**An Initial Estimate of the Value of Ecosystem Services in Bhutan**

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# Summary

We estimated the value of ecosystem services in Bhutan using a cost effective benefit transfer methodology in order to get an initial assessment of their overall contribution to human well-being. We estimated the annual value of 22 different ecosystem services in Bhutan for 9 different land cover types. The total estimated value was approximately $15.5 billion/year (NU 760 billion/yr).

This is significantly greater than the gross domestic product (GDP) of $1.5 billion/yr (NU 72.3 billion/yr) at current prices, or $3.5 billion/yr. (NU 171.5 billion/yr.) at PPP[[1]](#footnote-1). Most of the value of ecosystem services was from forested land, which covers over 74.5% of the land surface and contributes 93.8% of the total estimated value. Cropland is second in value with 3.7% of total value, from only 8.0% of land area.

We also estimated *who* benefits from Bhutan’s ecosystem services. Fifty three percent (53%) of the total benefits accrued to people outside Bhutan, largely from climate regulation ($3.5 billion/yr) and tourism/recreation ($2.5 billion/yr.). Forty seven percent (47%) of the benefits accrued to people inside the country - 15% at the national level, and 32% at the local level.

Based on this and a population of 700,000 we estimated the benefits from ecosystem services to Bhutan residents at $10,400/capita/yr. (NU 511,000/capita/yr.). This is, of course, only a partial estimate that leaves out many other sources of benefits to the people, including many social and cultural values. GDP (at PPP) per capita is $5,000/capita/yr. (NU 245,000/capita/yr.). Thus the combined per capita annual benefits from these two sources to residents are $15,400/capita/yr. (NU 757,000/capita/yr.).

This study is the first phase of a larger, multiyear project and ongoing effort in Bhutan. Subsequent phases will apply more sophisticated methods to further elaborate the value of Bhutan’s ecosystem services, who benefits from them, how they can best be integrated into national well-being accounting, and how best to manage them.

1. GDP in 2010 in 2005 $US at Purchasing Power Parity (PPP). Current dollar GDP in 2010 at current exchange rates is $1.5 billion/yr. Source: The World Bank: World Development Indicators database. World Bank. 1 July 2011. [↑](#footnote-ref-1)