

# Understanding the Socio-Economic Dynamics of Balcon Maravilla Residents: Foundations for Sor-Ohan Sub-Watershed Planning

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## ABSTRACT

This study was conducted to understand the socio-economic status of the residents of Balcon Maravilla near to Sor-ohan watershed at Jordan, Guimaras for watershed planning. The age groups are evenly distributed, with 50 respondents (50%) aged 40 and below, and another 50 respondents (50%) aged 41 and above. Out of 100 respondents, 36% are male, and 64% are female. As to civil status, data shows that 24% of respondents are single, 70% are married, and 6% fall into the "Others" category (separated, widowed, or single parents). A combined 33% of the population has only an elementary-level education, and 45% of the population, likely has sufficient education to engage in mid-level watershed management activities. College-educated individuals are 21% in total. Over half of the respondents fall into the lowest income bracket (5,000 and below), indicating a high level of financial vulnerability. A significant proportion of respondents (35%) have slightly higher incomes but may still face financial challenges.

**Keywords:** Environment, Water Source, Vulnerability, Assessment

## INTRODUCTION

The socio-economic profile of residents is a critical aspect of watershed planning, particularly in regions like Guimaras, where the interplay between environmental management and community welfare is paramount. Understanding the socio-economic characteristics of residents can inform effective watershed management strategies that not only address environmental concerns but also enhance the livelihoods of local communities. Watershed management programs have been shown to significantly influence socio-economic conditions by improving access to water resources, which is directly linked to economic growth and health outcomes. For instance, studies indicate that effective watershed management can lead to improved public health and economic empowerment, particularly in rural areas where water scarcity is prevalent (Nerkar et al., 2013; Pathak et al., 2013). This relationship underscores the importance of integrating socio-economic assessments into watershed planning to ensure that interventions are tailored to the specific needs of the community. Furthermore, the socio-personal characteristics of individuals within a watershed can affect their engagement with management initiatives. Research highlights that community involvement in watershed projects, such as training and leadership development, positively impacts socio-personal characteristics, fostering a sense of ownership and responsibility towards local resources (Pal et al., 2017). This participatory approach is crucial for the success of watershed management, as it encourages sustainable practices and enhances the resilience of communities against environmental challenges. In addition, the socio-economic profile of residents can reveal disparities that need to be addressed to achieve equitable watershed management. For example, in regions facing poverty and resource degradation, integrated watershed management has been recognized as a viable strategy for enhancing agricultural productivity and rehabilitating degraded lands (Pathak et al., 2013). By focusing on the socio-

economic conditions of residents, planners can identify vulnerable groups and implement targeted interventions that promote social equity and environmental sustainability. Moreover, the governance structures surrounding watershed management must also consider socio-economic factors to ensure effective coordination among stakeholders. The lack of integration among sectors and community participation has been identified as a significant barrier to effective watershed management (Pambudi, 2019). Therefore, fostering collaboration among various stakeholders, including government agencies, local communities, and NGOs, is essential for creating a cohesive approach to watershed planning that addresses both environmental and socio-economic objectives.

## Objectives of the Study

### General:

This study was conducted to understand the socio-economic status of the residents of Balcon Maravilla located near to Sor-ohan watershed at Jordan, Guimaras.

### Specific:

1. To gather data on respondents' age, sex, civil status, monthly income, and educational attainment to understand their demographic and socioeconomic characteristics.

## METHODOLOGY

### Methods

Respondents of the study were the household members residing in Balcon Maravilla, Jordan, Guimaras nearest the Sor-ohan sub-watershed. Only 15% of the population was selected as sample size.

Stratified random sampling was used in selecting the sample respondents. Each member of the population has an equal and known chance of being selected. This was done by dividing the population into strata, in this case, into barangays. A stratum is a subset of the population that shares at least one common characteristic. Random sampling was then used to select a sufficient number of subjects from each stratum.

## RESULTS AND DISCUSSIONS

### Age of the Respondents

As shown in Table 1, the age groups are evenly distributed, with 50 respondents (50%) aged 40 and below, and another 50 respondents (50%) aged 41 and above. This equal distribution ensures that insights can represent both younger and older age groups without bias toward one age category.

Therefore, data implies that there is a balanced representation of different age groups in Balcon Maravilla. It can lead to more comprehensive and effective watershed management. Combining the traditional knowledge of the older respondents, with the knowledge of contemporary issues and innovative solutions or technologies from the young respondents will lead to the formulation of effective strategies for watershed plans.

As supported by Floress et al. (2009) and Borisova et al., (2011), the older stakeholders often possess a wealth of traditional ecological knowledge and historical context regarding the watershed, which can be invaluable in understanding long-term environmental changes and the effectiveness of past management practices. This experience can enhance the decision-making process, as older stakeholders may be more adept at recognizing patterns and implications of management actions over time. Conversely, as reported by Khiavi et al., (2023), the younger stakeholders may be more familiar with contemporary issues and innovative technologies, which can introduce fresh perspectives and adaptive strategies into watershed planning.

Table 1. Profile of the Respondents as To Age.

Category	F	%
40 and below	50	50%
41 and above	50	50%
Total	100	100%

### Sex of the Respondents

The table indicates that out of 100 respondents, 36% are male, and 64% are female. This gender imbalance has implications for participation, decision-making, and community involvement in watershed management efforts.

In Balcon Maravilla, women play a vital role in water use and management, especially if they are in rural or resource-dependent communities. Their tasks include collecting water, maintaining household water supplies for cooking and washing, and contributing to community-level conservation efforts. This high representation suggests that engaging women is crucial for effective watershed management strategies.

Men are more involved in land-use decisions, infrastructure development, or technical aspects of watershed management. Their lower representation indicates a potential need to ensure their active engagement in such initiatives.

Based on the research of Kumar & Kumar, (2022) and Figueiredo & Perkins (2013), they discussed that women's majority presence highlights their potential as leaders and influencers in watershed management activities, such as reforestation, water conservation campaigns, or livelihood projects. Men predominantly hold leadership positions despite being fewer in number, programs should aim to empower women to take active roles in decision-making. Tailored campaigns should address both groups' roles, ensuring the effective dissemination of information about watershed conservation.

The integration of gender perspectives into watershed governance is essential for achieving sustainable management outcomes. Studies have shown that when women are actively involved in decision-making processes, the outcomes tend to be more equitable and effective. However, cultural and institutional barriers often marginalize women's voices, relegating their participation to mere tokenism rather than genuine engagement (Kumar & Kumar, 2022; Darmastuti & Wijaya, 2018). This marginalization can lead to a lack of ownership and commitment to watershed initiatives, ultimately undermining their success (Padmaja et al., 2020; Kumar & Kumar, 2022). Therefore, watershed management frameworks in Guimaras and similar regions must incorporate strategies that empower women and ensure their meaningful participation.

Table 2. Profile of the Respondents as To Sex.

Category	F	%
Male	36	36%
Female	64	64%
Total	100	100%

### Civil status

The data shows that 24% of respondents are single, 70% are married, and 6% fall into the "Others" category (separated, widowed, or single parents). The civil status of respondents has implications for their involvement,

roles, and perspectives in watershed management.

Since married individuals form the majority (70%), watershed management programs should focus on how initiatives impact households. For example, promoting family-friendly conservation practices and encouraging married individuals to act as champions for watershed programs within their communities. While singles and "others" are smaller groups, their participation remains vital. Programs should address their unique needs, such as flexible schedules for activities or targeted support for vulnerable groups like single parents.

According to the research of Joseph & Ganpat, (2018), the civil status of stakeholders can affect their willingness to collaborate and share resources. Stakeholders with higher social capital—often associated with better civil status—are more likely to engage in cooperative efforts and contribute to collective action plans). This is particularly relevant in the context of Guimarães, where local stakeholders may have varying degrees of influence and access to information, which can impact their participation in watershed management initiatives.

Studies by Thamrin et al. (2022) have shown that stakeholder perceptions of management practices and their willingness to collaborate are significantly influenced by their civil status and the socio-political environment. As added by Putuhena & Sapei (2015), the integration of stakeholder perspectives is critical for addressing the multifaceted challenges of watershed management. The civil status of stakeholders can shape their priorities and concerns regarding environmental issues, leading to differing approaches to resource management.

Table 3. Profile of the Respondents as To Civil Status.

Category	F	%
Single	24	24%
Married	70	70%
Others (Separated/ Widower/ Single Parent)	6	6%
Total	100	100%

### Educational Background

The provided data on educational background can be analyzed in the context of watershed management in Guimarães, where education levels may influence awareness, participation, and implementation of sustainable environmental practices.

The absence of individuals without formal education is encouraging for watershed management efforts. It implies that all individuals in the surveyed population can access and understand basic information about environmental conservation if provided with appropriate outreach programs.

A combined 33% of the population have only an elementary-level education, which may limit their ability to grasp more complex concepts related to watershed management, such as hydrology or ecological services. However, these individuals still contributed significantly to practical, on-the-ground initiatives like tree planting, waste management, and community-driven conservation projects if trained effectively through simple and visual communication methods.

This group, comprising 45% of the population, likely has sufficient education engaged in mid-level watershed management activities. They understand the importance of actions like reforestation, proper land use, and controlling agricultural runoff. They also play a role in advocacy and awareness campaigns within their communities, given their likely ability to communicate effectively about environmental issues.

College-educated individuals (21% in total) are the most capable of understanding technical aspects of watershed management, such as water quality monitoring, sustainable agricultural practices, or the economic benefits of

maintaining a healthy watershed. Those who have graduated from college (6%) can take on leadership roles in planning, policy formulation, and managing community programs for watershed conservation.

Vocationally trained individuals can be instrumental in implementing specific watershed management technologies, such as constructing water catchment systems, maintaining irrigation structures, or applying sustainable farming techniques. Increasing the proportion of vocationally trained individuals could strengthen the technical workforce needed for watershed projects.

As researched by Royer et al. (2020) the integration of diverse educational backgrounds among stakeholders can foster a more comprehensive approach to watershed management. Royer et al. discuss the importance of a diverse stakeholder committee that represents various sectors, which can enhance the alignment of research with stakeholder needs. This diversity is crucial in Guimaras, where local knowledge from community members can complement scientific insights from researchers, leading to more effective management strategies.

Table 4. Profile of the Respondents as To Educational Background.

Category	F	%
No Education	0	0%
Elementary Level	11	11%
Elementary Graduate	22	22%
High School Level	12	12%
High School Graduate	33	33%
College Level	15	15.0%
College Graduate	6	6%
Graduate Studies	0	0%
Vocational	1	1%
<b>Total</b>	<b>100</b>	<b>100%</b>

### Monthly income

Over half of the respondents fall into the lowest income bracket (5,000 and below), indicating a high level of financial vulnerability. Individuals in this category are likely to prioritize immediate survival needs over environmental concerns.

A significant proportion of respondents (35%) have slightly higher incomes but may still face financial challenges. These individuals can invest in small-scale initiatives, such as maintaining vegetation around water sources or adopting basic soil conservation techniques.

With respondents earning ₱10,000 or less monthly, watershed management strategies must be affordable, accessible, and tied to immediate or short-term benefits. Livelihood programs such as eco-tourism, sustainable farming, or community forestry could address both economic and environmental goals.

The data underscores the importance of tailoring watershed management strategies to the financial realities of Guimaras residents. By aligning conservation efforts with livelihood benefits and creating inclusive programs, the community can achieve both environmental sustainability and socioeconomic upliftment.

Research has indicated that higher-income households are more likely to participate in conservation initiatives, as they may have the resources to invest in such activities (King & Guehlstorf, 2022; Upadhaya & Arbuckle, 2021). Conversely, lower-income households may struggle to engage in these practices due to financial constraints, which can perpetuate cycles of poverty and environmental degradation ("Determinants of Women Participation on Watershed Management in Gibe Sub Catchment of Nono Benja District Jimma Zone, Ethiopia", 2021). Thus, understanding the income dynamics of respondents is crucial for designing effective watershed management programs that are inclusive and equitable.

Table 5. Profile of the Respondents as To Monthly Income.

Category	F	%
5,000 and below	51	51%
5001 to 10,000	35	35%
10,001 - 20,000	8	8%
20,001-30,000	4	4%
Above 30,000	2	2%
<b>Total</b>	<b>100</b>	<b>100%</b>

## CONCLUSIONS

The socio-economic profile of Balcon Maravilla residents suggests both challenges and opportunities for watershed planning. While low income and educational barriers may limit initial participation, the community's demographic stability, strong representation of women, and diverse educational levels present a solid foundation for inclusive and sustainable watershed management strategies. The conduct of the following programs is recommended: (a) Community Education and Awareness Program to address educational barriers by enhancing community understanding of watershed issues; (b) Women's Leadership and Capacity Building Program to empower women as leaders and decision-makers in watershed management; (c) Financial Incentives for Sustainable Practices to address financial constraints by supporting residents in adopting sustainable watershed practices; (d) Community-Based Monitoring and Stewardship Program to foster local stewardship and accountability for watershed health; and (e) Integrated Watershed Planning Forum to foster collaboration among stakeholders for long-term planning.

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