Groundwater Depletion, Outmigration, and Agrarian Change in Punjab

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This study investigates the changing agrarian structure in Indian Punjab considering the deterioration of ground water resources. The results of the latest NSS on land holdings indicate that numerous farmers have been expanding their holding size by renting-in land. The highly developed mechanization in agriculture has already expanded the potential of a large scale farming in the state. The subsidized fertilizer, attractive minimum support price, and free electricity for lifting ground water have been the favorable conditions for motivated farmers to expand their holding. It is likely that the emerging land holding structure in which large farmers have a significant share is realized by the increase in land rented-out. More and more land-owning households begin to rent-out their land, faced with the shortage of family members engaged in cultivation because of the expansion of employment opportunities in non-agricultural sector in and around villages and the migration to remote areas including foreign countries. The fall of water table is quite serious. Sorting out the problem is difficult because even an ordinary farmer can lift as much groundwater as he want from deep aquifers at relatively small expense thanks to technological progresses. Therefore, the problem should be addressed with an institutional approach rather than technological approach. The paper will discuss the relationship between the current agrarian structure and the groundwater depletion by analyzing some important issues including changes in the number of plots in a holding, terms and period of lease, amount of rent, cost of cultivation, and cost of the electricity for agricultural purpose.