Chapter 14
Assessing Urban Residents' Willingness to Pay for Preserving the Biodiversity of Swamp Forest

Huynh Viet Khai
Can Tho University, Vietnam

ABSTRACT

Measuring the biodiversity value in monetary could be useful information for policy-makers to estimate welfare losses caused by biodiversity reductions and perform cost-benefit analysis of biodiversity conservation projects. This study applied the approach of contingent valuation to analyze the Mekong Delta urban households' preferences and their willingness to pay for the program of biodiversity conservation in U Minh Thuong National Park, one of the largest peat swamp forests in Vietnam. The study estimated that the mean WTP of urban residents in the Mekong Delta was about VND16,510 ($0.78) per household per month for all respondents and around VND31,520 ($1.49) after excluding the protest zero and scenario rejecting respondents. Aggregately, they agreed to contribute about $10.97 million annually for the project of biodiversity conservation.

INTRODUCTION

Controlling water flow, preventing from the damage of flood and storm, supporting fisheries, absorbing waste and especially maintaining biodiversity are an example for the important role of natural wetlands. Moreover, wetland regions are places for water transport and recreation while the diverse resources in wetlands could be directly exploited for agriculture, fishing, water supply, wood and wildlife products. The aggregate economic benefit of a wetland's ecological functions, resources and services could surpass the economic value received from the wetland conversion for alternative uses (Wattage, 2002).

One of the largest wetlands in Vietnam are Mekong Delta wetlands, which have great biodiversity, with assisting a large number of herons, egrets, stocks, ibises and some rare species such as sarus cranes, black necked storks, lesser adjutants and

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great adjutants. Specially, the mature semi-natural Melaleuca forest and seasonally inundated grasslands of the Mekong Delta wetlands are the living environments of about 14 globally threatened bird species. Therefore, preserving these wetlands is important or beneficial not only for Vietnam but also for the world. Moreover, there are also a lot of unknown flora and fauna, microorganisms, and genetic resources that are expected to contribute to, for example, the future development of new medicines or coenzymes, which are necessary for biochemical reaction.

Due to an overheated economic development, Mekong Delta wetlands have been dealing with so many problems related to environmental pollution and an increase in wetland destruction, especially, the serious biodiversity loss and degradation. For example, the numbers of endangered species (sarus cranes) in Tram Chim National Park - one of the largest national wetland parks - have rapidly decreased from 1,057 in 1987 to 93 in 2005 (Do and Bennett, 2007; Khai and Yabe, 2014a; 2014b). The degradation of wetland biodiversity is due to an increase in shrimp farming, the conversion of wetlands to agriculture and construction land, war destruction and excessive fuel wood collection. The development of dykes in the Mekong Delta has altered hydrologic conditions and also hence wetland health (Do and Bennett, 2007). To prevent from the biodiversity loss and degradation, the local authorities have proposed plans to use public funding to improve the protection of biodiversity. However, up to now there is little information on the values of biodiversity as well as studies on nature and biodiversity conservation in the Vietnam's literature. Thuy (2007) applied the CV method with five bid-level questionnaires to conduct the study on willingness to pay for the conservation of Vietnamese Rhinoceros and estimate the mean WTP of $2.5 per household. Environmental choice modeling was applied by Do and Bennett (2007) to identify the biodiversity benefits of Tram Chim National Park. The study estimated total benefits of wetland conservation program were about $3.9 million.

Since the information and studies related to the benefit of biodiversity conservation are limited, policymakers cannot answer the question of whether the change in current management practices would generate net social benefits. It is relatively easy to calculate costs of biodiversity conservation program, but hard to estimate benefits. The benefits or design of biodiversity policy could be estimated by studying public preferences on conservation program. However, this is complicated because of the generally low level of awareness and understanding of what biodiversity means on the part of the general public (Christie et al., 2006). Furthermore, although there are a lot of conservation activities especially in biosphere reserves of the Mekong Delta recognized by UNESCO, these are not strong or powerful enough to enlarge or improve the quantity and quality of biosphere reserves because of government budget constraint or the low level of support from local residents and authorities. The studies are needed to be done to answer the question of whether is worthy investing more financial resources in conserving biodiversity in these biosphere reserves.

Moreover, to avoid biodiversity degradation Vietnam's government began to implement policies and laws about biodiversity conservation in early 1960s. Subsequently, many legislative developments and institutional reforms have developed the aims of conservation and sustainable use of biodiversity, including: Forest Protection and Development Law in 1991 (amended in 2004); Land Use Law in 1993 (amended in 1998 and 2003); Environmental Protection Law in 1993 (amended in 2005); Fishery Law in 2003; and the most recently, the Biodiversity Law was approved by the National Assembly in November 2008. Vietnam participated in the Convention of Biological Diversity in 1994, and to fulfill its commitments and obligations under the Convention, in 1995 the government of Vietnam approved the first

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