

1 *Revision date: 19 April 2012*

2
3
4 **RESETTLEMENT AS DEVELOPMENT AND PROGRESS?**
5 **Eight Years On: Review of emerging social and development impacts of**
6 **an ‘ecological resettlement’ project in Tibet Autonomous Region, China**

7
8 Gongbo Tashi and Marc Foggin
9

10
11
12
13 **Abstract**

14
15 The relocation and settlement (or resettlement) of rural people away from marginal or fragile
16 lands is an increasingly common approach used in China to achieve environmental protection
17 and development objectives. However at present few studies have been made of the social
18 impacts of such resettlement projects in China. Several key social dimensions of a significant
19 resettlement project in the Tibet Autonomous Region are therefore analyzed and discussed in
20 this paper. It was specifically posited that the research findings presented herein (1) would
21 provide useful guidance for local government bureaus and government staff workers who are
22 engaged in poverty reduction and agricultural development work; and (2) would help give
23 local residents (of the community under consideration) more voice and opportunity to interact
24 with the outside world. A field survey was designed and led by the lead author in June 2009,
25 with semi-structured interviews and a questionnaire, to ascertain the present situation in the
26 target village and thus help provide a useful basis for future policy recommendations.

27
28 Namsaling Dekhi New Village is the largest ecological resettlement project carried out within
29 the national *Yijiang Lianghe* (One River, Two Streams) Project, which was launched in the
30 Tibet Autonomous Region in 1994. The overall goal of the national project is to bring
31 agricultural and other development transformations to the region, including the eradication of
32 poverty, by creating a “bread basket” in the region (including, *inter alia*, Namsaling Dekhi
33 New Village). Over the past decade, more than 32 million RMB (approx. 4.6 million USD)
34 have been invested by the provincial government, in several phases, in the Namsaling Dekhi
35 resettlement project alone. The majority of project funds have been used to develop an
36 irrigation system, but to date water issues remain a concern for many villagers. Poor soil
37 conditions and limited farmland, as well as housing issues and limited job opportunities,
38 present other challenges for sustainable development.

39
40
41
42
43
44

45 **Introduction**

46

47 “Ecological resettlement” is a development strategy commonly employed in recent years in
48 China, with a primary stated purpose being the protection of natural resources considered to
49 be ecologically fragile; and concomitantly with a development goal to help rural residents in
50 remote, impoverished or fragile environments “to escape poverty” (Du 2006). This strategy
51 generally has been applied to pastoral areas of China, particularly in Mongolian and Tibetan
52 grassland regions (see, e.g., Dickinson & Webber 2007, Foggin 2005, Ptackova 2011). Similar
53 nationally supported development plans, that is, with significant resettlement components,
54 also are (or have been) evident in other pastoralist-inhabited areas in Asia and Africa (e.g., in
55 Kazakhstan, Ethiopia, Uganda; see Attwood et al. 1998, Bennett 1998, Biressu 2009, Kinsey
56 & Binswanger 1993, Loomis 1988, Pulkol 1994). Such social displacements and restructuring
57 often have been undertaken in conjunction with the establishment of national parks or other
58 forms of “protected areas” (Cernea & Schmidt-Soltau 2006, Dowie 2009, West et al. 2006).

59

60 While the term/policy *shengtai yimin* sometimes has been translated in English as “ecological
61 migration” or “ecological relocation”, the authors’ preferred translation (used herein) is
62 *ecological resettlement* — because only this term properly reflects and incorporates all three
63 major elements of the fundamentally transformative development strategy discussed herein:
64 (1) the environmental rationale of the policy (cf. ecological conservation), (2) the movement
65 of rural residents away from marginal or ecologically fragile lands (cf. re-, of relocation), and
66 (3) a concomitant change of people’s livelihoods (cf. sedentarization, settlement). Distinction
67 also should be made at the outset with the notion of “environmental refugees,” people who
68 may undertake permanent movement, or migration, for example as an adaptive response to
69 multi-year drought with intense desertification. In the case of the implementation of
70 development policies or the establishment of nature reserves, however, rural people move
71 away from their original homes to new residences (often to new livelihoods) in response to
72 the *development plans or policies*, not in response to the environmental situation *per se*.

73

74 In addition, the concept of re-settlement can further be expanded to include not only the
75 obvious geographic element, but equally the planners’ desire (goal) that the relocated people
76 find or develop alternative livelihoods, into which they will settle and wherein they may find
77 a level of contentment, fulfillment, sense of purpose, etc. and ultimately a new living situation,
78 a new *status quo*, and social stability. In short, while ecological resettlement plans have been
79 argued in China primarily on the basis of an environmental rhetoric, certain socio-economic
80 development benefits have been promised or implied as well. Whether none, some, most or
81 all of the hoped-for social development or environmental benefits of relocation and settlement
82 programs have been (or are being) achieved is a widespread area of current inquiry in China.

83

84 The Chinese government already has endorsed the resettlement of large numbers of people,
85 livestock, and communities across vast tracts of grassland throughout the country. However,
86 ecological resettlement still should be recognized for what it is: a largely *untested* social
87 experiment, proceeding to the present time with little attention given to monitoring and
88 lessons from the social impacts, whether positive or negative, on the resettled people. Where

89 post-implementation social impact studies are present, the overall timeframe still is relatively
90 short (that is, only a few years). To help fill this gap in knowledge, local perceptions
91 some of the main social and development outcomes of the first ecological resettlement project
92 undertaken in the Tibet Autonomous Region (hereafter, Tibet) are introduced, analysed and
93 reviewed in this paper.

94 **Policy context**

95
96
97 In recent years, the resettlement of people has been the main method used in Tibet to achieve
98 the State's development goals, predominantly under the umbrella of the development program
99 "Building Socialism through Revitalizing Villages." The government anticipates that resettled
100 people will be able to improve their living conditions in such New Villages (*xincun*), and that
101 their relocation away from ecologically fragile areas will help to reduce pressures on the land
102 and thus improve the environment in the source areas, or headwaters, of some of China's
103 major river systems (Foggin 2008). Government funds for ecological resettlement support the
104 construction of new houses, roads, electricity, and water supply in New Villages.

105
106 In central Tibet, resettlement projects also are embedded within the context of a longer-term,
107 nationally sponsored agricultural development program called the *Yijiang Lianghe* (One River,
108 Two Streams) Project, which was originally launched in 1994. This project was introduced to
109 the Namsaling Area (i.e., the project area) in 1998. The goal of this project is to bring
110 agricultural and other development transformations to the whole region, including eradication
111 of poverty, by creating a "bread basket" in central Tibet. To this end, over 4 billion RMB
112 (around 570 million USD) has already been invested, mostly by the central government
113 (Yeung & Shen, 2004).

114
115 The first and largest resettlement initiative undertaken under the *Yijiang Lianghe* Project is the
116 Namsaling Dekhi New Village project. Over the past decade, the provincial government has
117 invested around 32 million RMB (approx. 4.6 million USD) in the project, in several phases.
118 This initiative was initially managed and supervised under a newly created project office, but
119 was later re-assigned to the Poverty Alleviation Bureau and Agricultural Development Bureau.
120 The provincial government has made enormous efforts to establish this project as a model for
121 poverty reduction across the whole region (ZPAO 2007).

122 **Study area**

123
124
125 As a step toward filling the noted knowledge gap regarding social and development impacts
126 resettlement projects, the authors have reviewed the case of resettlement in Dekhi Village,
127 situated in the Namsaling area of Chanang (*Zhanang*) County, Lhoka (*Shannan*) Prefecture,
128 Tibet. Over the past decade, the Namsaling area has received the largest resettlement-related
129 government investment in Tibet, largely under the auspices of the afore-mentioned *Yijiang*
130 *Lianghe* project. It is under this agricultural project that the Namsaling Dekhi New Village (or
131 Dekhi Village, for short) was planned, developed, and populated.

133 Dekhi Village is located near a bend in the Yarlung Tsangpo River about 15 km west of the
134 county administrative town. Dekhi Village encompasses a sandy area of about 3,000 *mu* (200
135 ha). There were no trees along the riverbank a decade ago. The village name “Dekhi” means
136 “blessed” in Tibetan. Nonetheless, the issue of (limited) irrigation water has long plagued
137 Dekhi Village. Water is the key element for the survival and development of agriculture in
138 this region. For this reason, the *Yijiang Lianghe* project invested 15,323,400 RMB in 2001 to
139 build a new irrigation system for use by the incoming (soon to be resettled) villagers.
140 Construction included a collection pond, a 210 metre dam, 148 water collection cisterns (one
141 per household), 551 metres of water culverts, 2,945 metres of concrete irrigation channels, 62
142 water overflow outlets, six tractor bridges, three foot bridges, and a large water regulation
143 gate. In total, 3,000 *mu* (200 ha) of sandy land has been converted into 1,000 *mu* of cropland
144 and 2,000 *mu* of road-side tree plantings. The basic rationale was expressed in the slogan,
145 “With the river as foundation, agriculture will succeed, thus leading to reduction of poverty.”
146

147 Many local people were keen to implement the ambitious *Yijiang Lianghe* project, including
148 its associated ecological resettlement activities. Altogether, 148 families moved to the new
149 village – with 88 families from Chanang County and 60 families from Tsona (*Cuona*) County;
150 from both farming and herding backgrounds – selected largely on the basis of economic status
151 (in original home areas) in conjunction with official perceptions and positions regarding local
152 environmental problems. As with other relocation initiatives in China, however, in such
153 resettlements, local people generally “have been given inadequate right of participation and
154 options in the process of their displacement and resettlement” (Yan & Qian 2004).
155

156 In the present situation, the resettled people moved into 148 newly built houses. The
157 resettlement plan specified standard house sizes. Households with 1-3 people received a 150
158 m² house, families with 4-7 people received a 300 m² house, and families with 8 or more
159 people received a 340 m² house. The houses had either one or two floors, and all included a
160 50 m² yard. However, as none included an animal shelter, most residents with two-floor
161 houses converted their ground floor into a barn, and many residents with single-floor houses
162 converted half of their yards into livestock pens. At present the villagers’ main livelihood
163 (economic) activity is farming, with a total area of 1,500 *mu* (100 ha). County government
164 documents also indicate that, before moving to the new village, the majority of villagers had
165 only between 0.5 *mu* and 2 *mu* (0.03 - 0.13 ha) of land per capita – much less than the present
166 (new) average. However not all individuals have benefited equally, and some individuals
167 have lost some land (in terms of area) in the resettlement. In addition, the project built one
168 kilometer of road, and 3,500 trees were planted in the vicinity of Dekhi Village (ZPAO 2007).
169

170 At a broader geographic level, Chanang County (in which Dekhi Village is situated) is located in
171 the south-central part of Tibet, in the middle section of the Yarlung Tsangpo River (Figure 1).
172 The county has an area of 2,163 km² with around 67,000 *mu* (4,467 ha) of arable land. It has a
173 population around 35,000 people, of which 99 percent is Tibetan. The county is divided into
174 11 townships (*xiang*) and 63 villages (*cun*). The northern and southern parts of the county are
175 mountainous, with the Yarlung Tsangpo dividing it into roughly equal northern and southern
176 parts. The length of the river through the county is 45 km, with a width of around 8 km. At an

177 average altitude of 3,680 metres a.s.l. the county has a temperate dry plateau climate – with
178 3,092 hours of sunlight, 140 frost-free days, and an average annual precipitation of 420 mm.
179 High winds are common during winter and spring, and natural disasters sometimes occur
180 including drought, sandstorms, snowstorms, and flooding. The county town has long been a
181 vibrant socio-economic center, even prior to Liberation in 1953, with a relatively long history
182 of agricultural development, especially crops along the banks of the Yarlung Tsangpo. Today,
183 main industries also include the production of local handicrafts, including fired pottery, clay
184 pottery, and gold- and silverware. The main county town is located around 40 km from the
185 airport and transport access (e.g., to Lhasa) is relatively good. The Qutsu-Tsona Highway also
186 runs through Chanang and the road network in the county extends to 120 km. Public transport
187 reaches eight villages in the southern area and there is also some river-based transport.

188
189

190 **Figure 1.** Map of Tibet, China, showing administrative boundaries of prefectures and counties.
191 Chadang (*Zhadang*) County is shown in red, while Lhoka (*Shannan*) Prefecture is shown in yellow.

192
193
194

195 As indicated, the people and families who relocated and settled in the new Dekhi Village came not
196 only from different areas of Chadang County, but also from Tsona County – which is further south,
197 closer to the Himalayan Range and near the border with Bhutan and India’s Arunachal Pradesh. The
198 main difference between the two sub-groups is that more of the resettled people from Tsona were
199 livestock herders in their previous home areas, or had livelihoods dependent on both farming and
200 herding, whereas the people who relocated from elsewhere in Chadang were mostly farmers.

201

202 There are several key reasons that the Namsaling area was selected to plan and implement the
203 first ecological resettlement project in Tibet: 1) good transport routes, including proximity to
204 a major highway (the project can thus readily serve as a model demonstration village); 2) no
205 people lived at the site prior to construction and settlement; 3) Chanang was recognized as
206 one of the poorest agricultural counties in Tibet; and 4) the county area was a significant
207 socio-cultural centre in Tibet prior to Liberation in 1953, but had been severely impacted
208 during the Cultural Revolution in 1966-1976. The ecological resettlement component of the
209 *Yijiang Lianghe* Project began in the Namsaling area in the summer of 2001, after arable land
210 had been prepared and an irrigation system built; and it ended two years later, in the summer
211 of 2003, after the new inhabitants moved from their prior farms or rangeland to begin a new
212 life in Dekhi Village. In their previous livelihood situations, most re-settlers in Dekhi Village
213 had been farmers (though almost always with at least some livestock) and some had been
214 full-time herders (pastoralists). Nearly all the villagers had been amongst the poorest families
215 in their original home areas. All the people also had lived in a region deemed to have some
216 particular environmental problem or concern that needed to be addressed.

217

218 **Survey methods**

219

220 Semi-structured interviews with residents of Dekhi Village (in 42 households, comprising

221 more than 300 people) were carried out by five researchers from the Tibet Agricultural
222 University from 22-28 June 2009. These interviews, together with completion of a
223 questionnaire-based survey, were conducted entirely in the Tibetan language. The survey
224 questionnaire was designed based on the lead author's experience of human development
225 needs assessments carried out in the CIDA Basic Human Needs Project and with the Tibet
226 Tianyuan mining company. The content of this survey included questions relating to villagers'
227 perceptions about the relocation and settlement process, subsequent changes in living and
228 work conditions, experiences of obtaining general information and relevant technical
229 knowledge, and access to education and healthcare. It was posited that the research findings
230 would: (1) provide useful guidance for government bureaus and government workers engaged
231 in poverty reduction and agricultural development in the future; and (2) give Dekhi Village
232 residents more voice and opportunity to interact with the outside world, itself an empowering
233 process. Information and results from these approaches are presented below.

234

235 **The Experience of Namsaling Dekhi New Village in Tibet, China**

236

237 Comprehensive analysis of this resettlement experience has yielded several important lessons
238 and valuable yardsticks that may help to better assess potential outcomes, both positive and
239 negative, for other resettlement projects in Tibet and elsewhere in the future. Information and
240 perceptions gathered from local residents through formal interviews (cf. questionnaire-survey)
241 as well as informal discussions, are integrated here with other data and information gathered
242 through discussions with local government leaders and from official documents. Key findings
243 are presented below.

244

245 *1. Housing Program*

246

247 Most of the relocated families initially considered their new houses to be much better than
248 their old houses. Some of the resettled villagers had already wanted to obtain a new house and
249 were glad to move to Dekhi Village. The majority of interviewees (91 percent) found their
250 new houses, when they first moved in, to be better than the houses in other nearby villages.
251 Ninety-six (96) percent of people thought that their houses were better than their old houses
252 (Table 1). However, following the implementation of the more recent "Socialist New Village
253 Program," even the relatively new houses in Dekhi Village are not as good as the more
254 recently built houses in other neighboring villages in terms of design, living area, and living
255 conditions for Tibetan people. Some Dekhi Village residents therefore have tried to alter their
256 houses, but this generally ended in failure. Compared to other houses in adjacent areas, those
257 in Dekhi Village no longer fully satisfy the residents, and this dissatisfaction is increasing
258 over time. As a result, some villagers have begun to overlook the advantages and convenience
259 that access to public transportation has brought, and now generally feel cheated.

260

261

262 **Table 1.** Resettled villagers' rating of the housing quality in Dekhi Village

Question: Do you consider your current house better, similar, or worse than your former house?
--

Original County:	No. of responses (no. of families), by source county		
	<i>Better</i>	<i>Similar</i>	<i>Worse</i>
<i>Chanang County</i>	30	3	5
<i>Tsona County</i>	23	6	9

263 n= 42 households (over 300 individuals) Source: Gongbo Tashi, 2009 survey

264 Note: Some interviewed households had family members from more than one place of origin

265

266

267

268 What are the main reasons the houses ceased to satisfy the resettled villagers? Just like for
 269 Tibetan herders, farming villagers (such as the residents of Dekhi Village) also rely heavily on
 270 livestock. Because livestock manure is the main source of fuel for cooking and of fertilizer,
 271 Tibetan farmers cannot maintain their current farming lifestyle without livestock. Normally, a
 272 farm family will allocate about half of its house space as a livestock shelter. Most of the
 273 resettled households therefore converted their ground floor accommodation into a barn; with
 274 the remaining 50-70 m² to be used by the family. However this living-space was usually
 275 insufficient for their needs. Moreover such limited living space constrained, and discouraged
 276 the formation of, extended family domiciles. Villagers were not permitted to expand their
 277 houses into their yards. They were entitled to expand their houses eastward along the road,
 278 but they lacked the financial capacity to do so. As a result, housing has become one of biggest
 279 problems in this New Village.

280

281 *2. Livelihood Situation*

282

283 *2.1. Provision of water resources*

284

285 Based on the interviews with residents as well as special discussions with village leaders, the
 286 following scenario has emerged. The government built 8,450 metres of drinking water pipes
 287 in 2000 to bring clean water from higher up the valley to all 148 households in Dekhi Village.
 288 However, subsequent expansion of the New Village concept has resulted in four other villages
 289 also connecting pumps to the Namsaling drinking water system. This additional draw, as well
 290 as a significant drought in 2009, has resulted in the drinking water supply for Dekhi Village to
 291 be inadequate. The water shortage lasted for more than five months in 2009, causing great
 292 difficulties and distress, even some chaos amongst the villagers. Some villagers – particularly
 293 farmers who previously had good water resources in their former homes – have begun to long
 294 for their old residences and livelihood situations.

295

296 Over the past decade the project also has built an irrigation station with transmission lines,
 297 substations, a diversion canal, two pumping stations, and four 35 kW distribution systems. At
 298 an additional cost of 17,875,100 RMB, these facilities now provide good irrigation control
 299 over a total area of 1.92 million *mu* (1,280 km²). The water intake points, however, are all
 300 higher than the natural water sources. As a result, the villagers can only pump water during

301 the 7-8 months of the summer wet season; but not when crops need irrigation during the dry
302 season or in drought conditions. The government has tried to resolve this problem through
303 various means, including a further investment of 1.5 million RMB in 2005 to build a small
304 reservoir together with a 70 metre well; but this system also experienced mechanical failure
305 during early trial operations, following which the contractor suddenly left Tibet, leaving the
306 project incomplete for the following four years. More recently, in 2009, a local leader met one
307 of the provincial leaders and introduced Dekhi Village's water problems to him – leading to
308 yet another project by local government. The installation of a small water pump partially
309 resolved the irrigation water issue that has now plagued Dekhi Village for the past eight years.
310 At present, local government pays for the irrigation-pumping (electricity) fee. However, many
311 Dekhi Village residents are concerned that they may need to pay these fees – unaffordable
312 costs to them – in the future. The local government is now working to reduce the operational
313 costs of irrigation and to create a low-cost, effective water diversion system. If these problems
314 are not solved, then the water irrigation scheme will continue to fail in meeting its
315 socio-economic objectives.

316

317 *2.2. Agricultural production and animal husbandry*

318

319 New arable land has been created by the government near Dekhi Village through transporting
320 topsoil from other places and spreading it over the sandy plain. Depending on the thickness of
321 the new “good soil,” the new land can be categorized into three types. ‘Grade One’ cropland
322 has topsoil with a depth of about 20 cm and can yield over 500 *jin/mu* (or 3,750 kg/ha) of
323 wheat. Much of this cropland is located in areas that previously had been abandoned by
324 neighboring villages (when the land was sandy and largely unproductive) before upgrading
325 with new topsoil for use by new Dekhi Village residents. ‘Grade Two’ cropland has 10 - 20
326 cm of good topsoil covering the sand, and can yield around 350 *jin/mu* (2,625 kg/ha) of wheat.
327 ‘Grade Three’ cropland has less than 10 cm of topsoil, and it is very difficult to grow any kind
328 of crop, or trees, on such land.

329

330 Cropland allocation to individual households was done by random lots, not on the basis of
331 equitable access to land according to different land quality. As a result, some families only
332 received ‘Grade Three’ cropland. This is one of the main reasons that around a quarter of the
333 households have been unable to improve their economic status through resettlement. Over 90
334 percent of the households received larger areas of cropland in the New Village, compared to
335 their previous holdings, but often their land was of poorer quality. Some resettled households
336 are thus experiencing problems from the reduction in living and livelihood space.

337

338 Nearly all the farmland used by Dekhi Village residents (over 90 percent) was created or
339 improved in 2000. However, by 2009 it had already become very poor soil, with a maximum
340 yield of only 3,750 kg of winter wheat or 1,800 kg of canola per ha. Some villagers originally
341 from Tsona County could not even achieve yields of 750 kg/ha of wheat due to a combination
342 of biophysical and socio-cultural (i.e., livelihood experiences) constraints.

343

344 Most of the farmland in Dekhi Village is thus too poor to yield enough barley to make the
 345 Tibetan staple food, roasted barley flour, or tsampa (*zanba*). Instead, the villagers must now
 346 trade their wheat and canola for barley from neighboring villages, to satisfy their tsampa
 347 needs. Many farmers in Tibet apply large amounts of organic or natural fertilizers to their
 348 fields, but because of the small numbers of livestock in Dekhi Village, this alternative has
 349 limited scope. Poor soil quality thus results in Dekhi farmers applying chemical fertilizer to
 350 their cropland at double to triple the average local application rates, sometimes applying over
 351 50 kg/*mu*. As a result, crop production costs are about 60 percent higher than the average for
 352 neighboring villages. In this context, agricultural output can only satisfy subsistence needs
 353 and most households fail to earn any profit. It is clear that Dekhi Village residents therefore
 354 gain very little from farming these new lands.

355
 356 A similar problem exists for resettled herding households. Twelve percent of the households
 357 from Tsona County had been livestock herders. They had previously utilized large areas of
 358 alpine grassland, but after resettling in Dekhi Village they received only 2 *mu* (1.3 ha) of
 359 cropland per capita. As a result, their loss of access to productive land was proportionally
 360 greater than for resettled farming households. Moreover, the land they received was mostly
 361 hemmed in on the southern and western sides by the village, blocked by mountains to the east,
 362 and constrained by the Yarlung Tsangpo River to the north. In addition, livestock grazing in
 363 areas planted with trees is forbidden. Therefore, for their livestock production needs, these
 364 families can only rely on utilizing about 2,000 *mu* (133 ha) of adjacent, unconverted sandy
 365 land for feeding their livestock. Other grassland in vicinity to the New Village traditionally
 366 has belonged to residents from other villages, and disputes arise when any Dekhi livestock are
 367 found grazing on neighboring pastures. Herder families also had to make significant reduction
 368 in their livestock numbers (Table 2). However, abandonment of livestock production is not
 369 considered to be culturally-appropriate or feasible, according to many interviewees, since
 370 livestock not only provide farmers with fertilizer and fuel but also satisfy many other cultural
 371 and psychological needs. One young Tsona woman observed, "Livestock are a symbol of a
 372 happy life. If we have no livestock, then our family life has no animation or joy."

373
 374

375 Table 2. Average livestock numbers, pre- and post-resettlement in Dekhi Village

Original County:	Yak & Cattle		Sheep & Goats		Donkeys & Horses	
	Before	After	Before	After	Before	After
Chanang County	1320	255	876	107	267	0
Tsona County	2457	126	1260	32	253	0

376 n= 42 households (over 300 individuals) Source: Gongbo Tashi, 2009 survey

377
 378
 379

380 *2.3. Other income generation*

381

382 The resettled households of Dekhi Village face many difficulties in maintaining or improving
383 their incomes, whether from agricultural production (farming and herding) or other sources.
384 Before resettlement, many Dekhi residents originally from Tsona previously earned much of
385 their cash income by collecting medicinal herbs such as caterpillar fungus *Cordyceps sinensis*,
386 and also *Fritillaria*; average annual household earnings often exceeded 20,000 RMB per year.
387 The resettled residents of Dekhi Village, however, have lost access rights to their original
388 environment and associated opportunities for resource-based income generation options. They
389 have also lost certain social and cultural resources, such as experience and ability to locate
390 traditional herbal medicines. They have not yet been able to replace this knowledge/expertise
391 with a commensurate ability to use various “urban resources” available to them in their new
392 village environment.

393

394 Residents of Dekhi Village from Chanang County, on the other hand, have experienced less
395 difficulty in making the transition between one set of resources and livelihood to the other.
396 This is explained in part by the improved transport services in vicinity of Dekhi Village, and
397 their pre-existing practice of seeking temporary off-farm work after the spring sowing. The
398 extent of this economic activity had previously been constrained by poor access to transport;
399 however that constraint has now been removed. Dekhi villagers originally from Chanang thus
400 rapidly availed themselves of opportunities to seek such work further afield, e.g. in Lhasa,
401 Shigatse, Nyingchi and other places. As a result, the off-farm component of their incomes
402 increased by about 60 percent, that is, on average of 8,000 RMB per annum. By comparison,
403 Tsona villagers, and especially former herders, generally lacked the experience or connections
404 necessary to find similar short-term (temporary) jobs in urban areas.

405

406 Overall, paid employment outside of the New Village has become the main source of income
407 for its residents, with 80-95 percent of family incomes coming from such jobs. In addition it
408 was found that, on average, 85 percent of the residents’ income is spent on household food
409 consumption (despite their farming occupation).

410

411 Improved transportation and reduced livestock-rearing options have thus changed the income
412 sources for many residents. Previous options have been constrained, and other new options
413 not yet fully realized. Before resettlement, for example, many people in Dekhi Village had
414 produced and sold handicrafts such as *nambu*, the fleece used to make the traditional Tibetan
415 *quba* garment. The high quality wool produced in Chanang is renowned in Tibet and has a
416 very good market value. However a lack of grazing land in and around the village has resulted
417 in residents abandoning the production of such livestock-based products as a main source of
418 income, and instead choosing to work primarily as manual laborers. Most people now work in
419 the construction industry in larger cities, and some have entered the transportation business.

420

421 Following relocation, with the increased range of income generation opportunities available,
422 as well as changes (including loss) in some opportunities, there are now greater occupational
423 and economic disparities between households. Family incomes thus vary enormously, with
424 some households even hiring/managing whole construction teams – and with commensurate
425 annual incomes in excess of 50,000 RMB. Other families involved in transportation receive

426 around 20,000 RMB per year. Most residents, however, only work as construction laborers –
427 for which they may receive an annual per capita income of around 3,000 RMB. On the lower
428 end of the spectrum, some people lost everything when they moved to Dekhi Village and now
429 have no income.

430

431 *2.4. Health care and medical insurance*

432

433 Along with a legitimate concern for economic matters, health matters also rank high. Most
434 villagers in Dekhi Village (92 percent) feel that they now enjoy better access and quality of
435 health services. However, about one-third (35 percent) of interviewees said they did not know
436 the criteria for reimbursement of medical costs, and 43 percent thought the cost of insurance
437 was now higher than when they lived in their previous home. This has led to some concern
438 and even dispute, as the economics of health care can affect many other aspects of life as well.
439 This situation most likely has arisen from the fact that explanations about health care and
440 insurance were given by the health bureau in Chinese only, even though 70 percent of the
441 villagers speak only Tibetan (that is, less than one-third can speak both Tibetan and Chinese).

442

443 *3. Acquisition or improvement of farming skills*

444

445 *3.1. Promotion of farming skills and acquisition of information*

446

447 Although the Namsaling area has long been used as a demonstration zone for technical
448 improvement of agriculture in Tibet, and technicians from the Tibet Agriculture Research
449 Institute have conducted many experiments in the area, only two of the interviewees said they
450 were acquainted with the technicians who had conducted such experiments. Most interviewed
451 residents were also unable to identify any farming skills they had learned since relocating to
452 Dekhi Village. Only one herder from Tsona claimed to have learned some farming skills for
453 the first time – and that was from his neighbor, not from an extension specialist. The majority
454 of interviewees (92 percent) indicated that television programs provided a lot of information,
455 but the most useful knowledge came from other villagers (30%). Some other informants
456 (interviewees) didn't even consider that "information" had anything to do with them. Thus it
457 is clear that both the form and content of agricultural extension techniques must be improved.

458

459 There are very few training courses on farming skills in the village, and most are conducted in
460 a classroom context in Chinese language. Local villagers gain very little from such training
461 opportunities, especially without practical, on-site demonstration or other forms of on-going
462 support. The promotion of new farming skills has been inadequate throughout Tibet, but is
463 worse in many resettlement villages where herders lack even the most basic understanding of
464 farming livelihoods. It is these people who may need the most training and instruction if
465 ecological resettlement schemes are to succeed.

466

467 *3.2. Other technical training and educational opportunities*

468

469 Not one interviewee in Dekhi Village considered they had learnt any advanced farming skills

470 after resettling, and only 10 percent (all herders) felt they had learned something about the
471 planting of crops. Two households trained at county level to become demonstrators, and
472 learned about chemical and pesticide use, but nothing was taught about other relevant farming
473 techniques. In addition, of the 8-10 government staff workers in the county and township
474 agri-technical extension centers, only one person was well known to local villagers (because
475 he had spent two years promoting bio-gas techniques in the village). In the absence of
476 technical training workshops or other forms of external agricultural knowledge transfer, most
477 villagers therefore have simply found ways to educate themselves.

478

479 Many interviewees stated that their main objective in resettling was to improve their access to
480 education (as well as medical care), especially for their children. This was because transport
481 conditions in their original homes were so poor and posed significant risks. One settler from
482 Tsona explained, “I was worried every time my kids went to and from school, especially
483 when they came in late.” Nearly two-thirds (60 percent) of the households interviewed
484 indicated that improved housing conditions and access to schooling for their children were
485 their main reasons for moving. Indeed, a new comprehensive primary school recently was
486 built in Dekhi Village and children can now easily attend. However, employment prospects
487 remain poor and several graduates from the village have failed to find suitable non-labor jobs
488 – they presently are working on their family’s farmland – a situation that has caused some
489 parents to question afresh the merits of education.

490

491 When asked whether their children liked farming, only one-third (32 percent) answered “yes”
492 and two-thirds said “no.” To the question “What do you hope/expect for the future? What will
493 your child do in the future?” – only one person answered “farmer” while 29 people answered
494 “don’t know”; another 6 people replied “teacher,” 4 people said “business” and 2 people said
495 “worker.” Regarding higher education, 94 percent of interviewees did not know about the
496 Tibet Agriculture and Animal Husbandry College, and all indicated that they did not have any
497 sense of need to relate closely to the current education system. It thus appears that most Dekhi
498 residents do not have much concern or knowledge about the education system, and they are
499 not sure what to expect from schooling for their children or how they might benefit from
500 education in general. Despite its status as a demonstration site, Dekhi Village still has failed to
501 make any significant breakthrough in farming skills promotion, or basic education, in Tibet.

502

503 *3.3. Traditional farming skills*

504

505 It is noteworthy that most interviewees were in agreement that traditional farming methods
506 are good for the soil and less costly for farmers, although more tiring in terms of labor inputs.
507 At the same time, the villagers have become more dependent on machinery for plowing,
508 harvesting, and threshing. It was also recognized that soils should be replenished with organic
509 fertilizer, but this option remains limited since Dekhi villagers don’t have enough land to raise
510 livestock (this is why, when the villagers want to increase the output of their crops, they rely
511 instead on chemical fertilizers even though they recognize the harm it brings to the soil and to
512 crop yields over the longer term). As a result, nearly two-thirds of interviewees (63 percent)
513 believe that traditional farming skills would soon vanish, and a further 12 percent thought

514 they had vanished already.

515

516 *4. Local perceptions about the resettlement program*

517

518 In the community survey, level of “contentment” (in Tibetan, *dreaky tsui*) was also discussed.
519 About one-quarter of respondents still preferred their surroundings before resettlement, even
520 though the locations were remote, largely because their homes there were generally cleaner
521 and less polluted. In answer to the double question “When or where would you live a happier
522 life?” – 26 percent of the respondents said “before resettlement” and 24 percent indicated in
523 their “original surroundings.” Most village residents, however, had previously suffered from
524 floods and various other natural disasters, which do not occur (or can be avoided) in the New
525 Village – and on this basis, most people consider that they now are living an easier life. Yet at
526 the same time, with a degrading environmental situation and loss of some traditional
527 agricultural skills (for example), many people in the village are now losing some of their
528 initial enthusiasm for their new home. In fact, less than half of the people (43 percent) feel the
529 current situation is “good” for resettled villagers. The village leader explained one of the
530 problems this way: “Many outsiders [people from other villages] call us beggars because they
531 think we had nothing when we were removed from our original places, but this is totally
532 wrong.” Such social biases have resulted in growing dissatisfaction among some of the Dekhi
533 Village residents and increased their desire to return to their former homes – a desire that also
534 has increased as new economic opportunities arise in their original home areas (e.g., because
535 of road construction and associated new business opportunities). Several families have thus
536 already left Dekhi Village and returned to their original homes.

537

538 **General Discussion**

539

540 In the eight years since the process of building and then settling Dekhi Village began, from
541 2001 to 2009, many transformations have taken place – in the land/environment, in people’s
542 livelihoods, in socio-developmental structures and processes, and in people’s perceptions of
543 the past and present as well as their hopes and aspirations for the future.

544

545 With regard to ecological resettlement as a development strategy, numerous domestic reports
546 already have been written in China, mostly emphasizing the positive external and/or regional
547 impacts of resettlement projects. Conservation benefits have been highlighted in most cases,
548 particularly in studies or recommendations focused on the source areas of the Yellow, Yangtze,
549 Mekong, Salween and Yarlung Tsangpo rivers (see Du 2006, Wang et al. 2010). Yet despite
550 the massive scale at which resettlement is planned (People’s Daily 2009), such reports have
551 only rarely documented in any detail the more local impacts such as the living conditions or
552 local environmental situation of relocated communities. In fact, there are few in-depth,
553 systematic analyses or evaluations of new villages built under the Ecological Resettlement
554 policy – particularly in terms of the perceptions and feelings of the villagers themselves. As a
555 result, certain mistakes may be made in the course of implementation across a wide array of
556 resettlement projects, which could have been avoided. Certain media are now beginning to
557 draw attention to some of the social challenges emerging in New Villages (e.g., Xinhua News

558 2010), yet the paucity of more formal social surveys has allowed many resettlement projects
559 to advance unmonitored – sometimes resulting in growing negative feelings amongst resettled
560 people, sometimes also in significant (and avoidable) financial burden for local and national
561 economies (Foggin 2011, Foggin & Phillips *forthcoming*, Yan & Qian 2004).

562

563 The present analysis and discussion is based on a field survey conducted by the principal
564 author, assisted by five graduate students, in one Tibetan resettlement village in June 2009.
565 All of the interviews and discussions were carried out in the mother tongue of the villagers, lending
566 particular strength to this study since this approach is likely to have generated greater trust between
567 researcher and villagers, a richer dataset, and more nuanced interpretation than if extensive
568 translation had been necessary during data collection.

569

570 As outlined above, 148 families (and 712 people) lived in Dekhi Village at the time of the
571 survey. When people moved to the New Village as part of the ecological resettlement program,
572 each person received approximately 50 m² of living space (as shared housing) and, on average,
573 2 *mu* (0.13 ha) of arable land. Most villagers presently consider that housing, transportation,
574 and access to education and health services have generally improved since they moved to
575 Dekhi Village, and 95 percent of the interviewees reported having an “easier” life than before.
576 However, natural resource conditions (i.e., farmland and rangeland conditions) have changed
577 dramatically, and acquiring new skills for crop farming and for living in a small urban setting
578 has proved to be very challenging for the majority of villagers. Some economic disparities
579 were noted between households, but even more marked are the observed differences between
580 the sub-groups defined according to original home areas (i.e., Chanang versus Tsona counties)
581 – a phenomenon most likely related to the ease or difficulty with which people can transition
582 from one form of traditional livelihood to another (farming versus livestock herding).

583

584 Through the survey, it was noted that livestock constitute another critical element in the local
585 people’s cultural lives, as well as for their economic livelihood. It is unfortunate that planners
586 and other officials who designed and implemented the resettlement project lacked sufficient
587 awareness or concern about livestock issues, or the relationship between animals and Tibetan
588 people, to incorporate animal husbandry-related needs into the resettlement plans. A lack of
589 adequate grassland near Dekhi Village for livestock to graze is another serious problem that
590 still needs resolution.

591

592 From the regional perspective, creation of Namsaling Dekhi New Village has been the largest
593 project in the *Yijiang Lianghe* “One River, Two Streams” agriculture development program in
594 Tibet, and the first demonstration village in Tibet resulting from the Ecological Resettlement
595 policy. Despite many well-intentioned attempts to design the project, there have been many
596 operational and implementation challenges. Apart from cultural matters, the technical issues
597 of particular concern include the irrigation system (water pumping station), loss of quality
598 farmland topsoil, inappropriate house design, poor extension service or acquisition of new
599 information, loss of traditional agricultural knowledge, and inadequate levels of contentment
600 in the New Village. As a result, this resettlement project has not been able to achieve or
601 demonstrate its specific design potential.

602

603 The case of Dekhi Village also serves to illustrate some of the problems facing resettlement
604 projects and policies in general. Though such policies are formed and enacted from a desire to
605 alleviate poverty, as well as to protect ecological conditions, too often they are formed with
606 insufficient consultation or sustained interaction with the people most directly affected —
607 leading to insufficient community ownership and cultural awareness. When this occurs (e.g.,
608 inadequate consultation with local stakeholders), scholars, government leaders and local
609 residents alike may begin to see poverty rise, cultural traditions deteriorate, and ecological
610 damage increase. Thus while ecological resettlement projects are generally well intentioned,
611 due to a lack of continual examination and (re)assessment, some potential successes may
612 never be realized. From a purely economic perspective, the vast sums of money used for such
613 resettlement programs also could be more effective, whether for poverty alleviation purposes
614 or for environmental conservation, if used in less socially disruptive ways.

615

616 With greater cooperation and integration across sectors (see Foggin & Phillips *forthcoming*)
617 and inclusion of all administrative levels as well as representatives from farming and herding
618 communities in development planning and decision-making (cf. co-management approaches;
619 Foggin & Torrance-Foggin 2011), it is possible to achieve better and longer-lasting results.
620 Ecological resettlement may sometimes be part of a solution, but it is never the entire solution
621 to the complex societal problems of poverty or environmental degradation. Thus, in Tibet as
622 elsewhere in the world, a concern for local people's livelihoods and socio-economic goals,
623 environmental resource conservation, regional and national goals, and equitable partnerships
624 and dialogue amongst major stakeholders must all be present simultaneously in order to meet
625 shared goals of development improvements, social harmony and stability, and environmental
626 sustainability.

627

628

629

630 REFERENCES

631

632 Attwood, D.W., T.C. Bruneau, and J.G. Galaty. 1988. 'Introduction', in *Power and Poverty:
633 Development Projects in the Third World*, edited by D.W. Attwood, T.C. Bruneau and J.G.
634 Galaty. Westview Special Studies in Social, Political, and Economic Development. Westview
635 Press: Boulder, USA.

636 Biressu, A.N. 2009. 'Resettlement and Local Livelihoods in Nechsar National Park, Southern
637 Ethiopia', thesis submitted for Master of Philosophy degree in Indigenous Studies, Faculty of
638 Social Science, University of Tromsø, Norway.

639 Cernea, M. and K. Schmidt-Soltau. 2006. 'Poverty Risks and National Parks: Policy Issues in
640 Conservation and Resettlement', *World Development* 34(10):1808–1830.

641 Dickinson, D. and Webber, M. (2007). Environmental resettlement and development on the
642 steppes of Inner Mongolia, PRC. *The Journal of Development Studies* . 43 (3): 537-561.

- 643 Du, Fachun. 2006. 'Grain for green and poverty alleviation: The policy and practice of
644 ecological migration in China', *Horizons—Policy Research Initiative* 9(2):45–48.
- 645 Foggin, J.M. 2005. 'Highland Encounters: Building new partnerships for conservation and
646 sustainable development in the Yangtze River headwaters, heart of the Tibetan Plateau,' in
647 *Innovative Communities: People-centred Approaches to Environmental Management in the*
648 *Asia-Pacific Region*, edited by J. Velasquez, M. Yashiro, S. Yoshimura and I. Ono. United
649 Nations University (UNU) Press: Tokyo, Japan.
- 650 Foggin, J.M. 2008. 'Depopulating the Tibetan grasslands: National policies and perspectives
651 for the future of Tibetan herders in Qinghai Province, China', *Mountain Research and*
652 *Development* 28(1): 26-31.
- 653 Foggin, J.M. 2011. 'Rethinking 'Ecological Migration' and the Value of Cultural Continuity –
654 A Response to Wang, Song and Hu', *AMBIO: A Journal of the Human Environment*
655 40:100-101.
- 656 Foggin, J.M., and J. Phillips. *Forthcoming*. 'Looking for Stability: Holistic Policy Analysis in
657 Light of Rapid Development Among Kham Tibetan Herding Groups', Proceedings of the
658 Fifth Annual Himalayan Policy Research Conference; in Madison, 14 Oct 2010.
- 659 Foggin, J.M., and M.E. Torrance-Foggin, M.E. 2011. 'How can social and environmental
660 services be provided for mobile Tibetan herders? Collaborative examples from Qinghai
661 Province, China', *Pastoralism: Research, Policy and Practice* 1:21.
- 662 Loomis, D. 1988. 'Desert rangeland livestock management in Soviet Central Asia', *Journal of*
663 *Arid Environments* 17:1-12.
- 664 People's Daily. 2009. *Nomadic people in Qinghai to settle within five years*. 11 March 2009.
665 <http://english.people.com.cn/90001/90776/90882/6611715.html>. (accessed on 24 May 2009).
- 666 Pulkol, D. 1994. 'Resettlement and integration of pastoralists in the national economy: ranch
667 restructuring in Uganda', in *Involuntary resettlement in Africa, selected papers from a*
668 *conference on environment and settlement issues in Africa*, edited by Cynthia C. Cook. World
669 Bank: Washington DC, USA. (World Bank Technical Paper No. 227, Africa Technical
670 Department Series)
- 671 Ptackova, J. 2011. 'Sedentarisation of Tibetan nomads in China: Implementation of the
672 Nomadic settlement project in the Tibetan Amdo area; Qinghai and Sichuan Provinces',
673 *Pastoralism: Research, Policy and Practice* 1:4.
- 674 Wang Z.M., Song K.S., and Hu L.J. 2010. 'China's Largest Scale Ecological Migration in the
675 Three-River Headwater Region', *AMBIO: A Journal of the Human Environment*
676 39(5-6):443-446.
- 677 West, P., J. Igoe and D. Brockington. 2006. 'Parks and Peoples: The Social Impact of
678 Protected Areas', *Annual Review of Anthropology* 35:251-277.

679 Xinhua News. 2010. *China's resettled herdsmen deal with adjustment woes*. 22 Sept 2010.
680 http://news.xinhuanet.com/english2010/indepth/2010-09/22/c_13525300.htm. (accessed on
681 27 October 2010)

682 Yan, T., and Qian, W.Y. 2004. 'Environmental migration and sustainable development in the
683 upper reaches of the Yangtze River', *Population and Environment* 25(6):613-636.

684 Yeung, Y.M., and Shen Jianfa (eds). 2004. *Developing China's West: A Critical Path to*
685 *Balanced National Development*. Hong Kong: The Chinese University of Hong Kong.

686 ZPAO (Zhanang Poverty Alleviation Office). *Chanang Fupin Gongzuo Zongjie*, 2007. [In
687 Chinese, *The Summary of Poverty Alleviation Work, Chanang County*, 2007]. Unpublished
688 official document.

689

690

691

692

693

694

695

696 **Gongbo Tashi** is Professor in the Department of Environment and Natural Resources at the
697 Tibet Agricultural and Animal Husbandry College, with teaching and research interests in
698 plant breeding, agricultural technology and extension, and mountain area agriculture. He can
699 be reached via gongbuzhaxi@yahoo.com.

700

701 **J Marc Foggin** is Director of Plateau Perspectives, an international non-profit organization
702 that promotes conservation and sustainable development in the Tibetan Plateau region. He is
703 also Associate Professor at Qinghai Normal University in Xining, China, as well as Honorary
704 Research Fellow at University of Kent. He can be reached at foggin@plateauperspectives.org.

705

706