

Appraisal of Aquaculture Units Established in Inland Salt Affected Waterlogged Areas of District Fazilka, Punjab

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Abstract—Underproductive or unproductive (zero earning) inland salt affected waterlogged areas in northern states of India offers an opportunity for commercial utilization and productive use for aquaculture purposes. The present study was pursued in two inland salt affected waterlogged villages (Shajrana and Bahadur Khera) in district Fazilka of Punjab, to evaluate the status of aquaculture units with respect to water quality and suitability for rearing of freshwater/brackish water species. The water samples, collected from twenty two aquaculture units from selected villages, were analysed for different physico-chemical parameters viz., pH, salinity, electrical conductivity, total hardness, total alkalinity, sodium, calcium, potassium, magnesium, chloride and sulphate. All the units surveyed during the present study, were being used for rearing of freshwater carps under semi intensive polyculture system and the salinity of 2 (9.09%), 8 (36.36%) and 12 (54.54%) units was found to be 3-4, 5 and >5 ppt, respectively. The present study revealed that out of 22 aquaculture units surveyed, only 2 units with salinity range 3-4 ppt, were suitable for rearing freshwater carps without any intensive technological intervention. However, in rest of the 20 aquaculture units (≥ 5 ppt) the salinity is expected to rise further over a period of time due to evaporation, rendering them unfit for freshwater carp culture and hence, shall be used for rearing brackish water finfish/shellfish species for sustainable development of aquaculture in the region.

Keywords: Inland saline areas, Aquaculture, Punjab, Sustainability.