ECOTOURISM POLICY OPTIONS FOR THE WHITE WATER RAFTING IN CAGAYAN DE ORO RIVER, PHILIPPINES: A MULTI-CRITERIA ANALYSIS

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Abstract

The primary goal of this research paper is to determine the policy options on the basis of a multiple criteria analysis related to the regulation of the Cagayan de Oro River White Water Rafting Ecotourism in the Philippines. This study applied the Delphi Method in examining the policy alternatives capable of addressing the challenges of attaining sustainable ecotourism. More specifically, this research determined the criteria necessary for ecotourism policy evaluation. The evaluation of criteria for regulation of the Cagayan de Oro River White Water Rafting Ecotourism may lead to the formulation of better management strategies to protect natural and cultural resources and fulfill broader social objectives. Given the current challenges in attaining in sustainable ecotourism, reflected by sanitation problems, absence of amenities and poor infrastructure, analysis of policy options will improve decision-making and provide sustained revenues for management of the white water river rafting ecotourism sector. Policy options are reviewed as they apply to the Cagayan de Oro River White Water Rafting. Key results suggest the application of combination of policy options such as entrance fees for tourists and permits for operators are most preferred. This policy combination is seen as most appropriate based on the criteria most valued by the experts. The Delphi method proved to be a remarkable alternative methodology of assessing policy options for tourism development in the region.

Key words: Ecotourism Policy, Policy for Sustainable Ecotourism, Multi-criteria Policy Analysis for Ecotourism

Introduction

The attainment of sustainable tourism development requires well-crafted guidelines and management practices applicable to all forms of tourism in all types of destinations and the various niche tourism segments (Krstić, Jovanović, and Milić, 2008). Sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development (UNEP, 2005).

In the Philippines, various policies have been adopted by major ecotourism destinations to maintain regular flow of tourists in the country. Legislation and policies provide guidance for visitor and tourism management (Eagles, Coburn, and Swartman, 2014). However, more policy considerations are needed to sustainably maintain the tourist attractions and capture significant revenues from tourism-based activities, which can then be directed toward supporting the monitoring, regulatory and conservation activities. To accomplish this, managers of natural areas must know the current status and condition of both natural and social resources and understanding current conditions (D' Antonio, et. al., 2016).

One of the ecotourism destinations that have become very popular in the country is the Cagayan de Oro River White Water Rafting. Based on the daily data gathered from April 2012 to April 2015, the total estimated number of tourists served for the basic course on a regular basis amounts to 16,397 while for the advance course was estimated to be at 9,682 annually. This translates to a total of 26,079 tourists annually. The data gathered also showed the trend in the number of tourists has been increasing annually. This has adverse impact in maintaining on-site sanitation and waste disposal which has increasingly become a major challenge and a threat to the preservation of environmental integrity at the drop off sites.

During the course of the research, the researcher found out that there is deficiency in ecotourism amenities and absence of regulatory mechanisms through the implementation of environmental fees or environmental permit for white water rafting operators. Tourists' activities remain unregulated at the drop off points for the Basic Course and for the Advance Course. Pursuant of Republic Act 9593, otherwise known as the Philippine Tourism Act Of 2009, Rule 1 Section 3, defined *Sustainable Tourism Development* as the management of all resources that meet the needs of tourists and host regions while protecting the opportunities for the future, in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems.

The attainment of sustainable tourism development necessitates implementation of Ecotourism policy for its regulation at the same time the maintenance of sanitation and waste disposal management at the sites. This is important in maintaining the quality of the Cagayan De Oro River White Water Rafting as a major tourists' destination in the country. This will also require personnel assignment to monitor and regulate tourists' activities at the drop off points. As such, collection of regulatory fees from tourists will also be imperative. Nationwide, this policy has been adopted by major ecotourism destinations in the country. The tourists' contributions will be of help to sustainably maintain this tourist attraction and may capture significant revenues from tourism-

based activities, which can then be directed toward provision of amenities for tourists and supporting the monitoring and regulatory activities and other conservation efforts.

The aim of this paper is to determine the policy options for the regulation of the Cagayan de Oro River white water rafting ecotourism and the most important criteria for achieving sustainable tourism. The existing ecotourism regulatory system in the country is discussed and the description of the current challenges and a call for more effective regulatory mechanism is presented.

Comparative Analysis on Ecotourism Policy Options

There are numerous studies analysing the application of user fees for ecotourism regulation (Lindberg and Enriquez 1994; Lindberg, Enriquez and Sproule 1996; Mak and Moncur 1995; Laarman and Gregersen 1996; Tisdell 1996). These authors noted three major considerations in the application of appropriate user fees. First, the fee system must be aligned with the objectives of the ecotourism promotion such that if the objective is to generate revenue, fees should be relatively high. On the other hand, if the goal is to maximize the number of visitors to provide livelihood and to develop local businesses, then the fees should be relatively low. Second, charging user fees must be based on rational economic conditions. In other words, it should include into the consideration that ecotourism generates costs that would otherwise be financed by non-users (Lindberg, Enriquez and Sproule 1996; Yong 1996). Third, current fee levels should ensure continued patronage with little or no impact on the number of visitors. This implies that as fee increases would reduce the number of visitors, such increases should remain appropriate as a means to maximize total revenue or reduce negative environmental, experiential, or social impacts. Fourth, often, there are several options for increasing non-fee revenues that may be sourced from donation programs or through souvenir sales (Linberg, 2010).

Linberg (1991) suggests that an appropriate policy framework for ecotourism development should include policies in three areas. These are 1) national support and advance planning which means developing national policy and support for a particular type of nature-based tourism program, generally with a specific theme including framework of laws and infrastructure that safe-guard the nation's natural treasures and the interests of its people; 2) pricing and revenue policies that have explicit objectives, procedures for setting fees, and reinvestment of revenues; and 3) policy for local participation and benefits for local people in and around the ecotourism sites. They should also include local people in sharing control of project planning and implementation. This is supported by Petrova and Hristov (2014) and Hjalager (2012) contending that collaboration between the key public bodies involved is important in driving new initiatives.

Several broad categories of user fees are delineated below.

User/Entrance Fees and Charges

This is a fee charged to visitors in order to enter a PA or other ecotourism site. There are a number of ways entrance fees can be collected. This can be collected at the entrance to the site. It can be charged directly to the visitor or, alternatively, the tour

operators may include the fee in the total cost of their tour package. Differential fees are also common especially in developing countries, wherein domestic citizens are typically charged considerably less than foreign visitors (Linberg, 1997).

User fees are an excellent opportunity to benefit conservation, because they can be applied to control visitation to sensitive natural areas, assist in financing nature conservation, and may also support community projects. According to the user-pays-principle, user fees are considered as a fair way to collect revenues for protecting biodiversity (compared to taxes, for example). There is generally a high acceptance of user fees if they are allocated for necessary costs at the site where charges are collected, and not directed back into national government budgets to be used for other purposes. Environmental charges can however backfire in the tourism sector. Problems include whether the collecting agency has a legal mandate that is accepted by all, and whether it has the capacity to manage the resources in a transparent manner that leads to improvements in tourists' experiences of the destination (Secretariat of the Convention on Biological Diversity, World Tourism Organization and the United Nations Environment Programme, 2009).

Licenses and Permits

Licenses and permits are typically fees charged to allow the individual visitor or tour operators to carry out a specific activity that requires special supervision because it is infrequently participated in; demand for the activity must be managed; and controlling the activities is necessary to minimize resource damage. They normally influence the management plans of ecotourism sites (Mickwitz, 2006).

Management plans in turn direct policy development in three important areas: (1) resource and cultural management of park resources; (2) visitor and tourism management; and (3) general management policies on environment, finance, and staffing (Eagles, 2002). These plans provide a written statement outlining government policy intentions in regard to park management activities that will be carried out (Eagles, Coburn, and Swartman, 2014).

It is common for most of the ecotourism sites for activities to be rationed in order to reduce human impact and provide tourist's experience a high level of satisfaction. It is also an effective mechanism for monitoring the volume of visitors that carry out certain activities. Guides and tour operators may also need special permits to work within the site, for which a fee is usually charged (Linberg, 1991).

Other Tourism-related Fees and Taxes

A wide range of other tourism related fees and taxes exist, such as taxes on consumer items sold within the ecotourism sites. In many cases, third parties may sell souvenirs, food and other products to visitors within the site. A fixed or percentage-based tax on such sales presents another potential source of income for conservation.

In summary, ecotourism activities may generate revenue (Lindberg, Enriquez, and Sproule 1996). Fees have been commonly instituted in many parts of the Asia-Pacific

and Latin America and Africa. Collection of fees not only increases available funding, but may also increase support for ecotourism amongst natural area managers. Many agencies responsible for natural areas have had strong conservation ethics. Retention of fees at the local level increase managerial support for ecotourism (Giongo, Bosco-Nizeye, and Wallace 1994).

Criteria for Policy Evaluation

Determination of criteria for policy evaluation has progressively been studied by researchers and policy makers in recent years. Various lists of criteria were developed potentially applicable to environmental evaluation (Dovers 2005; Gunningham & Sinclair 2005). Many of these criteria can be categorized under environmental, economic efficiency, social, and political goals (Montalvo, 2000). Local policy knowledge, perceptions and experiences of representatives of enterprises are also important in determining policy goals (Janis, 2012). The pursuit of sustainable ecotourism essentially involves the consideration of these goals. It also entails three main relevant issues: the interpretation of the meaning of sustainability stakeholders' participation, and a strategic planning that calls for long-term view and action (Simao and Partidario, 2010). Table 2 summarizes some of the prominent studies applying the various criteria under these goals.

Table 2 Summary of Criteria for Policy Evaluation

Evaluators	Criteria
Governmental Departments of the Netherlands (Bonney 2000)	Cost effectiveness, equity, flexibility, transparency
Hoerner and Muller (1996)	Effectiveness, environmental incentive, administrability, fairness (actual and perceived) and revenue loss
Pearce and Howarth (2000)	Causal, efficiency, equity, macro-economic jurisdiction
Perrels (2000)	Social cost, used potential, compliance risks, distribution effects and public/administrative cost
Government of New Zealand (2001)	Economic efficiency, equity, feasibility, environmental effectiveness
Kete and Petkova (2001)	Environmental outcomes, economic/social outcomes, technical outcomes, institution building potential, project sustainability,
Philibert and Pershing (2001)	Environmental effectiveness, cost effectiveness, contribution to economic growth and sustainable development, and equity
Sorrell (2001)	Environmental effectiveness, static economic efficiency, dynamic economic efficiency, administrative simplicity, equity, transparency, political acceptability
VROM and Johannsen in Netherlands (2002)	Cost effectiveness, efficiency, Static concerns, dynamic concerns, institutional demands on the regulator, and regulatee, political dimensions, risk.
Kautto and Simila (2005)	Equity-related criteria, transparency and public acceptability
Garnaut (2008)	Administrative simplicity, equity, transparency
Aldy, et.al. (2009)	Environmental effectiveness, equity, feasibility, environmental effectiveness
Zografos and Oglethorpe (2010)	Equity, transparency and political acceptability

Methodology

The study employed secondary data obtained from various Philippine government agencies local and regional offices such as the City Tourism Office and the Department of Tourism Region 10 to gather data on the white water rafting in Cagayan de Oro River and the distribution of tourists served by the active white water rafting companies. Document review on existing policies on ecotourism in the country was also conducted. Lastly, it employed the Delphi Method through a survey among selected government officials involved in policy making to determine the criteria for evaluation of most effective ecotourism policy for the White Water Rafting in Cagayan de Oro River. Specifically, the Delphi Method was applied to determine which option the policy experts would support: 1) annual permit to white water rafting operators or 2) visitor fees/entrance fees at jump-off sites for all tourists or 3) combination of 1 and 2. In addition, it analyzed the criteria the experts would consider necessary for evaluation of the ecotourism regulation options and their opinions about the relative importance of the various criteria.

Results of the Study

Situationnaire on the White Water Rafting in Cagayan de Oro River

Early accounts of white water rafting activities in Cagayan de Oro River started in year 2001. Full-blown commercial operation was reported to start in 2002. Cagayan de Oro River has rapids and sections are categorized in the International Scale of River Difficulty as "Class 3 and 4". Class 3 means a river has rapids with moderate, irregular waves that can swamp inflatable rafts and difficult to avoid. River guides and rafters have to paddle around tight sections of the river. Using the International Scale of River Difficulty, the International Rafting Federation categorized the Cagayan de Oro River as a world class and challenging recreational outdoor activity.

As of 2016, there are seven companies registered with the Department of Tourism (DOT) for the business of white water rafting, all have offices in Cagayan de Oro city. However, to date, only six companies are active. These active companies are members of the Oro Association of Rafters (OAR).

The Cagayan de Oro City Council passed two ordinances authorizing the six local outfitter agencies that composed OAR to operate white water tours. Ordinance no. 11087-2008 was passed on July 28, 2008 which authorizes the six outfitter agencies to operate for five years and their permits may be renewed. The ordinance also authorizes the City Council to issue franchise permits to outfitter agencies and the City Treasurer's Office to collect franchise taxes and regulatory fees. The role of the City Mayor's Office was limited to the issuance of a permit to operate and does not have a regulatory role over the industry.

The ordinance however, has no provision for the implementing rules and regulations in the conduct of white water rafting and kayaking activities along the Cagayan de Oro River. Regulatory requirements rests more on the river guides who are required to undergo Philippine National Red Cross (PNRC) training on first aid for sportsmen, basic life support, basic swimming, water safety and rescue, and swift water rescue. The

ordinance also requires that river guides must be at least 18 years old and must have sufficient experience in white water rafting with at least 20 supervised solo runs in the river. The ordinance stipulates that "The guides must put the safety of the clients as priority." Thus, outfitters must require their clients to accomplish a medical questionnaire before they may ride the rafts. Outfitters are warned not to accept clients who have taken alcoholic beverages eight hours before the rafting tour and those who have heart problems, hypertension and other medical problems. A second regulation through Ordinance No. 12029-2011 was passed on June 7, 2011 which prohibits the flipping of rafts and other dangerous manoeuvres

Volume of Tourists Served

The daily data gathered by the XU Economics Teams from April 2013 to April 2015 showed that the total estimated number of tourists served for the basic course on a regular basis amounts to 16,397 annually while for the advance course it was estimated to be at 9,682 annually. This translates to a total of 26,079 tourists annually. The data gathered by the team also showed the trend in the annual number of tourists has been increasing annually. This has adverse impact in maintaining on-site sanitation and waste disposal.

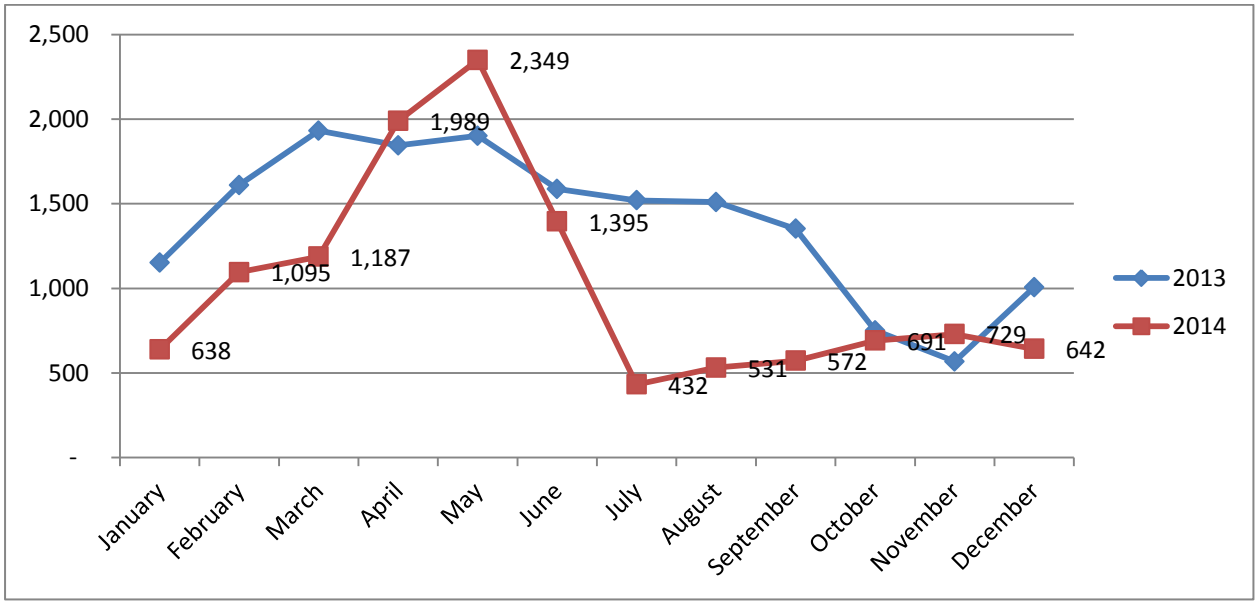

Figure 1 Total Annual Number of Tourists Served for the Basic Course, 2013 and 2014

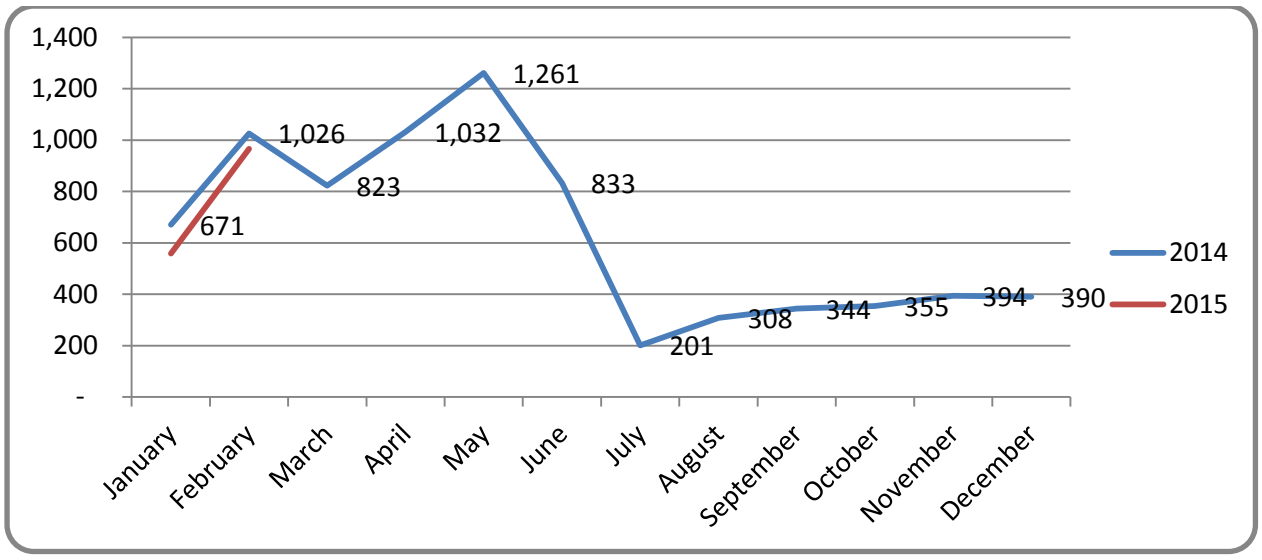

Figure 2 Total Annual Number of Tourists Served for the Advance Course, 2014 and January-February 2015

Philippine Laws and Policies Governing Ecotourism Development

One of the preliminary policies with explicit stipulation on ecotourism development regulation was the Republic Act No. 7586 of 1992. This law was passed providing for the establishment and management of a National Integrated Protected Area System (NIPAS). The NIPAS law provided for the establishment of buffer zones and other multiple use zones including ecotourism. Consequently, the zoning of protected areas has taken recognition of the role of tourism in its protection, development and management. Tourism activities, particularly ecotourism were permitted in recreational zones to provide benefits to local residents as well as enable visitors to appreciate the beauty of nature. Along these lines, the Department of Tourism (DOT) and Protected Areas and Wildlife Bureau (PAWB) have teamed up to develop a meaningful policy.

Policies pertaining to sustainable tourism development in the Philippines became more pronounced through the issuance of Executive Order 111 on June 17, 1999. This established a formal organizational structure for the development of ecotourism in the Philippines. It created a National Ecotourism Development Council (NEDC) composing of the Secretaries of Tourism, Environment and Natural Resources, Interior and Local Government, Trade and Industry, Finance, Education, Culture and Sports, and the Secretary-General of the National Economic and Development Authority and representatives from the private sector and non-governmental groups. Underneath the NEDC, a National Ecotourism Steering Committee (NESC) and 15 Regional Ecotourism Committees (RECs) were established to implement the programs and activities approved by the Council. These bodies are also responsible for the promotion of strategies and the enforcement of the regulations for sustainable, long-term business practices in Philippine ecotourism.

Consistent with the continued efforts of the government to promote principles of sustainable development, the Department of Environment and Natural Resources

(DENR) in 2003 issued DENR Administrative Order (DAO) Number 2003-30 to implement a system-oriented and integrated approach to ensure a rational balance between socio-economic development and environmental protection. This issuance envisioned to address deficiencies in the regulatory system that hinders effectiveness as a tool for proper environmental management and to institutionalize the incorporation of environmental concerns in the efforts to hasten national development in the most efficient manner.

Thereafter, the development and promotion of ecotourism in the Philippines involved a wide range of individuals and organizations in the preparation of plans, product development, implementation and marketing. Their involvement is motivated by different interests, ranging from the need to conserve natural resources, develop local communities, alleviate poverty to providing an economic rationale for utilizing protected areas. These various efforts contributed to the enactment of RA 9593, also known as the Tourism Act of 2009. This law emphasized tourism as an indispensable element of the national economy and an industry of national interest and importance, which must be harnessed as an engine of socio-economic growth and cultural affirmation to generate investment, foreign exchange and employment.

The law established the guidelines for coordination between national and local governments, specifically the DOT, the Department of Interior and Local Government (DILG) and Local Government Unites (LGUs). It also provided the basis for national and local tourism development planning.

One of the salient features of this law is also the establishment of Tourism Enterprise Zones (TEZs), which are geographical areas, sufficient in size and capable of being defined into one contiguous territory, and are identified as viable tourism destinations in view of their historical and cultural significance, environmental beauty, existing or potential integrated leisure facilities, reasonable distances, accessibility to transportation infrastructures and strategic location, such as to catalyse the socioeconomic development of their neighbouring communities.

Finally in 2013, the DENR once again came up with a set of guidelines for planning and managing of ecotourism activities within nationally designated protected areas. This was made through the issuance of DAO Number 2013-19 to support conservation efforts and sustainable use of natural resources in protected areas with tremendous potential for ecotourism development. This aimed to institutionalize the entire process of developing ecotourism within protected areas, apply concepts and principles and ensure equal participation and benefits among the community members and other stakeholders.

Laws such as the Tourism Act of 2009 and the Magna Carta for Women have been considered in the crafting of the DAO to ensure that activities within protected areas would be consistent with ecotourism principles. The DAO covered the various phases in the ecotourism planning and management process, including site assessment that will determine whether ecotourism management is the right strategy for a particular protected area. The data will be used by the Protected Area Superintendent in preparing the corresponding Ecotourism Management Plan (EMP) to involve stakeholders like

local government unit (LGUs), the community, people's organizations and other government agencies.

Existing Fees for Ecotourism in the Philippines

The increasing fragility of the various ecotourism sites in the Philippines has made many national and local agencies aggressively pursuing economic instruments to steer toward environment-friendly policies and practices, especially in the tourism industry, which relies heavily on natural attractions.

In 1994 the Department of Tourism (DOT) formulated the Code of Ethics for Philippine Ecotourism. The code enjoins all sectors concerned, among others, to assess and evaluate the environmental state of every potential site prior to development, especially taking into account the impact of development on the site; apply more rigorous waste reduction and pollution control measures and alternative schemes to regulate the activities of the tourists.

Below are various ecotourism sites in each region in the country and the corresponding fees implemented. The fees vary from PhP5.00 to as high as PhP1,000.00. In some cases, there are ecotourism sites which do not impose any fee at all. Also, most of these ecotourism sites are managed by the Local Government Units (LGUs).

Table 1 User Fees for Ecotourism Sites in Various Regions in the Philippines

Region	Type of Fees	Adult	Children	Operated by
CORDILLERA AUTONOMOUS REGION				
Banaue Rice Terraces	Environmental Fee	20		LGU
Sagada	Environmental Fee	35		LGU
Sitio La Presa, Baguio	Environmental Fee	25		LGU
Sabangan, Mountain Province	Environmental Fee	30		LGU
Sumaguing Cave, Mountain Province	Environmental Fee	30		LGU
NCR				
La Mesa Eco-Park	Entrance Fee	50		LGU
Ninoy Aquino Parks And Natures Center	Entrance Fee	8	5	LGU
Pasig Rainforest Park	Entrance Fee	20		LGU
Marikina River Park	Entrance Fee	None		LGU
Paranaque Critical Habitat and Ecotourism Area	Entrance Fee	None		LGU
REGION 1				
Hundred Island National Park	Entrance Fee	40		LGU
La Union Botanical Garden	Entrance Fee	10		LGU
Kapurpurawan Rock	Environmental Fee	20		LGU
Kaangrian Falls	Entrance Fee	20		LGU

Balingasay River	Entrance Fee	10		LGU
Arosip Ecotrail	Entrance Fee	None		LGU
Tuddingan Falls	Entrance Fee	None		LGU
Lon-oy Springs	Entrance Fee	None		LGU
Paoay Lake National Park	Environmental Fee	30		LGU
REGION 2- CAGAYAN VALLEY				
Lower Magat Eco-tourism Park	Entrance Fee	50		LGU
Mt. Iraya	Environmental Fee	100		LGU
Nakabuang Beach	Entrance Fee	200		LGU
Anguib Beach	Entrance Fee	80		Private
Blue Water Cave & Falls	Entrance Fee	20		
Aglipay Cave	Entrance Fee+Guide	100		LGU
Governor Rapids	Entrance Fee	None		LGU
Imugan Waterfalls	Entrance Fee	25		LGU
REGION 3				
Mt Arayat National Park	Entrance Fee	50	25	LGU
Bataan National Park	Entrance Fee	20		LGU
Aurora Memorial National Park		none		
Mt. Pinatubo Crater	Entrance Fee	700		LGU
REGION 4 - A				
Taal Volcano Crater	Entrance Fee	50		LGU
Taal Volcano Island	Entrance Fee	50		LGU
Paminitan Cave	Entrance Fee	300		LGU
REGION 4 - B				
Puerto Princesa Subterranean River				
El Nido	Environmental Fee	200		LGU
Kayangan Lake (Coron)	Environmental Fee	200		LGU
Twin Lagoon (Coron)	Environmental Fee	100		LGU
Banana Island	Environmental Fee	200		LGU
Bulog Dos Island	Environmental Fee	100		LGU
Malcapuya Island	Environmental Fee	150		LGU
Siete Picados	Environmental Fee	100		LGU
Barracuda Lake (Coron)	Environmental Fee	100		LGU
Small Lagoon (El Nido)	Environmental Fee	200		LGU
REGION 5				
Mt. Isarog National Park	Entrance Fee	10		LGU
Bulusan Volcano National Park	Entrance Fee	10		LGU
Caramoan National Park	Entrance Fee	50		LGU
Mt. Kanlaon National Park	Entrance Fee	20		LGU
Mayon Volcano National Park	Entrance Fee	10		LGU

REGION 6				
Malumpati River	Entrance Fee	10		LGU
Siraan Hot Spring	Entrance Fee	20		Private
Nogas Island	Entrance Fee + Environmental fee	40		LGU
Mt. Madia-as	Entrance Fee	20		LGU
Alubihod Beach	Entrance Fee	15		Private
REGION 7				
Bojo River, Aloguinsan	environmental fee	50		LGU
Hermit's Cove, Aloguinsan	entrance fee	15		LGU
Mulao River, Compostella	barangay fee	20		LGU
Camotes Island	environmental fee	5		LGU
Pandanon Island, Bohol	environmental fee	50		LGU
Danasan Eco Adventure Park	entrance fee	25		LGU
Olango Island Wildlife Sanctuary	entrance fee	20	10	LGU
Abatan River Tour	entrance fee	50		LGU
REGION 8				
Calbiga Caves Protected Landscape				
Biri-Larosa Protected	Entrance Fee	10		
Lake Danao National Park		none		LGU
Cuatro Islas Protected Seascape	Entrance Fee	20		LGU
Ulot River	Entrance fee	50		Private
REGION 10				
Garden of Malasag Eco-Tourism Village	Entrance Fee	20		LGU
Macahambus Adventure Park	Entrance Fee	Donation		Private
White Water Rafting		None		
Tubing		None		
Canopy Walk		None		
Misamis Occidental Aquamarine Park	Entrance Fee	10		Private
Camiguin Mantigui Island	Entrance Fee	20		
Camiguin White Island	Entrance Fee	20		LGU
Camiguin Hotspring	Entrance Fee	30		LGU
Katibawasan Falls	Entrance Fee	20		LGU
Tinago Falls	Entrance Fee	10		LGU
REGION 11				
Mt. Apo Natural Park	Entrance Fee	1000		LGU
Samal Island		none		
Aliwagwag Eco Park	Entrance Fee	50		LGU
San Victor Island	Entrance Fee	20		Private
Mt. Tagub-Kamplili Protected Landscape	Entrance Fee+Guide	160		LGU

REGION 12			
New-Israel Eco-Park	Entrance Fee	10	Private
Lake Holon/Mt. Parker	Entrance Fee	25	LGU
Seven Waterfalls	Entrance Fee	20	LGU
REGION 13			
Siargao Island	Entrance Fee	50	LGU
Lake Mainit	Entrance Fee	40	LGU
Agusan Marsh Wildlife Sanctuary	Entrance Fee	100	LGU
Sohoton Cove	Entrance Fee	40	LGU
Tinuy-an Falls	Entrance Fee	50	LGU
Basul Island	Entrance Fee	20	LGU
Mabua Pebble Beach	Entrance Fee	25	LGU
Cagwait White Beach	Environmental Fees	20	LGU
Britania Island	Entrance Fee	30	LGU

Sources: Biodiversity Management Bureau, Department of Tourism, April 2015

Application of the Delphi Method in Assessing Policy Options

This paper attempted to determine the criteria for evaluation of most effective ecotourism policy for the White Water Rafting in Cagayan de Oro River. In particular, it applied the Delphi Method in finding out which option the policy experts would support: 1) annual permit to white water rafting operators or 2) visitor fees/entrance fees at jump-off sites for all tourists or 3) combination of 1 and 2. In addition, it analyzed the criteria the experts would consider necessary for evaluation of the ecotourism regulation options and their opinions about the relative importance of the various criteria.

Generally, the policy evaluation goes through several distinctive, inter-related stages (Nijkamp et al. 1990). The methodology of this paper consists of the following stages:

1. Define the objectives;
2. Identify key policy options;
3. Identify the criteria for evaluating policy options;
4. Assign weights to the criteria reflecting their relative importance;
5. Evaluate and rank the performance of policy options; and

The Delphi method is a structured process for accumulating knowledge from a preselected group of experts (Dunn, 2004). In this study, the 22 experts were a mix of City Officials and Officers from various government agencies such as the City Planning, City Local Environment and Natural Resources Office and Department of Tourism. The Delphi method is essentially an instrument for reaching a consensus by means of a series of questionnaires combined with controlled-opinion feedback. The questionnaires are designed to obtain personal responses to the issues posed and to allow the experts to verify their views.

The Delphi was conducted in two rounds with feedback to participants after each round. The first set of questions asked the respondents to verify the issues presented. The second part required them to evaluate the list of criteria required for assessing the ecotourism policy options for the White Water Rafting in Cagayan de Oro River. The third sought their views on the relative importance of the criteria presented. In addition, they were asked to weigh the relative importance of each of the criteria.

The second round sought the feedback on the views of the experts to develop a consensus. In the second round the respondents were asked to verify the updated list of the criteria based on the results of the first round and assess the overall weightings of the criteria and verify the weightings if needed.

The identification and the definition of the problem are founded on the discussion in the introduction section of this paper. The primary objective of this paper is determining which policy alternative will be the most appropriate for the regulation of the White Water Rafting in Cagayan de Oro City.

The first question of the Delphi Questionnaire asked the respondents regarding the reliability of the forecast regarding the number of tourists of the White Water Rafting in Cagayan de Oro City between 2015 and 2025. Based on the responses of the respondents, majority considered it reliable.

Table 3 Reliability of Forecast

Reliability	Number
Certainly Reliable	3
Reliable	18
Risky	1
Unreliable	0
No judgement	0

The second question pertained to the role of the Local Government in the regulation of the White Water Rafting. All respondents considered its role to be important.

Table 4 Role of the Local Government

Importance	Number
Very Important	13
Important	9
Slightly Important	0
Unimportant	0
No judgement	0

The third question solicited the desirability of the goal based on the provision of Tourism Act Of 2009 for sustainable tourism development. This was considered by all respondents as desirable.

Table 5 Desirability of Goal

Desirability	Number
Very Desirable	17
Desirable	5
Slightly Desirable	0
Very Undesirable	0
No judgement	0

The fourth asked the respondents on the feasibility of a policy for regulating the White Water Rafting in Cagayan de Oro City. Again, this was considered feasible by all respondents.

Table 6 Feasibility of the Policy for Regulation

Feasibility	Number
Very Feasible	6
Feasible	16
Slightly Feasible	0
Definitely Not Feasible	0
No judgement	0

Identify the Key Policy Options

There are two major alternatives commonly cited in the review of international literature on contemporary policy options. These are user/entrance fees and permits and licenses. In this paper, these two options and its combination were considered centrepiece instruments. As noted previously, the selection of an appropriate policy framework is typically a complex process involving many variables, many objectives and considerable decision making.

Identify the Criteria for Evaluating Alternatives

The policy alternatives are reviewed based on the set of evaluative criteria which would include attributes and objectives. This task involved specifying a complete set of criteria that reflects all concerns significant to the problem solving and policy options for achieving the goals. The list of criteria should be limited to a manageable number but must be precise and complete enough to cover the full range of issues (Nijkamp et al. 1990; Hobbs and Meier, 2000; Mickwitz, 2003).

Table 6 shows the list of sixteen (16) criteria collated from the review of literature. All these criteria were considered as necessary by majority of the respondents.

Table 7 Necessity of the Criteria

Criteria	Number of Yes Votes
Environmental effectiveness	22
Cost-effectiveness	22

Correct price signal	21
Competitiveness issues	22
Administrative costs	19
Compliance costs	22
Predictability/regulatory certainty	19
Effect on technology development	22
Minimize rent-seeking	21
International harmonization	22
Flexibility of the policy	22
Political acceptability/feasibility	22
Transparency	22
Distribution of benefits and costs across income groups	20
Public acceptability	21
Distribution of benefits and costs across generations	21

Some respondents listed additional criteria such as, inclusivity, public safety and political will.

Assign Weights to the Criteria Reflecting their Relative Importance

The weight of each criterion may be defined as a value which specifies its importance relative to other considered criteria and indicates the concern of the decision-maker (Gough & Shackley 2006). In this paper, the weights were obtained directly from the stakeholders. It utilized the five points ordinal Likert scale to assess the criteria weights, with values from 1 to 5, where 1 = not at all important; 2 = somewhat important; 3 = moderately important; 4 = quite important; and 5 = extremely important.

Table 7 shows that the top seven most important criteria based on the weights. The most important is competiveness issues followed by flexibility of the policy and environmental effectiveness, compliance cost and public acceptability, transparency, distribution of benefits and costs across income groups and generation. Surprisingly, the least preferred criterion was predictability/regulatory certainty. Regulatory policy normally involves costs and tourists and tour operators would certainly consider this as major impact. Thus, policies should ensure predictability for both tourists and tour operators which are directly connected to future decisions (Stavins, 2001).

Table 8 Weights of the Criteria

Criteria	Weight
Environmental effectiveness	4.0455
Cost-effectiveness	3.6818
Correct price signal	3.5909
Competitiveness issues	4.1364
Administrative costs	3.4545
Compliance costs	3.9545
Predictability/regulatory certainty	3.1818
Effect on technology development	3.5000
Minimize rent-seeking	3.5909

International harmonization	3.5909
Flexibility of the policy	4.0455
Political acceptability/feasibility	3.5909
Transparency	3.8182
Distribution of benefits and costs across income groups	3.8182
Public acceptability	3.9545
Distribution of benefits and costs across generations	3.7273

To determine which of the 16 criteria for the three policy options weigh the most, importance values in percentage was calculated. The importance values have been calculated following the study of Guglyuvatyy (2011) with the following formula:

Importance Value = Criterion Weight x 100%÷5

The average weight of a criterion based on the weighting of the entire panel is multiplied by 100 and divided by *5* (extremely important value) to derive the highest weight which experts can give to a criterion.

The results in Figure 3 showed that some criteria were considerably more important than others. The three most important criteria were competitiveness issues, flexibility of the policy and environmental effectiveness. These criteria have importance values of over 80 percent which means that the criteria contribute significantly to the choice of policy option for the White Water Rafting in Cagayan de Oro River.

There is a bulk of literature supporting the importance of these criteria for a more effective policy for ecotourism. The revealing findings are important to the discussion of policy option. These criteria provide economic incentives and are effective to correct for externalities arising from the tourists activities. Thus, the policy combination of entrance fees and permits/licenses emerge as more attractive alternative from a policy perspective, as they address the fact that ecotourists are generating negative externalities and therefore getting a free ride from society. These criteria would provide incentives for the development, adoption and circulation of environmentally and economically policy option (Stavins, 2001; Garnaut 2008;).

The least important criteria are predictability/regulatory certainty and administrative cost. This implies that these two criteria contribute notably less to the decision-making on the most appropriate policy option. The different importance values of the criteria from different perspectives gave an indication of what could be expected when analysing the policy options.

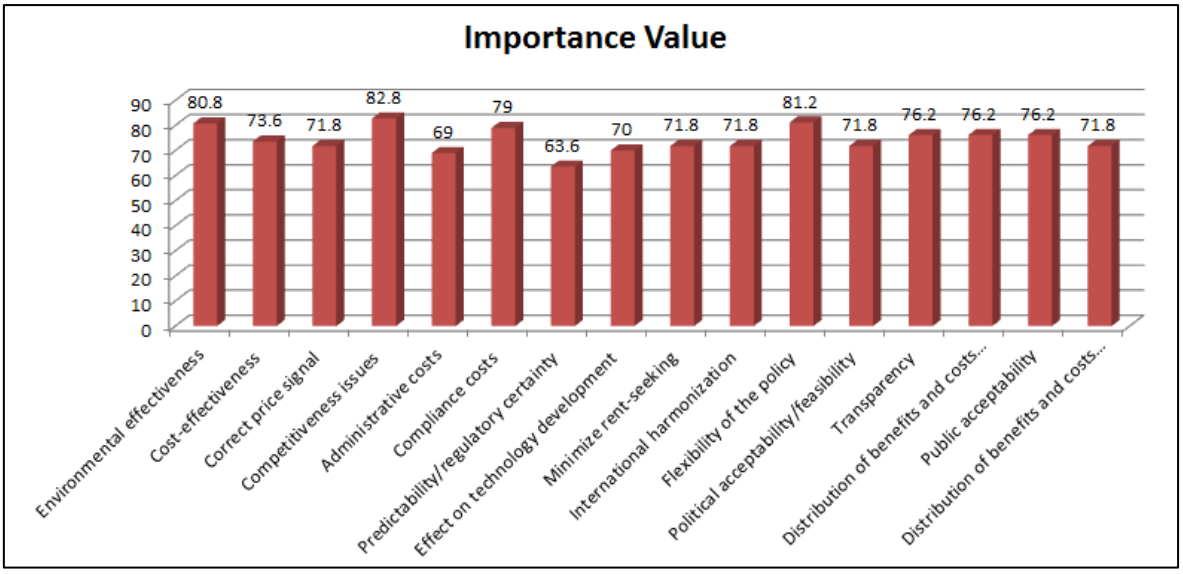

Figure 3 Importance Values of the Criteria

Evaluate and Rank the Performance of Policy Options

In this paper, numerical analysis was utilized to evaluate the potential performance of each policy option concerning each of the evaluation criteria. Analysing and ranking performance involve applying methods from the literature, modelling studies and obtaining information from stakeholders. Measures of central estimates were applied where appropriate. The final assessment of performance of policy options were accomplished though the summation of all data.

The results shown in Table 8 established Policy Option 3 is the unanimous choice of the respondents. Policy option 3 is the combination of user fees/entrance fees for tourists and permits/licences for tour operators.

Table 9 Rank and Performance of Policy Options

Criteria	Weight	Option 1	Option 2	Option 3
Environmental effectiveness	4.04	1	0	21
Cost-effectiveness	3.68	2	3	17
Correct price signal	3.59	2	4	16
Competitiveness issues	4.14	2	2	18
Administrative costs	3.45	2	2	18
Compliance costs	3.95	1	4	17
Predictability/regulatory certainty	3.18	3	2	17
Effect on technology development	3.50	3	0	19
Minimize rent-seeking	3.59	2	0	20
International harmonization	3.59	1	3	18
Flexibility of the policy	4.06	0	4	18
Political acceptability/feasibility	3.59	1	3	18
Transparency	3.81	2	3	17
Distribution of benefits and costs across income groups	3.81	1	2	19
Public acceptability	3.81	2	3	17
Distribution of benefits and costs across generations	3.59	1	3	18

A correlation analysis was conducted to test the consistency of respondents responses to necessity of the criteria in relation to the average weights obtained. The necessity value was done by calculating the percentage of yes votes for each criterion. The correlation coefficient yielded the value of 0.60 which suggests that respondents' responses are moderately consistent. This also gives credibility to the results obtained from the results of the first round.

Given the time and resource constraints, only 22 of the 60 questionnaires distributed to all city officials, politicians and heads of offices were returned. The 21 of the respondents are willing to show their ratings for the second round.

Table 10 Correlation of Necessity of Criteria and Weights

Criteria	Percentage of Yes Votes	Weight
Environmental effectiveness	100.00	4.04
Cost-effectiveness	100.00	3.68
Correct price signal	95.45	3.59
Competitiveness issues	100.00	4.14
Administrative costs	86.36	3.45
Compliance costs	100.00	3.95
Predictability/regulatory certainty	86.36	3.18
Effect on technology development	100.00	3.50
Minimize rent-seeking	95.45	3.59
International harmonization	100.00	3.59
Flexibility of the policy	100.00	4.06
Political acceptability/feasibility	100.00	3.59
Transparency	100.00	3.81
Distribution of benefits and costs across income groups	90.91	3.81
Public acceptability	95.45	3.81
Distribution of benefits and costs across generations	95.45	3.59
Correlation Coefficient		0.6023

To further validate the criteria's weights to illustrate the relative stability of the results of the study, the resulting criteria weights were tested for the level of deviation by means of descriptive statistic, namely, standard deviation test. Standard deviation is a widely utilised measure of the variability. A low standard deviation indicates that the data points tend to be close to the mean, while a high standard deviation indicates that the data points are spread out over a wider range of values (Gujarati, 2003). The weights deviation allows analysing the difference in weights given by the respondents to a single criterion. If the group agrees perfectly, the deviation is 0.0, and it has a value of 2.6 if experts disagree maximally. The lower deviation in weights, the higher level of consensus was achieved by the group. Table 10 shows the results.

The group reached the highest level of agreement concerning the flexibility of policy criterion where the deviation in weights is only 0.950, followed by competitiveness issues (1.037) and environmental effectiveness. On the contrary, the correct price signal and minimize rent-seeking criteria got the lowest level of consensus at 1.532. Overall

weight deviations for the majority of criteria were lower than 2.0, which show satisfactory level of agreement within the group. The results are consistent in most of the literature cited.

Table 11 Weights Deviation

Criteria	Minimum	Maximum	Average Weight	Std. Deviation
Environmental effectiveness	2.00	5.00	4.0455	1.04550
Cost-effectiveness	1.00	5.00	3.6818	1.42716
Correct price signal	1.00	5.00	3.5909	1.53248
Competitiveness issues	1.00	5.00	4.1364	1.03719
Administrative costs	1.00	5.00	3.4545	1.50324
Compliance costs	2.00	5.00	3.9545	1.09010
Predictability/regulatory certainty	1.00	5.00	3.1818	1.43548
Effect on technology development	1.00	5.00	3.5000	1.50396
Minimize rent-seeking	1.00	5.00	3.5909	1.53248
International harmonization	1.00	5.00	3.5909	1.18157
Flexibility of the policy	2.00	5.00	4.0455	.95005
Political acceptability/feasibility	1.00	5.00	3.5909	1.43623
Transparency	1.00	5.00	3.8182	1.25874
Distribution of benefits and costs across Y groups	1.00	5.00	3.8182	1.18065
Public acceptability	1.00	5.00	3.9545	1.25270
Distribution of benefits and costs across generations	1.00	5.00	3.7273	1.24142

Second Round of the Delphi Study

The second round of the Delphi study involved the assessment of the experts based on the summary of the round one results. In this round, the experts were given two weeks to respond. Only 18 out of the 22 experts responded to the second round.

One key feature of the Delphi process is that experts could revise their previous answers. Thus, in the second round, the first question asked the panel members to review the summarised criteria weighting and reconsider the options they made in the first round and make any changes in their weighting accordingly for the second round. The purpose of the second round was to create a consensus among the experts to achieve stability of the results.

The results in the second round are consistent with Policy Option 3 as the unanimous choice of the respondents. Policy option 3 is the combination of user fees/entrance fees for tourists and permits/licences for tour operators. Table 12 demonstrates that average weightings of the three criteria remained relatively the same from Round 1 except for political acceptability and public acceptability which have the greatest variances at 12.005 and 7.605, respectively. Weights of both political and public acceptability criteria have been raised in the second round. This might be explained by the fact that these criteria are directly linked to each other.

The three most important criteria in Rounds 1 and 2 were also the same. These are competitiveness issues, flexibility of the policy and environmental effectiveness. However, in this round, environmental effectiveness is now the most dominant criteria. This may be explained by the intention of the experts to synchronise their weightings with the others. The dynamics of alterations in the criteria's weights illustrates the relatively stable results of the study, implying that the obtained data is well-established and reliable.

Table 12 Importance Value of Criteria in Round 1 and Round 2

Criteria	Importance Value (Round 1)	Importance Value (Round 2)	Variance
Environmental effectiveness	80.8	83.1	2.645
Cost-effectiveness	73.6	74.2	0.18
Correct price signal	71.8	70.7	0.605
Competitiveness issues	82.8	81.4	0.98
Administrative costs	69	74.2	13.52
Compliance costs	79	80.68	1.4112
Predictability/regulatory certainty	63.6	63.9	0.045
Effect on technology development	70	69.2	0.32
Minimize rent-seeking	71.8	73.7	1.805
International harmonization	71.8	72.6	0.32
Flexibility of the policy	81.2	82.8	1.28
Political acceptability/feasibility	71.8	76.7	12.005
Transparency	76.2	78.7	3.125
Distribution of benefits and costs across income groups	76.2	77.4	0.72
Public acceptability	76.2	80.1	7.605
Distribution of benefits and costs across generations	71.8	70.7	0.605

Conclusions and Recommendations

This paper employed the Delphi method to assess the necessity of the criteria, weigh the importance of the criteria identified, and determine the most appropriate policy option as perceived by the city officials and leaders. As a whole, there was some consensus achieved. Overall, the Delphi approach allowed obtaining reliable and justified weights for the criteria for regulating the White Water Rafting in Cagayan de Oro City. Seven out of the sixteen proposed criteria were selected as most important. The criteria most valued by the respondents based on importance value are flexibility of policy criterion, competitiveness issues and environmental effectiveness. All of these criteria are imperative features of the policy design as suggested by most literature. The Delphi results also established that combination of user fees for tourists and licenses/permits

for tour operators as the unanimous choice. The Delphi method is a remarkable alternative methodology of assessing policy options for tourism development in the region. However, careful planning, maintaining adequate methodological rigor and adopting appropriate testing procedures must be observed. Its application can be very beneficial for tourism research.

In common with many developing countries, ecotourism activities are often managed at the local level. In the Philippines, local governing bodies create specific rules, regulations, tours, and managers for specific areas. Commonly, the implementation of user fees/entrance fees is widespread across regions. This has been a major economic incentive for most of the local governing bodies. These measures are important to help ensure that a fair share of all the revenue is allocated to the provision of amenities to tourists as well as regulation their activities. The choice of city officials in Cagayan de Oro City is aligned with this policy option as shown by the results. Hopefully, these localized measures will result to healthier sustainable ecotourism and a healthier local economy.

The LGU of Cagayan de Oro City may have a ways to go in terms of appropriate ecotourism policy and is still fairly behind the times with respect to conservation, the responses of the city officials point to optimistic governance, and will only become more-so with the passage of time. This is very much notable in the positive responses given by various agency heads during the final workshop. Also, big leaps have been attained in the course of this study which prompted the City government to jumpstart the project for the provisioning of the necessary infrastructure and amenity starting early part of March 2016.

The analysis performed in this paper may be improved to make the findings from the study attain practical value to policy makers. As pointed out earlier, there are limitations associated with this study. Additionally, clear that an ecotourism policy evaluation would require more detailed analysis. In real-world situations, no evaluation can decidedly determine which one of the evaluated policy instruments would potentially be the optimal alternative. In obtaining the most effective ranking of policy options on various criteria, the government might employ a number of experts providing additional objectivity to the Delphi results. Finally, the methods of obtaining input information may need to be expanded to incorporate various stakeholders or industry representatives and decision-makers' preferences via surveying or other means to strengthen and improve the reliability of the results of the study. Nonetheless, the importance of the results of this study remain, the limitations do not detract from them, but merely provide scope for further research.

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