

**Tourism impacts on society and land use/land cover changes
in Sagarmatha (Mount Everest) National Park, Nepal**
(ネパール, サガルマータ (エベレスト山) 国立公園における社会変化および
土地利用土地被覆変化へのツーリズムの影響)

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In order to better understand tourism impacts on society and land use/land cover (LULC) change in Sagarmatha (Mount Everest) National Park (SNP), the Nepal Himalaya, questionnaires to 205 local people and interviews with 108 lodge owners, lodge managers and trekking guides were conducted mainly at the settlements of Lukla, Namche Bazar and Phortse between Mar/2017 and Nov-Dec/2017. Totally, 108 interviews and 205 questionnaires were obtained. Among them, 92 lodges have been completed for interviews: 37 in Lukla, 43 in Namche Bazar and 12 in Phortse. Information on ethnicity, migration, occupation, income source, lodge, agricultural land, reasons of LULC changes and concern of future park management was collected. The result on the ethnicity shows that the respondents are dominated by Sherpa (41%), followed by Rai (15%) and Tamang (14%). Among the respondents, 34% are the locals either from Khumjung, Lukla, Namche Bazar or Phortse, whereas the rest of 66% are migrant from outside of SNP. They migrated to the park area mainly for job opportunities (83%). For lodge owners or managers, 64% are the locals and 36% are the migrants. In Lukla, 54% of owners or managers are the locals and 46% are the migrants; 65% goes to the locals in Namche Bazar; and 92% of lodge owners in Phortse are from the locals. These results show that the locals still dominate the lodge industries. For occupation, 71% of the respondents have changed their jobs, among which 47% are Sherpa and 53% are non-Sherpa (Rai and Tamang cover 54% of them). The reasons for changing the occupation mainly lie in the hope to earn more money (69%), in life style change (10%), and in the decrease of agricultural production (8%). Besides, 49% of Sherpa are lodge owners, 15% are trekking guides and 6% are porters. Further, 7% of Rai are lodge owners, 13% are trekking guides and 17% are porters, and 42% of Tamang are porters, 14% are lodge employees and 12% are lodge owners. These results suggest that the current residents in the park area are largely affected by tourism in terms of their occupation. Many Sherpa people still do high-income jobs such as lodge owners, while most Rai and Tamang take low-income jobs such as porters. Because more lowlanders immigrate to the park area, their tourism-related jobs have been diversified. For income source, its 88% are related with tourism and 12% are from agriculture and others. Among the 88%, 38% households' income source are 100% from tourism. For lodge ownership in the 3 villages, 76% are owned and 24% are rental. The owned lodges are 73% in Lukla, 74% in Namche Bazar and 83% in Phortse. Due to geographical and topographical effects, Phortse has the least number of lodges in the 3 villages while Namche Bazar has the biggest number (62). For those who are the locals, 84% of them are owning agricultural land. Among them, 56% of the families' agricultural land has decreased mainly due to occupation change (48%) and construction of lodges (24%). Among the interviews, 98% of interviewees hold that the LULC change in the park is influenced by the rapid tourism, especially by the construction of lodges and population increase. LULC changes in 1989-2015 were also detected by satellite imagery.