



Desert land reclamation programs and family land dynamics in the Western Desert of the Nile Delta (Egypt), 1960–2010



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ABSTRACT

The agricultural development on newly reclaimed lands has led to many national debates about food security and budget deficits, and the living conditions of the new settlers at the local level. This debate is still crucial for present day Egypt, a country facing major challenges, including food security, agriculture modernization, employment generation, and land fragmentation due to dramatic population growth. In this context, policy makers are always seeking the best land allocation system for these new lands. This paper analyzes the land tenure and land use dynamics of farmers' settlements during a program of land reclamation (from 1960 to 2010) in the Western Desert of the Nile Delta. The objective is to describe the land development paths of farm settlement and to identify promising dynamics by cross-referencing the farmers' stories and their livelihood achievements. To accomplish that, we conducted household surveys and interviews to learn the life stories of 175 family farms. Our study finds that, beyond the rules and institutions that fixed the land tenure regimes and its distribution in these new lands, settlers have found different ways to hold on and secure their land farm, even if the unequal land distribution still structure the population. The results highlight also the dynamism of small-scale settlers, regarding livelihood diversification, to face the challenges of these desert environments. In addition, the dual-purpose system embedded in mixed crop-livestock systems can contribute to settlers' livelihood security. These realities confound the unchanged rhetoric of government and this calls for more social consideration of these new rural spaces based on a combination of heterogeneous networks off relationships and knowledge. The apparent gap between the macro- and micro-perspectives analyses also requires multi-scale assessments. Finally, the life-story method proves to be a complementary and useful approach to integrate the livelihood representation and dynamic.

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1. Introduction

Agricultural development through settlement schemes on new lands has always raised many critical questions and debates related to land distribution and land tenure and rights. Overall,

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understanding settlement scheme and their implication in terms of agricultural development has often been analyzed at macro-economic level, because involving interventionist agricultural policies. However, this process also challenges the form of rurality (see Wittman, 2009 for Brazil or Shubin, 2006 for Russia) and is particularly true in Arab countries where accessing land and water raise many social conflicts and challenge the category of 'state land' (as observed and analyzed in Jordan (Al Naber & Molle, 2016), in Sudan (Gertel, Rottenburg, & Calkins, 2014), or Morocco (Davis, 2006; Mahdi, 2014)). Nonetheless, land reclamation may make a "great deal of sense" when facing the challenges of demographic growth and agricultural production, as observed in the Great Rift

Valley in Tanzania or the Chico River valley in Bolivia (Madeley, 1989, p. 274). This is also part of an acute, worldwide debate related to rural land distribution in the face of human pressure and land fragmentation (see Haldrup, 2015, for western counties, or Fang, Shi, & Niu, 2016 in China) and living conditions of small-scale farms (see Diniz, Hoogstra-Klein, Kok, & Arts, 2013 for Brazil). Indeed, land reclamation introduces a number of questions and pitfalls related to crop choice: subsistence versus cash crops, economic viability (Madeley, 1989; Nielsen & Adriansen, 2005; Diniz et al., 2013), environmental issues (Mascarenhas, Odero-Ogwel, Masakhalia, & Biswas, 1986; Aldrich et al., 2006; Merry, Amacher, & Lima, 2008), and social conflicts (Al Naber & Molle, 2016).

At local level, few studies directly address the new settlers' living conditions; the new settlers' perceptions regarding the opportunity for settlement, and the land as a new rural space, not just a space driven by economic perspectives and opportunities for investment. Such as described by Shubin (2006) for Russia, state agents emphasize "conquering" unproductive space in the new reclaimed lands, although rural dwellers are often in the dynamic of learning about and understanding this new rural space as a way to 'master space'. Aleseev (1990), cited by Shubin (2006), integrated the social and cultural dimensions in the process of creation of rural spaces that challenged the stereotypes of thinking of rural spaces focusing on colonization and modernization in reclaimed lands. Not specifically to reclaimed lands, many authors have shown the relevance of livelihood diversification when considering rural development (Reardon, 1997; Ellis, 1998, 2000; Marschke & Berkes, 2006; Martin & Lorenzen, 2016). In the same line, some authors show that land tenure regimes may cause multiple difficulties for diverse livelihood strategies and environmental sustainability (see e.g. Ellis & Allison, 2004; Chimhowu & Hulme, 2006; Resosudarmo et al., 2014). The authors warn that strict or homogeneous land tenure regimes or institutions, which is typical in land settlement schemes driven by the State, will act as barriers to optimum land management. On the other hand, Diniz et al. (2013) highlight different settlers' livelihood strategies according to their region of origin and background. This approach of livelihood strategies has been well developed over the last decades (see, e.g., Carney, 1998; Scoones, 2009; Devereux, 1999).

As with other experiences of reclaimed lands across the world, newly reclaimed desert lands in the Western Desert of the Nile Delta are a part of long-standing national policies that began early in the twentieth century and accelerated in the 1960s; this area now represents around 40% of Egypt's reclaimed lands. The land reclamation programs are also part of a succession of agrarian reforms and policies implemented over the last sixty years, under Presidents Gamal Abdel Nasser, Anwar as-Sadat, and Hosni Mubarak. These policies attempted to achieve multiple (but not always concomitant) objectives concerning food security, agricultural modernization, the development of export agriculture, employment generation, and the expansion of rural areas to face the accelerated population demography in the Nile Valley and Delta. Up to now, policy makers have always strived to create the best land allocation system for these new lands with two main goals in mind: (1) developing a capital-intensive agricultural sector for export and (2) curbing the growing unemployment and land fragmentation in old lands. Faced to these goals, the major narrative purpose of the Egyptian government was, and still is, to increase agricultural production, attract investments to attain export objectives, and to "overcome Egypt's overwhelmingly unfavorable population-to-land ratio" (Springborg, 1979, p. 54) (established at approximately 17.2 in 1979 and 23.8 in 2013, based on Faostat, 2013). These two goals question the role that decision-makers wish to present to peasants (the social class of *fellahin* in Egypt), in both the newly and future reformed agricultural sector.

This has become part of the national political debate concerning how to target the most efficient and promising groups. In other words, "Are they to become wage workers in new desert irrigated estates or lumpen and landless unemployed readied for occasional work in towns?" (Bush, 2007, p. 1609). Moreover, some authors criticize these land policies because they have boosted private investors to the detriment of addressing the major issues of poverty and inequality in rural areas (Bush, 2002, 2007; Mitchell, 1995, 2002; Sowers, 2011). Others raise agro-environmental issues related to the cultivation of desert lands, especially concerning water usage and soil salinity (Monem, Khalifa, & Solh, 1998; Enien et al., 2000; Barnes, 2013, 2014), which threaten the overall sustainability of these areas. In parallel, Malm and Esmailian (2012) are critical of the fact that environmental research rarely considers the people on the ground or, notably, the risks of increasing vulnerability in this fragile environment. But, if the expectations, challenges, and risks of Egypt's newly reclaimed lands have been widely debated in the national and international literature alike—mainly at the macro-economic level and on the basis of socio-political perspectives (Springborg, 1979; Mitchell, 1995; Bush, 2007 and Sowers, 2011), understanding the rural development in terms of sustaining livelihood in these new lands has been less explored.

The present work analyzes the trajectory of small-scale farmers in the Western Desert of the Nile Delta area along the Nubaria canal from 1960 to 2010. In examining these family farm trajectories, the main goals are (i) to understand how the settlers have managed these new land opportunities and the local constraints they face and (ii) to contribute to one of the current political debates in Egypt related to the attribution and development of its reclaimed desert lands. For whom? For what objective?

Following a socio-economic perspective, Adriansen (2003, 2007) analyzed how the new settlers perceived opportunities and constraints related to living in the desert. These field studies in Egypt clearly reveal the new settlers' controversial feelings about the land, which they see as "spaces (either) of opportunities or of poverty" (Adriansen, 2003, p. 8). However, these approaches do not address the mechanisms developed by the new settlers to survive in these desert areas, especially during the first years of settlement. In this study, our thesis that, beyond the rules and institutions that fixed the land tenure regimes and its distribution, settlers have found different ways to hold on and secure their land farm, even if the unequal land distribution still structured the population. And these livelihood strategies through land dynamics and land use diversification must be explored in order to change land use distribution in the future settlement schemes.

For that, we proposed to identify the development paths of farmers' settlements as a way to understand the adaptive mechanisms developed in these environments and to identify promising dynamics in future programs. This paper proposes two readings of Egypt's land reclamation history. The first, based on the literature, reveals the controversial goals of these mega-programs of land reclamation at the national level. The second reading takes place at the household level, capturing the diversity in farm trajectories that allows us to gain an understanding of the successes and risks of these complex processes, or, more accurately, the deviations of the systems from their initial conception and presentation.

2. Overview of land settlement schemes for graduates and other beneficiaries via land reclamation

The policy of extending cultivated desert land in Egypt began early in the 1800s, during the reign of Ottoman Viceroy Muhammad Ali (Allan, 1983). This first phase of reclamation focused mainly on the fragile (clay, saline, and waterlogged) lands in the

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