Can *Ecological Migration* policy in the Tibetan plateau region achieve both conservation goals and human development goals? A review of the Canadian experience of relocation and settlement

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Abstract

The stated goals of 'ecological migration' in the Tibetan plateau region of China are to protect the fragile ecology of grassland ecosystems and to improve the well-being (quality of life) of Tibetan herders. According to an official government document entitled *Settlement Project for Tibetan Nomads in Qinghai Province,* all Tibetan herders in Qinghai province who have not yet 'settled down' – that is, over 530,000 people – now will be settled/urbanized within the next 5 years (People's Daily, 11 March 2009).

However, the underlying assumption that the planned relocations and settlement will improve environmental conditions and enhance socio-economic development has not been adequately tried or tested. Few demonstration sites in the Tibetan plateau region have been established and studied over appropriate time periods. First, there are preliminary findings from other grassland areas that indicate detrimental ecological effects from the full removal of domestic livestock. Secondly, there are many social problems that may emerge following rapid, top-down relocation programs. Focusing on the latter challenges, the Canadian experience is particularly relevant and informative with its long history (from early 1800s to the 1960s) of state-sponsored resettlements. The health consequences have in fact been devastating, and local people's overall well-being and sense of identity also have been affected negatively; a social situation that often has lasted for multiple generations.

With high levels of unemployment, low levels of schooling (despite all the investment in infrastructure), relatively low income, very high levels of suicide, and a significantly poorer health status than other social groups in Canada – a situation that was engendered by well-intentioned but faulty development approaches including large-scale resettlements, sedentarization, and inappropriate education policies – the present state of most Inuit and other aboriginal/minority communities in Canada in fact does *not* support the premise or assumption that (re-)settlement will necessarily bring about the socio-economic improvements that China seeks to introduce in is vast pastoral regions.

Learning from the Canadian experience, it appears that the development of aboriginal (minority) communities, even in remote settings, would have been more successful if greater attention had been given to increasing the involvement of affected populations in decision-making; if more culturally-appropriate forms of education were promoted; if social services such as health care were adapted to serve sparsely

populated regions, instead of requiring urbanization; and if appropriate forms of adult education (such as vocational training) were more accessible to assist people integrate into new jobs and livelihoods, as desired. Taken as a whole, this suite of development and sociological factors may be recognized as contributing to an enhanced sense of 'cultural continuity' within the population under consideration.

In the context of current 'ecological migration' policy, social stability would likely be enhanced if some of the above features were integrated into development plans (even if applied to the new settlements). Furthermore, even greater stability would be achieved if the option existed for Tibetan herders to remain on the grassland, if they so chose, to practise a modified (more sustainable) form of their traditional livelihood.

Environmental and socio-cultural background

The Tibetan plateau covers about one-quarter of China's land area, or 2.5 million km^2 – that is, approximately the size of Sudan, or six times the size of California, USA. Not only is this region important for endangered wildlife species such as snow leopard, wild yak and black-necked crane, and for Tibetan herders who live in this fragile alpine environment – but also for 40 percent of the world's population that lives downstream, depending on or influenced by the major rivers that have their source and headwaters on the plateau – the Yellow (*Huanghe*), Yangtze (*Changjiang*), Mekong (*Lancangjiang*), Salween (*Nujiang*) and Brahmaputra (*Yalong*) rivers. The Tibetan plateau also has significant regional and global impact through the carbon sequestered in its grasslands, which risks being released into the atmosphere due to land degradation, which is both anthropogenic and natural in cause (though more targeted research is necessary to determine the relative contributions of the different putative causes of land degradation, including especially better measurements and impact assessments of climate change and livestock grazing).

It is also noteworthy that the first significant human migration into the central parts of the Tibetan plateau may have occurred around 20 to 25,000 years before present, and animal husbandry in this high altitude region probably began about 5,000 years before present. Since then, pastoralism has developed in a way that environmental and nutritional benefits of the grassland ecosystem could be 'harvested' by herders over long periods of time (that is, across generations), and the natural resource management practices of local herders have proven to be generally sustainable (Figure 1). Local ecological knowledge (or traditional ecological knowledge, TEK) has thus accumulated over many centuries, and it would be most beneficial now to integrate such 'traditional' experience with current 'scientific' knowledge systems (Figure 2) – instead of rejecting outright the past, which would be to our loss. Indeed, local herders have long been good environmental stewards, or conservationists, in these high altitude grasslands; and they may indeed be our best allies in future conservation endeavours.

Global context of conservation initiatives

Most of the conservation agenda through the 20th century and into the 21st century has been based on a North American 'national parks' model. This approach also has been termed 'fortress conservation', or 'exclusionary conservation' with local people (often Aboriginal and/or ethnic minority people) regularly being forced to move off the land. Given this history, Mark Dowie has appropriately coined the term, not of 'ecological

Figure 1. Tibetan pastoralists have sustained their livelihood in grassland environments for centuries. Livestock have long been the main 'tool' to convert natural resources into productive materials, transport and food.

Figure 2. Over the past decade, both traditional and modern approaches have merged (for example, with the *Sipeitao* Program focused on building winter homes for nomads).

refugees' (a situation in which people move off the land due to environmental stress), but rather of '*conservation* refugees' (Dowie 2009) – a situation when people who have traditionally used a geographic area or habitat as the basis of their livelihood are either encouraged or forced to move away for the sake of implementing a conservation plan, often the establishment of a protected area, but sometimes 'environmental policy' too.

Worldwide, the proportion of land now included under 'protected area' status is around 12 percent. In China that figure is even higher, around 15 percent. And within China, broken down regionally, we note that about one-third of the land area in the Tibetan plateau region is included within protected areas in the form of provincial- and national-level nature reserves. In parallel with this, there are several national policies, generally promoted as environmental or conservation-oriented policies, that also serve similar purposes – namely, policies or programs that seek to protect the region's natural environment (e.g., to restore grassland and forest vegetation, in order to limit soil erosion and thus protect downstream populations from potential flooding). However all of these policies, programs or projects tend to be – in the terminology of Dowie (2009) – exclusionary in approach, i.e. promoting conservation through the removal or exclusion of local people and communities from designated regions. And these regions are huge, and the populations large – in Qinghai province, for example, the target population for such new exclusions (or relocation) is now set at *100 percent of Tibetan herders over the next five years*, from 2009 through 2013, *in total over half a million people* whose livelihoods and lives are now being changed, irreversibly. Not only will there be socio-economic and cultural challenges for all the people relocated, but also – just as importantly – such relocations have inherent within them major loss for conservation, both lost knowledge (cf. TEK) and loss of genuine, able allies for wildlife conservation, on the one hand, and for sustainable use of resources, on the other hand.

On the global scene, the first experiment with protected areas was the creation in 1871 of Yellowstone National Park, in Wyoming, USA. Other famous early protected areas include Yosemite and Banff national parks, the latter situated in the Canadian Rocky Mountains. In these localities, as elsewhere throughout Africa and Asia over the next >100 years, national parks and other exclusionary models have been the primary means by which wildlife and wilderness preservation has been attempted – initially with a focus on focal species or 'charismatic mega-vertebrates', and later shifting toward habitat protection or in some instances 'umbrella species.' However, around the world, approximately half the land included in such reserves created over the past century was either previously occupied, or regularly used, by indigenous people – indigenous being defined here as people that have "occupied the land where they reside, or in the case of pastoral nomads, if they grazed their livestock through a region before the particular area in question was [incorporated into] the nation-state… within which it now exists" (Dowie 2009). In the Americas, over 80 percent of the PAs were previously occupied or regularly used by Aboriginal people, before they were removed in the creation of PAs, purportedly in order to 'preserve wilderness.' In total, the estimated total number of Aboriginal (ethnic minority) people who have been evacuated or relocated for the creation of reserves is between 5 million and over 10 million people. Most of these people now are among the poorest of the poor, very often marginalised within the broader society, and with little hope for the future.

While there are indeed recent attempts to consider local development needs and listen to the aspirations and hopes of local communities situated in or near to protected areas – for example, there is a recent trend to design and implement 'community co-

management projects' – already, after only a few years, an increasing number of local communities are beginning to express feelings that such approaches are, at least in the case of certain non-government organizations, just a façade or public relations spin. In few instances are local people really kept centre stage.

Ecological Migration policy on the Tibetan plateau

Ecological Migration (Chinese, *shengtai yimin*) is a national policy in China that refers to relocation programs (Figure 3), mostly in grassland regions, undertaken primarily for the purpose of restoring the environment in places where it is recognized or assumed to be degraded or otherwise deemed unsuitable for continued human habitation (Foggin 2008). In most of these situations, the term 'ecological refugee' has been used in media as it refers to the movement (or relocation) of people away from lands that, it is reported, no longer can support them. It is, however, the latter position that should in fact be at the heart of the debate – namely, *whether or not it is even necessary* to move people (i.e., to relocate and settle people) in order to achieve sustainability. As this question has yet to be resolved, with many of the longer-term social and environmental costs still to be assessed, a more accurate terminology would therefore be 'conservation refugees.'

The two main rationales given for implementation of ecological migration (EM) in the Tibetan plateau region of China are, firstly, environmental conservation, and secondly, socio-economic development. With regard to the environment, it must also be

Figure 3. A view of one of the numerous 'ecological migration villages' recently built on the Tibetan Plateau, requiring major socio-cultural changes. (Photo: Du Fachun)

noted that humans are themselves a part of the broader environment, and always have been. Specifically in the Tibetan grasslands, local people have used and indeed have helped to shape and create the grassland environment through livestock grazing and related livelihood practices over the past several thousand years. In the process, they will also have gained an intricate knowledge of the natural environment, of grassland ecology and of wildlife, livestock, climate and innumerable other aspects of their surroundings. As such, they have an inordinate amount of knowledge and experience to contribute to our current conservation efforts, gained not through modern, scientific or reductionist approaches, but through a more holistic and empirical understanding of the natural environment – this is the approach understood in the word 'traditional' within the phrase 'traditional ecological knowledge' (as opposed to a meaning of old, non-scientific, backward, etc.). Working with local people and communities, in this case nomadic pastoralists, they can and should therefore be recognized as excellent allies for biodiversity conservation. Failing to do so not only is an opportunity lost, it also can all too easily lead to the creation of new opponents and increased conflict between local people and, for example a new nature reserve.

The second main rationale for EM policy is socio-economic development. In the case of grassland regions, however, there are few alternative livelihoods available to local people (Figures 4 and 5). Traditional nomadic pastoralism has developed over long periods of time – with strong evolutionary or selective pressures (i.e., a necessity to survive) – such that it is generally well suited to the local environment. Even with a changing climate, this livelihood still remains the best way yet found for humankind to successfully gain material benefit from the grassland environment. In addition, local livelihoods are intertwined with history and language and other aspects of culture to form the matrix in which development is, and always will be, enmeshed. It would be most prudent, therefore, to move somewhat more slowly with regard to EM policy, so as not to work counter to cultural interests or predispositions, lest speed and direction of change lead to unexpected (at least by decision-makers) frustration, discontent, or even instability. As will be seen below, the relocation, settlement and/or urbanization of people does not always lead to improved health, income, etc. In fact, if the Canadian experience has any predictive value, the opposite situation may be the most likely outcome of rapid, sustained resettlement programs such as carried out under EM policy.

In Qinghai province, implementation of the EM policy on a larger scale started around 2005. Already by 2007, at least 35 new settlements had been built (i.e., small towns or suburbs created to house former herders who had moved off the land; it is officially maintained that all decisions to relocate are voluntary, yet local government also has annual quotas to meet, for which purpose it organizes community meetings to discuss options and to encourage relocation according to plan). A further 51 settlements were also under construction in the same year, with a planned total of around 62,000 people (over 13,000 families) to be relocated and settled in the Sanjiangyuan region. By 2010, plans are for more than 100,000 people to settle in new towns, with a total investment around 646 million Chinese Yuan, or nearly 100 million US dollars.

The most recent official goal is even more drastic, indeed devastating:

> *Starting this year, Qinghai will complete a settlement program for nomadic people within five years. By then, more than 112,000 households, over 530,000 nomadic people in the Tibetan-inhabited areas of Qinghai Province [i.e., 100 percent of Tibetan herders], will leave their nomadic lives.* (People's Daily, 11 March 2009)

Figure 4. In many new settlements (built under EM policy), new ‘urban herders’ seek to maintain traditional/pastoral livelihoods; yet have no pastures. Alternatives are few.

Figure 5. With little land available in the new settlements, high population densities and few livelihood options — unemployment is high. Social problems are predicted.

According to the above article, the program entitled *Settlement Project Planning for Tibetan Nomads in Qinghai Province* has already been issued and approved by the government.

Given the potential loss of culture and of cultural knowledge (including traditional ecological knowledge, TEK), how does such policy fit within the context of the Convention on Biological Diversity (CBD) of which China is signatory? For example, CBD ensconces the value and need to conserve TEK; in Article 8, it specifically states that each nation "subject to its national legislation [will] respect, preserve and maintain knowledge, innovation and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity." The onus is therefore now increasingly on China to determine how much it values local culture and TEK, on the one hand, and the development of a broader spectrum of effective conservation allies (in the form of Tibetan herders, living sustainably on the grassland), on the other hand.

The EM policy does have a set of environmental as well as development rationales, yet the social costs are potentially very high and still insufficiently addressed – and this could, if such costs are deemed too high by the affected populations, ultimately lead to the undoing, or counter-acting, of any hoped-for benefits.

What costs may be expected? For historic comparative purposes, we turn our attention now to consider government-sanctioned relocations of Aboriginal people in Canada, many undertaken in the name of preserving wilderness (which in modern language would be termed biodiversity conservation), with an overview of some of the major socio-economic consequences in the affected (relocated, settled) communities that have lasted for multiple generations.

What can be learned from the Canadian experience of relocation/settlement?

The establishment of many protected areas in Canada, starting with the creation of Banff National Park in 1885, included the removal/relocation of native people – with given reasons being that this was done in the interest of game conservation, tourism, and Indian assimilation.

Who are Canada's Indian or aboriginal people? Aboriginal populations in Canada have been classified into 12 major ethno-linguistic families (though sadly one has gone extinct, Beothuk) with more than 50 unique languages. Aboriginal people also have over 2200 reserves, ranging in size from only several hectares up to 900 km^2. The main categories generally used when referring to Canada's aboriginal peoples are the First Nations, Métis, and Inuit. In 2006, nearly 4 percent of Canada's population was recognized as aboriginal: 698,025 First Nations people; 389,785 Métis people; 50,485 Inuit people; and 34,500 people with multiple or other aboriginal responses.

Around 50 years after the first national park was created in Canada, and its original inhabitants forcibly removed, the *National Parks Act* was passed. The Act was written to ensure that parks could only be established, or changed, by an Act of Parliament, and to ensure that mineral exploration and development was prohibited and only limited use of timber essential for park management was allowed. While this may have made some conservation sense, from the European perspective, it still impacted the excluded aboriginal communities to a very large extent, people who previously had used, mostly in sustainable ways, local natural resources for many generations.

Relocation of Inuit communities

Historically a nomadic hunting and fishing people, the Inuit people now are settled in 46 northern communities (where they are the majority) and 8 towns (where they form a significant minority); no more than 10 percent of Canada's Inuit live outside of these 54 communities and towns. Early government policy vis-à-vis the Inuit aimed to enable Inuit to be 'self-sufficient'. Later policies, however, included the first official Eskimo [Inuit] relocation project, which occurred from 1934-1947. In the 1950s, three options were officially presented to the Inuit: (1) to maintain their basic way of life, where natural resources would allow; (2) relocate to areas of White settlement, and adapt to new ways; or (3) in areas that could not support native people, relocation. The official rationale for relocation was the government's concern about the ability of the Inuit to sustain themselves on the land, and also a desire to extend and centralize government services to the Inuit people. However, following relocations, many problems rapidly emerged: livelihoods were lost, and people became dependant on social welfare. These problems have become endemic, enduring even for decades. (Marcus 1995; INAC 2004)

Relocation of Cree communities

Another nation, the James Bay Cree, also has been subjected to a relocation policy. In this instance, the main rationale has been the development of a massive hydro- power station, the James Bay Hydroelectric Project. Here too, relocation and consolidation "into settlement patterns designed according to southern urban models has often resulted in cultural confusion and an increase in interpersonal tension, alcohol abuse, and violence" (Feit 2004).

The residential school system

With many other aboriginal communities across Canada, the policy that most changed their culture and way of life was the residential school system, a devastating policy that continued well into the 20th century. The predominant view behind this strategy was that only a European approach or worldview was valid, as opposed to traditional/ holistic worldviews, or native languages, or experience-based forms of education, etc. Young children were therefore forcibly taken from their parents and community, in the name of compulsory education, and sent to boarding schools where English was the only medium of education, and all native languages were forbidden. Because of this, or at least through this difficult process, many of the young generation began to reject their parents and elders, which translated over time into alienation within families and loss of cultural identity. (Anderson 2008)

Long-lasting (negative) socio-cultural impacts amongst First Nations in Canada

Nearly all aboriginal communities in Canada have been affected, to a greater or lesser extent, by such significant disruptions, upheavals, relocations, transitions, alienations. What has been the result, in terms of development and society, of such histories? The social and development outcomes of such policies have been, to put it mildly, long-lasting and extremely detrimental to both the aboriginal communities themselves and to the nation as a whole. Beyond the qualitative aspects of loss of cultural identity and loss

of hope within many communities, there are also many quantifiable measures, almost all negative:

- High unemployment rates: 2.6 times higher in aboriginal communities
- Lower life expectancy at birth: 7 years less for men, 5 years less for women
- Infectious diseases prevalent: e.g., TB over 7 times higher than national rates
- Endemic urban poverty: around 50% of aboriginal people living in cities live below poverty line (national average, 4.8%)
- High rates of suicide: around 6 times national average (also high levels of self-injury, especially among young people)

All these figures – and these are but a few examples, many more can be produced – are indicative or symptomatic of deep-rooted sociological and psychological 'disconnects' and cultural confusion. That is, most Aboriginal people are now living simultaneously in two very different realities, with resultant crises of identity, and the burden generally remains heavy across the generations. (Frideres and Krosenbrink-Gelissen 1998)

In summary, past government policies in Canada vis-à-vis Aboriginal people have had some serious negative impacts, including especially the following:

- Serious disparities in health, income/poverty, education, etc.
- Some loss of heritage, sense of belonging, sense of broader community
- Legacy of alienation with distrust of government, also (in some instances) breakdown of family and community
- Large financial burden, even up to the national level due to long-term costs (and lost opportunities) related to unemployment, poor health, alcoholism, crime, etc.

How does this Canadian experience relate to China's present situation?

There are many historic similarities between Canada's development and some current policy in China, particularly in relation to the relocation and settlement of Aboriginal or ethnic minority populations for the purpose of environmental conservation and/or the provision of social services. In China as in Canada, uneven development (disparities) between regions or communities has not only been given as a rationale for relocations, but such relocations and settlement projects have in fact also in turn led to, or further exacerbated, disparities in health and other aspects of socio-economic development.

In the case of Tibetan pastoralists in China, such disparities will further increase due to radical livelihood changes that are required by some related government policies (e.g., ban on livestock grazing in some areas) and the lack of alternative employment or vocational training opportunities for (former) herders who have moved to town.

The financial burden of long-lasting unemployment, loss of hope, poor health, limited education… the real financial cost of such transformation of the social landscape, when such costs are properly internalized, may be enormous. In addition to the financial cost, the significant matter of social stability and security should also be factored within the broad development equation.

What should be done now?

Based on some of the important lessons we have already learned in Canada and China, as discussed above, we now make the following key development recommendations.

Specifically, because EM policy (1) is still experimental in nature (that is, it is a policy that has not previously been attempted on such a large scale, with over half a million people to be settled in five years in Qinghai province alone); (2) carries serious social risk (see the Canadian experience of aboriginal relocations and settlements, with break-up of communities and other long-lasting/generational harmful impacts, lasting to the present); and (3) is likely to be irreversible (with low likelihood of people being able to return to pastoral livelihoods in the future) — it is therefore advisable that the process of moving/transitioning people from a rural pastoral economy toward semi-urban, market-based livelihoods with an uncertain future for former herders (cf. EM policy) *be slowed down, even suspended at least temporarily*.

In particular, we propose the following development options be considered immediately:

- Slow down implementation of EM policy in the Tibetan plateau region, at least until more is known about the root causes of environmental degradation and the potential social impacts of socio-cultural transitions required by EM policy
- Study more about possible root causes of (perceived) environmental degradation
- Study more about (potential) social and environmental impacts, both good and bad, of the proposed/current EM policy
- Involve more stakeholders, especially stakeholders from the affected region, in both the local/regional and global dialogues on conservation and sustainability

Furthermore, also based on the Canadian experience, it is suggested that the following issues are equally important for environmental protection and sustainable development in the Tibetan plateau region – development which, if/when done properly, will benefit the whole nation. That is, there should also be concerted effort and focus in the Tibetan plateau region on increasing, *inter alia*,

- the level of genuine community engagement and participation in development
- research and development of alternative (new) livelihood options for herders
- opportunities and access to adult education and vocational training programmes
- accessibility to social services (e.g., health, education) in rural and urban settings
- opportunities for teaching/studying in maternal as well as national languages
- the integration of traditional knowledge with ‘scientific’ knowledge systems

If further thought and deliberation as well as academic research are properly focused on such critical topics, conservation and sustainable development in the plateau region will be much better served (with benefits accruing to local Tibetan communities), and China as a whole will benefit.

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