Journal of Arid Environments 75 (2011) 596–611

Contents lists available at ScienceDirect

Journal of Arid Environments

journal homepage: www.elsevier.com/locate/jaridenv

An elephant in the planning room: Political demography and its influence on sustainable land-use planning in drylands

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ARTICLE INFO

Article history:
Received 17 June 2009
Received in revised form
1 June 2010
Accepted 11 January 2011

Keywords:
Dryland development
Environmental planning
Negev
Political demography
Spatial planning
Xinjiang

ABSTRACT

Two distinct, conflicting, land-use planning paradigms affect drylands: one seeking environmentally sustainable outcomes and one addressing political-demographic concerns. The environmental paradigm is relatively new and is couched in the lexicon of sustainable development, combating desertification and biodiversity conservation. These concerns proscribe planning principles that allow for human settlement in drylands while minimizing its environmental impact. The latter paradigm has a longer history, born in central governments' desire to secure sovereignty over outlying regions. These concerns result in planning goals that conflict with environmental goals. The environmental paradigm encourages compact development and efficient land-use, while the political-demographic one encourages in-migration of 'friendly' populations and the establishment of a physical presence on a maximum amount of land. Using Israel's Negev Desert and China's Xinjiang region as case studies, we suggest that successful implementation of sustainable dryland management depends on recognizing the challenge presented by political-demographic planning motivations. As such, successful implementation of environmental planning requires resolution of existing political conflicts. Since drylands are characteristically geographic and demographic frontiers, they are ideal settings in which to study the conflict between environmental and political-demographic goals and they provide an opportunity to better understand how this conflict creates a barrier to sustainable development.

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1. Introduction

1.1. Political demography and regional development planning

> …when states are acquired in a country differing in language, customs, or laws, there are difficulties, a good fortune and great energy are needed to hold them… The better course is to send colonies to one or two places, which may be as keys to that state, for with little or no expense he can send them out and keep them there…
>
> — Nicolò Machiavelli, The Prince, 1515

Nations, both historical and modern, employ policies to encourage population groups considered friendly to the central government to move to peripheral areas where the local population is perceived to be hostile to the government or where national borders are contested. Central to their research on political demography, Weiner and Teitelbaum (2001) outline four primary reasons why governments engage in such population transfers: "to establish the hegemony of a dominant ethnic group, to enhance their political control over a people or territory, to prevent the rise of secessionist or irredentist movements, and to diminish the prospects of arms flows and financial support to border populations." In modern times, the explicit justifications for such policies are varied, and include the need to strengthen and define borders, avoid population concentration in the geographic core, and to redistribute economic development. However, these justifications are often used to camouflage political-demographic concerns (e.g. those concerns based on local population size and political control).

Variants of these policies have been implemented since the early Middle Eastern empires (Hillel, 2006), through the Middle Ages (Machiavelli, 1515; Machiavelli, 1517), and into present times. Such policies were used in the United States during the 19th century throughout the Louisiana Territory and southwestern region (Sharp, 1955; Wilkens, 2007), by Russia and then the Soviet Union in Central Asia (Brubaker, 1995; de Silva, 2001), and by China in its western provinces and Tibet in the 20th century (Attané and

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doi:10.1016/j.jaridenv.2011.01.008

Courbage, 2000; Becquelin, 2004). There are also numerous examples of this type of activity in smaller states across the globe, the most extreme and explicit of which may be Apartheid-era South Africa (May and Lahiff, 2007). Today, various countries employ political-demographic policies, including Indonesia (Weiner and Teitelbaum, 2001; Bookman, 2002), Turkey (McGarry, 1998; Dahlman, 2002), and Egypt (Ronen, 2003).

Specific policies, ranging from the coercive (e.g. forced transfers, population exchanges, ethnic cleansing) to the benign (e.g. economic incentives, appeals to patriotic duty, infrastructure development), have been used to implement the aforementioned, broader policy goals (Machiavelli, 1515; Sharp, 1955; Bookman, 1997, 2002; Weiner and Russell, 2001; Weiner and Teitelbaum, 2001). Further, large-scale economic development projects are often utilized to encourage internal migration to peripheral regions, and although legitimated in economic terms, the economic goals may be subordinate to the desire to populate these areas with friendly populations and/or to sedentarize migratory populations (Harris, 2002; Sinai Development Authority, 2008).

We observe this trend to be particularly prominent in dryland regions. For our purposes, dryland regions are areas with low rates of precipitation and high rates of evapotranspiration and which therefore experience water stress on a seasonal or constant basis (Beaumont, 1989; Goudie, 2002; Reynolds et al., 2007). Drylands include true deserts as well as semi-arid regions, and occupy roughly 25% (Beaumont, 1989) to 32% (Safriel et al., 2005) of the terrestrial area of the planet.[1] Beaumont (1989) lists 39 countries where 50–100% of land area consists of drylands, and another 27 where between 25 and 49% of the country is dryland (a contemporary post-Soviet figure would include more countries). According to the Millennium Ecosystem Assessment, approximately 20% of the world's population lives in these regions (Safriel et al., 2005).

Drylands seem to be particularly prone to political-demographic motivated migrations for three reasons. First, the regions are often populated (or have been populated in the past) with pastoralists or other groups that practice some form of migratory behavior, as in the case of Australian aborigines, Kalahari bushman, Bedouin of the Middle East, the Taureg of the Western Sahara, several native American tribes and groups in the African Sahel, Central Asia, and others (Beaumont, 1989). Historically and into the present, the movement of these groups did not conform to national borders. As such, their allegiances are perceived by national governments to be focused on their own communities and families and not the nation state (Omosa, 2005). Further, central governments consider their lifestyles incompatible with conventional forms of service provision, including health and education. The groups are often resistant to paying taxes to central authorities, smuggling and other illicit activities may be integral to the communities' economic sustenance, and their customary law may be seen as conflicting with the state's legal institutions (Omosa, 2005; Chatty, 2006). This profile makes it hard to fit these groups into the cultural norms of most centralized states. Such groups have been targeted across the arid world and throughout modern history for re-location and sedentarization, e.g. United States, Iran and Saudi Arabia (Beaumont, 1989; Khazanov, 1994; Harris, 2003; Chatty, 2006).

The second reason why drylands may be targeted for political-demographic attention is their geo-demographic characteristics. Dryland regions are generally more sparsely settled than the more fertile and humid parts of a country (Lonsdale, 1985; Reynolds et al., 2007; Stafford Smith, 2008), for example in China, the United States, Australia, Egypt or Chile. So, such regions are often viewed as an opportunity for demographic 'pressure-release' moving excess population from the more densely settled regions into dryland areas,[2] particularly if they are on the geographic peripheries, as settlements are often used to demarcate national borders. Since drylands often coincide with the geographic peripheries of countries (Lonsdale, 1985), population groups in these areas often have ethnic, religious or nationalistic ties to neighboring countries (e.g. Stanley, 2002 for Namibia). Therefore, these groups may have more differences with the authority of the national government than does the population as a whole and sometimes explicitly oppose it.[3]

The third reason why drylands may be prone to political-demographic planning is that they are often resource-rich areas with economic importance. Most of the world's petroleum comes from dryland areas in the Arabian Peninsula, Iraq, Iran and North Africa, playing a major role in these countries' national economies (Beaumont, 1989; Harris, 2003). Drylands are also abundant in phosphates and nitrates, such as Chile's Atacama Desert (Lonsdale, 1985; Harris, 2003), Israel's eastern Negev Desert and the Jordanian and Israeli shores of the Dead Sea. Rare minerals, including copper, gold, molybdenum, uranium, silver, borax, iron and many others are also particularly abundant in drylands (Harris, 2003). Further, 50% of earth's livestock is supported by rangeland in drylands (Safriel et al., 2005). Drylands are also considered as potential locations for increasing agricultural production to meet growing global food demands (Beaumont, 1989). For these reasons, drylands have been recast as "frontier" regions, rather than peripheries, to emphasize their positive potential for development as "lands of opportunity" (Lithwick and Gradus, 2000). Central governments often view drylands as regions that would benefit from settlement and development (and vice versa, that central governments would benefit by settling and developing drylands) and such beliefs are often embedded in national ideology and discourse (see Israeli and Chinese case studies below).

Clearly, the impetus to settle drylands is also inspired by many other considerations in addition to political-demographic ones. In many countries, governments are struggling with migration trends of rural people (including dryland) to urban areas (Beaumont, 1989; Stafford Smith, 2008) and have implemented policies to reverse this process, while many more desire major change in these migration patterns but have not yet implemented policies to address them (United Nations Department of Economic and Social Affairs, 2005). Nonetheless, we find a ubiquitous, although increasingly implicit, presence of political-demographic considerations in dryland planning around the world.

A prominent spatial development pattern that emerges from the political-demographic planning paradigm is one that emphasizes strategic settlement through dispersal of population in low densities to maximize land occupancy. Early 20th century Harvard geographer, Derwent Whittlesey, explicitly coupled a central authority's concern for security and sovereignty in frontier regions with dispersed, low-density settlement (Whittlesey, 1935). In

[1] We refer to areas considered hyper-arid, arid or semi-arid according to the Millennium Ecosystem Assessment, but not to dry subhumid areas considered in the latter report (Safriel et al., 2005).

[2] While the "pressure-release" claim is supported by the Israel and China case studies, Stafford Smith (2008) suggests an alternative path where, due to increased global migration towards cities, remote drylands will become even more remote as a greater proportion of the population concentrates into cities.

[3] In a counterintuitive, yet telling, example architect Bill Hubbard, Jr. writes of Mexico's desire to strengthen its sovereignty over east Texas in the early 1800s: "An obvious lesson from the whole colonial era was that a central government could assure control over an outlying territory only by settling it. Yet Mexican farmers could not be induced to settle up against the frontier with the United States… Mexico hoped to co-opt American settlement through the *empresario* system. Under the system, an American entrepreneur could get a large land grant if he could convince people to settle on his grant. The catch: every settler had to profess allegiance to Mexican sovereignty"(Hubbard Jr., 2009).

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