

THE CONTRIBUTION OF COMMUNITY-BASED TOURISM TO HOUSEHOLD INCOME: EVIDENCE FROM WEST KALIMANTAN, INDONESIA

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Received: 24 September 2022, Revised: 20 October 2023, Accepted: 20 October 2023

THE CONTRIBUTION OF COMMUNITY-BASED TOURISM TO HOUSEHOLD INCOME: EVIDENCE FROM WEST KALIMANTAN, INDONESIA. Tourism has long been considered as a way to preserve a conservation area. It can increase community participation, job creation, local economy, and reduce conflicts in conservation areas. Community-based tourism (CBT) has been conducted intensively in Bukit Baka Bukit Raya National Park (BBBRNP) area since 2017 as a strategy for the national park to engage the local community and maximise socio-economic benefit. This study investigates the contribution of CBT to the rural economy in the buffer area in BBBRNP, especially in the Rantau Malam Village. First, the study aims to assess the contribution of CBT to community income using household income analysis; second, to analyse the influencing factors of CBT income on household poverty using two-stage least squares (2SLS). This result shows that CBT has a low contribution to the total household income, which is only 1.7% per year, before the Covid 19 outbreak in early 2020. The simultaneous regression analysis also shows that the CBT income does not significantly influence household poverty and vice versa. Three factors significantly influence CBT income: saving, family size, and community engagement. Furthermore, household income, diversification income, and productive assets significantly influence the per capita expenditure. Further development of the CBT should pursue a significant household income contribution and equitable distribution of benefits by developing business models, involving more communities and strengthening support from various parties.

Keywords: Collaborative management, community-based tourism, conservation strategy, community empowerment, livelihood strategy

KONTRIBUSI WISATA BERBASIS MASYARAKAT PADA PENDAPATAN RUMAH TANGGA: FAKTA DARI KALIMANTAN BARAT, INDONESIA. Pariwisata telah lama dianggap sebagai cara untuk melestarikan kawasan konservasi. Pariwisata memungkinkan keterlibatan masyarakat, menyediakan lapangan kerja, pertumbuhan ekonomi dan mengurangi konflik dalam penggunaan lahan di kawasan konservasi. Wisata berbasis masyarakat (CBT) telah gencar dijalankan di kawasan Taman Nasional Bukit Baka Bukit Raya (TNBBBR) sejak tahun 2017 sebagai strategi taman nasional untuk melibatkan masyarakat setempat, dan memaksimalkan manfaat sosial ekonomi. Studi ini mengkaji kontribusi CBT terhadap perekonomian perdesaan di kawasan penyangga TNBBBR, khususnya di Desa Rantau Malam. Pertama, penelitian ini bertujuan untuk mengkaji kontribusi CBT terhadap pendapatan masyarakat dengan menggunakan analisis pendapatan rumah tangga; kedua, menganalisis faktor-faktor yang mempengaruhi pendapatan CBT pada kemiskinan rumah tangga menggunakan two-stage least squares (2SLS). Studi ini menunjukkan bahwa CBT memiliki kontribusi yang rendah terhadap peningkatan pendapatan rumah tangga yaitu hanya sebesar 1,7% per tahun, sebelum wabah Covid 19 di awal tahun 2020. Analisis regresi simultan juga menunjukkan bahwa pendapatan CBT tidak berpengaruh secara signifikan terhadap kemiskinan rumah tangga dan sebaliknya. Tiga faktor yang berpengaruh pada pendapatan CBT: tabungan, jumlah anggota keluarga, dan keterlibatan masyarakat. Selanjutnya, pendapatan rumah tangga, diversifikasi pendapatan, dan aset produktif berpengaruh signifikan pada pengeluaran per kapita. Pengembangan CBT lebih

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lanjut harus mengupayakan kontribusi pendapatan rumah tangga yang signifikan dan pemerataan distribusi manfaat dengan mengembangkan model bisnis, melibatkan lebih banyak masyarakat dan memperkuat dukungan dari berbagai pihak.

Kata kunci: Pengelolaan kolaborasi, wisata berbasis masyarakat, strategi konservasi, penguatan masyarakat, strategi penghidupan

I. INTRODUCTION

Tourism has long been considered as a way to preserve a conservation area. Local communities can develop alternative livelihoods through tourism activities (Manzoor, Wei, Asif, & Zia, 2019) which simultaneously protect conservation areas (Ren, Li, Li, & Dang, 2021). However, as one of the conservation areas, national parks often face various complex problems related to governance and the relationship between park managers and surrounding communities (Oleśniewicz, Pytel, Markiewicz-Patkowska, Szromek, & Jandová, 2020). Problems arise due to ecological goals in the management of the national parks, which may neglect the local communities' social, economic and cultural dynamics (Meilani et al., 2021). Addressing those challenges requires a social dimension approach to develop collaboration in managing national parks (Dudley et al., 2020) to achieve sustainable development and poverty alleviation in the surrounding area (Rao & Saksena, 2021) that needs the involvement of the community in national parks tourism activities (Adewumi, Funk, Nguyen, & Usui, 2019).

The concept of community involvement in many tourism initiatives usually refers to green tourism, sustainable tourism, ecotourism, and community-based tourism (CBT). It shows the significant relationship between those activities and the community where the tourism initiative is carried out (Mgonja, Sirima, Backman, & Backman, 2015). In the context of CBT, the community were encouraged to have strong power and control in managing tourism by maximising their opportunities and benefits (Curcija, Breakey, & Driml, 2019). Therefore, the

social impacts of tourism need to be identified and embedded as management responsibilities into CBT governance (McCombes, Vanclay, & Evers, 2015). Mayaka et al. (2019) argue that CBT's ideal and inclusive governance should develop a three-dimensional framework of engagement, power, and control. For this purpose, CBT should be intended to build capacity and achieve community empowerment (Curcija et al., 2019), especially in strengthening community participation in decision-making processes (Yudarwati, 2019) and in formulating precise benefit-sharing mechanisms (Mgonja et al., 2015). Practically, CBT effectively alleviates poverty (Ma, Cai, Zheng, & Wen, 2019) and improves ecological outcomes (Hung & Jan, 2019; Lowe, Friedrich, Tejada, & Meekan, 2019), but, in several cases, CBT faces challenges related to low community participation and the availability of jobs that match the possessed by the community (Adewumi et al., 2019).

The previous study on CBT in Indonesia showed a positive impact, i.e. providing benefits to the rural economic development of Bromo Tengger Semeru National Park (NP), Meru Betiri NP, Baluran NP and Alas Purwo NP (Nugroho, Pramukanto, & Negara, 2016). Prihayati and Veriasa (2021) and Sasongko et al. (2019) stated that CBT could provide direct income in Cibulao, Puncak, Bogor Regency and Pogalan Village, Magelang Regency. It's achieved through participatory planning, organizing and monitoring, a fair division of labour, consensus on financial management, and improving the quality of the human resources of ecotourism groups. Furthermore, CBT in Cibulao, Puncak, Bogor Regency can improve the ecology and sustainable landscape management when CBT

activities enhance the interrelated economy and ecology (Prihayati & Veriasa, 2021). Whereas in Dieng, Central Java, CBT can strengthen the social capital through awareness of tourism potential, combining traditional (local culture) and contemporary art into a tourism attraction (preservation and resilience) and developing mutual stakeholder cooperation for better communication (Sunuantari, 2017).

Sartika and Wargadinata (2019) state that CBT must have ownership, participation, and responsibility to achieve success. Furthermore, CBT needs to integrate into several aspects, namely (1) Innovation in products and services, (2) Development of local community entrepreneurial skills, (3) Empowering local community leadership, 4) Support for infrastructure and accommodation at ecotourism destination areas, including the development of community-managed homestays based on local culture, and 5) Market-based promotional efforts from tourism stakeholders (Nugroho, Pramukanto, & Negara, 2016).

However, CBT still faces challenges in Indonesia, such as not having significant economic outcomes due to limited income, unequal distribution among CBT members (Meilani, Andayani, Faida, & Maryudi, 2019), low participation (Diana & Setiawan, 2021; Satyatama, Rahayu, Faida, Purwanto, & Fandeli, 2020), lack of tourism management, limited local government financial support (Azni & Alfitri, 2020).

Since 2017, CBT has been intensively carried out in the Bukit Baka Bukit Raya National Park (BBBRNP) area as a National Park strategy to engage communities in managing collaborative conservation areas. Community engagement in BBBRNP area management aims to reduce conflict and maximise socio-economic benefits by creating livelihood options. Lembaga Alam Tropika Indonesia (LATIN), in collaboration with the BBBRNP office, conducted a study in March 2021 to investigate CBT opportunities as a potential livelihood option in the buffer area of the national park. This study focuses on the BBBRNP's village model, namely,

Rantau Malam Village, Sintang Regency, West Kalimantan Province, Indonesia. The study aims to assess the contribution of CBT to the community income using household structured income analysis; and to analyse influencing factors of CBT income and household poverty using two-stage least squares (2SLS).

The study's primary research question is: c an community-based tourism contribute to income and poverty alleviation of household? Several specific research questions are:

- 1) *How are CBT practices developed in Rantau Malam Village, and what are their implications for community groups?*
- 2) Can CBT contribute to increasing household income?
- 3) What factors influence CBT income and household poverty?

The study contributes to formulating the model of economic impact measurement for community empowerment programs through CBT in the BBBRNP area. It provides insights related to national park management policies in strengthening the benefits of CBT.

II. MATERIALS AND METHOD

A. Study Site

Geographically, Bukit Baka Bukit Raya National Park is located between 112°12'12.345"- 112°56'31.295" E and 0°28'41.32" - 0°56'22.252" S (Figure 1). This conservation area has 24 buffer villages in three regencies: Sintang Regency and Melawi Regency in West Kalimantan Province and Katingan Regency in Central Kalimantan Province. BBBRNP has an area of 234,624.30 ha and is a new national park which was established through the Decree of the Minister of Forestry Number SK.4189/Menhut-VII/KUH/2014 dated June 10, 2014, covering an area of 111,802.20 ha in West Kalimantan and through the Decree of the Minister of Forestry No. Minister of Forestry Number SK.3951/Menhut-VII/KUH/2014 dated 19 May 2014, covering an area of 122,822.10 ha in Central Kalimantan.

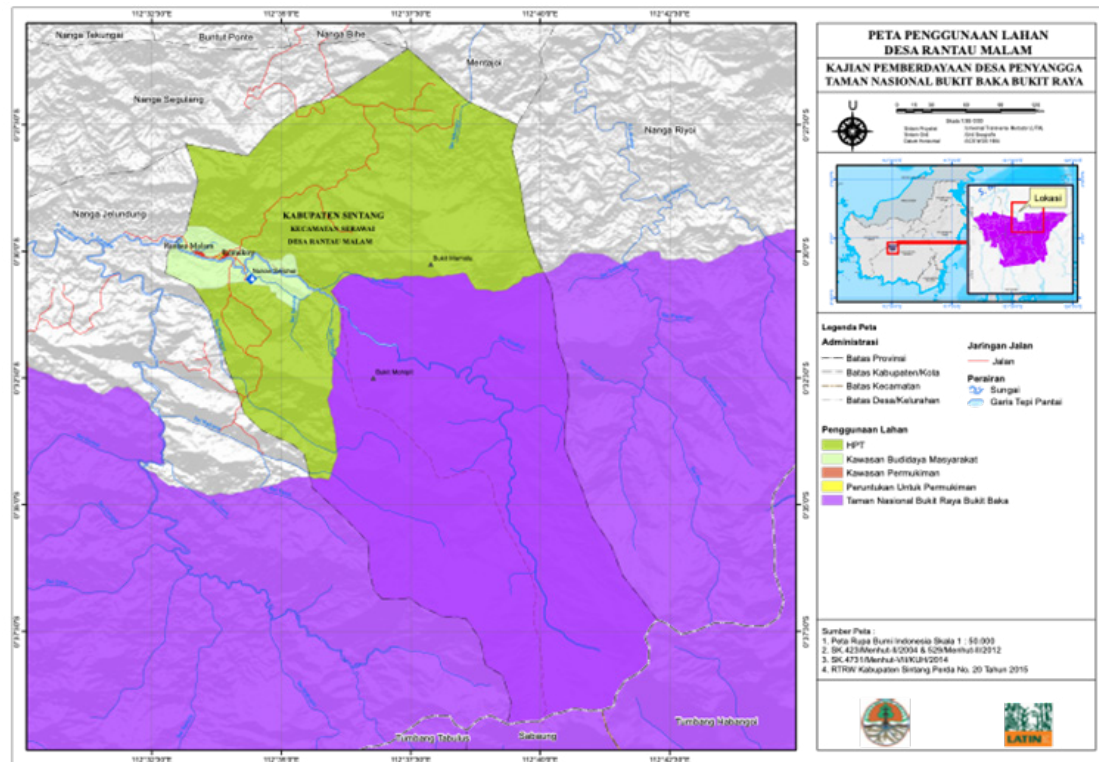


Figure 1. BBRNP area and study site

The area of Rantau Malam Village, Serawai District, Sintang Regency is 101 km² and had population of 501 people in 2019 (BPS, 2020). This village is a model for community empowerment programs by BBRNP based on the Decree of the Director General of Conservation of Natural Resources and Ecosystems Number SK. 80 /KSDAE/SET/KSA.1/2/2017 dated 20 February 2017 concerning a Determination of the Location of Assisted and Empowerment Villages in a Conservation Area Buffer Zone.

Rantau Malam Village was chosen as the location of the Assisted Village Model because it has ecological, economic, social and cultural although its community welfare is still not good. This village has the status of "very disadvantaged", according to the Developing Villages Index in 2018 (Kemendes PDTI, 2018). The long distance from the district centre (60 km) and limited accessibility have hampered the development of this village. Most of the community's livelihoods still focus on agriculture. The use of natural products and

types of livelihoods related to other supporting services vary among farmers, ranchers, freshwater fisheries and NTFP.

B. Methods

Data was collected in March 2021 through a household survey and focus group discussion. The questionnaire modifies the National Socio-Economic Survey of Statistics Indonesia to gather detailed baseline data on respondents and village demographic characteristics (Angelsen & Lund, 2011). The selection of respondents uses purposive sampling by considering the diversity of livelihood sources in the Rantau Malam village. The total respondents are 100 households from the total population of 207 households, refers to the Slovin formula (10%).

Focus Group Discussion (FGD) collected data, including CBT activities, opportunities, and challenges. The FGD participants were selected by purposive sampling as many as 32 people representing the Porter Group, the Homestay Group (women), the Transportation Group, the Traditional Craft Group and the

Kelulut Honey Farm Group. The FGD was conducted for two days and engaged 41% of women and 59% of men. The FGD process uses a participatory approach through interactive facilitation that allows men and women have equal opportunities to express opinions, make decisions and agree on consensus discussions.

C. Analysis

a. The contribution of community-based tourism to the household income

The contribution of Community-based Tourism (CBT) is measured using household income structure analysis by comparing it to other incomes that contribute to the total household income. First, the household income is analysed by summing all cash and non-cash income (in-kind) activities. In-kind income is generated from the value of products consumed directly by households (Angelsen et al., 2014; Li et al., 2020), including transfers, e.g. government and other social assistance. Second, household expenditure is analysed by summing all food and non-food consumption, including social costs. The equation used is as follows:

$$\text{Income} = \Sigma (\text{On-farm Income} + \text{Off-farm Income} + \text{Non-farm Income}) \quad (1)$$

$$\text{Expenditure} = \Sigma (\text{Food Consumption} + \text{Non-food Consumption}) \quad (2)$$

$$\text{Saving} = \text{Income} - \text{Expenditure} \quad (3)$$

The on-farm income was from farming, livestock, collecting Non-Timber Forest Products (NTFP), community logging, and freshwater fishery. Off-farm activities only from farm labourers, and non-farm activities include CBT activities, daily labourers, civil servants, retail stalls, private/honorary employees, traditional gold mining, and other service activities and transfers. Furthermore, the CBT activities include local guide/porter, homestay, boat rental and transport services, traditional crafting and honey bee cultivation.

According to Angelsen and Lund (2011), food needs are the daily food expenditure of all household members. Non-food needs are expenses for the non-food material needs of all

household members, including housing needs such as electricity, fuel, furniture maintenance, clothing, education, health, transportation, social costs and other traditional needs.

To calculate the contribution of CBT to the total household income, the equation is as follows:

Where, E_{tour} – Contribution CBT income to the

$$E_{tour} = \left(\frac{I_{etour}}{I_{hh}} \right) \times 100\% \quad (4)$$

total household income (per cent in a year); I_{etour} – Total household income from ecotourism activities (IDR year-1); I_{hh} – Total household income in a year (IDR year-1).

b. Influencing factors of CBT income and poverty

The sustainability of livelihoods is determined by the sustainability of livelihood sources (Serrat, 2017). According to Chambers and Conway (1992), a livelihood consists of capabilities, assets (income, savings, claims and access to resources) and activities required for a living. However, with limited access to resources, capital, skills, and markets, communities have difficulty escaping from the vicious cycle of poverty (Nurjihadi & Dharmawan, 2016). Furthermore, poverty has several dimensions: income/expenditure, housing, health conditions, access to public goods, and education (Bourguignon & Chakravarty, 2019).

The study focuses on household poverty with per capita expenditure variables referring to the standard measurement of poverty in Indonesia by Statistic Indonesia. For example, the Statistic Indonesia household poverty line in September 2020 for the Province of West Kalimantan is IDR 2,594,197, while the poverty line per capita in September 2020 is IDR 474,259 per capita. The two-stage least squares model is developed based on the literature reviews and several considered socio-demographic factors potentially influencing CBT income and poverty. The mathematical model is as follows:

$$Y1 = \alpha + \beta1Y2 + \beta2X1 + \beta3X2 + \beta4X3 + \beta5X4 + \beta6D1 + e1 \quad (5)$$

$$Y_2 = \alpha + \beta_1 Y_1 + \beta_2 X_5 + \beta_3 X_6 + \beta_4 X_7 + \beta_5 X_8 + e_2 \quad (6)$$

Where, Y_1 = Community-based Tourism (CBT) Income (IDR); Y_2 = Poverty (IDR per capita) α = Constant; β_1 - β_6 = Regression coefficients; X_1 = Age (years); X_2 = Education (years); X_3 =Saving (IDR); X_4 = Family size (people); X_5 =Household Income (IDR); X_6 =Income Diversification (Number of job); X_7 =Productive Assets (units); X_8 =Health (Number of sick days); D_1 =Community development (1=yes, 0=no); e = error.

The t-test was carried out by comparing the regression test results' p-value (Sig.) with the degree of error used in this model, 10% ($\alpha = 0.1$). If the p-value ≤ 0.1 , the exogenous variables significantly influence the endogenous variable (Sarstedt & Mooi, 2014). All data were presented in a descriptive form by emphasizing case studies to thoroughly understand the context and reality (Aspers & Corte, 2019). Variable descriptions are explained in Table 1.

Table 1. Description of variables

Variable	Description	M^*	SD^{**}
CBT Income (Y_1)	Community-based Tourism (CBT) income includes local guides/porters, homestays, boat rental and transport services, traditional crafting and honey bee farm — CBT income in IDR per year.	40.8	87.2
Poverty (Y_2)	Poverty is measured using per capita expenditure data (household income divided by family members). The standard for measuring poverty in Indonesia by Statistics Indonesia is poverty in IDR per capita per month.	37.9	32.5
Age (X_1)	Age in years.	41.5	12.4
Education (X_2)	Education in years.	5.1	3.5
Saving (X_3)	Saving is calculated by subtracting household income from household expenses—savings in IDR per year.	691.6	1658.8
Family size (X_4)	Family size in number of people.	3.9	1.3
Household Income (X_5)	Household income includes the total income from all occupations, including income from other services and transfers — in IDR per year.	2367.5	1990.5
Income Diversification (X_6)	Income diversification is measured by the number of family head job types — the number of jobs.	5	1.7
Productive Assets (X_7)	Productive assets are measured by the number of productive assets owned, including 1) transportation equipment, 2) communication equipment, 3) agricultural equipment, 4) honey bee farm equipment, 5) craft tools, 6) fishing gear, 7) hunting gear, 8) other types of productive assets. Productive assets in units per household.	4.2	1.4
Health (X_8)	Health is measured by the number of sick days of the family head in a year — Health in sick days per year.	19.8	78.7
Community Development (D_1)	Community Development is measured by the involvement of the household in the socio-economic group assisted by the BBHRNP. Community Development uses a dummy variable with an ordinal scale, namely 0 = not involved, 1 = yes, involved.	0.4	0.5

Note: $*M$ =mean; $**SD$ =standard deviation, $N=100$, US\$ 1 = IDR 15,500

III. RESULT AND DISCUSSION

A. Results

a. Community-based tourism practices in Rantau Malam Village

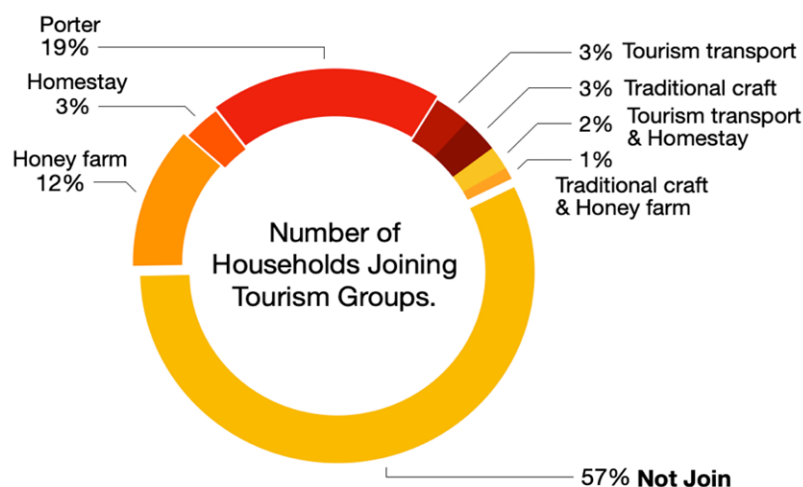
The formation of community groups by the BBRNP is meant to increase community's capacity by providing livelihood options and adequate rural economic development. Furthermore, it also aims to increase community participation in managing a sustainable BBRNP area. The main CBT activity that is currently being managed is mountain hiking tourism. From this activity, only porters, homestays and transportation groups benefited from the activity intensely.

BBRNP has carried out community development activities since the area was established in 2014. Nevertheless, the BBRNP formally formed the tourism community groups in Rantau Malam Village on 20 July, 2017, namely the "Mo Three" Porter Group and the "Rotan Rimba" Crafting Group. The "Topakai Juoi" Transportation Group and the "Danum Sorio" Homestay Group were also formed in the same year. On 15 July, 2019, the "Lestari Murop" Forest Farmers Group was formed based on the Minutes of the Farmers Group Establishment Number BA.01/KTH-LM/07/2019, focusing on honey

bee cultivation. The community members of the Community Based Tourism (CBT) group reached 60 households, but only 43 are active.

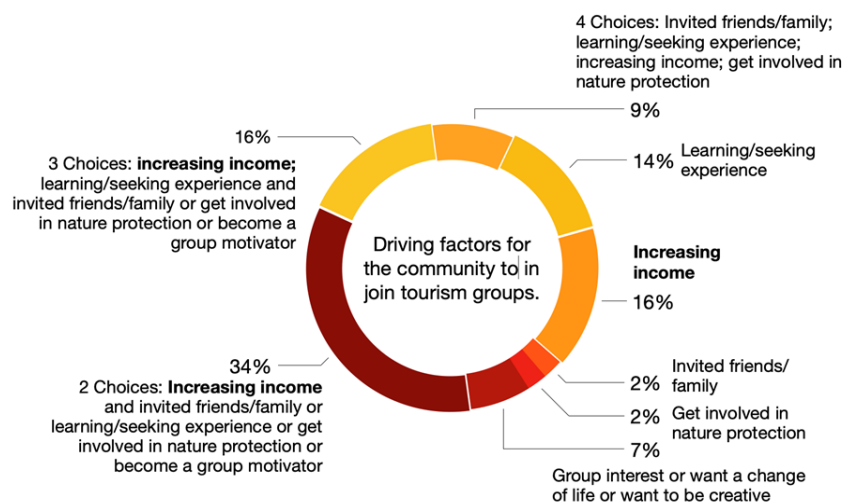
To strengthen the CBT groups, the BBRNP office has conducted various assistance programs in Rantau Malam Village, such as technical training for tourism business service providers, nature tourism learning and practices, tourism village development workshop, community training on crop cultivation, provision of crop seed, business equipment grant and start-up capital fund.

The study in Rantau Malam Village identified that only 43% of households joined the CBT groups (Figure 2) and had several motivations to join and had significant impacts after joining the group. Figure 3 explains that the community has more than one driving factor in becoming a CBT group member: being invited by friends/family, to increase income and experience. After joining the CBT group, 84% of group members had experienced changes (Figure 4) especially their knowledge, income, experience in ecotourism management, group organising, skills improvement and social relations. The remaining 16% of CBT members have not experienced any changes because their participation is still new (under one year).



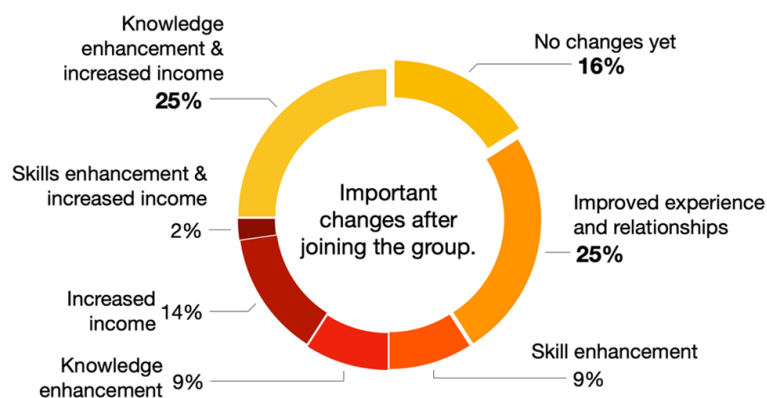
Source: Primary data, 2021. N=100 households

Figure 2. Tourism groups within CBT in Rantau Malam Village.



Source: Primary data, 2021. N=43 households

Figure 3. Driving factors for the community to join tourism groups in Rantau Malam Village



Source: Primary data, 2021. N=43 households

Figure 4. Important changes after joining the group in Rantau Malam Village

b. Characteristic of respondents and contribution of CBT to the household income

The household study used questionnaires to 100 respondents, 39 men and 61 women. The age distribution of respondents is between 17 - 75 years old, with a majority 30 to 44 years old (Figure 5a). Figure 5b explains that the average education level of respondents in Rantau Malam Village is low, dominated by no education and did not finish primary school (50%). The completed primary school is 29% , 12% secondary school, 8% high school, and only 1% have graduated from university. The family member generally consists of 4 to 6

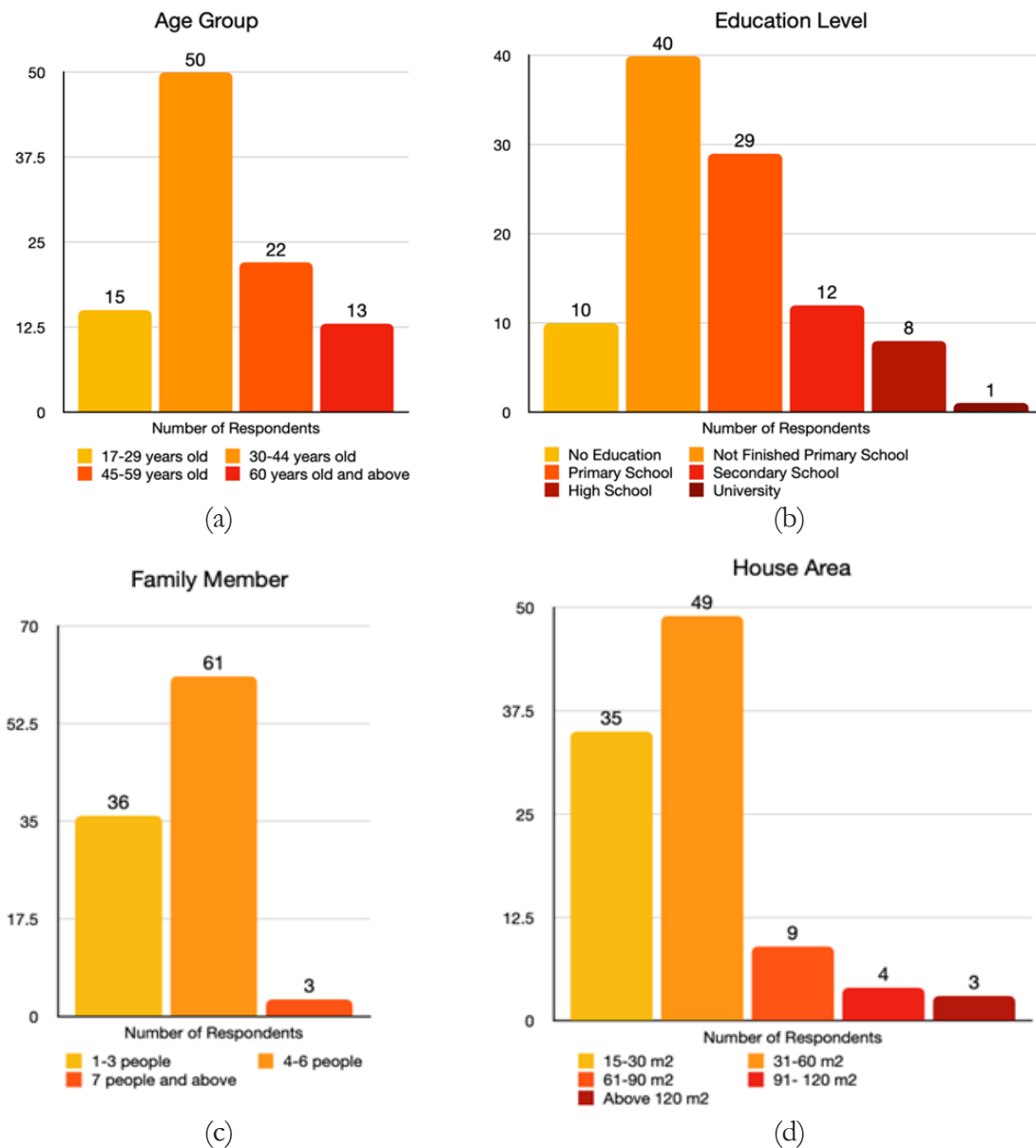
people or 61% of respondents (Figure 5c) and there are 84% of respondents occupying houses with an average area of 15m² to 60m² (Figure 5d).

In general, health condition of respondents is quite good, and only 11% of them experience illness for more than one month a year (Figure 6a). However, access to health services is still challenging due to distance and irregular presence of health workers (Figure 6b). For example, severe health problems must be directed to Serawai Sub-district which is approximately 60 km from the village or requires about 4-6 hours river journey by longboat. Most respondents do not have financial assets such as savings

and loans (Figure 6c); a capital still becomes a significant issue for most households (Figure 6d). Furthermore, the community must access higher education services, especially secondary high schools, high schools and universities in Serawai District or the capital of Sintang Regency (BPS, 2020).

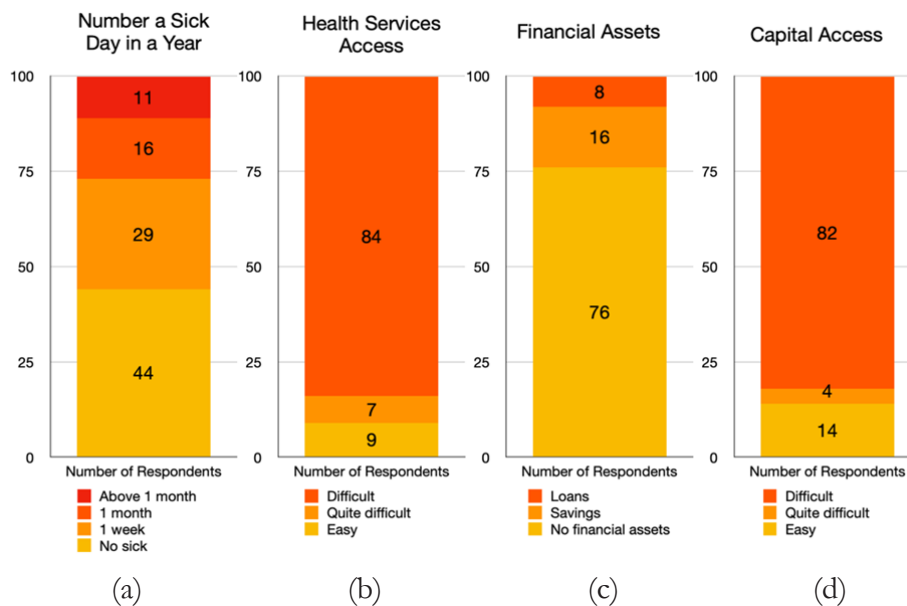
People in Rantau Malam Village have more than one type of job as a strategy to meet family needs and anticipate in the event of a crisis. Table 2 shows that the majority of livelihoods in Rantau Malam Village, such as farming (15.3%),

livestock (10.4%), freshwater fisheries (4.6%) and farm labourers (0.9%). Even though this job is high risk, the income contribution is high, namely 26.9%. The limited choice of livelihoods causes community to conduct high-risk jobs. As a new livelihood option, the contribution of ecotourism to total household income is still low (1.7%) or US\$ 4077.4 per year (US\$ 1=IDR 15.500). The average direct income of 25 respondents (CBT group members) reached US\$ 164.1 per household. In addition, the community's dependence on government



Source: Primary Data, 2021. N=100

Figure 4.Characteristics of respondent in Rantau Malam Village



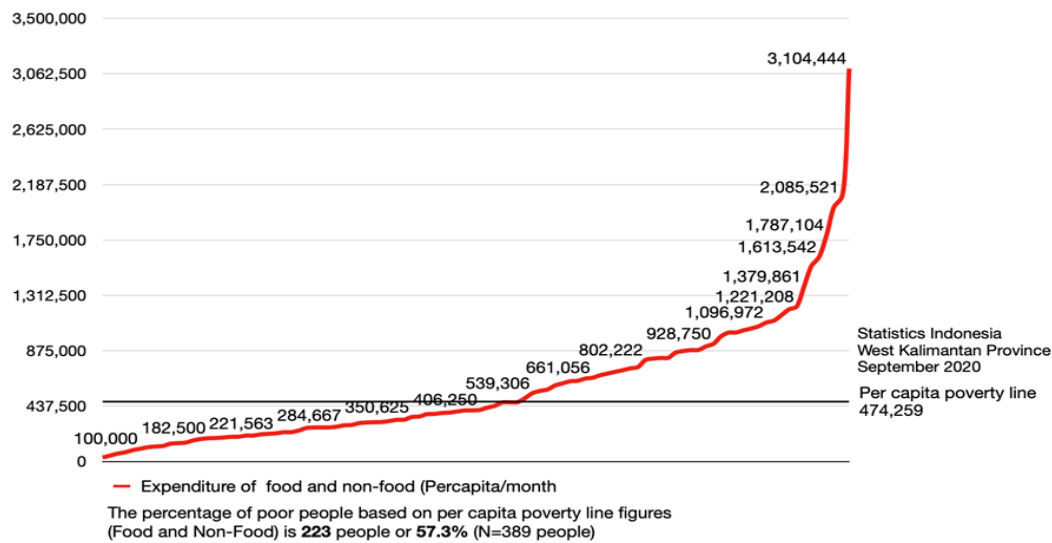
Source: Primary Data, 2021. N=100

Figure 6. Health services and financial access in Rantau Malam Village

Table 2 The household structured income in Rantau Malam Village in 2021 (IDR/year)

No	Source of Income	Total income	M^1	SD^2	Income shared (%)
1	<i>On-farm</i>				
	Farming	563,100,000	5,631,000	5,833,007.5	15.3
	Livestock	381,192,000	3,811,920	11,104,142.4	10.4
	Fish pond	5,700,000	57,000	466,880.9	0.2
	Freshwater fisheries	169,718,000	1,697,180	3,205,840.3	4.6
2	<i>Off-Farm</i>				
	Farm labourers	34,400,000	344,000	617,639.7	0.9
3	<i>Non-farm</i>				
	CBT	63,200,000	632,000	1,351,589.4	1.7
	Daily labourers	182,998,000	1,829,980	4,520,749.9	5.0
	Civil servants	189,816,000	1,898,160	8,881,929.6	5.2
	Retail stalls	205,760,000	2,057,600	8,127,239.3	5.6
	Private/honorary employees	13,200,000	132,000	937,212.5	0.4
	Community logging	319,900,000	3,199,000	6,824,769.1	8.7
	Collecting NTFP	11,180,000	111,800	675,722.4	0.3
	Traditional gold mining	987,700,000	9,877,000	20,452,797.9	26.9
	Other services	281,756,000	2,817,560	8,105,925.8	7.7
	Transfers	260,068,000	2,600,680	3,654,023.3	7.1
	Total	3,669,688.000	48,929,173	30,852,886.8	100

Source: Primary Data, 2021 (N=100); ¹ M = Mean of household income; ² SD – Standard Deviation



Source: Primary Data, 2021. N=100

Figure 7. Percentage of poor people in Rantau Malam Village in 2021

assistance is quite significant, indicating that most of the community is still classified as a low-income household (Figure 7). For example, government transfer funds contributed 7.1% to total household income in the form of assistance funds such as the Prospect Family Program (Program Keluarga Harapan), Direct Cash Assistance (Bantuan Langsung Tunai), Social Cash Assistance (Bantuan Sosial Tunai), and Covid-19 cash assistance.

The results of household expenditure analysis show a high proportion of poor people in Rantau Malam Village (57.3%) (Figure 7). Based on family size data, this analysis extracts a sample of 100 households to 386 people. Then, the total household expenditure is divided by the family size in each sample and compared with the per capita poverty line standard of Statistic Indonesia.

c. Influencing factors of CBT income and household' poverty

In Equation 5, the t-test shows that saving, family size, and community engagement significantly influence CBT income. Furthermore, in Equation 6, the t-test shows that household income, income diversification, and productive asset significantly influence

household poverty (Table 3). Only income diversification has a negative direction on per capita expenditure. The more the number of household jobs, the less focused, not maximizing income and increasing household poverty.

B. Discussion

The study's main objective is to investigate the contribution of CBT to the local economy and poverty alleviation in the buffer area in BBRNP. Although CBT still has a low-income contribution, the finding shows that CBT is an alternative livelihood option to increase household income, especially for group members. The impact of CBT on its members is to provide a stimulant and motivation to gain additional income from tourism activities (Figure 4).

In contrast, the simultaneous regression analysis (Table 3) shows that CBT income did not significantly improve per capita expenditure and vice versa. Not many people consider tourism as an alternative livelihood option in Rantau Malam Village (Figure 2). This study is in line with the study in Cambodia (Lonn, Mizoue, Ota, Kajisa, & Yoshida, 2018) which stated that income from tourism was low and

Table 3. The t-test results

		Coefficients				
		Unstandardized coefficients		Beta	t	Sig.
		B	Std. Error			
Equation 1	(Constant)	-827989.399	733835.392		-1.128	.262
	Y _{2_Poverty}	.073	.251	.027	.293	.770
	X _{1_Age}	-6037.264	9900.247	-.055	-.610	.543
	X _{2_Education}	35213.515	34726.004	.091	1.014	.313
	X _{3_Saving}	.008	.005	.151	1.721	.089*
	X _{4_Family size}	203935.878	96331.350	.191	2.117	.037*
	D _{1_Community development}	1417122.296	239022.247	.520	5.929	.000*
Equation 2	(Constant)	183680.418	186284.650		.986	.327
	Y _{1_CBT Income}	-.006	.069	-.016	-.085	.933
	X _{5_Household Income}	.007	.002	.458	4.767	.000*
	X _{6_Income Diversification}	-70060.539	30143.329	-.240	-2.324	.022*
	X _{7_Productive Assets}	112800.563	32531.727	.312	3.467	.001*
	X _{8_Health}	594.647	584.715	.093	1.017	.312

Significant at 0.1 (10%)

it faced challenges in pursuing a fair share of household income. Billé et al. (2012) stated that in the poverty-biodiversity nexus: the "environmentalist paradox", efforts should be made to reduce income inequality rather than to reduce poverty. Furthermore, in some CBT cases in the collaborative management of national parks in Indonesia (Meilani et al., 2021; Nadhira & Basuni, 2021), Nigeria, Vietnam (Adewumi et al., 2019) and Ethiopia (Wondirad & Ewnetu, 2019), lack of participatory process has also become other challenge.

Our study findings identified factors influencing CBT income in Rantau Malam Village: saving, family size and community engagement. Saving and family size are essential factors in increasing CBT income. Low income has induced family members to participate in CBT activities to reduce labour costs and increase household income. (Ellis, 2000). In this study, community development is a major factor in increasing CBT income. Community engagement in CBT can provide economic benefits by emphasizing the development of collective social entrepreneurship, leadership and self-management tourism (Nugroho et al., 2016). It is crucial to continue empowering

the community groups to strengthen their socio-cultural capital (Meilani et al., 2021) and contribute to the social ecosystem's resilience (Ruiz-ballesteros, 2011). Social capital can optimize community participation and reduce poverty through several positive benefits such as collaborative actions, knowledge exchange and skills improvement among group members (Thuen et al., 2021) which will impact productivity and increase household income long-term (Asmin, Darusman, Ichwandi, & Suharjito, 2019; Maryudi & Krott, 2012).

Moreover, the factors that significantly influence household poverty are household income, income diversification, and productive assets. Increasing household income will increase per capita expenditure, which is critical in improving quality of life. Higher household income also provides an opportunity to combat vulnerability, increase saving capacity, and prepare further investments, such as increasing skills, productive assets, and capital to develop economic business (Hallegatte, Vogt-Schilb, Rozenberg, Bangalore, & Beaudet, 2020). Generally, community will diversify income to meet their daily needs, but this study shows the negative influence on household poverty

reduction. The findings confirm the study from Ellis (2000) who found that in a rural household economic model, income diversification is a risk livelihood strategy, which has a probability of success or failure to achieve a better income.

Therefore, to achieve sustainability and poverty alleviation, Lonn et al. (2018) suggest that CBT should pursue a significant household income contribution and equitable distribution of benefits by developing business models, involving more communities and strengthening support from various parties. Veriasa et al. (2021) suggest that to achieve effective collaborative management in Indonesian national parks, several issues of social skills of National Park staff need to be addressed including communication strategies, participatory and collaborative approaches, conflict management and business process development. In the tourism competitiveness context, Eddyono et al. (2021) stated that although the cost of destination to BBRNP area is cheap and supported by environmental (nature) indicators, the productivity of tourism resources is still low and should be improved, namely, the use of information and communication technology, infrastructure readiness and openness of the community in accepting tourist visits. conclusion.

IV. CONCLUSION

Community-based tourism (CBT) in the Rantau Malam Village has contributed to the household income, even though its contribution is still relatively low. Six factors significantly influence CBT income and household poverty are saving, family size, community engagement, household income, diversification income, and productive assets. Although currently, CBT is not yet a best alternative livelihood option, the study shows that CBT has the opportunity to continue by pursuing a significant household income contribution and equitable distribution of benefits and increasing community participation.

To further develop the CBT model, those six factors need to be the main focus and continue to integrate the tourism themes (local culture, nature, edutourism), optimize the local resource's potential, and promote it to the niche markets. The stakeholder's involvement, especially the Regency Government and National Parks, is very important to strengthen CBT business development and market access. Hence it becomes an alternative livelihood to reduce household poverty and pressure on conservation areas. Furthermore, there is a need to establish strong collaborations, such as through conservation partnership agreements in social forestry schemes to provide certainty of community management and a high sense of ownership of CBT.

The results of this study provide an overview of the influencing factors why ecotourism income has not been able to reduce household poverty. For further research, it is necessary to examine the CBT's stakeholder collaboration and sustainability aspects of the CBT's business in increasing household income continuously and reducing poverty significantly.

ACKNOWLEDGEMENT

The authors thank all the Rantau Malam Village participants involved in our research. Special thanks to the Directorate General of Natural Resources and Essential Ecosystem Conservation of the Ministry of Environment and Forestry, who supported this research. We are also grateful to our partner and funding support, i.e., USAID BIJAK Project.

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