A Conceptual and Empirical Framework on Pro-poor Tourism

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ABSTRACT

Despite being a highly competitive global industry, the tourism industry has been deemed as a vehicle for poverty alleviation due to its potential to redistribute income to the poor, most often the local communities in developing economies, thereby creating much greater social impacts. We create an empirical framework of poverty alleviation through tourism. The framework arises from what is known about the interaction of the various tourism constructs that can enable tourism to be pro-poor. With data availability, the proposed framework can lead to the creation of specific policy interventions to support pro-poor tourism; and draw conclusions on tourism's socio-economic impacts on poverty.

1. INTRODUCTION

The tourism industry has become a key contributor to economic growth and development in most developing economies (World Travel & Tourism Council [WTTC], 2014). The industry has significantly increased its gross value added (GVA) to the welfare of stakeholders through its direct economic impacts; and indirect and induced impacts to its forwards and backward linkages. Roe (2001) regarded that the tourism industry has evolved into the world's largest industries, creating as much as 11 percent of the world's Gross Domestic Product (GDP), employing 200 million, and servicing approximately 700 million travellers annually. These reflect the economic activities generated by tourism's complimentary industries such as hotels, hostels, inns, restaurants, casinos, leisure enterprises, travel agents, tour operators, airlines, and other modes of transportation services directly utilized by tourists. In fact, the WTTC (2014) has forecasted that by 2024, tourism will account for 126,257,000 jobs (an increase of 2.0% annually). The direct contribution of tourism to GDP is expected to expand by 4.2 percent annually to USD 3,379.3 billion (3.1% of GDP) by 2024.

The WTTC (2014) defined the direct contribution of tourism to GDP as the total tourism spending within an economy by locals and foreigners for business and leisure. It comprises of government expenditures on tourism products and services directly ascribed to tourists (e.g., cultural; recreational). Meanwhile, the indirect contribution

includes the effect of the investment activities of the industries that support tourism (e.g., construction of new accommodations; purchase of new aircraft; tourism promotions; security and sanitation services; domestic purchases of goods and services by sectors directly servicing tourists), which allows tourism to expand.

With such scope of activities and contribution, Curtin and Busby (1999) argued that tourism created overwhelming and irreversible effects on many destinations. As new destinations emerge, tourism value chain components are compelled to engage in the incessant development of tourism products and services to go with the emerging trends in tourism. Despite this, as reported by Roe (2001), most developing economies still have a trivial share of the international tourism market (at 30%). However, their share is increasing at a rate of 9.5 percent annually since 1960.

Given the abovementioned macroeconomic impacts of tourism, it is interesting to look into the trickle-down effects of tourism in creating improvements in the standard of living of the poor, most often the local communities residing in a tourism destination. That is, it is critical to ask: at what rate does tourism promotes poverty alleviation? This has been one of the calls of the 1999 meeting of the United Nations (UN) Commission on Sustainable Development wherein states are urged to maximize the potential of tourism in poverty alleviation through the crafting of suitable strategies in collaboration with major stakeholders especially local communities (Roe, 2001). Hence, we would be zooming on the area of pro-poor tourism, which was described by Roe (2011) as "tourism that generates net benefits for the poor."

Poverty is defined as the inability of a household to consume a minimum bundle of goods containing basic necessities such as food, clothing, shelter, health, and education (Todaro & Smith, 2008). One of the commonly used indicators of poverty among households is the poverty line (i.e., a representation of a minimum monetary income required to satisfy the basic needs of households). In developing economies, poverty lines represent absolute poverty, which is based on a fixed standard of welfare that is adjusted with respect to inflation (Albert & Molano, 2009). As illustrated by Chen and Ravallion (2001), USD 1.00/day/person pertains to absolute poverty while USD 2.00/day/person pertains to moderate poverty. Hence, as per Todaro and Smith (2008), using the poverty line, it is possible to determine poverty incidence (i.e., the number of households having an income below the poverty line).

In creating our empirical framework, we consider a long-run empirical relationship between poverty and tourism. The abovementioned facts make it imperative to look into**,** on an aggregate level, the potential macroeconomic, institutional, and socio-economic variables that can influence poverty (as measured by poverty incidence). Tourism variables will enter the equation through the macroeconomic variables since we have established that tourism has been significantly contributing to the economy. As such, the empirical framework we are developing would eventually allow us, with data availability, to assess whether tourism significantly influence an economy's poverty incidence – that is, how can we establish tourism to be pro-poor? To address this research question, we set the following objectives:

1. To conduct a literature review on tourism as tool for poverty alleviation;
2. To develop an empirical framework that will incorporate how different macroeconomic, institutional, and socio-economic factors contribute to poverty alleviation;
3. To draw conclusions on how the empirical framework can be tested and used to estimate the impact multipliers of macroeconomic, institutional, and socio-

economic variables on poverty incidence in order to determine specific policy interventions to support pro-poor tourism.

According to Spenceley and Meyer (2012), "tourism is a truly global industry, and it generated an estimated USD 919 billion in export earnings in 2010." Rich cultural and natural assets that offer huge potentials for travel experiences are abundant in most developing economies, where poverty is more prevalent. Tourism offers possible mechanisms to redistribute income. As tourists from developed economies travel to developing economies, for a variety of agenda, they incur tourism-related expenses (e.g., transportation, accommodation, food, drinks, shopping). Developing economies can capture these spending through enterprises that provide products and services tourists can patronize to complete their experience.

The empirical framework can be a basis for policymakers to understand the potentials of sustainable tourism. With sustainable tourism, we adapt the triple bottom line approach by Elkington (1997), as cited by Alhaddi (2015) – 3Ps: people, planet, and profit – which allows the inclusion of economic (profit) and social aspects (people) in an environmental agenda (planet). This guiding framework allows us to see the varying impacts of these aspects on poverty alleviation through our econometric model. Interventions can be implemented on areas that can significantly reduce poverty.

2. A CONCEPTUAL APPROACH TO PRO-POOR TOURISM AND SUSTAINABILITY

To address our first objective, we conceptually discuss pro-poor tourism and sustainability through a literature review and a case study on El Nido Resorts (ENR).

Poverty alleviation has been an overarching goal of many developing economies. They aim to reduce poverty incidence by half, as per the Millennium Development Goals (MDG) of 2015. However, according to Roe (2001), poverty reduction necessitates specific strategies of varying complementary fronts and scales, requiring pro-poor growth to achieve significant progress. Thus, it has been seen that the tourism industry has great potentials in becoming an vital avenue of socio-economic growth as it is driven by both foreign, local, public, and private sector interests. On the contrary, tourism in developing countries is mostly driven by foreign and private sector (Cortez & Rivera, 2016). That is, tourism has the tendency to contribute less to poverty alleviation in many developing economies because profits reaped by the industry go to the biggest stakeholders in the industry – the capitalists.

Likewise, the tourism industry is characterized as highly susceptible to unsystematic risks such as political unrest, economic instability, foreign exchange risk, and natural calamities, among others. Its susceptibility can have massive negative repercussions on the poor and local communities – displacement, social and cultural disruption, increased local cost, and loss of access to resources, as enumerated by Roe (2001). However, these should not be viewed as a difficult constraint. According to Roe (2001), the following characteristics can be harnessed to make tourism pro-poor.

1. Tourism is a manifold sector permitting a wider coverage for participation, including the minority, informal sector, and the poor;
2. The customer comes to the product (i.e., Mode 3: Consumption Abroad as per the General Agreement on Trade in Services) generating significant opportunities for linkages (e.g. tour guiding, souvenir sale, travel agencies);

3. Tourism is highly dependent on natural capital (i.e., scenery, wildlife, heritage, history). Local communities possess these even if they lack financial capacity;
4. Tourism is one of the highly labor intensive (i.e., service oriented) industries opening opportunities for labor

These opportunities need to be mapped within the context of various tempering factors. Note that tourism is a very competitive global industry, with the capability for greater social impacts. Tourism's dependence on natural and cultural assets emphasizes the critical importance of preserving and conserving resources.
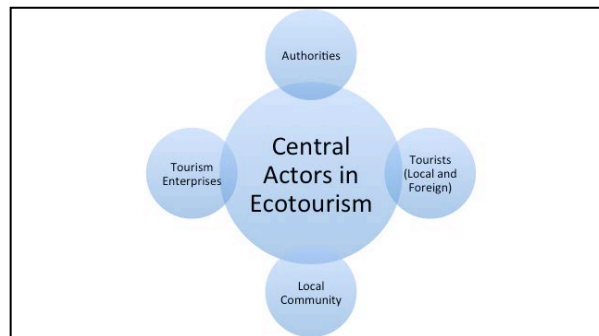

Source: Bjork (2000)
Figure 1. *Central Actors in Ecotourism*

The different actors in tourism also play a significant part in making the industry pro-poor. We explore Bjork (2000) wherein four central actors in ecotourism were identified – authorities, tourists, local people, and tourism businesses (see Figure 1). Cortez and Rivera (2016) augmented the framework of Bjork (2000) by indicating other intervening individuals and variables (see Figure 2). From Figure 2, we can construe that enabling tourism to be pro-poor is centered on managing demand and supply of tourism services complemented by regulatory policies and good governance. This promotes a good relationship among key stakeholders allowing communities to reap more benefits. It is ironic to see that economies with the best tourist destinations are those experiencing a deeper state of poverty. We argue that tourism should be a push factor in improving the wellbeing of local communities that supply complementary resources to larger enterprises. Benefits can be in the form of employment, local economic development, and psychic benefits (e.g., local pride, citizenship, participation, empowerment, awareness, education) (Ortega, 2014). Placing residents of local communities in priority for job and entrepreneurial opportunities creates goodwill for the tourism site operator. This incentivizes local communities to act sustainably, as exemplified by Laririt (2011) in the "community engagement" component of El Nido Resort's (ENR) quadruple bottom line strategy (see Figure 3).
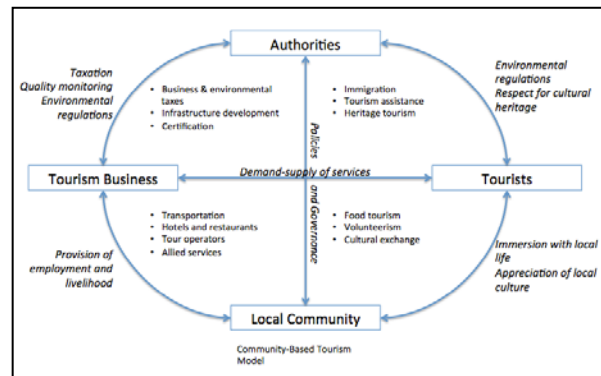
Source: Cortez and Rivera (2016)

Figure 2. *Interaction among tourism actors*
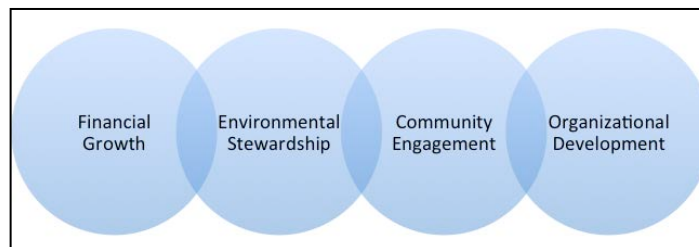
Note: Ten Knots Development Corporation has advocated responsible tourism and has exercised stewardship over its natural environment.

Source: Laririt (2011)

Figure 3. *El Nido Resorts' Quadruple Bottom line*

Through the cooperation of enterprises and stakeholders, big or small, they can advance the improvement of people's well-being by harnessing the advantages of the tourism industry in creating revenues for the supplier of service and providing satisfaction to tourists. Hence, the destination can be promoted and the cycle will continue – more tourists would come, more business (low impact on the environment) for the destination. ENR is one of the resorts in the Philippines that is committed to sustainability. Their sustainability policy includes the following, as found in ENR's official website (http://www.elnidoresorts.com/sustainability):

1. Urge staff and guests to uphold the "Be GREEN" tenets (Guard, Respect, Educate El Nido);
2. Link with local communities through employment and purchases;
3. Nurture a culture of environmental stewardship;
4. Initiate opportunities for guests to experience nature and local culture;
5. Discover and train sustainability champions among the workforce; and
6. Create new sustainability programs on the success of previous ones.

The abovementioned sustainability policies of ENR are reflected in their sustainability operations, which include: (1) waste management; (2) nature conservation and protection; (3) building sustainable communities; and (4) environmental education.

Comprising their waste management policy – sewage treatment plant (treated water is used for flushing toilets, watering plants, and supplying fire hydrants). This ensures that untreated water does not pollute the sea), materials recovery policy (solid

wastes goes through segregation, recyclable wastes are gathered by junk shops for recycling, organic waste is composted onsite to be used in the gardens and farms), water conservation (operates a rainwater catchment system for use in the guestrooms and staff quarters)**,** and lastly the low impact and sustainable guest experiences (low impact activities are offered to guests).

With respect to nature conservation and protection, ENR has programs on monitoring wildlife (provides accommodation, boats, equipment, and personnel to visiting researchers), marine ecosystems preservation and protection (see Marine Turtle Conservation Program), coastal cleanups (clearing beaches of marine debris), and marine monitoring task force (monitors areas that are constantly under threat from illegal activities).

Most importantly, we would like to illustrate how big companies help the local community within their area of operations. Part of ENR's operations is their "good neighbor concept" – ENR provides income-generating opportunities for the local community by hiring the people of El Nido and Taytay, giving them an avenue to earn a decent living while staying in their own community. Case in point:

> *"El Nido Resorts is giving guests more options to interact with the local community. In 2014, Fishing with the Community activity was reintroduced after several years of hiatus. This activity encourages guest interaction, where in guests learn from the [fisher folks] who willingly share their knowledge in traditional [bottom fishing]. For the fishermen, this activity generates a greater economic opportunity for them, as earnings in a few hours is even more than what could take whole day to catch. Their first-hand experience with guests also make[s] them appreciate the need to protect Bacuit Bay."* (http://environment.elnidoresorts.com/about/what-we-do/)

In addition, ENR also sponsors community competency building of skills through trainings, as emphasized and discussed in their official website (http://environment.elnidoresorts.com/about/what-we-do/). For instance, women from several *barangays* have been trained in weaving to produce native bags and slippers that are purchased by the resorts to be given as complimentary room amenities to guests under their "patronizing local products" project. ENR is also reducing food miles by sourcing vegetables and reared livestock locally, which comprise 60 percent and 90 percent of total kitchen purchases respectively. Moreover, as part of their community service, ENR arranges Sea Scouts training for both staff and the community annually.

Likewise, ENR's doctors supplement the services of the only Municipal Health Officer in their area and offer free services on the annual Mass Blood Donation Program of the Philippine Red Cross in El Nido. ENR staffs serve as donors making them one of the largest contributors in Palawan. ENR's 1.5-hectare organic farm in El Nido is used as demonstration site for locals to enhance their produce's quality for long run sustainability (e.g., instead of chemicals as fertilizer, composted biodegradable wastes of ENR are used). They train local farmers and eventually source their vegetables and meat locally from them.

From our discussion on ENR's operations, it can be construed that to sustainably aid in poverty alleviation, it is necessary to train local communities on the significance

of sustainability as part of its commitment to educate them on the importance of conserving their natural resources that create income-generating opportunities that they can tackle to enhance their economic well being.

3. AN EMPIRICAL APPROACH TO PRO-POOR TOURISM AND SUSTAINABILITY

To address our second and third objective, we develop an empirical framework that will incorporate in an econometric model the different macroeconomic, institutional, and socio-economic factors that can influence poverty. In this section, we describe the potential data requirements, sources of data, and treatment of data.

With the availability of data, a **simultaneous equation modeling**, **time series** (i.e., causality, cointegration, vector autoregression), or **panel data** analysis can be undertaken (see Gujarati & Porter, 2009). On a macroeconomic analysis, in estimating the magnitude and direction of the impact of tourism on poverty alleviation, further research may source the data on poverty incidence of selected developed economies (e.g., East Asia, Australia, the Unites States of America [USA], the European Union [EU]) and developing economies (ASEAN, Central America, South America) from mid 1970 to the present. The data will be sourced from the various national statistical authorities of each economy. Likewise, the data on the GVA of each country's tourism industry and tourist inflow from mid 1970 to the present will also be needed, which can be sourced from the WTTC yearbooks. From the data, we can trace the growth of the tourism industry as well as the evolution of poverty incidence through the years. What is interesting is to note from the data are the country-specific or region-specific peculiarities in the tourism industry. Furthermore, it is also interesting to test if the elasticity of poverty incidence decreases with the amount of economic activities generated by tourism. Is the tourism industry moving towards more poverty alleviation or otherwise? Are the economies getting better off with tourism or otherwise?

To address these inquiries, the functional relationship of the variables influencing poverty incidence is shown by Equation 1 and Equation 2 - needed because $RGVATT_{it}$ is deemed to be endogenous with $TOURFL_{it}$.

$$POVINC_{it} = f(RGVATT_{it}, \mathbf{v}ECONOM_{it}, \mathbf{v}INSTIT_{it}, \mathbf{v}SOCIOE_{it}) + \varepsilon_{it} \qquad (1)$$
$$RGVATT_{it} = f(TOURFL_{it}) + \varepsilon_{it} \qquad (2)$$

Where:

$POVINC_{it}$ is the poverty incidence for country i at time t. The number of households having an income below the national poverty line will measure this.

$RGVATT_{it}$ = real gross value added of the tourism industry for country i at time t. This will be measured in real terms, in USD. The a-priori expectation for this variable to $POVINC_{it}$ is **ambiguous**. Although, growth in GVA (or GDP) is not a direct indication of poverty alleviation, economic growth (in this case an industry-specific growth) can reduce poverty if it translates to meaningful job opportunities for the people, and income is distribute more equitably. However, according to Todaro & Smith (2008), in many developing economies, growth has been accompanied by worsening income inequality – commensurate to worsened state of poverty.

$\mathbf{v}ECONOM_{it}$, $\mathbf{v}INSTIT_{it}$, $\mathbf{v}SOCIOE_{it}$ are vectors of economic (ECONOM), institutional (INSTIT), and socioeconomic (SOCIOE) variables influencing $POVINC_{it}$.

Economic variables can include employment rate, inflation rate, exchange rate, and interest rate. Institutional variables can include political instability, safety indicators (i.e. crime rate), ease of doing business, corruption index, and the like. Socioeconomic variables can include demographics, education, health, housing, inequality, and others that are not serially correlated with $RGVATT_{it}$ and with the identified variables in the vector.

$TOURFL_{it}$ is the tourist flow or arrivals for country i at time t. The number of foreign tourists that arrived in the economy will measure this. The a-priori expectation for this variable to $RGVATT_{it}$ is **positive**. The more tourists come in to a destination, the more revenues the local communities and enterprises can earn. According to Goldman, Nakazawa, and Taylor (1994), tourists' expenditures in the community benefits sectors, including those indirectly linked to tourism such as construction and utilities. Benefits from having more tourists include improved leisure facilities, expanded social and cultural opportunities, and community pride. The monetary injections provide the funds for greater tourism development. Hence, it can be implied that these injections would turn into leakages (i.e. economic activities) that would comprise the GVA of the tourism industry.

ε_{it} is the stochastic disturbance term that captures all other variables not included in the model. Further research may incorporate other variables as they see fit.

From our econometric model, the macroeconomic variables represent *profit*, the institutional and socio-economic variables represents *people* and *planet*. Meanwhile, tourism serves as the driver of the economy. At the end of the study, specific policy recommendations will be made to make meaning and reinforce the statistical results. Of equal importance, the empirical results will serve a basis for policy interventions – a data-driven or evidenced-based policy. According to Ibrahim (2012), "data-driven policy making would also have the additional benefit of allowing for a more rational public debate on sensitive topics", such as making tourism pro-poor.

4. SOME RESULTS AND DISCUSSION

To operationalize the empirical framework shown in Equation 1 and Equation 2, we used time series data from the World Data Atlas (https://knoema.com/atlas) and Department of Tourism (DOT) (http://tourism.gov.ph) for the Philippines for the year 2000 to 2017. We chose the Philippines as country of interest because despite the issues the sector is facing, tourism remained a bright spot for the Philippine economy (Remo, 2018). In fact, according to the WTTC as cited by Remo (2018), the sector contributed 21 percent of the country's GDP in 2017, which is comprised of economic activities of directly related industries but also the wider effects from investment, supply chain and induced income impacts. Of course, the same data for another economy can be utilized following the same operationalization.

Following the study done by Roxas, Rivera, and Gutierrez (2018), we provide empirical evidence for the hypothesis that tourism can be pro-poor. We empirically establish that tourism contributes to poverty alleviation. To do this, we restate Equation 1 and Equation 2 to Equation 3 and Equation 4, respectively.

$$POVINC_t = \alpha_0 + \alpha_1 RGVATT_t^* + \varepsilon_t \tag{3}$$
$$RGVATT_t = \beta_0 + \beta_1 INTREX_t + \mu_t \tag{4}$$

Where:

$POVINC_{it}$ is the poverty incidence of the Philippines at time t. This is measured by the percentage of Filipino households who are below the national poverty line.

$RGVATT_{it}$ is the real gross value added of the Philippine tourism industry at time t. This is measured by the percentage contribution of tourism to GDP. The a-priori expectation for this variable to $POVINC_{it}$ is **ambiguous**. Although, growth in the tourism industry is not a direct indication of poverty alleviation, it can reduce poverty if it can generate local jobs for the community (Roxas, Rivera & Gutierrez, 2018).

$INTREX_t$ is the total inbound tourism expenditures (in million PHP) for the Philippines at time t. The a-priori expectation for this variable to $RGVATT_t$ is **positive**. The more tourists come in to a destination, the more revenues the local communities and enterprises can earn (Goldman, Nakazawa & Taylor, 1994).

ε_t and μ_t are the stochastic disturbance terms that capture all other variables not included in the model.

To estimate the technical coefficients, we utilized a two-stage least squares regression (2SLS). From the system of equations presented above, the 2SLS is the more economical estimation method than the traditional linear regression because it can be applied to an individual equation in the system without directly taking into account any other equations in the system. Also, even if 2SLS is specially designed to handle over identified equations, it could also be applicable to exactly identified equations (Gujarati & Porter, 2009).

Furthermore, since we used a time series data, we subjected the level values of the data to the Phillips-Perron Unit Root Test. We found that all variables are stationary at first differencing (see Table 1). To avoid spurious regression, the first differenced variables will be subjected to 2SLS (see Table 2).

Our derived empirical results revealed that at level values, inbound tourism expenditures have a positive (infinitesimally small) and statistically significant impact on tourism's contribution to GDP. We have also seen that the contribution of tourism to GDP (as impacted by inbound tourism expenditures) has a negative and statistically significant impact on poverty incidence. That is, tourism contributes to poverty alleviation. Such finding is expected; however, it can only materialize if tourism facilitates in the long run the creation of local jobs, strengthening of the tourism value chain, and community involvement to hinder elite capture as emphasized by Roxas, Rivera, and Gutierrez (2018). Hence, we can construe that the estimated coefficients are not instantaneous. That is, it would take time before impacts can be felt.

The lag in impact is reflected in the statistical insignificance of the coefficients when the first differenced values were used. Although we were able to show the same direction of relationship, there is no evidence that impacts can occur instantaneously. Therefore, there is a need for the scale effect of tourism to take place before significant impacts can be experienced. For tourism to be a key to poverty alleviation, the sustained increase in arrivals and tourist expenditures must translate to the establishment of more profitable businesses that will create more meaningful jobs, for the local community. In this way, the growth of the industry can trickle down to those who are directly impacted by tourism, and those who have greater stakes in this booming industry, particularly in the Philippines.

Table 1. *Results of Phillips-Perron Unit Root Test*

Variable	Z(rho) Test Statistic	1% Critical Value	5% Critical Value
$POVINC_t$	-0.671	-17.200	-12.500
$D1.POVINC_t$	-17.749		
$INTREX_t$	5.457	-17.200	-12.500
$D1.INTREX_t$	-14.127		
$RGVATT_t$	0.536	-17.200	-12.500
$D1.RGVATT_t$	-14.734		

Table 2. *Results of 2SLS (at level and at first differencing)*

At Level Values				
Variable	Coefficient	Standard Error	t	p
$RGVATT_t$				
$INTREX_t$	0.0000	0.0000	10.62	0.000
Constant	7.8655	0.6492	12.11	0.000
$POVINC_t$				
$RGVATT_t$	-0.9554	0.1817	-5.26	0.000
Constant	40.5689	2.6087	15.55	0.000

Equation	Obs	Par	RMSE	R-Sq	F	p
$RGVATT_t$	18	1	1.249106	0.8758	112.80	0.000
$POVINC_t$	18	1	2.410718	0.6145	27.64	0.000

At First Differencing				
Variable	Coefficient	Standard Error	t	p
$D1.RGVATT_t$				
$D1.INTREX_t$	0.0000	0.0000	1.04	0.308
Constant	0.2895	0.4559	0.64	0.530
$D1.POVINC_t$				
$D1.RGVATT_t$	-0.1623	0.7977	-0.20	0.840
Constant	-0.5847	0.5326	-1.10	0.281

Equation	Obs	Par	RMSE	R-Sq	F	P
$D1.RGVATT_t$	17	1	1.619076	0.0668	1.07	0.308
$D1.POVINC_t$	17	1	1.338137	0.0344	0.04	0.840

5. CONCLUSIONS

We have seen that inclusivity is an important aspect of transforming tourism to become pro-poor. In the case of ENR, it can be seen that the promotion of tourism (specifically ecotourism) can result in the generation of jobs and entrepreneurial opportunities for the local communities. In conjunction with sustainability, it can also be seen from the case of ENR that the direction towards ecotourism is a vehicle to preserve the environment and conserve the biodiversity. Consequently, this can result to value creation and profitability for enterprises and communities, as well as a sustainable home for future generations (see Brundtland Commission).

We have designed an empirical framework on making tourism pro-poor. However, it warrants testing, validating, and augmenting by future research in order to

refine policy recommendations and interventions by making it evidenced-based. We found that the growth in tourism does not instantaneously impact poverty alleviation. Hence, stakeholders must not expect that the effects of policies and interventions will happen immediately.

On this note, we would like to emphasize the need for institutions (both public and private) to collect and maintain data in order to incorporate more constructs in the empirical framework proposed. The absence of data, the inadequacy of consistent data makes it a challenge to conduct tourism-related quantitative studies. There is a need to have a consistent data gathering measure and technique that must be implemented for at least a decade. Most importantly, it begins with investment in data-gathering organizations (e.g., Social Weather Stations, Pulse Asia) including national statistical agencies.

One of the goals of tourism development is poverty alleviation. Hence, to better understand and address it, we have to measure it. As mentioned by H. James Harrington, "measurement is the first step that leads to control and eventually to improvement. If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it."

With the availability of consistent and robust data, we would be able to estimate the impact multipliers in order to derive relationships and determine specific policy interventions to support pro-poor tourism. It is challenging to design and implement policies without data and indicators that measure policy outcomes. Thus, tourism stakeholders need to collaborate to create, organize, and analyze data, which will be the basis of policy formulation and implementation that are on the basis of empirical evidence leading to a scientific comprehension of where the industry is heading and how can we direct the industry become pro-poor. As such, the above empirical framework can finally be estimated efficiently and effectively.

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