

‘THIS IS NOT OUR LIFE, IT’S JUST A COPY OF OTHER PEOPLE’S’: BEDU AND THE PRICE OF ‘DEVELOPMENT’ IN SOUTH SINAI

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Abstract

This study demonstrates the unplanned outcomes of development in an indigenous population, and the particular impact of prescribed development on bedouin livelihoods in South Sinai. In the latter half of the twentieth century, Bedu across the Middle East have adapted their livelihood strategies to the more or less authoritarian modernizing policies of nation-states. In South Sinai, in response to the rule of both Israeli and Egyptian regimes, the economy of local Bedu has shifted from pre-development, agropastoral livelihoods that provided subsistence for ten months a year, to an almost complete dependence on insecure paid work. Using data on bedouin livelihoods and household economics spanning more than forty years, I argue that state-led ‘development’ has brought very mixed blessings to its population. I demonstrate bedouin poverty –currently unacknowledged by the Egyptian state – for the first time, and show the relative inequality of Bedu compared to other Egyptian citizens. The failure of government to record bedouin experience creates a policy blind spot, ensuring their inequality persists.

Keywords: Bedouin, pastoralism, development, poverty, inequality

Introduction

Pastoralism, constructed as rooted in a primitive, pre-agricultural past, affronts the linear narratives of ‘progress’ and ‘modernity’ adopted by many states. It is viewed always as a subject, never a means of ‘development’. Colonialist ideas of the backwardness of nomadic peoples were transmitted unchallenged to post-Second World War international development agencies and institutions. Central governments tend to perceive Bedu and other non-sedentary populations as ‘states within a state’, a de facto problem area (Chatty 1980, 2006b).

The success of adaptive strategies to encourage or enforce bedouin participation in ‘mainstream society’ has depended largely on the approach of their respective governments. As Marx notes (2006: 11), authorities often abdicate their civil responsibilities: pastoralists are often treated as second-class citizens, and do not receive the full range of services provided by the state. Whilst governments may overtly apply the principle that pastoralists are citizens like any other, even

governments that are well disposed to pastoralists struggle to justify the higher per capita expenditure required to provide a dispersed minority with services (Aronson 1980: 180). This is the more so when settled populations resist assimilating Bedu into the national identity, harbouring what Altorki and Cole describe in Egypt as ‘a lingering sense that the Bedouin are “not really Egyptian”’ (2006: 16).

On the other hand, the common failure in the Middle East to categorize Bedu as either an ethnic or specific occupational group results in failure to acknowledge their specific needs. What Chatty describes (2006a: 7) as ‘official government, and – apparently – international blindness or disinterest in identifying Bedouin’ results in many Bedu lacking legitimate channels for voicing or realizing their needs and aspirations *as Bedu*. Lawful resistance, or assertion of legitimate rights and entitlements by pastoralist groups and their advocates, is often hampered by weak or absent political representation (Nassef et al. 2009: 7; Greenspan 2007; Sowers 2007). Many Bedu feel that the state–citizen contract is inadequately fulfilled by their governments.

In order to absorb Bedu into society, governments across the region have adopted strategies ranging from coerced settlement, dispossession and detribalization in the Negev (Jakubowska 2000; Marx 1967, 2000; Abu Rabi’a 2002) and Syria (Chatty 2003; Lancaster and Lancaster 2006), to more neutral policies of benign neglect in Saudi Arabia (Chatty 1980, Lancaster and Lancaster 2006, Cole 2006), and other more intentionally developmental approaches in Jordan and Oman (Chatty 2000; Chatelard 2006; Lancaster and Lancaster 1990, 2006). These government-led settlement efforts cannot be interpreted as politically neutral schemes for the provision of services, but ‘arise from primarily political concerns which are cloaked in a social or economic idiom’ (Chatty 1980: 81).

According to Nassef et al. (2009: v, 1–4), pastoralism makes a valuable contribution to the economy of regions where it is practised. However, this view has little currency with governments concerned to improve and modernize Bedu by transmuting them into model citizens: ‘enthusiastic or productive workers... accustomed to regular work for wages and acquiring the attitudes, skills, and habits valued by an industrial society’, as Glassner (1974: 59) describes Israeli intentions in Sinai during its post-1967 Occupation.

The South Sinai Study

In 1967 Israel captured Sinai from Egypt, beginning a fifteen-year occupation of the peninsula. Rapid economic change, settlement and the sudden widespread availability of migrant labour produced wholesale shifts away from pre-development livelihoods of semi-nomadic pastoralism, horticulture, hunting and fishing. In the years since 1982, when full Egyptian government resumed, South Sinai has experienced rampant commercial development through tourism and substantial donor investment. An analysis for the Egyptian Environmental Affairs Agency (SEAM 2005: 20) concluded that ‘the Bedouin can hardly fail to benefit

from these investments'. Yet South Sinai Bedu remain among the poorest and most marginalized of Egyptian citizens, a position reinforced by the government policy of settling mainland Egyptians in large numbers in the peninsula backed by a massive security presence. The St Katherine Protectorate, established in 1996 in the high mountain massif surrounding Jebel Musa (Mount Sinai) and the world-famous sixth-century Monastery of St Katherine, set out to promote bedouin participation, promising alternative livelihoods and 'sustainable' development through ecotourism. Local hopes were further raised by its declaration as a World Heritage Site in 2003. Yet over time many promises have not been delivered, and most Bedu have had little opportunity to profit from all this change. Many are ill at ease with their life today. They blame 'the Egyptians' – conflating local and national government and conservation authorities – for failing to benefit the environment or the community.

My study grew out of my personal involvement with South Sinai and its residents.¹ Repeated short visits to St Katherine over many years had allowed me to observe the area's rapid development, and the emergence from it of a paradox. Its promotion as a tourist haven had seen hotels and people proliferate, transforming fishing hamlets into teeming resorts and St Katherine into a mass-excursion venue. Yet, the more the resorts grew, the fewer Bedu were seen in them. Increasingly they were visible only in low-key, low-paid roles on desert treks where their environmental knowledge made them indispensable. South Sinai's economic prosperity was externally driven, creating and leaving behind a marginal people. The primary question driving my study, then, was this: when money is flowing into Sinai and so many people are profiting, why do so few Bedu seem to benefit?² To answer this question I looked first at what we know about bedouin lives and livelihoods on the cusp of development.

Pre-development Livelihoods

South Sinai's indigenous population consists of Bedu from eight tribes or tribal confederations. The tribe about whose pre-development livelihoods we know most are the Jebeliya, whose territory is the high mountain area surrounding the Monastery (Hobbs 1995). Their ecology, husbandry and household economy were studied in the 1970s by a team of Israeli conservationists and anthropologists based in the new settlement of St Katherine.

Pre-development livelihoods were grounded in semi-nomadic pastoralism, and in the high mountains and oases on the cultivation of orchard fruits and dates. I denote these with the term 'core livelihoods', as they remain central to people's view of what it means to live as Bedu. The occupations are complementary: the low physical endurance of small livestock restricts the distances animals can travel, and they rarely moved more than 50 km from summer water sources (Bailey 2002), enabling horticulture and limited agriculture to develop in a

combination unique to the region. These defining occupations were historically supplemented by paid work. The significance of their contribution to subsistence has varied in relation to the availability of other economic opportunities, receding when wage-labour was plentiful.

Semi-nomadic Pastoralism

Avi Perevolotsky and his collaborators (1989) demonstrate that in the mid-twentieth century, South Sinai Bedu relied upon their mixed flocks of goats and sheep for a substantial percentage of their living. They illustrate the expertise with which the microclimates of different wadis and elevations, with their characteristic vegetation and water supply, have been used by Bedu to maximize benefits from their surroundings. Before 1967, herding was essential to the household economy of the twenty families Perevolotsky's team observed and interviewed. To make a significant contribution to a family of five or six people, flocks had to consist of at least 50 animals (local mean 78 ± 42). Perevolotsky et al. (1989) review literature from comparably arid habitats, indicating that Jebeliya flock sizes matched those found elsewhere. In the high mountains, Jebeliya flocks were mostly black goats which find it easier to reach inaccessible vegetation; outside the mountains, sheep predominated.

Historically, South Sinai pastoralists have grazed their flocks all year round, needing only occasional winter fodder. Where livestock at Perevolotsky's recorded densities left high-mountain pastures vulnerable to overgrazing, Bedu dealt with this by means of self-imposed controls, no grazing of summer pastures being allowed in winter on pain of a heavy fine (Perevolotsky 1987). The Bedu call these regulations *helf* – their annual rotation systems ban grazing or fodder collection from entire wadis, allowing vegetation to regenerate. The system mirrors the *hema* approach described by Shoup (1990) and Chatty (2003) in Syria, and similarly supports the ecosystem.

Orchard Horticulture

The systematic cultivation of orchards as a primary means of subsistence is rare among people considered nomadic. In South Sinai it was practised chiefly by the Jebeliya whose tribal territory in the high massif makes possible the cultivation of fruit trees generally associated with more northerly climatic conditions. A typical mountain garden might include a combination of apple, apricot, almond, quince, pear varieties, grapes, plums, figs, walnuts and mulberries. The ripening of the first apricots at the lowest elevations would signal the time to move flocks up to higher mountain pastures (Zalat and Gilbert 2008). At lower elevations, dates were cultivated by all tribes, chiefly in the oases of Wadi Feiran and Dahab. Wheat was cultivated where water permitted, including small pockets of alluvial soil created by run-off from mountain floods. Historically, orchard produce was transported by camel to markets in Suez, el-Tur or Cairo, demand being ensured

by the rarity of mountain fruit in Egypt. Underneath the trees, making best use of irrigation water, salad and vegetable crops were also grown.

Importance to Household Economy

Prior to 1967, herding was a central plank of bedouin household economy (Perevolotsky et al. 1989; Zalat and Gilbert 2008). In addition to cash returns, sheep and goats traditionally provided valuable protein from milk, cheese, and (more rarely) meat. They provided wool for rugs and tent panels, hides for carrying water, and any number of other practical daily uses. Livestock have always constituted capital wealth for the Bedu, so meat has never featured much in their traditional diet, which consists largely of vegetables, dairy proteins and staple starches. In the past most Jebeliya could expect a sparse but nutritious diet: good quality water from the mountains, fresh milk in season, dried dairy proteins out of season, and home-grown fruit and vegetables, fresh or preserved. Coastal tribes had dates, and supplemented their diet with fish (Lavie 1990). Cereals, as well as tea, coffee, sugar, oil and lentils, remain essential commodities which in general are not locally produced; their purchase has always required cash from labour or trading.

Paid Work: An 'Economy of Opportunism'?

The bedouin economy has always included paid work, strategically combined with core occupations in order to minimize risk. Various occupations are recorded in South Sinai: charcoal manufacture, camel transport, guiding pilgrims to Mount Sinai and working for the Monastery, and hunting and fishing in order to trade (Rabinowitz 1985; Lavie 1990). When legal work has faltered, some Bedu have turned to smuggling – and latterly growing – drugs (Lavie 1990; Hobbs 1998; Marx 1999). Hobbs (1998) explains how involvement in narcotics has demonized the Bedu in Egyptian public opinion, arguing that they resort to it from economic need and would abandon the trade if alternatives existed – a constant refrain of my interviewees.

While the diversity of bedouin livelihood strategies is often described as opportunistic, Marx (2003: 5) characterizes it as deliberate and strategic. Core occupations were not merely an insurance policy for when paid work failed; both played an integral part in the wider market economy. In addition to herding, horticulture and smuggling, he describes people pursuing a range of specialist paid occupations – such as well-digging and shopkeeping, guiding and midwifery – as an active strategy for minimizing risk. Although many of these occupations were inherently unreliable, judiciously combined they ensured a meagre or modest living for most.

The Price of 'Development'

1967: Israeli Occupation

While by general agreement the standard of living rose under Israeli administration due to the widespread availability of paid work (Glassner 1974), so did its cost. Perevolotsky (1981, 1989) conducted interviews with fourteen families to determine the monthly living expenses of a bedouin family in the 1960s compared with 1975, showing that the cost of living had risen between five and ten times over the period, with critical results for core livelihoods. Perevolotsky interprets their widespread abandonment as a voluntary response to the availability of more rewarding paid work. The pattern of cause and effect seems clear, but is not as clear-cut as it looks. Bedu everywhere have chosen to supplement traditional occupations by working for wages, with shifting proportions of time invested in each area depending upon circumstance. Resource management is a key bedouin skill. So was the new order so widely accepted out of enlightened self-interest, or was it in fact ever a matter of choice? The need for cash was growing even as the Bedu's ability to earn it by traditional means declined. Having lost Egyptian markets for their fruit,³ they could not afford to invest in keeping their gardens productive; and the effect was similar in herding. As the cost of living and inflation rose, and the need to earn cash increased, more people settled close to roads and population centres where work and transport were easier to access. This put immediate strain on winter pasturage close to settlements. The impact was severe. For the first time, regular supplementary fodder, expensively transported from Israel, was essential to see flocks through the winter months. Dramatic reductions in flock size were required if herding was to remain viable. Perevolotsky reports that the average size of a flock fell between 1967 and 1975 from 78 to 13 animals. Even at this reduced level, by 1975 anyone keeping a flock through the winter would actually be making a loss (Perevolotsky et al. 1989).

Before 1967, orchards and flocks collectively contributed close to the whole year's subsistence costs to a bedouin household: the orchard provided 50–100 Egyptian pounds (LE), an income sufficient for at least six months; while the flock yielded LE 31.5, or approximately four months' living costs, in addition to produce for family consumption. Before the Israeli period, monthly living expenses for a family of six averaged LE 7–8, including food, clothing and medicine. The food budget was spent on imported staples, and the family diet was supplemented by nutritious fresh fruit and dairy produce from the orchards and flocks. Part of the staple food could be bought through the Tamwin (a subsidized government outlet) more cheaply than in shops, contributing to the low cash price (Perevolotsky 1981, 1989).

Under the Israelis, new commodities augmented traditional staples, and a new reliance developed on imported cigarettes (Bedu traditionally smoked home-grown tobacco). Government subsidies disappeared. In the new currency of Israeli lire (IL), a month's family subsistence costs (calculated in 1979) were IL

2,000. This would absorb the total *annual* income from an orchard. Income from herding did not feature by this stage, since keeping a flock would have actually incurred a loss. Living costs more than doubled in the two years between 1975 and 1977 (Perevolotsky 1981: 350). In these circumstances, the exchange of traditional livelihoods for labour paid in cash looks less like opportunism and more like necessity.

1982: Egyptianization and the Tourist Boom

Sinai was restored to Egyptian control by April 1982. UN forces still patrol Sinai to prevent military build-up, but the Egyptian security presence is highly visible and often intrusive. Even before the transfer of power, Egypt had drawn up plans to forestall any possible future invasion. The plan (Dames and Moore 1981) envisaged economic exploitation at previously undreamed-of levels, and the settlement of five million people in Sinai within twenty-five years. 700,000 of them were destined for the remote and desolate South, whose estimated population at the time was 4,355 (SEAM 2005). The stage was set for development on a previously unimaginable scale.

Whilst the wildest fantasies of the Dames and Moore plan remain unrealized (the settlement target having dropped to three million [UNDP 2005]), the development of South Sinai since 1982 has proceeded at astonishing speed. Multiple areas of contestation have been produced between the Egyptian Government and Bedu, including land rights, access to services, and natural resource management. All are heightened by perceptions of identity arising from the state's intention to 'Egyptianize' Sinai (ICG 2007). Bedu, of course, are all Egyptian citizens, despite a widespread sense among Egyptians that they are 'Other': 'uncivilized and unskilled' (Aziz 2000: 33). Egyptian officials, according to Gardner (2000: 51), 'can treat the Bedouins with mistrust at best, or contempt at worst'. According to Altorki and Cole (2006: 17), Awlaad 'Ali Bedouin from Egypt's Mediterranean coast assert their rights as Egyptian citizens to full inclusion in and acceptance by Egyptian society. By contrast, South Sinai Bedu defiantly construct their identity on the basis of their difference from the Nile Valley Egyptians who now outnumber them. Gardner comments: 'I know of no Bedouin who consider themselves, or Sinai, as Egyptian' (Gardner 2000: 49). While government strategy has been to subsume Bedu into mainstream Pharaonic heritage in the interests of nation-building, as Arabs the Bedu adopt an Islamic rather than a Pharaonic cultural frame of reference.⁴ Despite this central disparity, World Heritage status and Protectorate regulations, entirely incongruous faux-Pharaonic buildings now announce that St Katherine is an Egyptian town. At school, little girls are taught to sing: '*Ana bedawiya, ana masriya ...*' (I'm a bedouin girl, I'm Egyptian); but when I asked a young Bedu if he thought of himself as Egyptian he snapped back: 'Never!' Most South Sinai Bedu reject passive assimilation into a culture they do not acknowledge as theirs.

The Tourist Boom

By far the strongest driver of South Sinai's population growth has been tourism. The SEAM report (2005) notes that, directly or indirectly, tourism now accounts for some 11 per cent of Egypt's GDP, directly employing over 1.2 million people. Sinai is a major contributor to these revenues, receiving 2.6 million visitors in 2003: more than one-third of the national total (ICG 2007: 13). As soon as Sinai was back in Egyptian control its development as a prime feature of the Egyptian economy began, often building on infrastructure started by the Israelis and employing similar tactics, including the expropriation of bedouin land (Marx 1999; Gardner 2000; Aziz 2000; Chrostowski 2002; ICG 2007). The Ministry of Tourism's 25-year targets, published in 1992/93, were exceeded within five years in South Sinai, by 60 per cent in Sharm El Sheikh and by 100 per cent in St Katherine; the response was to revise the targets upwards (Shackley 1999: 545). Egypt's tourist industry grew by 38.4 per cent between 2003 and 2004 alone (UNDP 2005).

What effect have a booming tourist industry and mushrooming population had on bedouin livelihoods? Trailing behind tourism, oil and administration, the SEAM report (2005: 41) lists 'the most minor contribution to South Sinai's economy: animal husbandry, agriculture and fishing, all pursued in large part by the Bedouin population'. Like Bedu elsewhere, people in South Sinai tend to revive their traditional occupations in response to a lack of paid work (Marx 1999). However, Sinai's tourist boom has created thousands of jobs. Seen from a neoliberal development perspective, there seems no reason why the trickle-down effect should not provide Bedu with their share of this wealth. However, Bedu are rarely employed in tourism other than as desert guides and drivers for adventure tourism – a type of tourism acknowledged to be numerically insignificant (SEAM 2005: 43). Aziz comments: 'State officials ...would argue that Bedouin are incapable of working – an excuse for the alienation of Bedouin from the path of economic and social development in their own communities' (2000: 28). In 2002, the 110 hotels in Sharm El Sheikh created ten thousand to thirty thousand direct jobs, yet almost none were offered to Bedu. Only Egyptian operators are permitted to run events, including desert safaris: 'Bedouin parties without Bedouin' (ICG 2007: 13).

Although most have remained poor and marginalized, some entrepreneurial Bedu have done well (Chrostowski 2002). However, opportunities were never open to everyone; and now regulations curtail even the most enterprising. Desert trips of more than two nights were banned on security grounds in 2008, and in spring 2010 were forbidden altogether. Tourism's benefits continue to elude most Bedu, especially outside the main centres. Until the arrival of the St Katherine Protectorate, no attention was paid to developing ecotourism of the sort that might benefit local people away from the coast (Hobbs 1996; Hobbs 1998; Hobbs et al. 1998; SKPMU 2003); and in execution it remains failed or flawed (Palczy et al. 2007; PA Consulting Group 2008).

Contemporary Impacts

Before 1967, life in South Sinai was virtually untouched by development processes: there were no roads or utilities, housing, education or healthcare. Almost everyone lived in a *beit shahr* ('wool home', or tent) and followed the mobile livelihoods I have described. What impact have forty years of planned development had on people's ability to provide for themselves? Marked and often significant⁵ spatial patterns emerged from my research into people's experience in the urbanized environment of St Katherine, and in the settlements and remote desert wadis which I refer to as 'outside' St Katherine.⁶

Core Livelihoods: Flocks and Orchards

The enthusiasm of many Bedu for their livestock remains undiminished: '*Bidouh halal, bedu mish bedu!*' (Without their livestock, Bedu are not Bedu!), a Tarabin man told me; but his comment reveals more about bedouin identity than the reality of herding today. Paid work, not herding, is now the prerequisite for survival. Nonetheless, the majority of Bedu still keep some small livestock, with discernible spatial trends.

People living in St Katherine today are more likely to have retained some animals than those outside. However, they keep significantly fewer: an average of 6.1 in St Katherine compared to 9.75 outside. This difference is readily accounted for by the pressure on grazing in the town: in St Katherine, significantly more people keep animals permanently penned due to poor pasture. Outside, there is more space and less competition. My interviewees overwhelmingly attributed the poor quality of grazing to lack of rainfall, which has so depleted vegetation, including in remoter wadis, that 65 per cent of the herders I interviewed (39/60) have to buy in fodder all year round, with no significant difference between locations. The poor vegetation at lower elevations, and the cost of transporting fodder, probably accounts for the greater numbers outside St Katherine who have given up herding.

Over the last forty years, then, the average flock size has declined by 95 per cent, and 80 per cent of this drop took place within a decade of the Israeli Occupation, when sedentarization reduced an average flock from 78 to 13 (Perevolotsky et al. 1989). Since then, the decline has been less dramatic. Zalat and Gilbert (2008) surveyed Jebeli families in the early 2000s: mean flock size had dropped by half, to 6.6. By 2007 it had dropped little more in my sample, to 6.1 – a significant decline since the 1970s, but not within the decade. The ability to feed animals on domestic scraps and buy in fodder appears to be stabilizing the size of smaller, largely confined flocks in the village.

The difference between today's urban and rural flock size is significant. Interestingly, however, the contrast is less marked between today's rural mean of 9.75 and Perevolotsky's 1970s' mean of 13. This suggests that the major stimulus for flock reduction was grazing pressure caused by the first wave of sedentarization.

People outside settlements who retain a flock today are able to keep over 50 per cent more animals due to better grazing.

As Perevolotsky (1989) explained, before 1967, herds provided important nutrition for families, and sale proceeds covered 4–5 months' subsistence costs. In the 1970s they continued to provide meat, milk and wool even though they generated no income. By 2007, only about half (53 per cent: 20/38) of St Katherine herders reported obtaining any produce at all: minimal milk, meat and wool. Many complained of the cost of fodder, with some being forced to choose between feeding themselves or their animals. Only one Jebeliya woman obtained any saleable produce. Outside St Katherine, 58 per cent of herders (25/43) obtained produce; all was used at home, with none reported as sold. In tourist locations people reported scavenging hotel rubbish dumps to feed their animals and even their families. 'If you have ten people to feed and twenty goats, what can you do?', one Tarabin woman asked.

Despite these challenges, 80 per cent of my sample households retained some animals, rising to 90 per cent in St Katherine. This illustrates the symbolic and strategic importance of livestock, since for two-thirds of herders keeping animals now involves the sacrifice of paying for fodder. Keeping some animals and supplementing their feed – even at the family's expense – is preferred by Bedu to giving them up completely.

In the 1970s, Perevolotsky counted 440 orchards in the high mountain area around St Katherine. Of these, 231 were owned by Jebeliya from the immediate area, some 75 per cent of whom had at least one garden. However, people in St Katherine nowadays are more likely than others to be *without* a garden, or to own one in the high mountains, too distant to cultivate. More village residents than others have stopped cultivating their gardens, citing lack of water and distance.

Aside from the Bedu linking their identity to their flocks, and the impact of low rainfall, there are other, practical reasons why gardening is less actively pursued today than herding. First, if animals are not cared for they die, whereas an orchard may produce something even if neglected. Secondly, gardening is a man's task; women can maintain a few goats, but if the breadwinner is working away, gardens – especially distant ones – will not be tended. Thirdly, gardens are less worthwhile economically: to have animals to slaughter for feasts or guests is a real saving for poorer households, whereas home-grown fruit provides occasional treats but neither savings nor income. The effort and cost of keeping an orchard productive during a drought includes the 'opportunity cost' of lost wages, a problem for men in casual or self-employment. Few gardens today produce enough to justify this investment. Across the whole area only half of those with orchards (or palms at lower elevations) reported obtaining any produce at all (51 per cent: 37/73). Only four people in St Katherine produced surplus to sell, falling to two outside: a far cry from the pre-development period when an average garden could keep a bedouin family well provided for at least six months.

The high mountain gardens have unique cultural importance in South Sinai bedouin life; some may have been cultivated for 1,400 years (Hobbs 1995; Zalat and Gilbert 2008). Nonetheless, whereas in Perevolotsky's 1970s' sample 26 per cent had stopped cultivating their gardens, by 2007 lack of water and competition with paid work meant 50 per cent had done so. A young Jebeli neatly summarized the downward trajectory of core bedouin livelihoods: 'There's no rain now, so there's no grazing. Also, our traditions are changing: there's no more seasonal migration. And you need money from paid work to buy all the stuff you need.'

Paid Work

According to Glassner (1974: 50), in 1972 job openings 'far outnumbered available men'. Almost half of the twelve hundred bedouin workforce were employed in oilfields, or in military or civilian construction, where the wages far exceeded today's equivalents (Gilbert 2011). Others were in occupations – fertilizing date-palms, telling fortunes, making baskets and jewellery – for which demand has dwindled. In St Katherine, formerly important roles such as healer, herbalist or midwife are now undertaken by trained personnel, who, in contrast with the Israeli period, are almost never drawn from the bedouin community. So how do people earn their living now, in and outside St Katherine?

Everyone in my sample has for at least three generations lived primarily on earnings from work, and 84 per cent (102/122) had at some point done paid work (the remainder being women). Of people who had ever worked, 20 per cent were currently not working, 46 per cent were self-employed, while 34 per cent were employed by others. Most Jebeliya work in tourism – guiding, owning or working in camps or cafes – due to the regular presence of groups climbing Mount Sinai. Fewer of those in St Katherine have traditional occupations (breaking camels, midwifery, herbal medicine, and so on): better-paid jobs are available in town, where demand for modern alternatives is higher. Few people anywhere had secured industrial jobs on the Suez coast. Sheikhs⁷ undertake their tribal role in addition to paid occupations.

Twice the number of people outside St Katherine have no work compared to those inside. This is largely explained by regular guiding opportunities in the town, which others regard with envy. However, reliance on tourism is a mixed blessing. Almost half my working sample were self-employed men working in tourism, for example collecting and selling decorative stones, or as low-paid guides. Their economic security is precarious: tourism is volatile, and political and economic fluctuations can decimate their income (Sowers 2007; ICG 2007).

Women have virtually no paid work opportunities outside the home; as Aziz (2000) notes, changes in herding practice means their role is now largely a consumptive rather than a productive one. However, several hundred women in the village and surrounds are employed by two handicraft projects. Although poorly rewarded, women usually control their earnings themselves, and rural women clamour for similar projects.

The higher levels of skilled work in town reflect the number of women employed by these projects, not higher educational status. Several young male interviewees outside St Katherine had completed secondary school but were still out of work. Poor quality teaching and patchy or non-existent provision of schools mean that virtually no one goes to university, and professional South Sinai Bedu are almost unheard of. Nowadays, the majority of people with school-age children make arrangements, often involving real sacrifice, to ensure boys and girls go to school for an average of seven years; but it appears to bring them no material reward. Depressingly, there is no relationship in my sample between years of education and earnings from work.

Illegal Work, Kosa and Wasta

Although the number of self-employed people is almost the same, outside St Katherine the status encompasses a wider range of occupations. Outside the tourist areas, people have to find alternative jobs – including illegal ones. Smuggling drugs has waxed or waned under different regimes. In St Katherine, bristling with security, cultivation is not an option (Hobbs 1998: 83); but outside, the past twenty years have seen burgeoning cultivation of marijuana and opium poppies in remote, well-watered areas. Several interviewees hinted at or admitted involvement for want of safer work, noting ironically that the trade could not continue if the authorities did not also profit from, and therefore tolerate it.

Industrial complexes on the Suez coast, including petroleum, manganese, mining and quarrying, formerly provided many jobs, but few Bedu work there today. The deterrent, I was told, is *kosa* (corruption). Secure, skilled jobs are allegedly obtained only by those who pass substantial sums ‘under the table’. Alternatively, a man needs *wasta* (connections, an ‘old boy network’). An Awlaad Sa’iid man related: ‘If there are any jobs, Egyptians bring their families to fill them and the Bedu get nothing.’ Otherwise, only menial work at daily rates averaging LE 20 (£1.75) per day is open to Bedu.

Mean estimated earnings for men are markedly (23.8 per cent) higher inside St Katherine than outside. This is partly because in my urban sample the number in regular work was double (52 per cent: 16/31) that in the wadi sample (26 per cent: 11/42). However, an interesting spatial pattern emerges. Although almost no men in St Katherine lack work, the jobs available are generally low-paid. In the wadis, men are far more likely to have no work at all; but more of those in work have high-level earnings – almost certainly from narcotics. This is an option of last resort; but the fact that nine times more rural men are unwaged goes some way to explaining why people take it. With the rural mean thus masking deep localized inequality, the real gap between urban and rural life may be greater than figures suggest.

Earnings and Poverty

Table 1. *Poverty, South Sinai and Rural Upper Egypt, income per person per day (pp pd). The 2008 value is derived by multiplying the 1999 USD(\$) value of the original figure, 40 cents, by its purchasing power in 2008 = \$1.29 (www.MeasuringWorth.com)*

		Mean weekly earnings LE	Mean no. in household	LE pp pd	USD(\$) pp pd 2008 value
1999	Rural Upper Egypt \$1= LE 6.23	87.5	5	2.5	0.52*
2008	St Katherine \$1=LE 5.5	281	6.6	6	1.09
2008	Outside St Katherine \$1= LE 5.5	227	8.8	3.7	0.67

Sources: Rural Upper Egypt – from World Bank, 2004; South Sinai – from my data

More than half my working interviewees live in poverty, unrecognized by official indicators. Table 1 compares the World Bank's 1999 calculation for an Egyptian family 'on the poverty line' (World Bank 2004) with my 2007/8 data for mean household size and mean earnings inside and outside St Katherine, estimating daily per capita income (all converted to 2008 US dollars). It shows that income of a typical casual worker in St Katherine today exceeds the absolute breadline, but hovers only just above the World Bank's standard indicator of extreme poverty, namely \$1.00 (U.S.) per person per day. At this level households may be: 'chronically hungry, unable to access health care, lack the amenities of safe drinking water and sanitation⁸... and basic articles of clothing such as shoes' (Sachs 2005: 20). Especially where there is only one earner, living standards for the poorest families I visited could be described in just this way. Even using a generous estimate of 8 months work per year, the household of a typical unskilled worker in the wadis has to survive on just 67 cents per person per day, well below this extreme poverty standard. Meanwhile, food price inflation in Sinai for the families I compared has risen by double the government's calculated national rate of inflation: an average 46 per cent, compared to 23 per cent across Egypt (Stevenson 2008).

It is clear, then, that some Bedu live in poverty; but how many? There are no governorate-level data for South Sinai recording poverty in the UNDP's Egypt Human Development Report (2005). However, it states that just 5.3 per cent of the whole Frontier Governorates' population is poor.⁹ My data suggest that, for South Sinai at least, this underestimates the problem by a factor of ten. Figure 1 shows that 53 per cent of my interviewees work in job categories that typically

pay LE 300 per week or less – barely enough to keep an average South Sinai household (mean 7.8 members, n=82) on \$1 (U.S.) per person per day. For the 48 per cent of my working interviewees in St Katherine, and the 74 per cent outside who are self-employed or in casual work, low pay is aggravated by insecurity. As Figure 1 shows, ‘development’ has not only brought poverty to South Sinai, but increasing polarization within bedouin society.

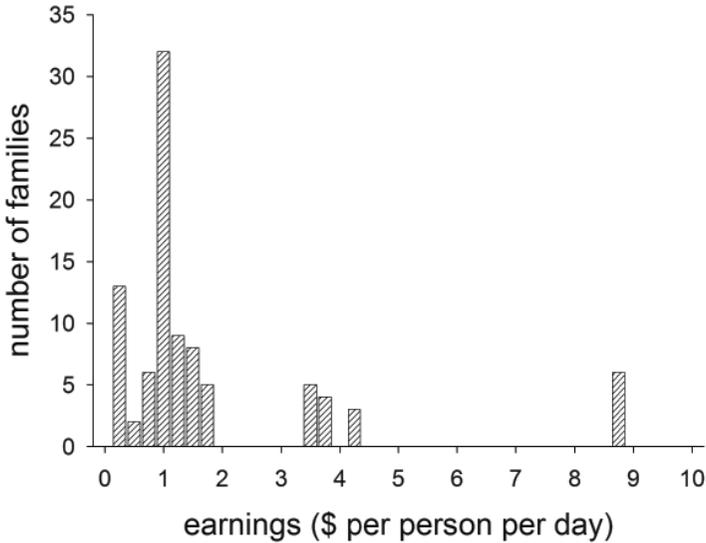


Figure 1. *Distribution of earnings, South Sinai Bedu*

53% earn LE 300 per week or less: roughly equivalent, for an average household, to the World Bank’s ‘extreme poverty’ standard of \$1(U.S.) pp pd. Very few earn more than the equivalent of \$2 (U.S.) pp pd.

Source: my data

Household Economics and Consumption

For South Sinai Bedu today the gap between rich and poor is no longer masked by the simplicity of material culture. Some people can now buy modern commodities to make life more comfortable, while others cannot. There are no longitudinal comparisons for consumer goods, as in the 1970s people simply did not have them. However there are significant spatial patterns. In general, the concentration of development and modern commodities in town reinforces social polarization.

Consumer Items and Services

In eighty-two of the households I visited, I ran a short survey of consumer goods and services, asking the head of the household what they owned from a given list. Those shown in Table 2 also feature in the Egypt Demographic and Health Survey 2005 (El-Zanaty and Way 2006), enabling me to contrast ownership or access to them in my households with comparable populations in the Frontier Governorates and the general population of Egypt. I have included South Sinai data from the UNDP's Human Development Report 2005 where available, highlighting in bold type major discrepancies between official data and my own.

Table 2. *Consumer items and services, South Sinai, Frontier Govts and Egypt*

	South Sinai					
	Egypt %	Frontier Govs%	my data			UNDP%
			whole area%	StK%	outside StK%	
Household Effects						
Cooking stove	96.1	97.4	86.6	88.0	80.4	
Solid fuel/open fire	0.3	0.2	15.8	11.1	19.6	
Fridge	85.3	86.4	58.5	66.6	52.0	
Radio	84.5	83.5	51.2	55.5	47.8	82.3
Television	94	91.2	67.0	88.0	50.0	84.1
Satellite Dish	13.9	22.6	59.7	88.0	36.9	
Mobile	23.1	31.6	54.9	61.1	50.0	
Car or truck	6.4	11.6	28.0	36.1	21.7	
Water supply						
Piped water	88.3	74.6	2.7	0	4.3	87.8
Own well	1.5	9.6	13.4	11.1	15.2	
Tanker	2	9.8	76.8	86.1	69.7	
Pack animal/on foot	n/a	n/a	7.3	2.8	10.8	
Electricity ¹						
Reliable supply	99.9	95.0	73.0	94.5	56.5	96.6
Patchy – 6 hr pd	n/a	n/a	19.5	5.5	30.4	0
None	0.1	5.0	12.2	0	21.8	3.4

1. El Zanaty and Way (2006: 22) assume electricity is universal except in 'a few Frontier Governorate households'

Source: Egypt and FGs: El Zanaty and Way (2006: 25); South Sinai: UNDP (2005), and my data. In/outside St K: my data (n=36 [St K], n=46 [outside])

Patterns of ownership shown in Table 2 generally reflect the urban/rural earnings gap noted above. In the wadis many people lack any of the listed goods and services (I return to water below). Almost every consumer item is owned by more people in St Katherine than outside. Where electricity permits, fridges are a priority. Most urban residents cook using bottled gas, but almost 20 per cent of rural households use open fires, a major health hazard for children (El-Zanaty and Way 2006: 25). Mobiles are expensive but disproportionately useful in desert conditions: anyone who can invests in one. Mountains obliterate signal, so anyone who owns a television is obliged to buy a satellite dish as well. In all other cases but one, my sample falls well behind consumers in mainland Egypt and the more comparable Frontier Governorates.

Vehicles are the striking exception: long distances between essential services, absence of public transport, plus opportunities for transporting tourists, mean that in St Katherine nearly six times more people own a vehicle, or a share of one, than in Egypt as a whole: 36 per cent compared to 6.4 per cent. Even in the wadis, 28 per cent own or share a vehicle (a third of men in work). As Chatty (1980) noted in Oman, for many people today the car or pick-up has replaced the camel as a repository of capital wealth. For many it represents a huge investment, reflecting the high cost of living in an isolated mountain region.

Food Consumption, Expenditure and Poverty

The polarization of bedouin society is equally reflected in modern patterns of food consumption. Just as livelihoods show marked differences inside and outside St Katherine, so the food people buy or produce corresponds to relative wealth, urbanization and the practice of core livelihoods.

My household food survey was answered by heads of households. In the introduction I listed things that ‘everyone buys regularly’: rice, flour, lentils, oil, sugar, tea. These products formed Perevolotsky’s (1981: 35) table of ‘Monthly living expenses’ for a typical family in the 1960s, when they were the only commodities bought. I asked people to assess roughly how much they spent weekly on food, and to state which, from a list of non-staple items, they bought regularly, occasionally or never.

Whilst most now buy additional products, people in poverty still buy only basics. 11 per cent (4/36) of urban and 37 per cent (17/46) of rural households generally buy only staples unless work brings in extra cash. This is a significant difference, emphasizing the lack of work and low incomes in remoter areas. A Tarabin father of four commented: ‘If I have money I buy food. If not, just flour for flatbread and a half-kilo of lentils. If there’s anything left at the end of the month I might buy a kilo of meat.’

Many products which now have to be purchased – fresh produce, eggs, dairy and meat – were formerly obtained from orchards and flocks in some form. Significantly more people buy them all regularly in St Katherine than outside; while significantly more people in the wadis never buy them. This reflects

earnings and availability on one hand, but possibly a residual economic role for herds and gardens as well. In each location about half the flocks and gardens remained productive, but productivity differed in degree: perhaps because their animals are confined and fed on scraps, twice as many people in St Katherine complained they obtained nothing useable (18 per cent: 7/38) compared with people in wadis (9.3 per cent: 4/43). Much less dairy produce is bought in rural areas, probably because it is often home-produced. It seems, then, that in St Katherine most former products of herding and orchards are now bought from local shops using earned income. Out in the wadis, better-off families with 1970s-level herds may still manage to balance core livelihoods and paid work, benefiting from each. The poor, however, with no home-raised produce and little money to buy goods, get the worst of both worlds.

I asked each head of household how much he spent on food each week, dividing these estimates by the number of people in each household to obtain a mean per capita spend. There is no significant difference in per capita expenditure between my urban and rural groups, which may seem surprising in the light of the significantly different consumption patterns described above. It is accounted for by the aggregation of households at the low end of the spectrum. In a cash economy a minimum level of expenditure is needed to keep people alive whatever they might eat, and – as shown in Figure 2 – 80 per cent of my sample fall into the government's definition of near-poverty, poverty or extreme poverty; that is,

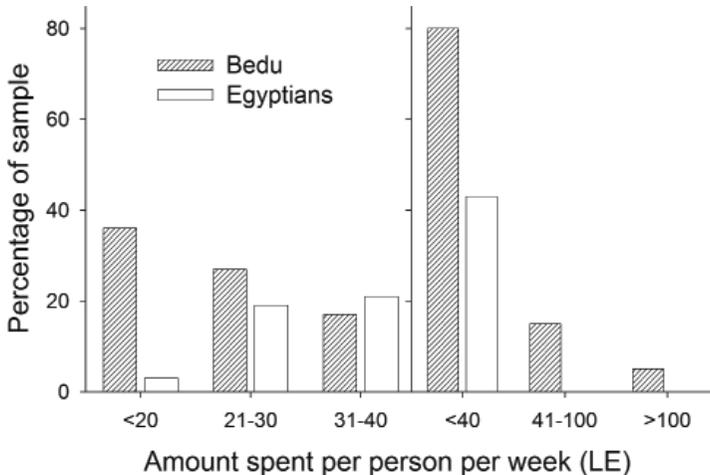


Figure 2. *Relative poverty expressed in terms of weekly per capita food expenditure in LE, South Sinai Bedu vs. Egyptians (Data for Egyptians spending above LE 40 per week are missing)*

Sources: Egypt – Central Agency for Public Mobilization and Statistics (CAPMAS) 2006; South Sinai – my data

per capita expenditure on food of LE 40 per week or less (CAPMAS 2006). Fabiosa and Soliman (2008: 2) point out that in poor families a relatively higher percentage of income is spent on food; so although mean earnings are at least 24 per cent lower in the wadis, food expenditure is the same as in the village because for some it cannot get any lower. It simply consumes a higher percentage of their household income.

Figure 2 compares these findings with an official dataset for Egypt (CAPMAS 2006). By this criterion, extreme poverty is ten times higher among South Sinai Bedu, and overall poverty approaches double that for Egypt as a whole.

The data presented in Figure 2 shows Bedu and Egyptians living in 'extreme poverty', defined by CAPMAS as spending up to LE 20 per person per week on food; in 'poverty', defined as up to LE 30; and in 'near-poverty', up to LE 40. Using these definitions, my data show 36.5 per cent of South Sinai Bedu as extremely poor, compared with 3.8 per cent in Egypt as a whole. By this standard, 80.5 per cent of Bedu are either near-poor, poor or extremely poor compared with 44.4 per cent of the Egyptian population. One result is that 12 per cent of Egyptian children are estimated to be malnourished (Iskander 2005: 18), as against 40 per cent of bedouin children in the Protectorate (SKPMU 2003: 26).

This paper has investigated the long-term effects of modernizing agendas on how Bedu make a living, and the economic consequences for their households. I conclude by demonstrating changes in weekly food purchasing habits in St Katherine from the 1960s to the present. As before, what we know of household economics in the 1960s and 1970s is derived from Perevolotsky's analyses (1981, 1989). Two of his interviewees had immediate surviving relatives undertaking the same type of work in St Katherine,¹⁰ enabling me to compare the circumstances of their families over time.

Figure 3 shows changes in the proportion and type of foods bought by the two families from the 1960s to the present day. It shows how in the 1960s, the only outlay for the families was the staple commodities they could not produce themselves. By the 1970s, the two families were still producing most of their requirements, but spending less on staples as their purchase of non-staple items increased. These purchases required a sudden increase in income: between 1975 and 1977, the cost of all food trebled as the Israeli economy inflated, reinforcing reliance on paid work. By the late 2000s, expenditure on staples had dropped somewhat, and now represented only about two-thirds of the total. The remainder was accounted for by dairy, garden and related produce which was formerly home-produced at no net cost.¹¹

My fieldwork coincided with the 2007/2008 food crisis that provoked rioting in Egypt. Between one year and the next, food prices rose dramatically: wheat doubled in price, and rice rose by 70 per cent (Steavenson 2008). However, although the families' spending on staples rose by around half during the crisis, what they spent on traditional produce doubled. Figure 3 demonstrates that the

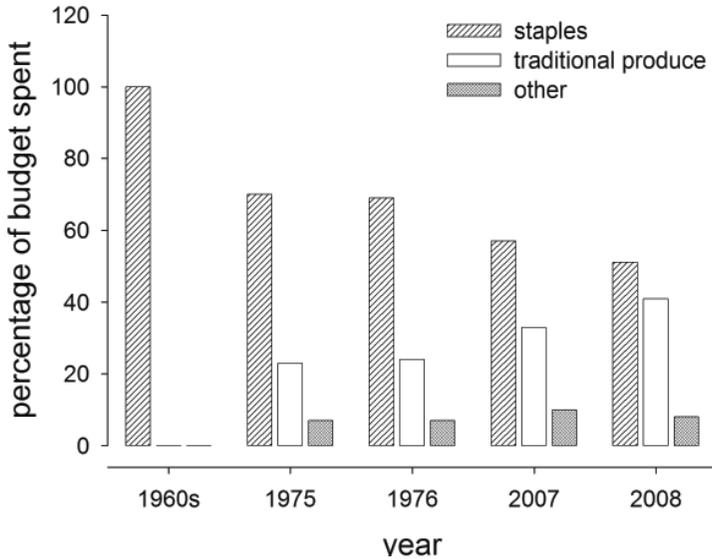


Figure 3. *Rising cost of traditional produce over time*

The graph shows the cost of different food categories as a percentage of families' food budget. In the 1970s high inflation increased the cost of food across the board, reinforcing dependence on the paid work that supplanted agro-pastoral livelihoods during the Israeli era. In the late 2000s, differential inflation of basic foodstuffs disproportionately increased the relative cost of traditional produce

Sources: 1960s and 1970s – Perevolotsky (1981, 1989); 2000s – my data

loss of produce from flocks and gardens has become an increasing drain on households in St Katherine: maintaining a customary diet including nutritious dairy produce and fresh vegetables now requires an outlay rising recently at twice the rate of staples. As my interviewees never tired of pointing out, wages have not risen in tandem with prices. Food occupies more of their overstretched family budgets, forcing choices between food and, for example, school fees. Figure 3 is based on the experience of families in St Katherine of modest means but with men in regular work. For poorer households in the wadis the rising cost of produce creates a zero-sum game between nutritionally important produce and staple starches; the more filling staples tend to win. It is reasonable to assume that these trends aggravate the 40 per cent incidence of child malnutrition in the Protectorate (SKPMU 2003: 26) and may cause real hunger. As one Tarabiniya put it starkly: 'What sort of life is this? Everything costs so much, and we just don't have any money.'

The Cost of Poor Data

I have noted above how Bedu inhabit a blind spot in many states. Egypt's Human Development Report (UNDP 2005) speaks of 'pro-poor policies' but fails even to mention Bedu. Public policy in Egypt appears geared to assimilating Bedu by ignoring their needs as a group. They are not separately censused so there is no formal record of their population, which is in any case under-registered. Unwittingly or otherwise, then, they are omitted from sampling frames for national surveys based on the population register.

Since indicators show more 'progress' without Bedouin scores, this sampling problem is likely to remain unsolved. Official statistics, and the secondary research they support, thus often hopelessly fail to reflect Bedouin experience. In Table 2, UNDP indicators show 88 per cent of South Sinai residents receiving piped water, but just two of my sample actually receive it. Three times more Bedu transport their water by camel, donkey or on foot than receive piped water. Similarly, Figure 2 compares CAPMAS (2006) survey data with mine for per capita expenditure on food, demonstrating that food poverty among the Bedu is double that in the rest of Egypt. Yet, drawing on the same dataset, Dawoud (2005: 102) concludes that 'In South Sinai [the consumer] consumes mainly meat, milk and its products, fish and eggs'; something that would come as news in the wadis. Bedu are absent from Dawoud's source, contributing to a pattern in which Bedouin experience is erased from official records and development analyses alike.

A similar effect is produced by the selective use of indicators by development agencies and donors as proxies for poverty. Rahnema (1992: 164) cites the World Health Organization's use of doctors and hospitals per capita as indicators of poverty. In South Sinai these ratios are grossly skewed by the inclusion of international hospitals for tourists (which Bedu cannot afford to use). The resulting statistics show South Sinai as having the best healthcare provision outside wealthy districts of Cairo (UNDP 2005) – a grotesque distortion of my respondents' experience. This discrepancy between recorded and actual services directly affects the Bedu: public resources and development aid are allocated using data which exclude them. For example, according to Egypt's HDIs (UNDP 2005) there is no maternal mortality in South Sinai; but fully 25 per cent of my respondents in St Katherine reported it in their immediate family.¹² The indicator masks an important problem, ensuring no action is taken to address it: indeed, an officer of a major aid agency told me that they do not work in South Sinai because 'the people aren't poor enough.'¹³ The failure of government to record Bedouin experience creates a policy blind spot, ensuring their inequality persists.

Standard development indicators, then, fail to reflect Bedouin needs; and as Apthorpe points out (1997: 25), they are not conducive to measuring attainment of rights. Even if poverty is reduced, the structurally marginalized are no better able to make the human choices associated with development. This, I believe, is why so many people told me there were no development projects in their

community, when I knew they existed; in one extreme example we sat outside a house provided by the World Food Program, while its householder told me: 'No, there are no projects here – no one is helping us.' The problem is that the help provided is topical; but the needs, and the malaise they engender, are systemic.

Conclusion

Over the last forty years, South Sinai Bedu have exchanged one kind of poverty for another. Agro-pastoral livelihoods required constant mobility and minimal material possessions. They provided simple food, and sometimes not enough of it: many people, especially in St Katherine, told me life was harder in the past but they were happier: 'We were hungry,' one Jebeliya woman told me, 'but we were free.' An elderly Awlaad Sa'iid man summed it up: 'Then, everyone lived in tents. Camels and donkeys were the only form of transport. People's gardens and flocks were the only form of work, and all people's food came from them ... Now everything is different. It was better before.'

Since 1967 as we have seen, the development of St Katherine has shifted the balance between core livelihoods and paid work. Now, many people enjoy more goods and live in greater comfort with more services than before, especially in the village; but life remains insecure at multiple levels. Cash is now the key determinant of subsistence, but the ability to earn it is unequally distributed and also independent of educational status. People in St Katherine have greater access to work both secure and insecure. Outside, some achieve adequate earnings, albeit sometimes illegally; but many have no prospect of work. Sedentarization and drought have removed from most people the subsistence safety net formerly provided by flocks and gardens. The result is that, as I have shown, most South Sinai Bedu live in poverty relative to the rest of the Egyptian population, whether measured in earned income, material goods and services, or food consumption. Many live in absolute poverty, measured by global standards. This is unacknowledged by the state, leaving people feeling deprived and underdeveloped compared with others.

Over four decades, 'development' has transformed the space around Mount Sinai that the Israelis entered in 1967. From a small winter settlement of Jebeliya Bedu, successive regimes have turned St Katherine into a bustling conurbation with car parks, hotels and apartments. According to official statistics, 'St Katherine City' is now populated with thriving, educated Egyptian citizens. In this reading development has happened; there is little more to do. However, the blessings 'development' has conferred on South Sinai Bedu have been mixed, and their attitude towards their 'developers' is ambivalent. One elderly Jebeliya woman, reflecting on what had been lost in the process of modernization, mused: 'This is not our life: it's just a copy of other people's.' Her words call to mind Esteva's potent comment on the capacity of 'development' to refract people's

perceptions through ‘an inverted mirror of others’ reality: a mirror that belittles them’ (1992: 7). Some people appreciate the comforts of sedentarized life, the wider provision of schools, hospitals, electricity and roads. However, the exclusion of most Bedu from the benefits of development make these services – patchily provided and inadequately delivered – seem mere crumbs from the rich man’s table: an accidental by-product of the economic exploitation of their land.

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Notes

1. My husband Francis Gilbert, an academic ecologist, has studied St Katherine’s ecosystems since 1986. I have accompanied him annually since 1992. While resident in Cairo from 2005 to 2007 we co-founded the Community Foundation for South Sinai (www.southsinaifoundation.org) to support bedouin communities (Gilbert 2009). My Ph.D. fieldwork was conducted between 2007 and 2009 during extended periods of residence and participant-observation in St Katherine (Gilbert 2011).
2. The study also investigates the impact of conservation discourse and practice, and their impacts on Bedouin identity.
3. Israel did not provide a substitute, producing its own top-quality fruit against which bedouin produce could not compete.
4. The ICG (2007: 20) points out that Pharaoh is an antipathetic figure in Islam, linked to the *Jahaliyya* – the pre-Islamic time of ignorance.
5. In what follows I do not reproduce the statistical tests that demonstrate significance, but refer interested readers to my thesis (Gilbert 2011) which is available electronically.
6. With my field assistant, Mohammed Khedr, I interviewed (in Arabic) some 122 individuals in 82 households, mostly in their own homes. I used a wide-ranging semi-structured questionnaire, as well as household surveys of consumer goods and services, expenditure and consumption. Exactly half my sample (61 individuals) were Jebeliya in St Katherine, two-thirds of whom came from extended families originally surveyed by Perevolotsky et al.; the other half reflected tribal numbers and territories in areas in or immediately adjacent to the St Katherine Protectorate (Gilbert 2011).

- 7 Most of the seven tribal *shuyukh* I interviewed owned large flocks as well as running businesses, and were wealthy men. Other men are called 'sheikh' as an honorific title. They have religious or cultural roles (such as judge or poet) but are not tribal intermediaries.
8. My questions did not cover housing or sanitation, but in Zalat and Gilbert's 2002 unpublished dataset, of 20 families interviewed in remote settings not one had sanitation.
9. The five Frontier Governorates, including South Sinai, are vast marginal desert areas housing all Egypt's traditional indigenous people. Together they account for just 1.4% of the population, so their data are often aggregated (UNDP 2005: 26).
10. Family 1 = the traditional jeweller (who also kept animals and a garden) and his son; Family 2 = a Jebeli herder/cultivator/guide and his nephew.
11. This includes cigarettes; although some people still grow tobacco for their own consumption.
12. My figure is possibly exaggerated by double counting due to intermarriage between large families; but the true figure is certainly above zero.
13. Conversation with CARE International worker, 29 May 2007.

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