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Environmental Challenges and Opportunities for Enhancing Land Use Systems in the New Valley, Egypt

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Abstract

The ever-increasing population of Egypt (approaching 90 million), is associated with concentration of more than 90% of that population in only 5–6% of the total country area. Consequently, resettlement programs, in the New Valley (NV), which is located in the Western desert of Egypt, are implemented to convert arable areas to new productive rural communities. Effective land use systems in the NV face several Environmental Challenges (ECs), including both natural disasters and improper farmers' behaviour. Among natural disasters are: desertification, loss of vegetation cover and biodiversity, sand dunes, water scarcity, raise in average temperatures and drought. Improper farmers' behaviour is demonstrated by the mismanagement of available natural resources, by new land settlers, who usually apply the old land use practices on the new local communities (such as flood irrigation and inappropriate cropping systems), without considering climate change and different types of soil in new lands.

The study objectives were to: 1) Investigate the ECs facing effective land use systems in new local communities of the NV, as perceived by different stakeholders; and 2) Explore the Environmental Opportunities (EOs) for enhancing the effectiveness of these systems, as suggested by the respondents. Field data were collected during personal interviews, with a random sample of 120 respondents (farmers, local leaders, tribes' heads and governmental officials) by using a structured questionnaire, to achieve the study objectives.

The study revealed that the most important perceived ECs are: shortage and low quality of irrigation water; and soil salinity. These ECs are aggravated by weak agricultural extension and advisory services. The suggested EOs, for facing ECs and enhancing the effectiveness of land use systems, in the NV, could be classified into 4 categories, namely : a) Infrastructural (such as supporting digging irrigation wells, improving drainage systems, providing electric power for irrigation wells; b) Human resource development (such as recruiting and training new extension workers and upgrading the skills of irrigation technicians; c) Financial (such as providing financial support for digging wells and providing loans); and d) Improving research, extension, and advisory services (such as providing technical services, awareness raising and information delivery activities).

Keywords: Egypt, environmental Challenges, Land Use Systems, New Rural Communities, New Valley, Opportunities