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**Interactive Effects Of Conservation And Development Policies On Land Cover And Panda Habitat In The Sichuan Giant Panda Sanctuary (China)**

The interactive effects of development and conservation on land cover change are largely unclear because most studies have focused on each of these forces separately, although they often act simultaneously and may be complementary or counterproductive. China has implemented two of the most ambitious national conservation policies in the world, the Natural Forest Conservation Program (NFCP; bans the logging of forests and provides incentives to control illegal harvesting) and the Grain-to-Green Program (GTGP; gives subsidies to farmers who convert steep hillside cropland to forest or grassland). But China is also escalating economic growth through the West China Development Program (WCDP). The goal of this proposal is to understand and simulate the interactive effects of these conservation/development policies on the spatio-temporal dynamics of land cover and the habitat for the endangered giant panda (a global biodiversity conservation icon) in the Sichuan Giant Panda Sanctuary. The Sanctuary is an ideal site because NFCP, GTGP and WCDP have been implemented simultaneously since 2000. To achieve our research goal, we will combine field sampling, remote sensing (including many NASA remote sensing assets) and interviews with stakeholders. These various types of information will be integrated into a spatially-explicit model to simulate the outcome of land cover and panda habitat under different policy scenarios. Built on our long-term research in Wolong Nature Reserve (part of the Sanctuary), this unique and significant project addresses an important aspect of the Research Topic “Projections” of the LCLUC Program. It will allow to evaluate the interactive effects of multiple policies regarding conservation and development. Our proposed approach also has potential applications in many parts of China and the world. In short, the completion of this project will help advance the theory, enhance the methodology, and widen the application of land change science for biodiversity conservation.