

POSSIBLE SCENARIOS OF ECOTOURISM EVOLUTION IN THE REPUBLIC OF MOLDOVA FROM THE PERSPECTIVE OF ECOSYSTEM SERVICES

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Abstract: *By using the Sector Scenario Approach, the present paper aims to fill an important gap of information regarding ecotourism activities connected with the management of protected areas in the Republic of Moldova. The paper captures the economic value of landscape as ecosystem service and assesses the development perspective of this sector by comparing “business as usual” and “sustainable ecosystem management” scenarios, giving also information regarding the effect of the ecotourism across the economy of the Republic of Moldova.*

Key words: *eco-tourism, protected areas, ecosystem services, Moldova.*

1. Introduction

The assessment of the possible evolutions of natural resources utilization is of great interest for the reforming authorities in Chisinau, in all sectors of activity, including tourism, with its particular eco-tourism sub-sector. Ecotourism refers to a sub-section of the tourism sector, while the principles of sustainable tourism apply to all types of tourism activities [16].

Currently, the system of protected areas (PA) in Moldova covers 191,000 ha [20]. There are many protected areas, the natural reserves and the recently established National Orhei Park being among the biggest and most important. Four of the five biggest Scientific Reserves as well as Orhei National Park, are under the direct operational management of Moldsilva

Agency – the central authority in charge with forestry in Moldova [20].

The total number of tourists visiting PAs in the Republic of Moldova increased from 6266 in 2008 to 9020 in 2010 (based on the data recorded by PAs management units) [9], even if the total number of tourists (emphasizing mainly vacations, recreation and resting) decreased from 243906 in 2008 to 210809 in 2011 [9]. Therefore, tourists are increasingly appreciating places where natural resources are protected, but this is not yet the central interest to the majority of tourists [17].

Unfortunately, a number of constraints related to eco-tourism infrastructure and PA management can be noted [1], [5]: i) lack of PAs of a category that allows and encourages public visitation; ii) only a few

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PAs or naturally attractive places have accommodation facilities; in many cases they are privately managed by entities which do not cooperate with PAs management units; iii) tourist access routes have been developed, but in general they are in a bad condition and insufficient; iv) promotion materials are missing through the main communication channels; v) biodiversity, a potential attraction for tourists from an educational point of view, is not very well studied; documents pointing out biodiversity features and restrictions are being published, but this process has just started and is seriously underfunded; vi) the unorganized tourism is significant, while the organizations that are involved in this activity do not have means or resources to optimize the rapport between promoting tourism in natural areas and the anthropic pressure that can have unwanted effects on biodiversity [5].

By assessing the economic value of the ecotourism sector for the economy of the Republic of Moldova, this paper aims to gather and present, in a manner familiar to decision makers, some arguments regarding the fact that biodiversity and

ecosystem services (ES) have a value in the tourism sector, trying to build support for the decision to finance the biodiversity conservation sector, directly linked with the attractiveness of the landscape and thus, the ecotourism.

2. Methodology

An important part of the data collection and interpretation related to this paper was done through the project *GEF UNDP Project National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan in the Republic of Moldova*, which financed the first attempt to evaluate the ecosystem services in the Republic of Moldova [15]. The study used the Sector Scenario Approach (SSA), a methodology already applied by projects in different countries [3], [4], and recently made available in a form of a guidebook [2]. The method relies on the comparison of business as usual (BAU) and sustainable ecosystem management (SEM) scenarios for different economic sectors in order to better present the value of the ES for different sectors.

BAU and SEM scenarios description

Table 1

Indicators	BAU	SEM
Total visitor arrivals	Increase 3%/year till 2025, than, no change [9]	
Total visitors eco tourists	Increase in ecotourism, emphasis on total visitors arrivals (10%), then stagnant	Increase in ecotourism, emphasis on total visitors arrivals (up to 15% in 2036)
Average expenditures per visitor per visit (food & hotel)	No change over short-term, but decrease over longer term, as PAs stagnates	No change over short-term, but increases over longer term, as PAs improves
% eco tourists spending on food & hotels	No change over short-term, but decrease over longer term as PAs stagnates	No change over short-term, but increase over longer term as PAs improve
PA tourist consumer surplus per visitor	No change until 2016, after which decreases	No change, then increases by 1% and then 1.5% until 2025

The SSA methodology implies the development of the two scenarios by consultations among the main stakeholders of the tourism and biodiversity conservation sectors in the Republic of Moldova. After consulting the central authorities for tourism and environmental protection, the authors drafted the scenarios and presented them in a series of four workshops organised by the before mentioned project, gathering together representatives of the most important identified stakeholders for the ecotourism sector: the Ministry of Economy, the Registry of Tourism, Moldsilva Agency, the Ministry of Agriculture, the Ministry of Environment, representatives of tourism specialised companies, non-governmental organisations etc. The participants were asked to reach consensus on the indicators that are defining the scenarios and on the way they will vary in the next 25 years in both BAU and SEM scenarios. The final results of the consultations - the basic indicators description for the two scenarios are presented in Table 1.

BAU scenario is defined as a continuation of the disconnection between the increasing interest in eco-tourism and the quality of the ecotourism experience being offered at sites. In spite of the PAs remarkable natural resources, the lack of biodiversity studies makes it impossible to know and manage sensitive areas; damage to biodiversity through tourism may therefore occur and/or tourists may lose interest on account of the lack of biodiversity information. The absence of facilities for visitors also restricts the proper management and accounting of tourist flows. Poor access, visitor facilities, tour guides and management and low diversification will discourage / shorten the

duration of visits and willingness to pay (WTP). Poor marketing further works against tourists choosing Moldova as an eco-tourism destination. The absence of biodiversity conservation measures properly identified through PAs management planning may lead to ecosystem degradation, which will negatively affect tourism demand.

The SEM scenario reflects a situation in which the increasing interest in ecotourism is matched with measures that encourage and optimize its potential. With proper funding, the administrators of natural sites are able to develop and enforce PAs management plans (MPs). The MPs provide for the ongoing evaluation of biodiversity, development and diversification of access and visitor facilities, implementation of special conservation measures, pro-nature education and development of the tourism strategy and management. Under these conditions, it is reasonable to count on an increase in tourist numbers, longer visiting periods and increased expenditures and WTP. The SEM scenario also includes diversification of the functions of existing PAs to allow visitation and recreational use and the establishment of multi-functional areas that have tourism and recreation as specific objectives.

The SSA is funded on the total economic value concept that expends the ES value beyond the direct commercial value of the services, but also includes a wide range of non-market values [8], [10], [12], [13], [14], [19]. The study was done using the existing data collection and interpretation with limited primary data collection. International or National studies [6], [7], [11] were used to extract the necessary data, as well as national statistics [5], [9],

[15], [17]. The data interpretation also used some extrapolation of the data that were collected for other neighbourhood countries, by using the benefit transfer techniques [7], [12]. The method tried to eliminate the limitations of these techniques by taking conservative approaches, as well as by adjusting the transferred values (Central South and Eastern European countries) to the prices levels from Moldova by applying a consumer price index deflator and using an appropriate Gross Domestic Product (GDP) Purchasing Power Parity conversion rate.

The main elements for the calculation of the value of the ES for the tourism sector were: number of visitors, visitor's expenditures, proportion of the eco-tourists, visitors WTP, PAs entry fees, taxes to the national budget.

3. Results and discussions

Based on the methodology described and then by using the above mentioned elements for calculation, we evaluated the baseline value first – the eco-tourism ES value for the year 2012. Moldsilva records the number of visitors of the PAs being managed by units under Moldsilva. The published data [9], [17] provides estimates showing 9600 visitors in 2012. Even if for the other PAs there are no records on visitor numbers, it is reasonable to believe that the number of people visiting natural valuable sites (including PAs that are managed by subunits of Moldsilva) is higher than this. To account for this, the study makes a conservative estimate that there are as many tourists visiting natural areas as recorded. As a result, the figure used for estimating the number of eco-tourists is 19200 eco-tourism visitors in 2012.

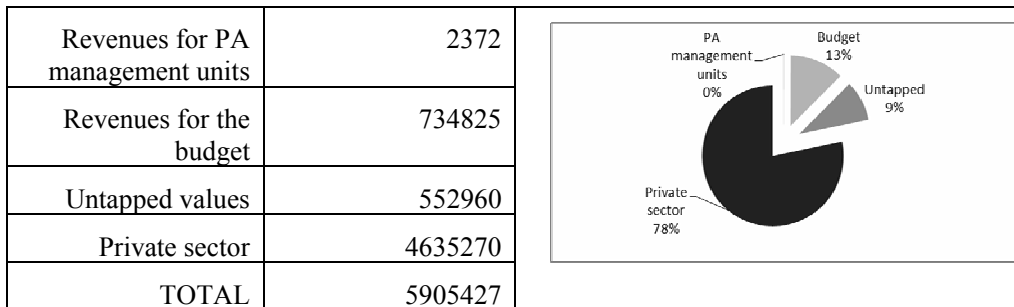


Fig. 2. Baseline value for the ecosystem services (\$, in 2012)

In 2012, PAs management generated direct revenues of \$4744 from PAs entry fees, half of them being accounted as eco tourists (the rest visiting only the PA visiting centres), but visitors also spent money for meals and accommodation. Data from the Registry of Tourism [9], [17] show that tourists spend \$372.9 per

visit on the average, and the average number of nights per visit is 5.7 [9]. That would mean a daily expenditure of \$56.1 /day. This does not take into account visitors from within Moldova. Due to the scarcity of data, this group is overlooked in the statistics [9]. The general impression is that a lot of people go for picnics and

excursions at weekends and public holidays [5], in Moldova many PAs and attractive landscapes being within easy reach of population centres. Expenditure for fuel, refreshments may be modest, but it can add up to a lot. Not taking these into consideration in the study is another argument for its conservative approach.

Studies performed in the region [6] calculate the average visitor expenditure on food and accommodation in PAs per visit at €135.5 per visitor per visit (2010 prices). The average duration of a visit was 5 days, suggesting a total daily expenditure per visitor of €27.1 [6]. In order to derive total expenditure estimates for the ecotourism, the likely proportion of visitors camping and staying in hotels was taken into consideration. Based on the data collected through interviewing the PAs managers (Moldsilva) it is assumed that 75% of tourists in natural sites stay in hotels, guest houses or other accommodation facilities. Thus, direct spending on hotels may account for annual revenues of \$4.6 million in 2012 (Fig. 1). In 2012 a study was carried out in PAs in Romania [4] to determine the economic value of recreation. The results showed an average consumer surplus per visitor of \$60.7 in 2011 prices. However, if we use the appropriate CPI and PPP conversions and apply these broad figures to Moldova, a total consumer surplus of some \$ 0.56 million a year results, including a willingness to contribute to conservation of \$0.1 million.

The continuation of BAU results in an increase in tourism values over the short

term, followed by a progressive decline related to the degradation and loss of biodiversity and ecosystem services overtime and the subsequent fall in visitor numbers and their expenditures. The present value (PV) under BAU for the ecotourism in the Republic of Moldova is \$51.9 million. SEM results in a progressive increase in eco-tourism values, as both the quality of biodiversity and ecosystems and the tourism services offered improve. The increased number of visitors is the main determinant for the increase in PAs revenues. Although an increase in the value of tourism is sustained over the 25 years, the rate of growth slows as the ecosystem and biodiversity status is restored and as the natural sites carrying capacity is reached. Sustainable ecotourism discourages an increase in tourists beyond the sites carrying capacity, visitor numbers therefore plateau in the long run. The PV (10% rate over 25 years) is calculated at \$79.8 million level. Figure 2 illustrates the different trajectory for ecotourism value under BAU and SEM for the Republic of Moldova, as PA authorities derive a small amount of revenue from entry fees. The private sector (represented by tour operators, hotels, guest houses, restaurants) is the main beneficiary. The state, by cashing the VAT and the income tax, is also among the important beneficiaries.

The total cumulative (additional) value (over 25) to the tourism sector as a result of moving to SEM from BAU is around \$14.3 million (Figure 3).

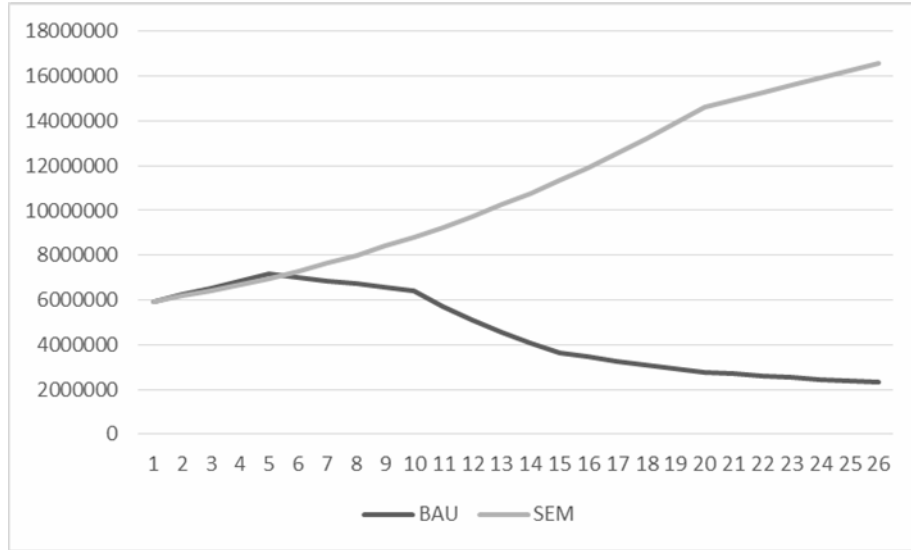


Fig. 2. Comparison between the ecotourism ecosystem values in SEM and BAU scenarios (\$) for a 25 years period

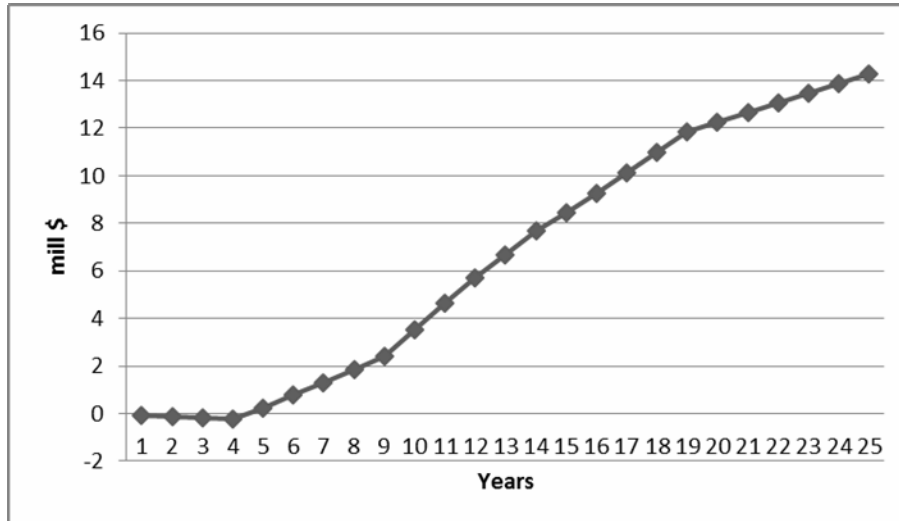


Fig. 3. Cumulated added ecosystem value for the tourism sector – SEM over BAU

The World Travel and Tourism Council [18] presents the research regarding the economic impact for Moldova's tourism sector, based on a methodology consistent with the one approved by the UN Statistics Division. This shows that around 50% of

visitor spending is on leisure travel. Assuming that these figures can be assigned on a *pro rata* basis to the estimated 19200 eco-tourists annually, then it is estimated that eco-tourism makes a total direct, indirect and induced

contribution to GDP of some €7.9 million in 2011. This includes gross visitor spending of more than €6 million, public expenditures of almost €2.4 million and capital investment in excess of €1.4 million, as well as some 1400 full-time job equivalents.

4. Conclusions

The value added by SEM to the ecotourism sector is a clear indication of the potential gains association with SEM, and the costs of BAU. SEM implies sustained and increasing tourism value supported by a well-managed Eco tourist activity based on biodiversity conservation and landscape, while a continuation of BAU results in the steady loss of tourism value as the capacity of natural sites to generate economically valuable services is eroded. These long-term losses outweigh the short-term gains.

The private sector is the key stakeholder to engage with in the development of any potential payments for ecosystem services mechanisms because this sector is actually making the biggest revenue as a consequence of the sustainable development of eco-tourism in PAs of the Republic of Moldova. The envisaged payment for the ecosystem services mechanism can impose a contribution of the economic agents in the sector to the Ecological Fund (managed by the Ministry of Environment Protection and spent on a project proposals base). The money that is collected this way may be directed to better manage PAs.

The proper development of ecotourism in the Republic in Moldova can help the sector to fully provide the social and economic benefits that include local jobs; stimulation of the local economy due to infrastructure and services development; improvement of intercultural relationships.

The results presented in the paper have their limitations as long as they are not based on comprehensive data collection and interpretation, and they imply a certain amount of assumptions and transfer techniques. Nevertheless, the conservative approach adopted for data interpretation supports the conclusion of the paper and qualifies the results as an initial step towards ES valuation for the ecotourism sector. The comparison between scenarios that are modelled in a conservative and participatory way is a better way [2] to help decision makers in the area of both biodiversity conservation and tourism sector regarding the need for fund allocation for sustainable management of PAs. Other approaches to value the ecosystem services are ecosystem centred and do not give sectoral values for the information recipients to understand the value of ecosystem services for their particular sector. At the same time, the results presented are a step on the way to design and apply payments for ecosystem services as a way to implement the concept of “internalization of ecosystems externalities”.

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