind of agronomy is new to the Occupied Palestinian territories of which (73.3%) have been built in 2014.Consequently; there is not much experience in this field amongst Palestinians. Nonetheless, most farmers have taken part in at least one training course. The cost of energy and operational burdens and cost of construction of this kind of farms was considerably high. The role of woman and that of the Ministry of Agriculture was poor in following and caring for this kind of farming. This might be due to the lack of technical teams. The feasibility study for this kind cultivation is very high compared with rain-fed cultivation (21 folds) and that the cost of producing a kilo of barely is 4 NIS.This kind of cultivation could be the optimal alternate for the production of feed (fodder) at reasonable prices, and the produced barely could be complementary nutrient for cattle at 50%- 70% in a safe and cost-effective way. At the end of the study, the researcher made some suggestions that supports this kind of agronomics and to promote its role in securing the water and food security. He emphasized that the government and private parties should support and embrace this idea and they should find solutions for the points of weakness and work to coordinate between these institutions and follow up on the projects after they have been implemented