

看見高雄農村

THE SOCIAL RETURN ON
INVESTMENT REPORT OF

KAOHSIUNG RURAL REGENERATION PROGRAM



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農村再生
RURAL REGENERATION



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Signed

Mr Ben Carpenter
Chief Executive Officer
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SROI / Social Value Analysis of Kaohsiung Rural Regeneration Program

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1. Executive Summary

This Social Return on Investment (SROI) analysis evaluates the **Rural Regeneration Program** promoted by the Agriculture Bureau of Kaohsiung City Government (ABKCG). The study assesses the social value created for the main stakeholders—including **community residents, community volunteers, local producers and merchants, community organizations, and government departments**—across the three participating communities: **Liugui Xinfu, Yong'an Xingang, and Qishan Tangchang**.

The objectives of this evaluation are threefold:

- **Understand the actual changes experienced by stakeholders:** Identify and analyze both positive and negative, expected and unintended changes resulting from participation in the Rural Regeneration Program.
- **Measure the societal value of these changes:** Monetize outcomes to reflect their contribution to personal well-being and the broader development of the community.
- **Clarify overall impact and improvement potential:** Provide ABKCG with evidence-based insights to guide future resource allocation, strategy optimization, and multi-stakeholder collaboration.

According to the results, each NT\$1 invested in the Rural Regeneration Program generates approximately NT\$2.57 in social value. Sensitivity analysis indicates that the overall SROI ratio falls within a range of 1.00 to 3.57, reflecting both efficient resource utilization and robust social impact.

The program outcomes align with the core goals of building communities that are “**livable**,” “**workable**,” and “**tourism-friendly**.”

- **Community Residents:** Reported substantial improvements in quality of life, including a **Strengthened Sense of Belonging (26.01%)**, **Enhanced Sense of Tranquility (23.79%)**, and **Increased Perceptions of Safety (20.22%)** through reduced residential risks. These results reinforce the “livable” objective of rural regeneration, highlighting enhanced everyday comfort and security.
- **Local Producers and Merchants:** Experienced **Increased Revenue (2.16%)** of total social value, demonstrating tangible outcomes to rural industries and local employment opportunities, supporting the “workable” dimension of regeneration.
- **Planet (Earth):** Outcomes such as **environmental quality improvement, waste reduction, resource recycling, water and electricity savings, and expansion of green areas and friendly farming** accounted for **1.21% of total social value**, aligning with long-term environmental sustainability goals.
- **Community Associations:** Achieved results in **Increased Community Income (1.76%)**, **Strengthened External Recognition (1.24%)**, and **Increased Visibility (1.85%)**, contributing a total of **4.85%** of overall social value. These outcomes reflect stronger community branding, improved reputation, and tourism attraction, supporting the “tourism-friendly” policy direction of rural regeneration.
- **Community Volunteers:** Outcomes included **Expanded Interpersonal Relationships (1.06%)**, **Increased Sense of Belonging (0.90%)**, and **Enhanced Sense of Accomplishment (0.95%)**, collectively contributing about **5.17%** of total social value. Volunteers strengthened their social networks, sense of acceptance, and personal meaning through program participation, laying the foundation for long-term community cohesion and volunteer retention.

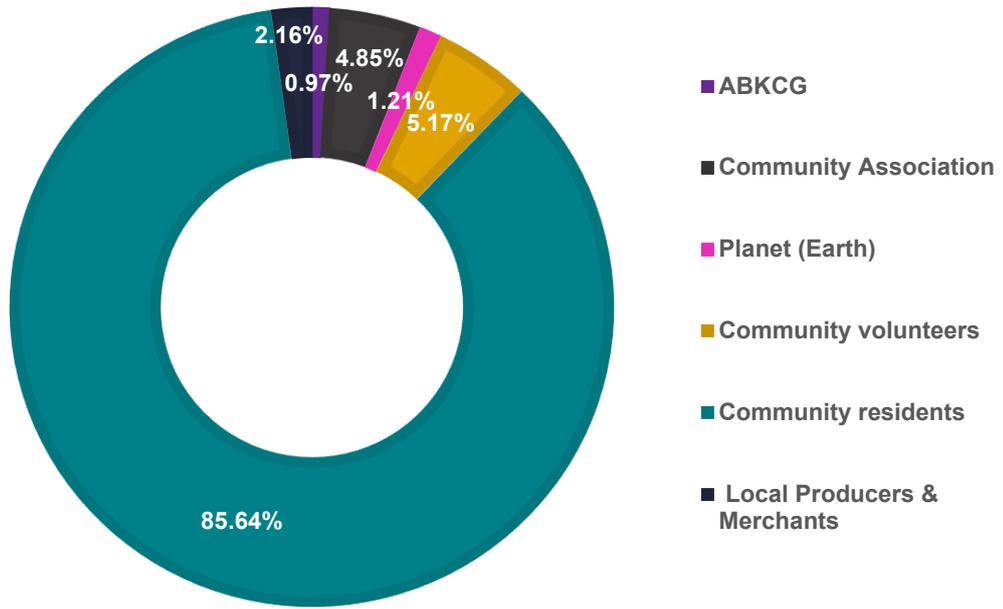
Key Outcomes by Stakeholder:

- **Local Producers and Merchants (2.16%):** *Increased Revenue* emerged as the most economically significant outcome. With an average two-year duration, this directly strengthens the local economy and provides sustained benefits to rural industries.
- **Community Residents (85.64%):** Outcomes such as *Strengthened Sense of Belonging*, *Enhanced Sense of Tranquility*, and *Increased Perceptions of Safety* collectively represent the most substantial share of overall social value. Each has an average two-year impact period, demonstrating strong alignment with the goal of creating a **livable rural environment**.
- **Community Associations (4.85%):** Outcomes in *Increased Visibility* and *Strengthened External Recognition* highlight organizational strengthening, enabling better access to external resources and partnerships.
- **Community Volunteers (5.17%):** Outcomes in *Expanded Interpersonal Relationships*, *Sense of Being Needed*, and *Enhanced Sense of Accomplishment* show improvements in psychosocial well-being and community connection.
- **Planet (Earth) (1.21%):** Achievements in *Environmental Quality Improvement* demonstrate the program's contribution to sustainability through ecological conservation, green space creation, and friendly farming practices.

The SROI analysis confirms that the Rural Regeneration Program delivers tangible, wide-ranging, and enduring outcomes across multiple dimensions: personal well-being, social cohesion, industrial development, and environmental sustainability. The value created not only echoes national policy goals but also provides ABKCG with a quantitative foundation to optimize future rural regeneration strategies.

Recommendations emphasize three priorities: (1) establish feedback and adaptive management for unexpected outcomes, (2) design tiered strategies to extend long-term results and address short-term risks, and (3) optimize efficiency by prioritizing low-deadweight, high-attribution outcomes.

By institutionalizing these measures, the Agriculture Bureau of Kaohsiung City Government (ABKCG) can strengthen responsiveness, avoid one-size-fits-all planning, and maximize sustainable social value. This positions Kaohsiung as a potential global model for how SROI-informed governance can translate public investment into lasting community resilience and wellbeing.



2. Introduction

2.1 Background

Since the 1980s, Taiwan has faced rapid urbanization, and rural areas have generally faced population outflow, aging, industrial shrinkage, and inefficient land use structural problems such as the decline of community vitality have led to an imbalance in rural life functions and stagnation of overall development. In response to these challenges, the Ministry of Agriculture of the Executive Yuan officially promoted the Rural Regeneration Act in 2010 and launched the Rural Regeneration Policy, becoming Taiwan's first rural development policy to be promoted in the form of law, emphasizing resident participation as the core, integrating the environment, production, and life to reshape rural resilience and sustainability.

According to statistics from the Ministry of Agriculture¹, as of the end of 2023, more than 2,500 communities in Taiwan have participated in the rural regeneration movement. The implementation of rural regeneration programs has led to diversified development results, such as youth returning to their hometowns to start businesses, agricultural value-added marketing, cultural landscape preservation, and community care system innovation, showing the potential for overall rural regeneration. However, as the policy deepens, the gap between project design and local reality gradually emerges, including challenges such as overly standardized policy tools, lack of financial and business sustainability planning, insufficient community participation momentum, weak local governance manpower, and inadequate cross-departmental coordination mechanisms.

In recent years, the practice of rural regeneration policies has increasingly emphasized the substantive changes that have occurred to stakeholders. The focus of policy attention has gradually shifted from the initial focus on environmental and facility improvement to an in-depth assessment of its social impact on multiple actors such as community residents, local organizations, and local business and governance structures.

Studies generally point out that community participation is not only a tool to promote rural development, but also a core mechanism for strengthening local cohesion and governance capacity (Kenny et al., 2015). Taking cultural asset-oriented community development as an example, Li et al. (2020) pointed out that through the substantive participation and long-term investment of residents, community organizations with self-management capabilities and sustainable potential can be cultivated. In the United Kingdom, research by the Joseph Rowntree Foundation pointed out that the effectiveness of rural regeneration programs is highly dependent on the completion of community participation mechanisms and the support of local voluntary departments, especially in places such as England, Northern Ireland and Scotland, where microfinance projects effectively promote residents' active participation and action (Osborne, Beattie, & Williamson, 2002).

The case of Japan shows that the introduction of participatory development strategies in the process of farmland integration can strengthen social ties and trust within the community, and although the impact on external resource links is relatively limited, it has a significant effect in cohesion of internal energy within the community (JIRCAS, 2018). In addition, the World Bank's practical research in Afghanistan has found that promoting rural projects through the Community Development Committees (CDCs) system can help improve residents'

¹ Ministry of Agriculture, Rural Development and Soil and Water Conservation Agency Data Platform https://data.ardswc.gov.tw/Statistics/Statistics?utm_source=chatgpt.com

participation and accountability, further promoting the overall governance capacity and organizational resilience of the community (World Bank, 2016).

In summary, the true effectiveness of rural regeneration should be evaluated from multiple aspects such as organizational maturity, residents' quality of life, local economic activity, and the participation of community cadres to grasp its long-term local impact.

2.2 About Kaohsiung Rural Regeneration Program

Since the 2010s, Agriculture Bureau of Kaohsiung City Government (ABKCG), as the organizer of **Kaohsiung rural regeneration program**, has launched a series of plans and measures based on central policies aimed at achieving sustainable rural development. One of the core missions of ABKCG is to assist rural communities in integrating resources and promoting rural regeneration models that align with local characteristics through the assistance of various government units and central resources. These projects emphasize community-led participation mechanisms (bottom-up), ensuring that each community can propose and implement specific development strategies based on their own needs.

In the process of promoting rural regeneration, ABKCG is committed to comprehensive development from various aspects such as ecological protection, agricultural innovation, cultural preservation, social innovation, green care, and tourism economy. ABKCG actively coordinates with communities to help them propose development plans that align with local characteristics, and integrates policy support such as sanitation, tourism, transportation, and environmental protection to ensure that each community can realize its unique characteristics and potential, and promote the development and revitalization of the local economy on this basis. For example, the Xingang community in Yong'an District, with the support of the Agricultural Bureau, won the title of the only "Gold Medal Rural Village" in Taiwan in 2021. The youth of the Xingang community have independently established the "Anqing Class", which has grown from 4 people to 72 people, showing the strong potential for youth participation and development within the community. The community also attracted residents of different ages to participate through the creative activity "Shiri Sea Breeze, Houlang Market", further promoting cooperation and interaction between the different generations. Under the guidance of ABKCG, the community has established the "Yong'an Xingang Fresh Products" brand, which has been selected as a national "Rural Good Product" for four consecutive years, and the surplus generated has been returned to the community, accumulating about 3 million NTD in three years.

The Tangchang community in Qishan District is also making progress in rural regeneration program. The community was awarded the "Rural Pilot Award" by Zeng Yuyuan, CEO of the Qishan Community Development Association, in 2022. Recently, the Tangchang community has cooperated with the OTC listed company Zhenyu Hardware to promote the upgrade of net-zero carbon reduction, further reducing carbon emissions through measures such as replacing LED lamps, water savers, and rechargeable batteries, and is committed to becoming a "second home" for local residents. Under the guidance of the Agricultural Bureau, the community established the "Daqimei Rural Experience Products Direct Sales Office", which has become a distribution center for agricultural specialties and cultural and creative products, and has also attracted a large number of tourists to participate in the "One-Day Farmer's Rural Tourism", and 20% of the operating surplus will be returned to the care of the elderly.

The Xinfu community in Liugui District is also gradually revitalizing the camellia industry under the guidance of the Agricultural Bureau. The Xinfu community was hit hard by the 2009 88 typhoon disaster, and the tea industry declined for a while, but with the support of the Agricultural Bureau, the focus of the industry shifted to Taiwan's unique camellia and cooperated with Xinfu Elementary School to incorporate tea art into the curriculum, train

students to become little tea artists. The first Camellia Appraisal and Camellia Culture Season held by the community in 2022 successfully attracted the participation of local tea farmers, government agencies, and academia, enhancing the community's consensus on the camellia industry and enhancing the industry's visibility. Community Supervisor Pan Yizhen won the "Rural Pilot Award" in 2022 and won the three-star award from Belgium's ITI International Evaluation in 2023 for sending Liugui Camellia to an international competition, which also demonstrates the positive impact of rural regeneration program in promoting local industrial development.

When promoting the rural regeneration program, ABKCG adheres to the three major policy goals of "Livable, workable, and touristy". First, the "Livable" goal focuses on improving the quality of life of rural residents, strengthening infrastructure and environmental greening, and making rural areas livable. secondly, "Workable" focuses on rural industrial innovation, promotes youth entrepreneurship, enhances agricultural added value, and injects vitality into the local economy; Finally, the goal of "Touristy" is to use the natural and cultural resources of rural areas to develop tourism, attract tourists, and promote cultural preservation. These three goals jointly promote the smooth progress of ABKCG's rural regeneration program and hope to achieve long-term development and revitalization of rural areas.



Figure 1 The agricultural regeneration plan of ABKCG

3. Scope

3.1 Purpose and scope of analysis

This report evaluates the social impact created by ABKCG's rural regeneration program in 2023 through the Social Return on Investment (SROI) methodology, targeting three communities: Liugui Xinfu Community, Yong'an Xingang Community, and Qishan Tangchang Community. The project focuses on creating a livable environment, promoting community sustainability, developing local industries, enhancing economic vitality and social connections, and strengthening community autonomy and cohesion through local participation to create a resilient local development model.

This SROI is an Evaluative SROI, and the analysis purposes include:

1. Understand the actual changes experienced by stakeholders: Identify and deeply analyse the positive or negative, expected or unintended changes produced by community residents, community organizations, and other participants after participating in rural regeneration programs.
2. Measuring the social value created by these changes: Through monetization methods, present the extent to which the transformations experienced by stakeholders contribute to their personal well-being and the overall development of the community.
3. Clarify the overall impact and improvement potential of the program: Assist ABKCG in grasping policy benefits and provide a basis for future decision-making in resource allocation, strategy optimization, and multi-stakeholder participation.
4. This report constitutes an **Evaluative Social Return on Investment (SROI)** analysis covering the period from January 1 to December 31, 2023, and evaluates the tangible outcomes and social value created by the program in the three communities in relation to rural community development. The results are intended to inform tactical decision-making by ABKCG.

Given that tactical decisions involve a moderate level of impact risk, the evaluation process adheres to a required level of rigor, focusing on the delivery of practical and actionable insights. The analysis also aims to identify and disclose risks to enhance the utility of results for subsequent application.

The findings of this SROI analysis will serve as an empirical reference for ABKCG in the design and implementation of similar initiatives in the future—especially when considering the expansion of funding support to additional communities. This will contribute to maximizing the social impact of public resource investments and improving the overall well-being of stakeholders.

3.1.1 Input

According to the definition of Social Value International (SVI) Social Value Vocabulary 2.0, inputs refer to various resources required to promote activities and achieve social results, including money, time, human and in-kind support, etc.

In this project, the total investment amount in 2023 is NT\$35,003,600, covering three aspects of resource investment, including government subsidies, community-raised funds, and volunteer time, as detailed below (see as Table 1):

1. **Agriculture Bureau of Kaohsiung City Government:** A total of 32,830,000 NTD, mainly used to subsidize the implementation of three major types of activities: industrial revitalization and marketing promotion, education promotion and experiential activities,

integrated environmental improvement and space creation a total of 24,100,000 NTD; and the total expenditure required for the promotion of counseling is 8,730,000 NTD.

2. **Community Association:** Self-raised 2,156,000 NTD, reflecting the community organization's resource investment and self-support ability for this project.
3. **Community volunteers:** The investment time is estimated to be about 100 hours, calculated based on the basic salary of 176 NTD per hour in 2023², which is converted into 17,600 NTD. This investment is a non-financial resource, demonstrating the substantive participation and support of community residents in rural regeneration work, which is highly representative.

No additional in-kind resources or material donations were identified beyond the above-mentioned financial and volunteer time inputs.

Table 1 Summary of Inputs of analysis

Stakeholders	Type of Input	Value (NTD)
Agriculture Bureau of Kaohsiung City Government	money	32,830,000
Community associations	money	2,156,000
Community volunteers	Time	17,600
Total		35,003,600

3.1.2 Activities and Outputs

The Kaohsiung rural regeneration program aims to improve the quality of life of local communities and promote community sustainability, gradually establishing a resilient and autonomous community development model through local participation. The program can be divided into activities implemented and promoted by ABKCG, which includes handling multiple promotion methods, in-depth community counseling, case promotion, education and training, achievement presentations, participation in exhibitions, media reports, etc., to facilitate the community in implementing rural regeneration programs. (see as Table 2)

Table 2 ABKCG organizes related activities for the Kaohsiung rural regeneration program

Activity Type	Specific content	Quantitative output
Assist the community in the competition	Counseling the community to participate in the 3rd Gold Medal Rural Competition	9 counseling visits
Project counseling	Including education and training, administrative team assistance, etc	Counseling 3 communities
Exhibition and study tour	Assist the community in participating in international exhibition and related study tours	1 exhibition and 3 tours
Showcase presentation	Organize the annual results of the rural regeneration programs	1 showcase presentation

² 2023 Minimum wage per hour in Taiwan <https://www.mol.gov.tw/1607/28162/28166/28180/28182/>

In addition, the Kaohsiung rural regeneration program can be mainly divided into three categories: industrial revitalization and marketing promotion, education promotion and experiential activities, integrated environmental improvement and space creation.

1. Industry revitalization and marketing promotion

The industrial revitalization and marketing promotion category is mainly composed of communities that combine their own agricultural and fishery features and local cultural characteristics to develop identifying marketing activities and festival performances. (see as Table 3)

Table 3 Outputs of industrial revitalization and marketing promotion activities

Community Name	Event Name	content	Quantitative output
Xinfa community	Fruit picking and tea tasting camping season activities	Combining camellia, camping, and fruit picking, it promotes local consumption through point collection and diverse experiences	1 session, about 300 participants.
Xinfa community	Tea fragrance hot spring season activities	Combining hot springs, tea culture and checkpoint activities, expand the tourist experience	1 session, about 200 participants
Xingang Community	Su Shui meets the Forest Flower Art Festival	The landscape art festival integrates local traditional culture, floral art, woodworking, space, and fine arts, and is jointly curated to revitalize local industries. It is hoped that through this event, the traditional industrial culture will be revived, and the industrial cultural activities will become an annual event and feature of the community, so that they will attract the attention of the people across the country, and allow tourists who come to play to experience the feast of the beauty of the fishing village, and then promote and market the characteristic resources of the community through the form of activities. In addition to experiencing traditional aesthetics and history and culture, we also hope that participants will understand the importance of cherishing resources, drinking water and thinking about the source, and taking what is	1 event for three consecutive days

		needed, so that resources can be sustainably recycled.	
Xingang Community	Shiri Sea Breeze Fisherman's Life Festival X Houlang Market X Grouper Industry Revitalization	<ol style="list-style-type: none"> 1. Traditional fishing experience: Recreate traditional fishing culture and provide catch sharing and live cooking. 2. Fishing village cultural DIY experience: including fishing net weaving DIY eco-friendly bags, rubbing, fish-eating handicrafts and floating ball painting, etc. 3. Caspian Sea Story House/Fishing Fun: Community volunteers tell local legends and common sense of fishery farming, promoting marine environment education and fish-eating education. 4. Houlang Market: More than 36 special stalls, providing cultural and creative, food, music and street artist performances, the event continues into the night, with a sea of shaped lights to create an exotic atmosphere on the island. 	1 market event, about 2,500 participants
Tangchang community	Research and development of home economy cooking kits	Develop fast food and children's special cooking kits, and promote them with cultural story cards	<ol style="list-style-type: none"> 1. Food and culture heritage story card design 2. 3 types of petty bourgeois fast food cooking kits 3. 3 special young food packages 4. 2 special cooking package promotion activities
Tangchang community	East Nine Road Station Music Cheng	Combining the cultural and creative power of Kaohsiung, it connects the smallholder farmers' market and the music festival	2 agricultural specialty promotion activities

2. Education promotion and experiential activities

In the category of educational promotion and experiential activities, the community mainly invests in industrial planning and cultural and creative design, combining local cultural resources, and developing a variety of educational promotion and experiential activities, so that industrial development is not only limited to sales and promotion, but also includes local cultural connotation and educational value. Each community has proposals, including a total of 6 main activities, and the content and outputs of the activities are detailed in Table 4.

Table 4 Outputs of educational promotion and experiential activities

Community Name	Event Name	content	Quantitative output
Tangchang community	Food and agriculture education promotion activities	Banana DIY, flavored meals, small farmers' markets, etc	3 events
Tangchang community	Food and agriculture three sides and six resource inventory	<ol style="list-style-type: none"> 1. Promote agricultural products and agricultural tourism resources in the Daqimei area. 2. Inventory and record agricultural production and environmental resources, and formulate local promotion lesson plans. 3. Inventory and record food and health resources to promote real estate for local consumption and green consumption. 4. Take stock and record local eating habits, and promote local food culture through agricultural experiences. 5. Create Tangchang food and agriculture experience itineraries, combine with the city's neighboring communities, and enhance the visibility of rural communities. 6. Learners will personally participate in the complete production and marketing process from the origin to the table from the farming experience, feel the hard work of farming, understand the relationship between friendly farming, ecological environment, and safe agricultural products, and cultivate correct dietary knowledge that food is better than food. 	480 participants in 4 echelons
Xinfa community	Camellia experience tour DIY course	Using local materials to develop tea experience products 2 styles, 20-hour courses, explanations and operation training	<ol style="list-style-type: none"> 1. 2 types of tea experience products 2. 20 hours of course training

Xinfa community	Camellia story and tour guide interpretation training	Interviews with elders, tea picking history, tour guide training, and story results printing	<ol style="list-style-type: none"> 1. 10 elders Interviews 2. A Tour guide training course 3. A Camellia Story Achievement Book 4. Interview course 15 hours 5. The training course is 12 hours
Xingang Community	Fishing village aesthetic cultural and creative product development	The youth entrepreneurship cluster displays and designs cultural and creative products and promotes them at various activities and exhibition points	4 cultural and creative products
Xingang Community	Fish-eating Chronicles Development Project	Deeply cultivated locally and internationally, the production of picture books, videos, and bilingual materials promotes fish-eating culture education	<ol style="list-style-type: none"> 1. The idea of the fish-eating education chronicle picture book was created 2. A Fish-eating education chronicle drawing book 3. A Chronicle picture book video production 4. A Fish-eating Education Chronicle Bilingual (American version compiled) 5. A Fish-eating education chronicle picture book

3. Integrated environmental improvement and space creation

Integrated environmental improvement and space creation are mainly carried out by ABKCG or the community to create a friendly and recognizable public space. Each community has actions, including a total of 7 main activities, the content and output of the activities are detailed in Table 5.

Table 5 Outputs of integrated environmental improvement and space creation activities

Community Name	Project Name	content	Quantitative output
Xinfa community	Shunfa Tea Factory environmental improvement	Shunfa Tea Factory exterior renovation, greening, construction of tea-making images, signboard improvement and beautification, and enhance the image of the tea street	<ol style="list-style-type: none"> 1. Improvement of building appearance environment 250m² 2. A landscaping site 3. A Tea-making process image creation. 4. A Signboard renovation.
Xinfa community	The area around the Camellia Story Museum has been improved	The landscape entrance, tea set experience area, walls and ceiling are beautified to increase the comfort of tourists' experience	<ol style="list-style-type: none"> 1. Entrance landscape construction 20m² 2. A experience tea set 3. Wall space construction 150m² 4. Ceiling beautification 108m² 5. A site improvement
Xinfa community	Overall environmental construction project	Create a 2km green beautification area and tea street image along Heping Road	<ol style="list-style-type: none"> 1. 10 sites of greenery 2. The image of the tea street is 2km, covering an area of 2000m²
Xingang Community	Anqing New Village space arrangement	Interior decoration and environmental beautification, power-saving and water-saving facilities	The youth shared space is organized 200m ²
Xingang Community	Improvement of the environment of the youth entrepreneurship base	Drainage system, image park, collage trail, enhance educational displays and settlement landscapes	<ol style="list-style-type: none"> 1. Drainage system improvement, about 200m. 2. The environment of the park has been improved, with a low wall of about 50m of about 1000m². 3. Fish education collage drawing is about 50m²

Tangchang community	Multi-functional experience plaza creation	Improve the comfort of activities, build shade facilities, rest seats, water-saving facilities, and greenery	<ol style="list-style-type: none"> 1. 3 shaded facilities in the event square 2. 10 seats for rest. 3. Environmental greening 100m²
Tangchang community	Establishment of the food and agriculture hall guide system	New entrance images, guide boards and signs have been added to enhance the navigation flow and educational functions	<ol style="list-style-type: none"> 1. 2 sets of Entrance decoration 2. 10 food and agriculture education guide boards 3. 10 food and agriculture education signs

3.2 Social Return on Investment Analysis (SROI Analysis).

Social return on investment (SROI) is a comprehensive and realistic impact assessment method used to measure and communicate the overall value created by a project or organization. Compared to traditional metrics that focus solely on financial performance, this approach focuses more on the substantial changes and quality of life improvements experienced by people and planet as a result of interventions. By systematically linking resource input, activity execution, and outcome generation, organizations can be provided with a concrete and quantifiable way to interpret the tangible impact of their actions (Moody et al., 2015).

This study focuses on the Kaohsiung rural regeneration program in 2023 and selects three representative cases for analysis: Qishan Tangchang Community, Liugui Xinfu Community, and Yong'an Xingang Community. With the support of rural regeneration policies, these communities promote diverse actions such as food and agriculture education, green space creation, resident participation, and community tours, which not only enhance agricultural efficiency but also deeply promote community cohesion, intergenerational exchange, and local revitalization. This study is to observe the value created by the program.

Through the monetization evaluation of outcomes, this method can transform intangible impacts into tangible value, revealing the true contours of the breadth and depth of these actions. Through stakeholder interviews and outcome event chain analysis, the evaluation process not only grasps specific changes but also reveals hidden effects that are difficult to quantify, such as strengthening social ties and improving local identity.

Through this evaluation, ABKCG was able to establish its social value account, which can transparently explain the results of its public investment and strengthen its decision-making basis for resource allocation.

3.2.1 Principles

This study evaluated and analysed according to the eight principles of social value proposed by the International Association for Social Value (SVI) to ensure that the program contribution to social value can be quantified and verified, and the eight principles are described as follows:

Principles 1: Involve stakeholders

Impact evaluation focuses on engaging through stakeholders, who are people or organizations that experience change as a result of the activity, and they describe the changes to inform what is being measured. This principle entails identifying stakeholders throughout the analysis process and then engaging in meaningful consultations so that those affected or affected by the activity can understand its value and how it is measured.

Principles 2: Understand what changes

Value is created by different types of stakeholders, who are evaluated through the evidence collected to identify positive and negative or intentional and unintentional changes. This principle is to clarify how changes occur, which are the result of activities and should be measured. Provide evidence to support the authenticity of the change through information from stakeholders.

Principles 3: Value the things that matter

With limited resources or budgets, it is necessary to consider the relative importance of different outcomes when deciding the allocation of resources between different options, and this principle states that the value of important outcomes can be compared with the cost of activities by using financial proxies as an effective means of conveying value to influence decision-making.

Principles 4: Only include what is material

Changes from stakeholder to stakeholder tend to be quite diverse, so it is important to determine what truthful and fair information and evidence is included, and this principle is the principle that stakeholders can analyse the relevant decisions about important changes and material outcomes so that stakeholders can draw reasonable judgments and conclusions about the impact.

Principle 5: Do not overclaim

The principle of advocating only the value created by the scope of the study and being reasonably estimated in the pricing of the results requires reference to baselines, trends, and benchmarks to help confirm that the outcomes of a program or activity are reasonably compatible with the change, excluding factors that are not related to the results, and that the final evaluation report and management of the results determined together with the affected stakeholders will allow others or organizations to better understand the value they create.

Principles 6: Be Transparent

To ensure the accuracy and authenticity of the entire evaluation process, this principle requires documenting and explaining the sources and methods of data collection for each evaluation step, including the stakeholders, outcomes, indicators, and benchmarks involved, upholding the principle of openness and transparency to ensure the credibility of impact assessments.

Principles 7: Verify the Result

Although the changes come from stakeholders' statements, researchers may still have subjective judgments in analysing or interpreting the content, emphasizing the need for repeated verification and calculation to make reasonable evaluation results.

Principle 8: Be Responsive

In order to ensure that appropriate evaluation reports can be continuously corrected in response to real-time decision-making or evaluation processes, optimization and iteration are used to align with the latest and best social values. Optimizing social value means achieving socially recognized goals (e.g. the United Nations Sustainable Development Goals) in the

fastest and best way possible. Therefore, this principle requires organizations to implement a management approach based on three types of decisions, including "strategy" - setting social goals, "tactics" - selecting activities that best achieve the goals, and "operations" - improving existing activities. Management methods must also include appropriate levels of decision-making arrangements, precise estimation of social value, and responsible external reporting.

3.2.2 Steps

This study followed the methodology outlined in *A Guide to Social Return on Investment (SROI Guidebook, revised edition 2012)*, using the eight Principles of Social Value as the core evaluation framework. This ensured that the assessment process remained transparent, accurate, and verifiable. The analysis was structured in accordance with the six stages of SROI, as follows:

Stage 1: Determine the scope and identify stakeholders

The initial step involved reviewing the background, objectives, and target groups of the Kaohsiung Rural Regeneration Program. A foundational understanding was developed through a desk review of relevant literature. Semi-structured interviews were conducted with program organizers, and focus group discussions were used to identify stakeholder groups potentially affected by the program. These insights informed the definition of the scope for the subsequent analysis.

Stage 2: Qualitative interviews and understanding change

In-depth interviews were carried out with stakeholders from three participating communities—Tangchang, Xinfu, and Xingang—to explore the experienced outcomes and to capture the nature of the changes observed. During this stage, the evaluation also sought to identify any unintended or negative outcomes, as well as to recognize any previously unconsidered stakeholder groups.

Stage 3: Outcome event chain and causal relationship construction

Stakeholder feedback was analysed to trace the change pathways and resulting outcomes generated by the program. This step involved mapping the causal mechanisms linking program activities to observed outcomes, leading to the development of outcome event chains. If no additional outcomes were identified during stakeholder engagement, the previously constructed outcome chains were validated and used to define well-articulated outcomes for each stakeholder group.

Stage 4: Measure change and impact factors

Once the theory of change was validated, the evaluation progressed to quantitative measurement. This included assessing the magnitude of change, stakeholder perceived value priorities, and estimating key impact adjustment factors such as deadweight, displacement, attribution, and drop-off. These were calculated through structured questionnaires or follow-up interviews to ensure that the reported outcomes accurately reflected the program's net impact.

Stage 5: Calculate SROI and confirm results

The social value created by the program was quantified, and the Social Return on Investment (SROI) ratio was calculated accordingly. These results were then presented to stakeholders for validation to ensure their accuracy, relevance, and completeness.

Stage 6: Report writing and assurance process

The findings were compiled into a formal evaluation report. To ensure the report's credibility and compliance with international standards, a third-party assurance process was conducted. The final report will be submitted to ABKCG to support ongoing social value tracking and serve as a basis for strategic decision-making. The insights gained will also inform future optimization and scaling of the program.

3.2.3 Research and Analysis Timeline

The SROI evaluation was conducted following the completion of the Rural Regeneration Program, which was implemented from January 1 to December 31, 2023. The evaluation process extended over the subsequent 18 months and was structured in accordance with the SROI framework's six stages. Each phase was designed to ensure stakeholder participation, methodological rigor, and iterative verification of findings. (See as Table 6)

Phase 1: Scoping and Stakeholder Engagement (January–February 2024)

The evaluation commenced with a scoping exercise to identify relevant stakeholder groups. Initial engagement was carried out through community consultation meetings and a snowball sampling approach, allowing evaluators to map key actors within the three participating communities. A preliminary stakeholder inventory was developed, establishing early insights into expected change pathways.

Phase 2: Qualitative Investigation and Stakeholder Deliberation (March–April 2024)

In-depth interviews and focus group discussions were conducted to explore stakeholders' experiences and perceived changes. Through iterative dialogue, the evaluation team worked with community representatives to refine the stakeholder identification matrix and validate the inclusion of material stakeholder groups. This stage laid the groundwork for defining the chain of events—the causal sequence linking project activities, outputs, outcomes, and social value creation.

Phase 3: Data Consolidation and Validation (May 2024)

Qualitative findings were synthesized into preliminary outcome maps. A second round of stakeholder deliberation sessions was organized to confirm the accuracy and completeness of reported changes, ensuring that each outcome reflected genuine and material stakeholder perspectives.

Phase 4: Quantitative Data Collection (June–August 2024)

A structured survey was administered across stakeholder groups to quantify the magnitude and prevalence of identified outcomes. The data supported the estimation of the value parameters (deadweight, attribution, displacement, and drop-off) for SROI calculations.

Phase 5: Analysis and Stakeholder Verification (September 2024)

Data were analyzed to generate provisional SROI results. Stakeholder feedback sessions were held to discuss preliminary findings and verify the chain of events. Adjustments were made based on stakeholder input to strengthen accuracy and transparency.

Phase 6: Reporting, Follow-up, and Longevity Assessment (October 2024–June 2025)

The draft report was prepared between October and December 2024. To examine the sustainability and persistence of outcomes, a follow-up quantitative survey was conducted in January–February 2025, focusing on the duration and decline of effects. Final synthesis and stakeholder confirmation were completed in March–June 2025, followed by external assurance and submission for SVI accreditation between July and September 2025.

Overall, the chain of events was constructed progressively through three rounds of triangulated evidence collection—qualitative inquiry, stakeholder deliberation, and quantitative validation—ensuring that the causal logic from program inputs to social outcomes reflected both stakeholder experiences and empirical verification.

Table 6 Research and Analysis Timeline.

Phase	Period	Main Activities	Outputs / Purpose
Program Implementation	Jan – Dec 2023	Execution of the Rural Regeneration Program across three communities.	Program activities and outcomes observed during implementation.
Phase 1: Scoping and Stakeholder Engagement	Jan – Feb 2024	<ul style="list-style-type: none"> • Preliminary stakeholder mapping • Community meetings and snowball sampling • Identification of material stakeholders 	Established stakeholder inventory and early change hypotheses.
Phase 2: Qualitative Investigation and Stakeholder Deliberation	Mar – Apr 2024	<ul style="list-style-type: none"> • Conducted qualitative interviews and focus groups • Stakeholder workshops to validate inclusion • Preliminary outcome identification 	Defined stakeholder outcome chains and constructed the initial chain of events linking activities to outcomes.
Phase 3: Data Consolidation and Validation	May 2024	<ul style="list-style-type: none"> • Synthesized interview findings • Second stakeholder deliberation and verification meetings 	Confirmed and finalized the chain of events and stakeholder outcome map.
Phase 4: Quantitative Data Collection	Jun – Aug 2024	<ul style="list-style-type: none"> • Administered surveys to all stakeholder groups • Quantified the scale and strength of reported outcomes 	Collected quantitative evidence for SROI parameters (deadweight, attribution, drop-off, etc.).
Phase 5: Analysis and Stakeholder Verification	Sep 2024	<ul style="list-style-type: none"> • Data cleaning and SROI calculation • Stakeholder sessions to review preliminary results 	Verified analytical accuracy and ensured stakeholder endorsement of results.
Phase 6: Reporting,	Oct 2024 –	• Draft report preparation (Oct–Dec 2024)	Produced final SROI findings and evaluated

Follow-up, and Longevity Assessment	Jun 2025	<ul style="list-style-type: none"> • Follow-up survey on outcome duration and decline (Jan–Feb 2025) • Final synthesis and stakeholder confirmation (Mar–Jun 2025) 	outcome persistence over time.
External Assurance and SVI Submission	Jul – Sep 2025	<ul style="list-style-type: none"> • Final report assurance and submission for SVI accreditation 	Completed assurance and publication of certified SROI report.

4. Stakeholders

4.1 Stakeholder Analysis

Impact assessment is a stakeholder-based process designed to understand and measure the effects of a project on people's well-being and the environment. In line with Principle 1: Involve Stakeholders, this study adopted a participatory survey approach combined with snowball sampling to establish initial contacts with interviewees, expand the pool of participants, and continuously revise and update the stakeholder list throughout the evaluation.

The process began with **one-on-one interviews** with program supervisors and executives who were familiar with the design and implementation of the Kaohsiung Rural Regeneration Program. These interviews provided insight into resource investment, promotion processes, and the initial mapping of stakeholder groups relevant to the project.

Subsequently, **representatives from three rural communities** (e.g., chairpersons or directors-general) were invited for in-depth interviews. These discussions clarified their roles and modes of participation, and provided a preliminary outline of the groups most directly affected by the program. To guide this stage, the following five framing questions were used:

1. Who is participating in the Kaohsiung Rural Regeneration Program?
2. Who may be affected by the program?
3. Who may influence the program?
4. Which groups could be indirectly affected by the program?
5. How many individuals are there in these stakeholder groups?

From this analysis, an **initial stakeholder inventory** was established. It included:

- **ABKCG** (the program organizer)
- **Three community development associations** receiving subsidies
- **Local community volunteers** involved in implementation and promotion, supporting activities, resident engagement, and field operations
- **Direct participants and affected groups**, such as community residents, local producers (farmers and fishers), local businesses, and landowners providing sites for program activities

To capture broader perspectives, frontline community cadres and volunteers were invited to share observations of the program's implementation and its changes through individual interviews and small group discussions. Their field-level insights helped identify less visible but materially affected groups, such as elderly residents, returnees, and smallholder farmers.

Additionally, a community focus symposium was organized to engage villagers in discussions on the program's impacts, including changes experienced, perceptions of value, and future expectations.

Following these initial consultations, the potential stakeholder groups and their possible outcomes were consolidated. Stakeholders were also asked to reflect on whether additional groups might be affected, thereby helping to capture overlooked relationships and reduce the risk of omissions.

The stakeholder identification process was conducted as a rolling and iterative exercise, reviewed alongside the program's progression. The stakeholder list was updated continuously to ensure comprehensiveness, accuracy, and robustness of the evaluation results.

4.2 Selection of representative stakeholders

To ensure that the perspectives and experiences of diverse stakeholders were adequately incorporated, a subregional and stratified sampling strategy was applied to the three community development associations within the evaluation area. Demographic factors—including gender, age, occupational roles, and history of community participation—were considered to enhance the representativeness and inclusiveness of the stakeholder sample.

In line with the qualitative research logic underpinning SROI analysis, the sampling process followed three methodological steps: theoretical sampling, theoretical saturation, and triangulation.

Theoretical Sampling: Interviewees were initially selected based on their direct relevance to the program or policy. These primary stakeholders then helped identify additional relevant groups through their insights and networks. This approach ensured that all included stakeholders had directly experienced the changes and impacts brought about by the program, thereby aligning the SROI theory of change with the lived experiences of those interviewed.

Theoretical Saturation – Interviews were conducted iteratively until no new information or perspectives emerged from additional participants. Once responses began to converge and no substantial new insights were obtained, the sample was considered saturated, and further interviews were not pursued. This approach ensured both data adequacy and analytical robustness, rather than relying on predetermined sample size thresholds.

Triangulation – Information shared by one group of interviewees was cross-validated with other stakeholder groups to confirm the consistency and completeness of data. For example, community residents' observations were compared with those of volunteers or association leaders to ensure the credibility and authenticity of reported outcomes.

The process began with interviews with the chairperson or designated liaison officer of each community development association to capture their role and observations during project implementation. Subsequently, with the assistance of community chairpersons and according to each community's availability, representative stakeholders were invited for in-depth interviews. The selected stakeholder groups are as follows (see Figure 2 and Table 7 for details):

1. **ABKCG (Program Organizer):** As the lead agency of the Kaohsiung Rural Regeneration Program, the interviewees included the program manager and supervising officer. Discussions focused on strategic priorities, resource allocation, and the practical considerations of implementing rural regeneration policy at the local level.
2. **Community Associations:** As the local implementation units, the study interviewed the chairpersons (or designated program leads) of the three participating communities—Tangchang, Xingang, and Xinfu—to gain insights into promotion processes, implementation outcomes, and local engagement.
3. **Community Volunteers:** Through the community associations, representatives of the volunteer group were invited, including community cadres and volunteers directly engaged in agricultural recycling activities. Selection ensured diversity in age, gender, and occupation, reflecting the overall volunteer team. Interviews explored participation motivations, implementation experiences, and observations of community-level changes.

4. **Community Residents:** Residents actively engaged in public affairs, courses, or community activities were invited as representatives of the broader community population. Stratified by demographic factors, these residents shared personal experiences, perceptions of project participation, and views on local development outcomes.
5. **Local Businesses:** With the support of the community associations, local stores were interviewed to examine their involvement in industry-related activities, resource linkages, technical support, or sales collaborations. The evaluation assessed whether and how the program influenced business operations and opportunities.
6. **Producers (Farmers and Fishers):** Local farmers and aquaculture fishers engaged in primary production were invited to discuss their participation in project-related activities, access to resources or technical assistance, and any impacts observed on production practices or livelihoods.
7. **Local Elders:** Elders with traditional knowledge and cultural memory were engaged to understand their perspectives on the program's role in sustaining community culture, as well as their participation, opinions, and suggestions for future continuity.
8. **Landowners (Site Providers):** Landowners who provided agricultural recycling field sites for program activities were interviewed to understand their forms of participation and perceptions of changes resulting from the project.



Figure 2 Interview with stakeholders

The study adopted purposive sampling and snowball sampling methods, with recruitment assistance from local community development associations to ensure diversity and representativeness in terms of gender, age, and level of participation.

During the qualitative interview phase, participants with a high level of involvement were prioritized, as they were better able to identify additional potential stakeholders and articulate more complete outcome chains. For the quantitative survey, questionnaires were broadly distributed to representative stakeholder groups to ensure accuracy. To minimize omissions, open-ended questions were also included in the survey, allowing respondents to provide additional feedback and insights.

The representativeness of respondents was verified by comparing the age and gender distribution of interviewees with that of the overall community population. While this could be cross-checked against government-registered demographic data, discrepancies often exist between registered and actual residents. Therefore, verification was conducted through consultation with different community associations to ensure that invited interviewees accurately reflected the community composition, thereby increasing confidence in the decision-making basis.

To mitigate the potential risk of **positive response bias**—which may arise from the higher likelihood of interviewing residents who were more actively engaged in program

activities—the evaluation adopted two complementary strategies to strengthen the credibility of findings:

First, triangulation was systematically applied to compare perspectives across stakeholder groups—including community volunteers, association leaders, and residents. During the analysis, recurring themes and statements were cross-checked to identify areas of convergence and potential divergence. When differing views emerged, additional clarifying questions were posed in follow-up interviews to validate interpretations. Through this iterative comparison, the reported outcomes and perceived changes were confirmed by multiple stakeholder groups. As no substantial contradictions or alternative interpretations remained, the verified results are those reflected in this report.

Second, in the sensitivity analysis, the potential overestimation risk associated with highly engaged respondents was explicitly incorporated into the assessment of impact risk. This adjustment scenario reduced the estimated outcome values reported by highly engaged participants to test the robustness of the overall SROI ratio.

Table 7 Summary of stakeholder representative meetings

Stakeholders	form	Number of people	Meeting format	Representative groups Representative Group
ABKCG	organization	(4)	One-on-one interview	- 1 Section Chief. - 3 Project Personnel
Community Association	organization	(6)	One-on-one interview	- 2 Chairperson or CEO of Tanchuang community association - 2 Chairperson and Director General of Xingang Community Association - 2 Chairperson or Director General of Xinfra Community Development Association 2
Community volunteers	individual	15	One-on-one interview And One-to-many interviews	- 6 cadres from Tangchang Community Association - 4 cadres from Xingang Community Association - 5 cadres from Xinfra Community Association
Community residents	individual	29	One-on-one interview and One-to-many interviews	- 12 residents from Tangchang Community Association - 8 residents from Xingang Community Association - 9 residents from Xinfra Community Association
Local producers	individual	5	One-to-many interviews	- 1 banana farmer (Tangchang Community Association) - 2 farming fishers (Xingang Community Association) - 2 tea tree farmers (Xinfra Community Association)

Local Businesses	individual	3	One-to-many interviews	<ul style="list-style-type: none"> - Daqimei Direct Sales Office (Tangchang Community Association) - Xingang Community Cooperative (Xingang Community Association) - Liugui Camellia Story Hall (Xinfa Community Association)
Local elders	individual	5	One-to-many interviews	<ul style="list-style-type: none"> - 2 elders from Tangchang Community Association - 2 elders from Xinfa Community Association - 1 elder from Xinfa Community Association
Landlord	individual	3	One-to-many interviews	<ul style="list-style-type: none"> - 1 green landowner (Tangchang Community Association) - 1 idle house landowner (Xingang Community Association) - 1 landowner (Xinfa Community Association)

4.3 Deciding which Stakeholders to Include

Based on the interview results, consider whether the project has indeed brought substantial changes to stakeholders and the degree of participation in project activities, the degree of impact and data availability, and the analysis of stakeholder groups is as follows (see Table 8 for details):

1. **ABKCG (Program Organizer)**
As the lead agency of the Kaohsiung Rural Regeneration Program, ABKCG provides subsidies and plays a central role in policy promotion, resource allocation, and program oversight. Given its high level of influence on project direction, content design, and implementation outcomes, ABKCG is considered a major stakeholder and is included in the analysis.
2. **The Community Association**
As the local implementation units of the Rural regeneration program, Community Associations received subsidies and were responsible for planning, promoting, and executing program activities. They exhibit both a high degree of participation and direct benefit from program resources. For this reason, they are considered core stakeholders in the analysis.
3. **Community Volunteers**
Volunteers served as frontline implementers, engaging directly with community residents and supporting activity delivery. They also experienced personal changes, such as increased sense of accomplishment, expanded social networks, and stronger willingness to participate in community affairs. Accordingly, volunteers are included in the analysis.
4. **Local Producers and merchants**
Although initially classified separately, interviews revealed that producers and businesses were similarly engaged in project-related economic activities (e.g.,

community markets, rural tourism events, branding initiatives). Their primary outcome was increased exposure and revenue. Given the similarity of experiences and outcomes, producers and businesses are combined into a single stakeholder group for analysis.

5. Community residents

Residents are the direct beneficiaries of the project, participating in activities such as food and agriculture education, cultural tours, and space improvement initiatives. They reported tangible changes in their living environment, learning opportunities, and community interactions. Many expressed positive affirmations toward both the community and local government. Community residents are therefore included as a key stakeholder group.

6. Local elders

Local elders, typically long-term residents of the communities, played an advisory and cultural role in the program. Most were senior members who have lived in the area for decades and possess deep knowledge of local traditions and community history. Their participation mainly involved sharing past experiences, offering cultural insights, and providing guidance during community planning and activities. Interviews indicated that elders generally viewed their involvement as a continuation of their customary engagement in community life, without perceiving significant new outcomes distinct from those experienced by other residents. Consequently, elders were not separately stratified; their perspectives and feedback were integrated into the broader “community residents” group for analysis.

7. Landlords

Landowners primarily contributed by providing idle spaces (e.g., old houses, vacant land) for project activities. Although some benefited from reduced management burdens and environmental improvements, they did not report substantial lifestyle, social, or economic changes. Therefore, landowners are not separately stratified, and their perspectives are incorporated into the “community residents” group.

8. The Planet (Earth)

During the program, community participants adopted environmentally friendly practices, such as water conservation, energy reduction, waste minimization, expansion of green space, and sustainability education. According to Social Value International (SVI), stakeholders include not only individuals and organizations but also the planet (Earth) which, while unable to express itself, is considered a silent stakeholder. As the environment was demonstrably affected by project activities, it is included in the analysis in accordance with the principle of relevance and social norm.

The decision to group local elders and landowners within the broader community resident’s category was based on qualitative evidence gathered during preliminary interviews and verified through triangulation. This judgement followed the principle of materiality, ensuring that only stakeholders experiencing distinct and significant changes were separately analysed.

For elders, interviews revealed that they mainly played an advisory and cultural role, drawing on their long-term residency and knowledge of local traditions to provide historical insights and community guidance. Their participation represented a continuation of customary engagement rather than a new or transformative experience. The outcomes they described—such as enhanced environmental aesthetics, social interaction, and community pride—were identical to those reported by other residents. No unique or additional impact pathways were

identified that would materially alter the impact map. Therefore, elders were analytically included within the community residents group to avoid double counting while ensuring their perspectives were represented.

For landowners, interviews indicated that they primarily participated by allowing the use of existing idle or underutilized spaces (e.g., vacant land, old houses) within community greening and recycling activities. While they observed improvements in the local environment and surrounding appearance, these effects were similar to those experienced by other residents and did not result in distinct social, economic, or behavioural changes. Follow-up validation with community association leaders confirmed that no separate outcomes were identified for this group. As such, landowners were included within the community residents category to maintain analytical consistency and prevent duplication of similar outcomes.

This approach was validated through triangulation across stakeholder groups and sensitivity testing, which confirmed that consolidating these subgroups did not materially affect the overall SROI ratio or conclusions.

Table 8 Stakeholder identification inventory table

Stakeholders	Population	Included or not	Reasons for inclusion or non-inclusion
ABKCG	1	Y	As the responsible policy agency, ABKCG manages resource allocation and program strategies, exerting a key influence on project outcomes.
Community Association	3	Y	As project implementation units, they oversee resource use, planning, and execution. Their high participation makes them core stakeholders.
Community volunteers	230	Y	As frontline implementers, volunteers plan and execute community activities, directly experiencing significant changes.
Community residents	1,977	Y	As the main participants in activities, residents reflect changes in daily life and community interaction. Their views are representative and complementary.
Local Producers and merchants	79	Y	Engaged in program-related industry promotion and marketing activities, they reported changes in visibility, sales, and business practices aligned with rural regeneration goals.
Local elders	10	N	Elders primarily played advisory and cultural roles, sharing local knowledge and providing guidance during activities. Interviews showed their perceived changes—such as improved environment and community pride—were similar to other residents. Verified through triangulation, no distinct outcomes

			were identified; thus, they are analysed within the <i>community residents</i> group to avoid double counting.
Landowners	10	N	Landowners participated mainly through the use of existing idle spaces (e.g., old houses, vacant land) in community beautification and recycling efforts. Their perceived benefits, including a better surrounding environment, were comparable to other residents. No unique outcomes were identified; therefore, they are included within the <i>community residents</i> group to ensure consistency and avoid duplication.
Planet (Earth)	1 (conceptual)	Y	The program promoted environmental practices (e.g., water conservation, waste reduction, green space expansion, sustainability education). Though the environment cannot actively provide feedback, it is substantially affected and included in line with the principle of relevance and social norm.

4.4 Stakeholder segmentation

For the stakeholder group of community residents, an additional review was conducted to assess whether distinct sub-groups existed within each community. The qualitative interview stage (n = 29) showed no material or structural differences in outcomes among residents when analyzed by demographic characteristics such as gender, age, participation frequency, or length of residency. Stakeholders across all profiles consistently described similar perceptions of livability, safety, pride, and belonging.

However, considering that this SROI evaluation is conducted from the perspective of ABKCG as the program owner, segmentation across the three participating communities (Tangchang, Xingang, and Xinha) was retained. (In section 11) This regional-level differentiation supports tactical decision-making, as ABKCG may allocate resources or design support strategies differently according to each community's developmental stage and organizational capacity. By contrast, ABKCG's interventions are not designed to differentiate among individual residents within the same community; therefore, sub-segmentation at that level would not align with the program's operational structure or influence pathways.

It's important to acknowledge the potential diversity that exists among residents within each community. Although we did not pursue further sub-segmentation within individual communities for this analysis, such diversity remains important and may become relevant for future operational decision-making.

To ensure transparency, this methodological boundary has been explicitly acknowledged in the Risks and Limitations section. Should future evaluations involve deeper or more targeted community-level interventions, additional subgroup segmentation could be considered to

capture potential differences in outcomes across demographic or engagement levels. A summary of demographic segmentation findings and their consistency across the four validated outcomes is presented in Table 9.

Table 9 Demographic Profile and Outcome Consistency among Community Residents (n = 29)

Category	Subgroup	Number of Interviewees (n=29)	Percentage (%)	Key Observations / Remarks (across four outcomes)
Gender	Male	13	45%	Both male and female residents reported similar experiences across all four outcomes—livability, safety, pride, and belonging. Men tended to emphasize visible environmental improvements (e.g., cleaner and greener surroundings), but the perceived value of change was consistent with that of female participants.
	Female	16	55%	Women more frequently mentioned enhanced social connection and a stronger sense of comfort in daily life, yet their overall perception of community change mirrored that of male respondents. No material difference in valuation was identified.
Age Group	under 39	6	21%	Younger residents highlighted aesthetics, vitality, and convenience but described the same improvements in livability, safety, pride, and belonging as older participants.
	40–59	11	38%	Middle-aged residents expressed balanced appreciation for both environmental and social improvements, aligning with other age groups in both content and perceived intensity.
	60+	12	41%	Older residents emphasized community cohesion and neighborhood comfort but did not report distinct or stronger outcomes compared to other groups.

Length of Residency	<10 years	5	17%	Newer residents experienced similar gains in comfort, safety, and pride as long-term residents, noting no substantial differences in satisfaction or engagement.
	≥10 years	24	83%	Long-term residents expressed deeper emotional attachment and historical context but described the same four core outcomes with comparable strength of change.
Total		29	100%	No significant or material difference in outcome type or perceived value across demographic categories. All groups experienced similar improvements in livability, safety, pride, and belonging.

5. Understanding Changes

5.1 Outcomes Consultation

This section presents the sequence of outcomes as reported and verified by stakeholders during interviews and group discussions. Each chain reflects how one outcome led to another, illustrating the cumulative nature of change experienced throughout the program.

The outcome chains were developed through an iterative participatory process involving multiple rounds of stakeholder engagement.

During the first round of interviews (March–April 2024), stakeholders described the changes they experienced as a result of the program. These qualitative findings were analyzed thematically to identify recurring patterns of change.

In May 2024, a stakeholder verification meeting was held in which participants reviewed and discussed the preliminary outcome maps. They validated the causal links among outcomes—for example, how environmental improvements led to feelings of safety, which in turn fostered belonging and pride.

The finalized chains of outcomes thus reflect stakeholder-constructed logic, capturing both intermediate and end outcomes as reported through their lived experiences.

5.1.1 Sample representativeness of stakeholder interviews

This phase of the assessment aimed to identify and understand the **specific changes experienced by stakeholders** participating in the Kaohsiung Rural Regeneration Program. To ensure accuracy in capturing these changes and their causal pathways, qualitative interviews were conducted. Data collection was carried out while respecting participants' preferences and availability, and in coordination with their schedules.

Given resource and time constraints, this round of interviews was integrated with the **stakeholder identification stage**. Interviewees were selected as **representative cases**, chosen based on their direct participation in program activities and their ability to clearly articulate perspectives and experiences.

The principles guiding the selection of interviewees at this stage were as follows:

- Individuals who directly participated in the activities or work of the program and therefore had firsthand experience.
- Individuals who could observe and provide feedback on the project's implementation process and its effects on community development.
- Individuals with general participation experience who could reasonably reflect the opinions and perspectives of their broader stakeholder groups.

5.1.2 Interview design and question framing

This study employed a combination of **one-on-one interviews** and **small group discussions (one-to-many interviews)**, with venues and methods adapted according to the identity and familiarity of respondents. Most sessions were arranged in community activity centers, community association offices, or other familiar local spaces. The setting was deliberately designed to be **informal and welcoming**, reducing pressure on participants and encouraging open dialogue.

For certain respondents, such as elderly participants or farmers, interviews were conducted with the support of **community cadres or trusted acquaintances**. These individuals provided appropriate assistance and clarification when necessary, ensuring that all participants could fully understand and respond to the questions.

Data collection involved **simultaneous documentation**, with handwritten notes and laptop records maintained to ensure completeness and accuracy. Interviews continued until **data saturation** was reached—defined as the point at which no new or meaningful outcomes emerged. At this stage, data collection for the group was considered complete.

A **semi-structured interview guide** was adopted, allowing respondents to answer openly while enabling interviewers to adjust the sequence or probe more deeply based on participants' responses. This approach ensured flexibility in identifying both expected and unexpected changes, as well as the social value generated.

The interview guide covered the following thematic areas:

1. Introductory Questions:
 - Build rapport and establish trust with respondents.
 - Collect basic demographic and background information.
 - Clarify each respondent's relationship to the project.
2. Experiential questions:
 - Explore the ways and extent of participation (e.g., time, labor, resources contributed).
 - Identify specific activities attended, such as guided tours, training courses, or community construction initiatives.
3. Change-Oriented Questions:
 - What positive or negative changes have you experienced as a result of this program?
 - How did these changes occur? What was the process?
 - Which changes are most important to you? Why?
 - Have there been any unexpected or unintended changes?
4. Other Stakeholder Identification : Do you think there are other people or groups who may have experienced changes because of the program?

5.2 Create the Chain of Outcomes

Based on the qualitative interview data and in accordance with Principle 3: Understand What Changes, this study organizes and illustrates the event chains experienced by stakeholders during their participation in the Kaohsiung Rural Regeneration Program. These event chains reflect the causal relationships between project activities and the sequence of changes observed in stakeholder outcomes.

For this analysis, five key stakeholder groups were included:

1. ABKCG (Program Organizer)
2. Community Associations
3. Natural Environment (Silent Stakeholder)
4. Community Volunteers
5. Community Residents
6. Local Producers and merchants

Each outcome event chain describes:

- The specific **activities** in which stakeholders were involved.
- The **changes experienced**—both expected and unexpected, positive and negative.
- An assessment of whether these changes are **significant and meaningful** to stakeholders.

This linkage analysis provides a more complete representation of the **logic of project impacts**, forming the foundation for subsequent **valuation exercises** and the **estimation of social value** generated by the program.

5.2.1 Chain of Outcomes for ABKCG

Outcome 1: Enhanced Public Visibility

Through subsidies to local communities for the implementation of rural regeneration programs, ABKCG actively supported the organization of showcase presentations, exhibitions, and promotional activities. These events allowed communities to showcase tangible achievements from their participation, attracting attention from both the public and the media.

Media coverage and exposure on digital platforms increased awareness of ABKCG's policies and support efforts. As a result, the role of the city government as a promoter of rural policy and community development became more visible and widely recognized. This heightened visibility represents a symbolic but important achievement, strengthening ABKCG's public image.

Stakeholder Evidence

Interviews with ABKCG officers confirmed that the visibility of Kaohsiung’s rural policy and the Bureau’s role had increased through the program’s public presentations and communication efforts:

“Every time the communities hold achievement presentations, we are invited to attend and share the stage. It helps citizens see that the City Government is actively involved in supporting them.” — Program Officer, Agricultural Bureau (ABKCG)

“We made sure that each major event had media coverage or a news release. It allowed more people to know what Kaohsiung City has accomplished in rural regeneration.” — Section Chief, Agricultural Bureau (ABKCG)

“When the results were shared publicly, it wasn’t just about the communities—it also showed that the city government is genuinely promoting rural revitalization.” — Program Officer, Agricultural Bureau (ABKCG)

Outcome 2: Strengthened Community Trust and Identification with ABKCG

In addition to financial subsidies, ABKCG provided technical and administrative support, including expert consultations, assistance with administrative procedures, facilitation of community participation in competitions, and representation at domestic and international exhibitions. These resources directly enhanced the capacity and organizational competence of local Community Associations.

Interview data revealed that community representatives and local practitioners expressed positive feedback regarding ABKCG’s role. They emphasized that beyond providing resources, the Agricultural Bureau maintained close communication and sustained support, which helped communities address local challenges more effectively.

This collaborative approach fostered a trust-based relationship between communities and government departments. At the community level, ABKCG was perceived as “willing to listen and provide practical support”, which contributes to building stronger legitimacy and smoother pathways for future policy promotion. (see Table 10 for details).

Stakeholder Evidence

“Communities now reach out to us directly when they face challenges. They trust that we will help them find a solution instead of pushing paperwork back and forth.” — Section Chief, Agricultural Bureau (ABKCG)

“When we visit the communities, they often say they appreciate that the City Government really listens and follows up. That trust didn’t exist before.” — Program Officer, Agricultural Bureau (ABKCG)

5.2.2 Chain of Outcomes for Community Association

Stakeholders	Activities/ Outputs	Outcomes chain	Outcomes
ABKCG	Subsidized local communities to implement rural regeneration programs; supported the organization of results presentations, exhibitions, and promotional activities. Proactively released news and promotional content related to rural regeneration.	Subsidies provided to support communities in implementing rural regeneration programs→ Communities organize showcase presentations, exhibitions, and promotional events→ [Community achievements are publicly displayed, increasing visibility both community and ABKCG] → Media coverage and exposure on digital platforms increase→ [Public awareness of Kaohsiung' s rural policies rises]→ ABKCG officers appear on stage and participate in public events with communities→ [The city government's role as a promoter of rural development becomes more visible and recognized]→ ABKCG' s public image is strengthened→ Enhanced public visibility and symbolic achievements for the government	Enhanced Public Visibility
	Provided financial subsidies, technical guidance, and administrative support; assisted with industry revitalization, marketing, education, experiential activities, and environmental/space improvement projects	ABKCG provides financial subsidies to rural communities and offers technical and administrative support (expert consultation, administrative assistance, competition guidance, representation at exhibitions)→[Communities perceive ABKCG as responsive, supportive, and willing to listen]→ A collaborative working relationship forms between communities and government officers→ [Trust between communities and ABKCG increases]→ Communities proactively reach out to ABKCG when facing challenges→ [Stronger identification with ABKCG]	Strengthened community trust and sense of identification with ABKCG

Outcome 1: Strengthened Sense of Identity Among Local Residents

As the local implementation unit of the rural regeneration program, Community Associations were responsible for initiatives such as environmental improvement, construction of public facilities, cultural preservation, industrial revitalization, and rural experience activities. By integrating local resources, coordinating with landowners, and co-designing tours and results presentations with residents, the associations fostered collective ownership of the program.

These efforts showcased the communities' ability to self-organize and actively participate in regeneration. Residents, visitors, and external stakeholders recognized the associations' commitment and efforts, which gradually built trust and recognition among local residents, enhancing their sense of identity with the associations.

Stakeholder Evidence

Interviews with community association leaders confirmed that this strengthened sense of collective identity emerged through visible achievements and participatory collaboration:

"In the beginning, residents saw the Association as just an organizer, but through the regeneration projects, they started to recognize that we are working for everyone's benefit." — Director General, Xinfu Community Development Association

"When people see the results—like the new green spaces or the improved facilities—they know it's not from outside help. It's something we achieved together." — Chairperson, Tangchang Community Development Association

"Before, participation was low. Now when we announce an activity, residents volunteer on their own. They trust the Association more and see themselves as part of it." — Chairperson, Xingang Community Association

Outcome 2: Increased Community Income

Community Associations planned and implemented activities in local industry marketing, rural experience design, and agricultural product packaging and promotion. These included guided tours, event planning, and market exhibitions that enhanced both the visibility and attractiveness of local products.

The associations also leveraged experiential activities and product sales as sources of income to sustain operations and cover daily expenditures. Marketing initiatives attracted both local residents and tourists, stimulating increased product sales and fee-based participation. As a result, communities experienced positive economic impacts through higher income generation and strengthened local industries.

Stakeholder Evidence

"Our association took the lead in rebranding and packaging local tea products, as well as managing their marketing and coordinating with local partners. The revenue generated from these sales is utilized to sustain our daily operations and fund future community development initiatives." — Director General, Xinfu Community Development Association

"Through markets and exhibitions, we started earning modest but consistent income—mainly from participation fees and small commissions. It keeps the association financially

active and able to continue organizing events without waiting for external funding.” — Chairperson, Xingang Community Association

Outcome 3: Increased community visibility

In promoting rural regeneration programs, Community Associations actively disseminated results through press releases, participation in exhibitions, and special publications. These outputs were further amplified via ABKCG, partner platforms, and major media outlets.

Such external exposure allowed broader audiences to recognize the associations' achievements and agricultural recycling efforts. According to interviewed cadres, this visibility led to invitations for external visits, exchanges, and collaborations. The accumulation of these opportunities reinforced the associations' external recognition and overall visibility. (see Table 11 for details).

Stakeholder Evidence

"The effect of our program's media exposure was remarkable. We noticed a shift: we used to actively seek out resources, but now, county and city governments, and even academic institutions, are proactively inviting us to share our experiences. This serves as the most concrete validation of our external recognition and increased visibility." — Chairperson, Tangchang Community Association

"We heard from several tourists that they saw the media reports, thought the travel package was excellent, and became interested, which led them to visit us. They mentioned they wouldn't have known about this wonderful place otherwise. This clearly indicates that exposure efforts have been a great help and improvement." — Chairperson, Xingang Community Association

Table 11 Events Chains of Community Association

Stakeholders	Activities/ Outputs	Outcomes chain	Outcomes
Community Association	1. Organized industrial revitalization and marketing promotion 2. Delivered educational and experiential activities 3. Improved the community environment and created public spaces	Community Associations implement rural regeneration activities (environmental improvement, facility construction, cultural preservation, industrial revitalization, rural experience activities)→ Associations integrate local resources, coordinate with landowners, and co-design tours and presentations with residents→ [Residents' participation in regeneration activities increases]→ Visible community achievements emerge through collective effort→ [Residents recognize the Association's contribution and commitment]→ Trust toward the Community Association strengthens→ [Residents develop a stronger sense of identification with the Association]	Strengthened sense of identity among local residents
		Community Associations plan and implement local industry marketing, rural experience activities, and product packaging/promotion→ [More visitors and residents participate in activities and purchase local products] → [Experiential activities and product sales generate operational income]→ [community income increases]	Increased community income
		Community Associations produce publicity materials and participate in exhibitions and special publications→ External media, partner organizations, and ABKCG amplify these materials → [Information about the Associations reaches broader, non-local audiences]→ External viewers gain awareness specifically of the Associations' regeneration efforts and project	Increased community visibility

outcomes→ [Outside organizations initiate contact for learning, exchange, or observation]→ [External recognition of the Associations increases]

5.2.3 Chain of Outcomes for Planet

Outcome: Environmental Quality Improvement

Through the rural regeneration program, Community Associations mobilized community resources, volunteers, and residents to jointly implement initiatives such as energy-saving infrastructure, water conservation, waste reduction, friendly farming practices, and green space expansion.

These actions resulted in measurable improvements in resource efficiency and ecological protection while fostering a cultural shift within the community. Residents reported greater awareness of environmental conservation, increasingly viewing it as integral to sustainable community development. Over time, this contributed to the formation of a collective consensus and attitude change toward valuing and protecting natural resources. (See Table 12 for details.)

Stakeholder Evidence

"We are proud that we're helping the planet through things like energy-saving infrastructure and trash sorting. Plus, the best part is it helps our wallets too—we're seeing real savings on our electricity bills. It's a win-win." —Chairperson, Tangchang Community Association

Table 12 Events chains of the Planet (Earth)

Stakeholders	Activities/ Outputs	Outcomes chain	Outcomes
Planet (Earth)	Community Associations organized local resources, volunteers, and residents to implement industrial revitalization, educational and experiential activities, environmental improvements, and space creation	<p>Energy conservation: Replace power-intensive appliances → lower daily electricity use → reduce dependence on fossil fuels → cut CO₂ emissions → [Reduced electricity consumption] → Mitigation of greenhouse effect</p> <p>Water conservation: Strengthen facility maintenance and reduce water use → less waste and sewage discharge → reduced stress on groundwater and rivers → maintained water cycle stability → [Reduced water consumption] → Protection of water resources</p> <p>Waste reduction: Promote recycling and reduce disposable tableware → lower garbage volumes and need for landfill/incineration → less soil and air pollution → [Reduced waste generation] → Reduced ecological burden</p> <p>Friendly farming: Adopt eco-friendly practices, reduce pesticide/fertilizer use → improve soil and water quality → enhance biodiversity → [Expanded eco-friendly farming areas] → Greater ecosystem resilience</p> <p>Green space expansion: Increase vegetation coverage and landscaping → improve carbon sequestration and cooling effects → provide habitats for plants and animals → Expanded green space</p>	Environmental quality improvement

5.2.4 Chain of Outcomes for Community volunteers

Outcome 1: A sense of belonging

Community volunteers often work closely with community members in the process of implementing rural regeneration programs, including coordinating activities, promoting marketing, organizing spaces, and implementing courses. These roles rely on teamwork and high level of communication, allowing staff to connect closely with other members of the community.

When faced with challenges and problems, they discuss and solve them together with their partners, gradually building trust and cooperation. This engagement showcases their functional roles, allowing them to feel emotionally validated and supported by others. Respondents mentioned that during the process of participation, they gradually felt that they were part of the organization and were accepted and cared for by community partners, thus establishing a clear sense of belonging.

Stakeholder Evidence

Volunteers reported that working together to organize events and implement projects strengthened their emotional connection with peers and the broader community. The shared sense of purpose and mutual support helped them feel recognized and included.

“During events, we plan and solve problems together. Everyone supports one another—it truly feels like we’re one team.” — Volunteer, Tangchang Community

“When people thank us or greet me by name in the neighborhood, it reminds me that what we’re doing matters—and that I really belong here.” — Volunteer, Xingang Community

“Volunteering isn’t just about the work—we’ve become friends who genuinely care for each other. That emotional connection is the most rewarding part.” — Volunteer, Xinfu Community

Outcome 2: Perceived Self-Growth

Through involvement in program activities and training (e.g., tour guiding, event planning, marketing, and local resource mapping), volunteers gained new knowledge and cross-disciplinary experiences. Many reported progressing from initial uncertainty (“not knowing how to do it”) to being able to lead others independently. This journey of “learning by doing” created a clear sense of personal development and growth.

Stakeholder Evidence

“At first, I didn’t know how to organize an event. Now I can plan it from start to finish.” — Volunteer, Tangchang Community

“I learned how to speak in front of people and guide tours. That’s something I never imagined I could do.” — Volunteer, Xinfu Community

“Every project teaches me something new. I’ve grown a lot compared to when I first joined.” — Volunteer, Xingang Community

Outcome 3: Enhance the sense of accomplishment

Volunteers invested significant effort in program planning, mobilization, and activity design. When goals were achieved—such as improved spaces or successful community events—positive feedback from residents and visible results validated their contributions. This

direct connection between effort and achievement generated strong feelings of accomplishment and self-realization.

Stakeholder Evidence

“When we saw the once-empty lot turned into a green and beautiful space, all the effort felt worth it.” — Volunteer, Tangchang Community

“After the market event, people told us it was the best one yet. That kind of feedback gives us motivation.” — Volunteer, Xingang Community

“Seeing everyone enjoy the activities we planned makes me proud. It’s like, we really made a difference.” — Volunteer, Xinfu Community

Outcome 4: Sense of being needed

Participation allowed volunteers to apply their professional skills (e.g., design, marketing, guiding). Several respondents emphasized that, compared to paid work outside, community service gave them a stronger sense of role and contribution: *“Here I have a role, and the community needs my expertise.”* This reinforced their sense of meaning, usefulness, and value within the community.

Stakeholder Evidence

“I use my design skills for posters and banners. People rely on me, and that feels meaningful.” — Volunteer, Xinfu Community

“In the past, I didn’t think I had much to offer, but now the community counts on me when something needs to be done.” — Volunteer, Tangchang Community

“Here, my abilities are useful. It’s not about money—it’s about feeling that my work has purpose.” — Volunteer, Xingang Community

Outcome 5: Expanded Interpersonal Relationships

Collaboration with external partners—including professional counselors, lecturers, government officials, and other communities—broadened volunteers’ networks. These cross-sector interactions provided exposure to diverse perspectives and opened opportunities for future cooperation, learning, and career development. Volunteers highlighted this as a substantial life benefit.

Stakeholder Evidence

“Through meetings and exchanges, I’ve met people from other communities and also built closer ties with our own members. We learn from each other.” — Volunteer, Tangchang Community

“Working together with instructors and partners gave me many new ideas and helped me connect with people I wouldn’t have known otherwise.” — Volunteer, Xinfu Community

“These activities let us interact not only with our team but also with outside organizations. It really opened up my circle and broadened my view.” — Volunteer, Xingang Community

Outcome 6: Increased Fatigue (Negative Outcome)

Despite the positive outcomes, some volunteers reported physical and mental strain due to heavy workloads, time-intensive schedules, and balancing family or other jobs. Long-term involvement without sufficient rest led to fatigue and stress, which emerged as a negative outcome requiring attention.

Stakeholder Evidence

“Sometimes I feel really tired, especially when events pile up. There’s little time to rest.”
— Volunteer, Tangchang Community

“We all want to help, but sometimes it’s overwhelming to balance family and community work.” — Volunteer, Xinfu Community

Outcome 7: Reduced feelings of isolation

Program participation offered volunteers stable, meaningful routines and opportunities for interaction. Respondents noted that these engagements reduced loneliness, gave daily life greater focus and purpose, and contributed to improved mental well-being. Regular contact and activity helped alleviate feelings of isolation and potential depressive tendencies. (see Table 13 for details).

Stakeholder Evidence

“I live alone, and there were times I barely spoke to anyone for days. Now I know I’ll see people every week. Even just chatting or working alongside others lifts my mood.” — Volunteer, Tangchang Community

“What matters isn’t just the tasks, it’s the feeling that I’m not alone. When I show up and see familiar faces, it lifts my spirits.” — Volunteer, Xinfu Community

“After retiring, I had too much free time and not many people to talk to. Volunteering helps break that silence. Even simple chats while doing things together make a big difference.”
— Volunteer, Xingang Community

Table 13 Events chains of Community volunteer

Community volunteers devote time and effort to program planning, mobilization, and activity design→ Volunteers contribute directly to creating improved spaces or organizing successful events→ [Visible results clearly reflect volunteers' efforts]→ [Perceived positive feedback and appreciation from residents]→ Volunteers see the outcomes of their effort benefiting the community→ [A strong sense of accomplishment and self-realization emerges]

Increased sense of accomplishment*

Volunteers applied their professional skills in community tasks→ The community rely on their professional input and assistance]→ [Volunteers' roles were explicitly recognized by the community (e.g., design support, event guiding, marketing assistance)] → [Volunteers received emotional feedback indicating they were needed]→ Volunteers felt a [stronger sense of role value and contribution] than in external paid work, developing the belief that “the community needs me” →[A clear and strong sense of being needed]

sense of being needed *

Volunteers collaborated with external partners→ [Exposure to diverse perspectives through cross-sector interactions] → [New connections formed beyond original social circles] → [Strengthened internal relationships through shared activities] →[Expanded Interpersonal Relationships]

Expanded Interpersonal Relationships

Volunteers took on heavy workloads and time-intensive responsibilities → [Reduced time for rest and recovery] → [Increased difficulty balancing family, work, and community tasks] → [Accumulated physical and mental strain over extended periods] → Increased Fatigue

Increased fatigue

Volunteers engaged in regular, structured program activities → [Daily and weekly routines became more stable and predictable] → [Meaningful tasks provided a clearer sense of focus and purpose in everyday life] → [Consistent interaction offered emotional reassurance and reduced feelings of being alone] → Reduced feelings of isolation

Reduces feelings of isolation*

5.2.5 Chain of Outcomes for Community Residents

Outcome 1: Enhanced Sense of Tranquility

Through the rural regeneration program, Community Associations implemented public facility construction and environmental improvements, such as greenbelt landscaping, leisure space installations, and neighbourhood beautification. These efforts made community spaces cleaner, more attractive, and more user-friendly. Residents reported enjoying improved daily experiences—whether walking, resting, or socializing—and described the overall environment as more beautiful and comfortable, leading to a stronger sense of tranquility and psychological stability in everyday life.

Stakeholder Evidence

Residents consistently described a noticeable improvement in the comfort and pleasantness of their living environment following the completion of public space enhancements:

“Before, the surroundings were messy and unkempt. Now, with the plants and new benches, it feels more relaxing to walk around.” — Resident, Tangchang Community

“The park used to be empty and dull, but now children play there and the space feels alive. It’s comfortable just sitting and chatting.” — Resident, Xinfra Community

Outcome 2: Increased perceptions of safety

The Rural regeneration program also tackled previously neglected or unsafe spaces by removing abandoned sites, improving lighting, and maintaining previously hidden areas. These measures reduced environmental risks and improved perceptions of safety. Residents reported that areas they once avoided at night became more accessible, with one noting, *“In the past, some places felt unsafe to pass by at night, but with better lighting and cleanliness, I feel more at ease.”* These changes reduced insecurity and indirectly strengthened the overall safety of community life.

Stakeholder Evidence

“Before, some alleys were dark and full of weeds. After the lights and clean-ups, I can walk there at night without worrying.” — Resident, Tangchang Community

“Since the coastal area was cleaned up, with fewer weeds and no more piles of trash, I feel much more at ease letting my grandchildren play by the seaside.” —Resident, Xingang Community

“We no longer have those abandoned corners that looked scary. Now everything is tidy and visible.”— Resident, Xinfra Community

Outcome 3: Increased Pride in the Community

The program promoted a variety of activities—including achievement presentations, local marketing, market events, and space creation—that enhanced the community’s aesthetic appeal and cultivated recognizable local characteristics. Residents observed and participated in these developments, which fostered a positive identification with their place of residence. Many expressed pride, stating, *“The place where I live is improving; the community feels more vibrant and distinctive.”*

This pride also translated into greater social advocacy, with residents more willing to introduce their community to friends and family. Some also expressed optimism for the future, seeing the changes as evidence that their community was evolving and offering “possibilities for development.”

Stakeholder Evidence

“When visitors come, I proudly tell them this is our community. It’s much more beautiful now.” — Resident, Tangchang Community

“In the past, I rarely introduced my community to friends from other cities—I used to think this small place didn’t have much to offer. But now, I’ve started to actively tell them about it with pride.” — Resident, Xingang Community

“We used to think small villages like ours had nothing, but now I feel proud seeing our products and achievements displayed.” — Resident, Xinfu Community

Outcome 4: Strengthened Sense of Belonging

By creating opportunities for participation—through environmental clean-ups, cultural activities, markets, and space-creation projects—the program encouraged engagement among residents who had previously been less involved. Collective cooperation provided new entry points for interaction, allowing individuals who were previously marginalized to feel accepted and needed.

As one resident put it: *“I feel I have a place here.”* This strengthened sense of belonging not only deepened emotional connections but also increased willingness to contribute actively to community affairs. For residents previously disengaged, this shift from “being invited” to “willing to participate” represents a key behavioral change and lays the groundwork for stronger community cohesion and long-term sustainability. (see Table 14 for details).

Stakeholder Evidence

“I didn’t use to take part in community activities—I mostly just kept to myself. But through joining clean-ups and other events, I started to feel like I’m part of something bigger than just my street.” — Resident, Tangchang Community

“I recognize more faces. Even a simple ‘hello’ or offering help feels meaningful. It’s like we’re gradually becoming a real community.” — Resident, Xinfu Community

“Through these shared efforts, I began to feel that this place isn’t just where I live—it’s a community that supports each other.” — Resident, Xingang Community

Table 14 Events chains of community residents

Stakeholders	Activities/ Outputs	Chain of Outcomes (with [Intermediate Outcomes])	Outcomes
Community residents		Improving the community environment and constructing public facilities → [Increased livable and comfortable spaces for daily life] → [Enhanced emotional comfort and relaxation] → Enhanced Sense of Livability (Tranquility)	Enhanced Sense of Tranquility*
	1. Participate in industry revitalization and marketing promotion	Improving the community environment, lighting and visibility in public areas → [Decreased alertness toward hostile or unsafe environmental conditions] → Increased Perceptions of Safety	Increased perceptions of safety*
	2. Participate in educational promotion and experiential activities 3. Participate in community environmental improvement and space creation	Community-led agricultural regeneration actions (e.g., space improvement, cultural displays, market promotion) → [Recognized community image and achievements] → [Increased recognition and pride in community identity] → [Increased willingness to actively promote the community] → Increased Pride in the Community	Increased Pride in the Community
		Previously less active or marginalized residents gain participation opportunities → [Feel accepted, included, and valued] → [Develop stronger emotional connection and trust within the community] → Strengthened Sense of Belonging	Strengthened Sense of Belonging*

5.2.6 Chain of Outcomes for Local Producers and merchants

Outcome: Increased Revenue

With support from the rural regeneration program, local **primary producers and businesses** participated in product innovation, packaging design, and marketing strategy improvements. These efforts enhanced the recognition and added value of agricultural products, making them more competitive and attractive in the market.

Through promotion via multiple channels—including community markets, achievement exhibitions, and online platforms—products and services reached broader consumer groups and achieved significant sales growth. Respondents noted that product prices increased following modifications, and sales rose markedly during community events and marketing campaigns.

When analyzing the outcomes of producers and businesses, two key paths were identified:

- Enhanced Product Competitiveness – improvements in product quality, branding, and market positioning.
- Increased Revenue – measurable growth in sales and income.

To avoid **double-counting** the same behavioral process, only **increased revenue** was retained for monetization in the SROI analysis. **Product competitiveness enhancement** is treated as an **intermediate achievement**, explained qualitatively in the outcome event chain. It provides valuable insight into the mechanisms of change and serves as a reference for designing future support strategies. (see Table 15 for details).

Stakeholder Evidence

Interviews with local producers and merchants confirmed that the product innovation and marketing support provided by the program led to significant improvements in competitiveness and direct sales growth:

"Previously, our agricultural products had very plain packaging, and the prices weren't high. But after receiving support, we redesigned the packaging and our brand story. Now, the product recognition has truly improved, and customers are willing to purchase it at a higher price. This has resulted in a significant increase in our income." —Interviewer (P1)

"When the community hosts events or launches marketing campaigns, the sales growth driven by the crowds is astonishing. This shows us the potential of our products to reach broader consumer groups." —Interviewer (P2)

"It's not just about selling a little more. Most importantly, we now know how to make our products more competitive in the market." —Interviewer (P3)

Table 15 Events Chains of Local Producers and merchants

Stakeholders	Activities/ Outputs	Outcomes chain	Outcomes
Local Producers and merchants	1. Participate in industry revitalization and marketing promotion 2. Participate in educational promotion and experiential activities	Local producers and businesses received support for product innovation, packaging design, and marketing strategies→ [Enhanced product competitiveness through improved quality, branding, and market positioning]→ [Products reached broader consumer groups via community markets, exhibitions, and online promotions]→ [Increased sales during events and campaigns] →Increased Revenue (measurable growth in sales and income)	Increase revenue

5.2.7 Risks of Overlap and Event Chain Interpretation

During the construction of the outcome chains, we made a deliberate effort to verify the distinctiveness of each outcome through stakeholder interviews, aiming to avoid potential double-counting. For example, among community residents, we differentiated between feelings of pride and belonging; for community volunteers, we examined the distinction between sense of belonging and sense of being needed. These nuances were validated directly with stakeholders, who consistently indicated that these feelings reflected different emotional experiences. Based on this validation, we treated them as independent outcomes and collaboratively developed outcome maps with stakeholders to clarify the causal order and reduce the risk of overclaiming.

However, given the subjective nature of emotional outcomes, variations in personal interpretation and semantic overlap remain possible. Moreover, the interrelated nature of social experiences means that from different vantage points, some outcomes may appear causally or conceptually linked, potentially increasing the risk of double-counting.

To mitigate this, we explicitly acknowledged overlap risk as part of the impact risk assessment. Additionally, we conducted a sensitivity analysis to evaluate the possible extent of overestimation and to reduce future risks in decision-making or application of the findings.

5.3 Well-Defined Outcomes

In accordance with Social Value International's (SVI) *Principles of Social Value* and guidance on materiality, this section defines the process used to identify and validate the outcomes considered *well-defined* and *material* in the SROI analysis. The objective is to ensure that only those outcomes that are both empirically supported and substantively significant to stakeholders are included in the value map.

5.3.1 Materiality Screening Process

To maintain analytical rigor, the evaluation applied the **two-stage materiality test—Relevance and Significance**—to all potential outcomes identified through stakeholder engagement.

- **Relevance:** An outcome was deemed relevant if it met at least one of the following criteria:
 1. **Alignment with policy or program goals**, such as improving rural quality of life, revitalizing local industries, or strengthening community participation.
 2. **Stakeholder importance**, where participants explicitly indicated the change had a meaningful effect on their daily lives or community roles.
 3. **Social or policy alignment**, meaning the change supported prevailing policy trends in rural regeneration, sustainability, or climate adaptation.
 4. **Peer recognition**, where similar outcomes were recognized as material in comparable rural development or SROI studies.
- **Significance:**

Outcomes were retained only if more than half of respondents reported experiencing a change, regardless of direction. However, if the outcome represented a negative change—meaning it potentially imposed burdens or sacrifices on stakeholders—it was considered material and retained even if less than half of respondents experienced the change, due to its potential to significantly impact stakeholder well-being.

5.3.2 Defining Well-Defined Outcomes

In Social Return on Investment (SROI) assessment, a well-defined outcome describes a specific change for someone (or a group of people) that provides the best opportunity to increase or decrease value. Once identified, well-defined outcomes lead to better resource allocation decisions, thereby maximizing social value.

To maintain logical consistency and strengthen the policy relevance of this evaluation, this study applied the outcome event chain approach to assess whether observed changes meet the criteria of well-defined outcomes. Three criteria were used:

1. Outcomes are sustainable: The change extends beyond a temporary perception and can continue to influence stakeholders after the program ends.
2. Outcomes are closely linked to well-being: The change is directly linked to stakeholders' core dimensions of well-being (e.g., feeling safety, psychological resilience, social relationships, or economic stability) and is perceived by respondents as a significant component of quality of life.
3. Potential for expansion or amplification: Once further resources are invested in promotion, the results may be expanded to a wider range of targets or integrated with other policies and actions to create higher social value.

Based on the above principles, this study identifies two types of stakeholders, community volunteers and community residents, who are individuals, with well-defined outcomes, and marks them "*" in the table.

For stakeholder groups that are organizations or institutions (e.g., community associations and local businesses), most outcomes are expected to align with their

organizational mandates or operational needs. Therefore, the determination of well-defined outcomes for these groups was guided primarily by what they themselves identified as ultimate and meaningful changes for their organizational goals.

5.3.3 Intermediate and Transitional Outcomes

While several outcomes identified in this analysis represent intermediate stages of change (e.g., skill development, recognition, or participation), stakeholders acknowledged that the program's overall effects are still unfolding. Given that the evaluation period covered only one year, some longer-term or ultimate outcomes—such as sustained well-being, collective empowerment, or community resilience—are expected to continue developing over time.

In addition, since stakeholders have not yet experienced substantial or sustained changes within the annual program cycle, certain outcomes in this analysis do not yet meet the criteria of *well-defined outcomes*. Nevertheless, they have been retained as important indicators for continuous monitoring. To capture the evolution of these transitional outcomes, the study has incorporated quantitative surveys designed to track their progression over time.

At present, all outcomes reported here have been directly derived from stakeholder feedback and validated through iterative verification processes, ensuring that each result accurately reflects the tangible and meaningful changes experienced within the evaluation timeframe. Intermediate stages of change are presented in [brackets] to illustrate transitional outcomes leading toward broader psychosocial results. These causal pathways were co-constructed and confirmed through stakeholder interviews and verification meetings, affirming that the outcome chains genuinely represent the lived experiences of participants during the evaluation period.

6. Measuring Outcomes

6.1 Quantitative Outcomes Consultation

After completing the qualitative interviews, the **depth (degree of change)** and **scale (number of participants)** of the rural regeneration program's impacts on different stakeholders were further evaluated through quantitative methods.

Prior to the official distribution of the questionnaire, the research team conducted a pre-test with a small sample to confirm the clarity of wording and adjust any text that might cause misinterpretation. The objective was to ensure readability, improve comprehension, and enhance the reliability of responses.

Depending on stakeholder attributes and circumstances, questionnaires were administered via online forms (email), paper distribution, or assisted interviews.

The survey covered key elements of impact measurement, including:

- The scale, depth, and duration of outcomes.
- The relative importance of outcomes as perceived by stakeholders.
- The impact adjustment factors: deadweight, attribution, displacement, and drop-off.
- The willingness-to-pay (financial proxy) associated with outcomes, used for monetization.

All questionnaire items and indicators were jointly confirmed during the stakeholder engagement process to ensure alignment with stakeholders' lived experiences. This participatory approach strengthened validity and ensured that the results reflected genuine values and perceptions.

6.1.1 Sample Representativeness

To ensure representativeness, the quantitative questionnaire survey was conducted using **purposive sampling**, stratified across stakeholder groups. The distribution and recovery status are summarized below (see as Table 16).

- ABKCG (Program Organizer): 1 completed self-assessment questionnaire (response rate: 100%).
- Community Associations (Tangchang, Xingang, Xinfa): 3 completed self-assessment questionnaires (response rate: 100%).
- Community Residents: Out of 1,977 residents, 155 valid questionnaires were collected (response rate: 7.84%). Although the overall proportion was low, coverage included three communities, with age and gender balance. At a 95% confidence level, the margin of error was approximately $\pm 7.6\%$, which is considered in the risk analysis.
- Community Volunteers: Out of 230 volunteers, 41 valid questionnaires were collected (response rate: 17.83%). Respondents covered the main active cadres and volunteers across three communities. At a 95% confidence level, the margin of error was approximately $\pm 13.9\%$.
- Local Producers and merchants: Out of 79 identified, 21 valid questionnaires were collected (response rate: 26.58%). The sample included farmers, fishers, and merchants actively engaged in markets, co-branded marketing, and product cooperation. At a 95% confidence level, the margin of error was approximately $\pm 18.4\%$.
- Planet (Earth): Environmental outcomes were assessed using objective secondary statistics (e.g., changes in energy use, water use, waste reduction, green coverage).

6.1.2 Risks and Limitations

• Sample recovery limits

While the overall data are sufficiently representative to inform ABKCG’s tactical decision-making, the size of some stakeholder samples—particularly community residents—was relatively small compared with their total population base. This constraint stems from the decentralized nature of the three participating communities and limited accessibility among certain subgroups (e.g., elderly residents, shift workers, or individuals with limited digital literacy).

To ensure adequate stakeholder representation despite these constraints, a purposive and snowball sampling strategy was employed. Recruitment was facilitated through Community Associations to reach represented residents, and to balance participation across gender, age, and activity level. This ensured that all stakeholder subgroups with a material relationship to the program were given an opportunity to participate, aligning with social value principle.

The selection of “representative stakeholders” was based on three guiding criteria:

1. Direct experience of change — Only individuals who had personally participated in or observed program activities were included, ensuring relevance and experiential validity.
2. Diversity of perspectives — Stakeholders were drawn from multiple demographic and functional categories (residents, volunteers, producers, merchants) to capture different dimensions of impact.
3. Comparative proportionality — The sample composition was designed to mirror the demographic and participatory characteristics of the broader population within each community, verified through administrative data provided by the Community Associations.

While this approach ensured reasonable representativeness, the limited response size introduces sampling variance, meaning individual perceptions may exert stronger influence on group averages. Nevertheless, convergence of findings across three independent data sources (quantitative survey, qualitative interviews, and stakeholder verification meetings) supports the robustness of the results.

Under current resource conditions, the collected sample provides a sufficiently credible and proportionate evidence base for an evaluative SROI. To enhance representativeness in future assessments, expanding sample size, extending survey duration, and incorporating supplementary focus group discussions are recommended to improve external validity and the precision of population-level inference.

• Use of Likert Scales and Associated Risks

Likert-scale surveys were used to measure stakeholders perceived changes before and after program participation across key outcome domains (e.g., personal well-being or feeling). Each item was rated on a ten-point scale ranging from 1 to 10.

This method provided a standardized and comparable assessment of perceived change, but it also presented several potential risks:

- Subjectivity bias: Respondents sometimes overstated positive changes due to gratitude bias or social desirability.

- Cultural response tendencies: Participants tended to favour moderate or positive responses, particularly in community-based contexts.
- Non-interval nature of scales: Likert scores represented ordinal rather than interval data; therefore, observed differences (e.g., +1 point) indicated directional trends rather than precise quantitative changes.
- Sampling variance: The relatively small number of respondents increased sensitivity to individual perceptions and may have influenced group averages.

In addition, this evaluation adopted a *retrospective pre-post survey design*, in which respondents were asked—after the completion of the program—to recall their status prior to participation and then assess perceived changes. This method is particularly useful in cases where no baseline data were collected at the program’s outset, allowing evaluators to reconstruct a baseline for outcome comparison.

However, retrospective designs carry inherent risks, including above bias. As such, any use of this report's data for future policy reference or comparative evaluation should clearly note that these findings are based on a “retrospective baseline,” in order to ensure proper interpretation and contextual understanding.

To address these limitations, quantitative findings were triangulated with qualitative interview evidence, and only outcomes validated through both data sources were retained in the final valuation.

• Risk of response bias

Certain groups (e.g., elderly residents, farmers, and fishers) may face challenges completing questionnaires due to literacy barriers, irregular work schedules, or limited access to digital tools. This introduces potential structural response bias. To mitigate this, community cadres and chairpersons assisted with questionnaire distribution and interview-based completion.

Table 16 Summarise the stakeholder’s involvement plan for outcomes consultation (qualitative)

Stakeholders	Size of group	What biases or differences might there be in the group?	How will we make a sample as representative as possible to cover all these possible biases and differences?	Target number to be involved (sample size)	Method of involvement		
					HOW?	WHO?	WHEN?
ABKCG	1	May emphasize program effectiveness	Direct invitation to representative supervisors; clarified that evaluation is for learning, not performance reporting	1	Questionnaires/interviews	Agency representative; reviewed by research team	Mar 2024

Community Associations	3	Respondents may overemphasize positive outcomes	Clarified that responses are independent of ABKCG evaluation	3	Questionnaire	Chairperson or project leader	Mar 2024
Community residents	1977	Older population, some illiteracy; rural context limits reach	Community members assisted with data collection; ensured coverage of different age and gender groups; interviews used to supplement	155	Questionnaires/interviews	Community Associations assisted with distribution and collection	Apr–May 202
Community volunteers	230	Some older and less literate	Community chairpersons assisted in distributing and explaining questionnaires	41	Questionnaires/interviews	Community chairpersons coordinated	Apr–May 202
Local Producers & Merchants	79	Sensitive to income-related questions; may underreport	Community chairpersons facilitated interviews to reduce defensiveness and improve accuracy	21	Questionnaires/interviews	Community chairpersons coordinated	Apr–May 2024
Planet (Earth)	N/A	Not a self-reporting stakeholder	Used objective secondary statistics (energy, water, waste, green space)	N/A	Desk-based statistical analysis	Community Associations /Research team	Jan 2024

6.2 Quantity of Outcomes

6.2.1 Indicators and Threshold

For each stakeholder group, this study designed corresponding indicators to assess whether outcomes occurred and to what extent. Indicators combine both subjective feedback (capturing perceived changes in well-being) and objective evidence (financial and statistical data). Thresholds were then established to determine when an outcome is considered to have occurred. These thresholds are aligned with Principle 2: Understand Change, ensuring that outcomes are well-defined and materially relevant to stakeholders.

1. ABKCG

Outcome 1: Enhanced Public Visibility

- Indicator: Number of news reports and media exposures related to rural regeneration programs (2023).
- Threshold: If ≥ 5 independent media reports are identified in the year, the outcome is considered to have occurred.

Outcome 2: Strengthened community trust and sense of identification with ABKCG

- Indicator: Subjective perceptions of recognition and trust, collected from Community Associations, residents, volunteers, producers, and businesses through questionnaires.
- Threshold: If $\geq 50\%$ of respondents report an increased sense of identity, the outcome is considered to have occurred.

2. Community Association

Outcome 1: Strengthened sense of identity among local residents

- Indicator: Perceptions of trust and recognition from residents, producers, businesses, and volunteers.
- Threshold: If $\geq 50\%$ of respondents report increased identification, the outcome is considered to have occurred.

Outcome 2: Increased Community Income

- Indicator: Comparison of total revenue (events, markets, product sales) between 2022 and 2023.
- Threshold: If 2023 revenue $>$ 2022 revenue, the outcome is considered to have occurred.

Outcome 3: Increased Community Visibility

- Indicator: Number of media exposures related to the community using keywords such as "*community name + rural regeneration*".
- Threshold: If ≥ 3 reports are identified in 2023, the outcome is considered to have occurred.

3. Planet (Earth)

Outcome: Environmental Quality Improvement

- Indicator: Objective data on total waste production, electricity and water consumption, natural green space, and friendly farming area (2022–2023).
- Threshold: If quantitative evidence demonstrates measurable improvements in any of these five aspects, the outcome is considered to have occurred.

4. Community volunteers

Volunteers experience multiple dimensions of change. A Likert-scale questionnaire was used to assess subjective perceptions of change before vs. after participation.

- (1) Sense of Belonging
- (2) Perceived Self-Growth
- (3) Sense of Accomplishment
- (4) Sense of being needed
- (5) Expanded Interpersonal Relationships
- (6) Increased Fatigue (negative outcome)
- (7) Reduced Feelings of Isolation

- Indicator: Respondents rated perceived change on a 10-point Likert scale.
- Threshold: If the before–after difference ≥ 1 point, the outcome is considered to have occurred for that respondent.

5. Community residents

Residents' outcomes were measured using a similar Likert-scale design, capturing changes before and after program participation:

- (1) Sense of Tranquility
- (2) Increased perceptions of safety
- (3) Increased Pride in the Community
- (4) Sense of Belonging

- Indicator: Respondents evaluated changes in feelings on a 10-point Likert scale.
- Threshold: If the before–after difference ≥ 1 point, the outcome is considered to have occurred.

6. Local Producers and merchants

Outcome: Increased Revenue

- Indicator: Self-reported comparison of operating income between 2022 and 2023.
- Threshold: If 2023 revenue $>$ 2022 revenue, the outcome is considered to have occurred.

6.2.2 Scale and depth of change in outcomes

1. ABKCG

Outcome 1: Enhanced Public Visibility

- Based on 2023 media monitoring, 17 news reports and online articles were collected using keywords such as ABKCG, rural regeneration program, and related activities. This exceeds the set threshold and confirms that the outcome occurred.

Outcome 2: Strengthened Community Trust and Identification with ABKCG

- Community Associations: 100% of respondents (chairpersons/project leads) expressed positive recognition of ABKCG's support.
- Community Residents: 85% indicated that their impression and recognition of ABKCG improved after participation.
- Community Volunteers: 98% reported a positive attitude towards ABKCG's resource assistance and guidance.
- Local Producers and merchants: 95% recognized ABKCG's active involvement in marketing activities and sector support.
All stakeholder groups exceeded the 50% threshold, confirming the outcome.

2. Community associations

Outcome 1: Strengthened Sense of Identity among Local Residents

- 96% of residents, 100% of volunteers, and 90% of producers and businesses agreed that the association was a key driver of community change.

Outcome 2: Increased Community Income

- Financial data show that the three associations' average total revenue in 2023 increased by about NT\$130,000 compared to 2022.

Outcome 3: Increased Community Visibility

- About 20 news and media reports (local and online) were identified using keywords *community name + rural regeneration/activity*.

3. Planet (Earth)

Outcome: Environmental Quality Improvement

The Rural Regeneration Program achieved substantial environmental quality improvements across the three participating communities—Tangchang, Xingang, and Xinfu. Based on data reported by the Community Associations, the program delivered measurable progress in five major dimensions: waste reduction, energy conservation, water conservation, green space expansion, and eco-friendly farming. (see Table 17 for details).

Overall Results

Across all communities combined, the program produced tangible environmental benefits, including:

- Waste reduction: approximately 21,150 kg less waste generated annually.
- Electricity savings: around 4,600 kWh in total power reduction.
- Water savings: approximately 1,700 kiloliters of water conserved.
- Green space expansion: an increase of 18.4 hectares of landscaped or vegetated areas.
- Expansion of eco-friendly farming areas: approximately 31 hectares under improved environmental practices.

These improvements confirm a measurable enhancement in rural environmental quality and align with the program's sustainability objectives.

Table17 Community-Level Improvements

Community	Green Space Expansion (ha)	Eco-friendly Farming (ha)	Waste Reduction (kg)	Water Use Reduction (kL)	Electricity Savings (kWh)
Tangchang	15 → 28 (+13)	2 → 18 (+16)	46,700 → 26,400 (-20,300)	4,500 → 3,800 (-700)	25,200 → 22,300 (-2,900)
Xingang	15 → 16.4 (+1.4)	30 → 41 (+11)	1,000 → 750 (-250)	2,400 → 2,000 (-400)	4,500 → 3,800 (-700)
Xinfa	10 → 14 (+4)	5 → 9 (+4)	2,000 → 1,400 (-600)	3,000 → 2,400 (-600)	6,000 → 5,000 (-1,000)

3. Community volunteers

According to the statistics of the quantitative questionnaire results, community volunteers experienced changes in various psychological and social aspects after participating in rural regeneration programs. The following is an explanation of the seven outcomes based on 41 valid samples:

Outcome 1: A sense of belonging

- 24 exceeded the threshold (avg. +3.17 points). 2 reported decreases.

Outcome 2: Perceived Self-Growth

- 24 exceeded the threshold (avg. +3.13). 2 reported declines.

Outcome 3: Enhanced Sense of Accomplishment

- 24 reported exceeded the threshold (avg. +3.25).

Outcome 4: Sense of Being Needed

- 24 reported exceeded the threshold (avg. +3.04).

Outcome 5: Expanded Interpersonal Relationships

- 26 reported exceeded the threshold (avg. +2.73). 3 reported declines.

Outcome 6: Increased Fatigue (Negative Outcome)

- 14 reported exceeded the threshold (avg. -2.73). 9 reported reduced fatigue.

Outcome 7: Reduced Feelings of Isolation

- 25 reported exceeded the threshold (avg. +2.8). 3 reported increased isolation.

4. Community residents

According to the results of the quantitative questionnaire survey, community residents have changes in their perception, psychological belonging, and community identity after participating in rural regeneration programs. Here are the findings of the four outcomes:

Outcome 1: Enhanced Sense of Tranquility

- 118 reported exceeded the threshold (avg. +2.98). 4 reported declines.

Outcome 2: Increased Perceptions of Safety

- 108 reported exceeded the threshold (avg. +2.82).

Outcome 3: Increased Pride in the Community

- 115 reported exceeded the threshold (avg. +3.47, highest change).

Outcome 4: Strengthened Sense of Belonging

- 113 reported exceeded the threshold (avg. +3.22). 5 reported declines.

5. Local Producers and merchants

Outcome: Increased Revenue

- From 21 valid questionnaires, 20 respondents reported revenue increases of >5% in 2023 compared to 2022, attributed to branding, markets, tours, and marketing initiatives. Only 1 reported no significant change.

The Scale and Depth of Stakeholder Outcomes are summarized in the table below (see Table 18 for details).

Table 18 Scale and Depth of Stakeholder Outcomes

Stakeholder	Population	Outcome	Number of Changed Samples	% of Valid Samples	Estimated Total Number of Changes
ABKCG	1	Enhanced Public Visibility	1	100%	1
		Strengthened Community Trust and Identification with ABKCG	1	100%	1
Community Association	3	Strengthened Sense of Identity among Local Residents	3	100%	3
		Increased Community Income	3	100%	3
		Increased Community Visibility	3	100%	3
Planet (Earth)	1	Environmental quality improvement	1	100%	1
Community volunteers	230	Increased Sense of Belonging	24	59%	135
		Decreased sense of belonging (unintended negative outcome)	2	5%	11
		Perceived Self-Growth	24	59%	135
		Perceived Regression (unintended negative outcome)	2	5%	11

		Enhanced Sense of Accomplishment	24	59%	135
		Sense of Being Needed	24	59%	135
		Expanded Interpersonal Relationships	26	63%	146
		Deteriorated interpersonal relationships (unintended negative outcome)	3	7%	17
		Increased Fatigue (negative)	14	34%	79
		Reduce fatigue (unintended positive outcome)	9	22%	50
		Reduced Feelings of Isolation	25	61%	140
		Increased feelings of isolation (unintended negative outcome)	3	7%	17
Community residents	1977	Enhanced Sense of Tranquility	118	76%	1505
		Reduce tranquility (unintended negative outcome)	4	3%	51
		Increased Perceptions of Safety	108	70%	1378
		Increased Pride in the Community	115	74%	1467
		Strengthened Sense of Belonging	113	73%	1441
		Reduced sense of belonging (unintended negative outcome)	5	3%	64
Local Producers & Merchants	79	Increased Revenue	20	95%	75

6.2.3 Unintended Outcomes

During the outcome measurement process, the research team combined quantitative comparisons of pre- and post-program changes with qualitative open-ended responses. In addition to the primary outcomes identified through qualitative interviews, several **unintended outcomes**—both positive and negative—were observed. Although these were not anticipated in the program’s original design, they provide valuable insights for future impact management and program adjustment.

1. Unintended Negative Outcomes: Community volunteers reporting a reduced sense of belonging

This result comes from the following questions in a quantitative questionnaire of community volunteers:

Questionnaire questions

Before participating in the community organization operation in 2023, how well did you feel accepted and recognized in the community organization on a scale of 1 to 10? (1 = not feeling accepted at all, 10 = feeling accepted very strongly).

After participating in the operation of community organizations in 2023, on a scale of 1 to 10, how well do you feel accepted and recognized in community organizations? (1 = not feeling accepted at all, 10 = feeling accepted very strongly).

Two of the 41 valid responses indicated a decline in perceived belonging, with an average change of -1 point. This suggests that approximately 11 individuals (5% of the volunteer population) may have experienced similar outcomes. Interviews revealed several contributing factors:

- Unclear role allocation – volunteers were engaged in activities but assigned limited responsibilities, resulting in a lack of meaningful participation.
- Weak internal communication – insufficient feedback and recognition created feelings of marginalization.
- Exclusive organizational culture – small, closed groups within associations made integration difficult for newcomers.

2. Unintended Negative Outcomes: Community volunteers reporting Perceived Regression

This result comes from the following questions in a quantitative questionnaire of community volunteers:

Questionnaire questions

On a scale of 1 to 10, how many opportunities do you feel you have for personal growth and development in this organization before joining the community organization in 2023? (1 = no opportunities for growth at all, 10 = full of opportunities for growth and development).

On a scale of 1 to 10, how many opportunities do you feel you have for personal growth and development in this organization after joining the community organization in 2023? (1 = no opportunities for growth at all, 10 = full of opportunities for growth and development).

Two volunteers (≈11 people, 5%) expressed a decline in perceived opportunities for self-development, averaging –1.5 points. Interviews identified the following issues:

- Repetitive or supportive tasks offered limited opportunities for skill development. The volunteer said, *"I am almost always on site to spread or cook, more like helping labour, and I don't learn anything new."*
- Restricted participation in decision-making left volunteers excluded from strategic discussions. The volunteer said, *"Although I participated, it was more like someone else arranged it and I did it. There is no real participation in the discussion or planning."*
- Mismatch of expectations between anticipated learning and actual responsibilities led to disappointment. The volunteer said, *"I thought I could learn more, but it seems that some of them are things I would have done well."* It shows that the difference in expectations before and after participation leads to negative outcomes.

3. Unintended Negative Outcomes: Community volunteers reporting deteriorated interpersonal relationships

This result comes from the following questions in a quantitative questionnaire of community volunteers:

Questionnaire questions

Before participating in the operation of a community organization in 2023, on a scale of 1 to 10, how well do you feel you are in the community, interpersonal, friendship and interaction internally or externally? (1 = fewer changes in friends, 10 = greatly improves interaction inside and outside the community).

After participating in the operation of community organizations in 2023, on a scale of 1 to 10, how well do you feel you are in the community, interpersonally, making friends and interacting internally or externally? (1 = fewer changes in friends, 10 = greatly improves interaction inside and outside the community).

Three volunteers (≈17 people, 7%) reported worsening interactions, with an average decline of –1 point. Causes included:

- Communication and cognitive gaps leading to conflicts in decision-making. The volunteer said, *"Sometimes I have my own ideas about the community or the activities I organize, but when others have their own ideas and opinions, conflicts of opinion will arise, and I don't want to talk about it later."* It shows that in the discussion of community affairs, there is a lack of adequate communication mechanisms and decision-making processes, leading to communication frustration and estrangement of relationships.
- Lack of conflict management mechanisms that allowed disputes to persist, creating longer-term relational strain. The volunteer said, *"In fact, there was no reconciliation or talk after the quarrel, and the atmosphere was still very awkward after the time passed"* The lack of channels or opportunities for emotional expression and negotiation within community organizations may also lead to long-term accumulation of petty conflicts into relationship breakdowns.

4. Unintended Negative Outcomes: Community volunteers reporting increased isolation

This result comes from the following questions in a quantitative questionnaire of community volunteers:

Questionnaire questions

On a scale of 1 to 10, did you feel isolated or depressed on a scale before participating in community organizations in 2023? (1 = not feeling lonely or depressed at all, 10 = feeling very lonely and depressed)

On a scale of 1 to 10, did you feel isolated or depressed on a scale after participating in community organizations in 2023? (1 = not feeling lonely or depressed at all, 10 = feeling very lonely and depressed)

Three respondents (≈17 people, 7%) experienced heightened isolation or depression, averaging –2 points. Contributing factors were:

- Individualized tasks with minimal team interaction.: Some respondents were responsible for individual tasks such as administration and procurement, and although they participated in community work, they lack opportunities to cooperate with others and cannot establish interpersonal connections.
- Insufficient affirmation and difficulties integrating into the core group.: If there is a lack of affirmation and difficulty in entering the core team during the investment process, it will lead to a sense of psychological alienation of "people in the group but no one pays attention".
- Psychological vulnerability (e.g., anxiety, depression) that was not supported by participation structures: For those with social anxiety and mild depression tendencies, if the participation mechanism is not properly designed, it will amplify their sense of loss and powerlessness.

This finding highlights the need to strengthen mechanisms of inclusion and emotional support in future program design.

5. Unintended positive outcome: Community volunteers reporting reduced fatigue

This result comes from the following questions in a quantitative questionnaire of community volunteers:

Questionnaire questions

Before participating in the operation of the community organization in 2023, on a scale of 1 to 10, how busy or tired did you feel in the operation of the community organization? (1 = no fatigue at all, 10 = extreme fatigue).

After participating in the operation of community organizations in 2023, on a scale of 1 to 10, how busy or tired do you feel in the operation of community organizations? (1 = no fatigue at all, 10 = extreme fatigue).

Nine respondents (≈50 people, 22%) reported a decrease in fatigue, with an average improvement of +1.67 points. Explanations included:

- Purpose-driven participation transformed workload into motivation
"Although there are many things, knowing what you are doing and why you are doing it is more motivated." Even if you invest time and energy, because the task is meaningful, it keeps your body and mind in a positive state.
- Replacement of idleness with structured engagement, especially among older participants, stabilized daily rhythms.
"I used to have nothing to do, but I was more likely to feel tired. Now I have fixed things to do every day, and my life is more stable." Especially for elderly volunteers or middle-aged and elderly participants, "busy and orderly" can help stabilize the rhythm of life.
- Social interactions during activities enhanced psychological well-being and reduced subjective exhaustion.
"Although I have a job here every day, I am busy, meeting people and talking, but it is much better than being in a daze at home." Social interaction and work can reduce negative psychological cycles, thereby reducing subjective fatigue.

Although unanticipated, this finding underscores the importance of meaningful engagement and structured participation in turning potential burdens into sources of vitality.

6. Unintended Negative Outcomes: Community residents reporting a reduced sense of tranquility

Quantitative evaluation of community residents' self-feelings about the "sense of tranquility" (including cleanliness, comfort, and livability) of the living environment, the questionnaire design is as follows:

Questionnaire questions

"On a scale of 1 to 10, how did you feel your living environment made you feel clean, comfortable, and comfortable before 2023? (1 = not comfortable at all, 10 = extremely comfortable)

"On a scale of 1 to 10, how do you feel that your living environment makes you feel clean, comfortable and comfortable after 2023?" (1 = not comfortable at all, 10 = extremely comfortable)

4 of the 155 valid responses (≈51 residents, 3%) indicated a decline in perceived tranquility (−1 point average). Reported reasons included:

- Temporary disruptions such as noise and congestion from construction or large-scale events.
"There have been many events recently, with a lot of people and noisy parking." Hardware projects or large-scale community activities can interfere with some residents who are accustomed to quiet living and affect their environmental comfort evaluation.
- Increased community inflow of external participants, which created feelings of unfamiliarity and pressure.
"Everyone used to be familiar with it, but now outsiders often come to participate in the market, and sometimes I feel uncomfortable." Some residents will feel insecure due to the increase in "strangers" and changes in social interaction patterns.

7. Unintended Negative Outcomes: Community residents reporting a reduced sense of belonging

From the evaluation of the subjective feelings of "sense of acceptance and belonging" by community residents in the quantitative questionnaire, the question design is as follows:

Questionnaire questions

On a scale of 1 to 10, how well did you feel accepted, cared for, and cared for by the community before 2023? (1 = no sense of belonging at all, 10 = very strong sense of belonging)

On a scale of 1 to 10, how well do you feel accepted, cared for, and cared for by the community after 2023? (1 = no sense of belonging at all, 10 = very strong sense of belonging).

5 residents (≈64 people, 3%) reported lower belonging (−1 point average). Interview insights revealed:

- Limited participation opportunities that excluded some residents.
"Our family did not participate in the activity, and it feels as if the plan has nothing to do with us." Some residents may not be included in the activity or the information is not communicated, causing them to feel excluded or alienated.
- Concentration of resources and visibility on specific groups (e.g., cadres), which marginalized others.
"All look at a few cadres who often come forward to do things, and others are more like bystanders." If resources and focus are concentrated on small circles for a long time, some community residents will feel marginalized.

8. Open-ended question results

An open-ended item invited participants to share additional positive or negative impacts not previously listed. Most responses indicated "no additional impact" or reiterated outcomes already captured in earlier sections. Key themes included:

Do you have any positive or negative outcomes that are not mentioned above? What is it? The degree of outcomes can be evaluated according to the before and after changes (1-10 points).

- Community volunteers: improved life rhythm, enhanced psychological state, empowerment through learning, and stronger role identity in community functions.
- Community residents: psychosocial support, heightened participation through diverse activities, local economic stimulation through tourism, and infrastructure improvements.

Together, these findings reaffirm the breadth of changes—both intended and unintended—that emerged from program participation. Unintended outcomes, particularly negative ones, underscore the need for adaptive management strategies that address risks of exclusion, role ambiguity, and psychological strain. (see Table 19/20 for details)

Table 19 Summary table of open-ended feedback from community volunteers

Respond to the topic	Summary of response content	Corresponding description/remarks
Rhythm of life and psychological state	<i>"It won't be boring", "Busy and fulfilling", "A fulfilling life"</i>	Highlights the positive effect of participation on daily rhythm and psychological state, consistent with the outcomes of <i>Reduced feelings of isolation</i> and <i>Sense of being needed</i> .
Learning and expertise empowerment	<i>"I learned a lot of expertise"</i>	Reinforces the outcome of <i>Perceived self-growth</i> and reflects the accumulation of knowledge and skills gained through participation.
Community role identity	<i>"The role of the community can be a trusted parent or caregiver for local residents"</i>	Demonstrates recognition of community functions and individual roles, deepening the sense of belonging and meaning in work.
No other new impacts	<i>Most answers are "none"</i>	No significant unintended outcomes were identified; most observed changes are already captured in the primary outcome analysis.

Table 20 Summary table of open-ended feedback from community residents

Respond to the topic	Summary of response content	Corresponding description/remarks
Psychosocial support	<i>"Although I am tired after participating, I feel needed", "community integration", and "centripetal force improvement"</i>	Provides supplementary explanation of extended psychological outcomes such as <i>Sense of being needed</i> and <i>Strengthened sense of belonging</i> .
Rhythm of life and participation in activities	<i>"Living in a Novice Village by the Sea", "One-Day Little Fisherman", "Fisherman's Life Festival", "Monthly Birthday Party", "Silver Afternoon Tea"</i>	Demonstrates residents' perception of diverse community activities, leading to enhanced participation and stronger life motivation.
Tourists drive and local economy	<i>"Foreigners will come to buy tea", "more tourists", "industrial upgrading", "industrial development"</i>	Highlights the positive economic mobility and increased visibility brought by the Agricultural Recycling Program.
Environmental and infrastructure improvement	<i>"Drainage system improvement", "Streets are cleaner", "Roads are getting better"</i>	Provides concrete examples of environmental and infrastructural achievements, complementing outcomes related to <i>Enhanced sense of tranquility</i> and improved quality of life.

6.3 Duration of Outcomes

The duration of outcomes refers to the length of time that each change continues to affect stakeholders after their participation in Kaohsiung rural generational program. In this study, duration was assessed through direct stakeholder consultation via questionnaires, where participants reported how long they perceived each change to last. This approach, grounded in stakeholders lived experiences, ensures that the evaluation reflects not only observable achievements but also the sustainability of outcomes as perceived by those directly affected. It also provides a more reliable basis for ongoing monitoring and future policy design. (See as table 21)

1. ABKCG

ABKCG subsidized local communities to implement rural regeneration initiatives and promoted results through presentations, exhibitions, and media campaigns. The outcome of **Enhanced Public Visibility** was found to be largely concentrated during the project implementation phase and in the immediate aftermath, with an average duration of approximately one year. This reflects the time-bound nature of promotional activities, where visibility gradually diminishes without continued reinforcement.

By contrast, the outcome of **Strengthened Community Trust and Sense of Identification with ABKCG** originates from tangible resource allocation, technical assistance, and direct interaction with communities. These experiences foster positive recognition of ABKCG's role in supporting rural revitalization. Based on stakeholder feedback, this sense of identification is more enduring, lasting on average for about two years, though it still requires continuous policy engagement to be sustained.

2. Community Association

The Community Associations reported sustained achievements in **Strengthened Sense of Identity among Local Residents, Increased Community Income, and Increased Community Visibility**. Survey results indicate that these outcomes persist for an average of two years. This continuity is attributed to the strengthening of organizational capacity, integration of local resources, and establishment of practices such as industry marketing and environmental stewardship. Once embedded, these practices can continue to yield benefits beyond the formal project cycle, providing a foundation for long-term development.

3. Planet (Earth)

For the outcome of **Environmental Quality Improvement**, Community Associations reported that the effects of initiatives such as waste reduction, water and electricity conservation, expansion of green spaces, and adoption of eco-friendly farming practices continued for an average of two years. This demonstrates that environmentally oriented behavioral changes, once established within communities, can persist over time, particularly when supported by habit formation and collective commitment.

4. Community volunteers

Community volunteers experienced multiple outcomes, including **A Sense of Belonging, Perceived Self-Growth, Enhanced Sense of Accomplishment, Sense of Being Needed, Expanded Interpersonal Relationships, and Reduced Feelings of Isolation**. These

positive outcomes, rooted in teamwork, shared responsibilities, and learning opportunities, were found to last for an average of two years, reflecting the stability of new relationships and personal identity shifts gained through participation.

However, several unintended negative outcomes were also observed, including **Reduced Sense of Belonging, Perceived regression, Deterioration of Interpersonal Relationships, Increased Fatigue, and Increased Feelings of Isolation**. On average, these outcomes persisted for about one year. The shorter duration suggests that such effects are often linked to transitional challenges such as role ambiguity, communication gaps, or workload imbalances, which can be mitigated through clearer role definition, better support systems, and improved conflict management.

5. Community residents

Residents reported positive changes in **Enhanced Sense of Tranquility, Increased Perceptions of Safety, Increased Pride in the Community, and Strengthened Sense of Belonging**. These outcomes, largely driven by environmental improvements, safety enhancements, and cultural or social engagement, were sustained for an average of two years.

Nonetheless, a minority of residents experienced unintended negative outcomes such as **Reduced Sense of Tranquility and Reduced Sense of Belonging**, typically lasting about one year. These were often linked to temporary disruptions (e.g., construction noise), feelings of exclusion, or unmet expectations. Continued community engagement and inclusive activity design can help mitigate such effects over time.

6. Local Producers and merchants

For local producers and merchants, the most salient outcome was **Increased Revenue**, attributed to improved branding, product development, and market exposure facilitated by the program. Stakeholders estimated the effects to persist for an average of two years, as strengthened customer relationships and brand recognition often extend beyond the program cycle. Continued marketing and sales activities by community associations are critical for sustaining and amplifying this outcome.

Table 21 Duration of Stakeholder Outcomes

Stakeholder	Outcome	Duration (Years)
ABKCG	Enhanced Public Visibility	1
	Strengthened Community Trust and Sense of Identification with ABKCG	2
Community Association	Strengthened Sense of Identity among Local Residents	2
	Increased Community Income	2
	Increased Community Visibility	2
Planet (Earth)	Environmental quality improvement	2
Community volunteers	A Sense of Belonging	2
	Reduced sense of belonging (negative).	1
	Perceived Self-Growth	2
	Perceived regression (negative).	1

	Enhanced Sense of Accomplishment	2
	Sense of Being Needed	2
	Expanded Interpersonal Relationships	2
	Deterioration of Interpersonal Relationships (negative)	1
	Reduces fatigue	2
	Increased Fatigue (negative).	1
	Reduce feelings of isolation	2
	Increased feelings of isolation (negative).	1
Community residents	Enhanced Sense of Tranquility	2
	Reduced Sense of Tranquility (negative).	1
	Increased Perceptions of Safety	2
	Increased Pride in the Community	2
	Strengthened Sense of Belonging.	2
	Reduced sense of belonging (negative).	1
Local producers and merchants	Increase revenue	2

6.4 Value of Outcomes

6.4.1 Relative Importance

In the context of Social Return on Investment (SROI), value refers to the significance stakeholders assign to the changes they experience. These judgments are often reflected in choices and behaviors—such as willingness to dedicate time, prioritize certain activities, or pursue preferred changes when resources are limited. Understanding the relative importance of outcomes is therefore critical, as it influences the prioritization of interventions and the allocation of public resources.

Following Social Value International (SVI) principles, this study employed a quantitative survey to measure the relative importance of outcomes. Stakeholders were invited to score each outcome on a scale of 1 to 10, where 10 represented the highest importance and 1 the lowest. This approach allows stakeholders to express value judgments based on lived experience, ensuring that the SROI model is anchored in real preferences, needs, and perceptions of well-being.

Each stakeholder group (e.g., community residents, volunteers, producers, etc.) was asked to evaluate all outcomes relevant to their experience. The average score for each outcome was then calculated within each stakeholder group to reflect the collective judgment of relative importance. This yielded a set of importance weights that quantified how much each group valued different outcomes relative to one another.

These stakeholder-derived average scores were subsequently used as proportional weights in the valuation model, helping ensure that financial proxies aligned with what stakeholders themselves deemed most meaningful. The detailed results are presented in Table 22.

1. ABKCG

ABKCG assigned the highest importance (10) to **Strengthened Community Trust and Sense of Identification with ABKCG**, reflecting its strategic priority of fostering public recognition and trust through rural regeneration programs. **Enhanced Public Visibility** scored

slightly lower at 9, underscoring its continued role as an important policy indicator but secondary to trust-building. These results highlight the organization's dual focus on governance legitimacy and public communication as key drivers of long-term policy effectiveness.

2. Community associations

Community Associations rated **Increased Community Visibility** and **Strengthened Sense of Identity among Local Residents** as most important (10), emphasizing their role in building recognition and legitimacy within and beyond the community. **Increased Community Income** scored 9.5, reflecting the dual objective of economic sustainability alongside social cohesion. These scores confirm that Community Associations are not solely vehicles for internal solidarity but also act as proactive agents of local economic and social value creation.

3. Community volunteers

For community volunteers, outcomes related to personal development and social connectedness were rated most highly. **A Sense of Belonging** and **Expanded Interpersonal Relationships** received the highest scores (7.88), followed closely by **Enhanced Sense of Accomplishment** (7.85) and **Perceived Self-Growth** (7.83). **Sense of Being Needed** also scored strongly at 7.59, underscoring the importance of recognition and meaningful contribution.

Well-being-related outcomes, such as **Reduced Fatigue** (7.25) and **Reduced Feelings of Isolation** (7.05), also scored relatively high, particularly for volunteers who associated community engagement with improved mental health and daily life structure.

By contrast, unintended negative outcomes were rated considerably lower in importance: **Increased Fatigue** (6.51), **Increased Feelings of Isolation** (6.33), and **Limited Self-Growth** (6.0). The lowest scores were given to **Deterioration of Interpersonal Relationships** (3.67) and **Reduced Sense of Belonging** (3.0), indicating that while these effects exist, they are regarded as marginal or manageable within the group.

Taken together, the results indicate that volunteers attach the greatest value to psychological affirmation and community connection, while negative outcomes are generally seen as challenges that can be overcome rather than critical impacts.

4. Community residents

Residents prioritized outcomes that directly affect quality of life. **Enhanced Sense of Tranquility** received the highest score (8.01), followed by **Increased Perceptions of Safety** (7.82), **Strengthened Sense of Belonging** (7.78), and **Increased Pride in the Community** (7.75). These scores demonstrate that improvements in environmental comfort, safety, and psychological connectedness are highly valued by residents as meaningful and lasting changes.

Unintended negative outcomes, such as **Reduced Sense of Tranquility** (6.0) and **Reduced Sense of Belonging** (6.8), were rated lower, suggesting that while these experiences are recognized, they are not perceived as major concerns for the majority. These results are directly incorporated into the weighting of financial proxy variables to ensure that valuation reflects the actual priorities of residents.

6.4.2 Financial Proxy

To compare outcomes across different stakeholder groups and estimate the SROI ratio, results were monetized using financial proxy variables. Because the identified outcomes are diverse in nature, this study applied a consistent framework for determining proxy values. Relative importance scores (from stakeholder surveys) were used to weight and anchor valuations, ensuring that the outcomes most valued by stakeholders are accurately reflected. Four valuation approaches were applied:

- **Unit Cost Method**

For those outcomes that can be derived from organizational resource investment—such as government visibility and policy promotion—the average cost of comparable promotion, exhibition, or communication activities in prior years was used as a financial proxy. This reflects the direct expenditure an organization would need to incur to achieve similar outcomes independently.

- **Alternative/Comparative Substitute Method**

For outcomes that improve well-being but lack direct market prices, proxy values were estimated by identifying substitute services offering comparable benefits (e.g., counseling services, training programs, or community events).

- **Anchoring Method**

To ensure comparability across outcomes, one outcome with a high degree of stakeholder consensus was selected as an “anchor.” Financial proxy values for other outcomes were then calculated proportionally, based on their relative importance scores. This approach improves valuation consistency while embedding stakeholder perspectives.

- **Willingness to Pay (WTP) Method**

For outcomes with intrinsic personal or psychological value that cannot be priced through markets or substitutes, stakeholders were directly asked how much they would be willing to pay or sacrifice in resources to achieve the outcome. This captures the subjective importance of intangible benefits.

In several outcome areas—particularly those relating to environmental and community-level change—indicator-based valuation was applied instead of direct outcome valuation.

This decision was made for three main reasons:

- **Non-monetizable or collective outcomes:**

Certain outcomes, such as environmental quality improvement, energy and water conservation, and reduced waste generation, represent collective or ecosystem-level benefits rather than individual stakeholder experiences. Because stakeholders could not reasonably assign a personal monetary value to these changes, measurable indicators (e.g., kilograms of waste reduced, kiloliters of water saved, hectares of green space expanded) were used instead.

- **Evidence availability and verifiability:**

Environmental and infrastructural data were directly observable and verifiable through community records, while individual-level valuations would rely heavily on subjective perception and speculative assumptions. Using objectively measured indicators increased transparency and reduced the risk of overclaiming.

- Alignment with the Principle of Proportionality:

According to SVI guidance, valuation should reflect the materiality and data reliability available for each outcome. In this analysis, indicator valuation was applied only where it better represented the actual scope of change and where direct outcome valuation would not meet the same standard of credibility.

Where feasible (e.g., outcomes related to residents' well-being, belonging, or self-growth), direct stakeholder valuation was applied through willingness-to-pay or equivalent value proxies. The combined approach ensured both methodological rigor and proportional representation of value across outcome types.

6.4.3 Proxy Selection and Validation

The selection of anchor proxies in this SROI analysis was driven by stakeholder salience and comprehensibility rather than by externally predefined assumptions. During focus groups and individual interviews, stakeholders were invited to discuss which outcomes felt most tangible, emotionally salient, or easiest to express in monetary terms.

The outcome that stakeholders could most clearly describe and value—often the one they personally “felt the most”—was chosen as the anchor point for financial valuation within each stakeholder group. These anchor outcomes therefore served as reference points for establishing relative value relationships with other, less easily monetized outcomes.

To minimize the risk of overestimation or “whole-program” valuation, facilitators explicitly guided stakeholders to assign value only to the specific change discussed, rather than to the overall impact of the Rural Regeneration Program. Where responses appeared to reflect general satisfaction, proxy values were adjusted conservatively or cross-checked against other stakeholder data.

This participatory and context-based proxy selection approach ensured that the final monetary estimates were stakeholder-informed, proportionate, and credible, while faithfully reflecting how beneficiaries themselves perceive and articulate the value of change.

However, the research team made efforts to review existing SROI reports to support or validate the financial proxy variables used in this analysis. However, it proved difficult to find comparable cases with similar stakeholder types and outcome characteristics. As a result, existing studies could not be directly applied to justify the proxy selection. Therefore, the study ultimately relied on direct stakeholder input, which is both consistent with SROI principles and appropriate for a first-time evaluation conducted by the commissioning agency. This approach provides a foundational basis for refining proxy values in future assessments.

The financial proxy variables and value references of the results of this project are detailed in Table 22, and are explained as follows.

1. ABKCG

Outcome 1: Enhanced Public Visibility

Valued using the Unit Cost Method. The average cost of media exposure or exhibition participation was NT\$50,000 per feature. With 17 relevant media reports generated, the total proxy value was estimated at **850,000NTD**.

Outcome 2: Strengthened Community Trust and Identification with ABKCG

Estimated using the Unit Cost Method, based on average past expenditures on public participation, branding, and image communication programs. The financial proxy was set at **950,000NTD**.

2. Community associations

Outcome 1: Strengthened Sense of Identity among Local Residents

Valued using the Anchoring Method, benchmarked against increased income and converted proportionally according to relative importance scores.

Outcome 2: Increased Community Income

Anchored in actual financial data. In 2023, average reported revenue across the three associations increased by approximately **1,300,000NTD** compared with 2022. This was adopted as the anchor outcome.

Outcome 3: Increased Community Visibility

Also valued through the Anchoring Method, with proxy values scaled proportionally to the anchor outcome.

3. Planet (Earth)

Environmental Quality Improvement

Proxy value estimated using a combination of direct savings, policy benchmarks, and carbon pricing:

- Electricity saving valuation calculation: Based on Taiwan's residential electricity price³ of about NT\$ 3.23 per kilowatt-hour, this project saves about 14,858_NTD (4,600 × 3.23) in electricity bills per year
- Water conservation valuation calculation: The water bill⁴ is calculated at 7.35 NTD / m³ based on the first 10 cubic meters, which corresponds to a water savings of 12,495 NTD (1,700 × 7.35).
- Green space valuation calculation: Refer to the "Rural Area Highlight Plan" of the Rural Development and Soil and Water Conservation Administration of the Ministry of Agriculture⁵. Community-based projects usually subsidize NT\$20 to NT\$50 per case for environmental improvement and greening, space revitalization and reuse, and space improvement of rural characteristic buildings. Using it as a financial proxy, with an average of 350,000 NTD per case x 3 communities = 1,050,000 NTD.
- Financial Valuation of Organic/Friendly Farming: In line with the government's policy to encourage the development of organic agriculture or friendly farming, this study refers to official subsidy practices and uses them as a financial proxy benchmark:

³ Taiwan Power Company <https://www.taipower.com.tw/2289/2290/46940/46945/normalPost>

⁴ Water Company <https://www.water.gov.tw/ch/Subject/Detail/1288?nodeId=813>

⁵ https://www.ardswc.gov.tw/Home/Laws/laws_more?id=3997a6cb17f143c5bf15f0c730b1c60a

- Organic transition land⁶: subsidy 60,000 ~ 80,000 NTD per hectare.
- Environmentally friendly farming land: about 30,000 NTD per hectare per year.
- Ecological conservation subsidy⁷ (ecological incentive payment), also 30,000 NTD /hectare per year.

Based on the "increase in friendly farming area by 31 hectares", the estimated annual environmental value is about 40,000 NTD × 31 hectares = 1,240,000 NTD/year.

- Waste reduction valuation calculation: Based on the carbon emission coefficient of Taiwan's waste incineration technology and the government's carbon fee system, it is estimated as carbon reduction value, as follows:
 - Carbon emission reduction⁸ estimate: Incineration of municipal waste can emit about 1 ton of CO₂ per ton. After conversion, 21,150 kg ≈ 21.15 metric tons, a decrease of approximately 21.15 metric tons of CO₂.
 - Carbon fee⁹ estimation standard: Taiwan's Ministry of Environment has set a carbon fee of NT\$300 per ton of CO₂ for general enterprises.
 - Value: 21.15 tCO₂ × 300 NTD /tCO₂ = 6,345NTD

Total proxy value: 14,858 NTD+ 12,495 NTD + 1,050,000 NTD+ 1,240,000 NTD + 6,345 NTD= 2,323,698NTD ◦

4. Community volunteers

Anchor Outcome: Enhanced Sense of Accomplishment

Valued through the Willingness-to-Pay Method. Stakeholders reported they would assign an average value of 33,405NTD to the sense of accomplishment achieved through participation. This outcome served as the anchor for other psychological and social outcomes.

Outcome Anchored: A Sense of Belonging, Perceived Self-Growth, Sense of Being Needed, Expanded Interpersonal Relationships, Reduced Feelings of Isolation, Increased Fatigue, Reduced sense of belonging, Deterioration of Interpersonal Relationships, Increased Feelings of Isolation, Perceived Regression, Reduced Fatigue

All valued using the Anchoring Method, with financial proxies converted proportionally from the anchor outcome (Sense of Accomplishment), based on relative importance scores. Negative outcomes were set as negative values to reflect their adverse impact on well-being.

5. Community residents

Anchor Outcome: Increased perceptions of safety

⁶ Organic incentives and subsidies from the Ministry of Agriculture https://m.moa.gov.tw/Subsidy/Detail/4?utm_source=chatgpt.com

⁷ Key points of organic and environmentally friendly farming subsidies https://law.moa.gov.tw/LawContent.aspx?id=GL000840&utm_source=chatgpt.com

⁸ Ministry of Environment's carbon footprint emission factor https://data.moenv.gov.tw/dataset/detail/CFP_P_02?utm_source=chatgpt.com

⁹ https://ourworldindata.org/co2/country/taiwan?utm_source=chatgpt.com

Residents reported that their overall sense of safety in the community improved following the rural regeneration program. Enhancements such as upgraded public lighting, improved drainage systems, and better spatial organization helped reduce hidden risks and create a more secure living environment. Importantly, these physical improvements translated into perceived reductions in residential risks, as stakeholders expressed stronger confidence in their surroundings and daily activities.

The financial proxy for this outcome was estimated using the Alternative/Comparative Substitute Method. In the survey, residents were asked what investments they would make if they needed to secure their homes and feel safer. Options included self-defense and first aid training ($\approx 2,000$ NTD), purchasing fire extinguishers and safety equipment ($\approx 15,000$ NTD), one year of remote monitoring services ($\approx 30,000$ NTD), and upgrading home infrastructure such as doors, windows, and alarm systems ($\approx 100,000$ NTD). By compiling actual responses and self-estimated amounts, the derived average proxy value was 27,122 NTD. This represents residents perceived economic equivalence of increased safety, capturing both the tangible and psychological dimensions of this outcome.

Outcome Anchored: Enhanced/ Reduced Sense of Tranquility, Increased Pride in the Community, Strengthened/Reduced Sense of Belonging

All valued using the Anchoring Method, with financial proxies converted proportionally from the anchor outcome (Increased perceptions of safety), based on relative importance scores. Negative outcomes were set as negative values to reflect their adverse impact on well-being.

6. Local Producers and merchants

Outcome: Increase revenue

For local producers and merchants, participation in the rural regeneration program created tangible improvements in economic performance. Stakeholders reported that program activities—such as brand design, product processing, local markets, and tourism-linked events—provided new opportunities to expand customer reach and enhance product value.

The financial proxy for this outcome was calculated directly from the self-reported income changes of producers and merchants between 2022 and 2023. Survey data indicated an average increase of 5% in annual revenue. Given that the average annual turnover of local producers is approximately 1,600,000 NTD, this translates to an estimated increase of 80,000 NTD per producer/merchant. This proxy value represents the concrete financial benefit attributable to the rural regeneration program and captures its direct contribution to strengthening the local economy.

Table 22 Valuation of Outcomes for Stakeholders

Stakeholder	Outcomes	Relative Importance	Financial Proxy	Valuation Method
ABKCG	Enhanced Public Visibility	9	850,000	Unit Cost Method
	Strengthened community trust and sense of identification with ABKCG	10	950,000	Unit Cost Method
Community Association	Strengthened sense of identity among local residents	10	1,368,421	Anchoring Method
	Increased community income	9.5	1,300,000	Actual revenue
	Increased community visibility	10	1,368,421	Anchoring Method
Planet (Earth)	Environmental quality improvement	--	2,323,698	Market & Unit Cost
Community volunteers	Increase Sense of Belonging	7.88	33,533	Anchoring Method
	Decrease Sense of Belonging	3	-12,766	Anchoring Method
	Perceived Self-Growth	7.83	33,320	Anchoring Method
	Perceived Regression	6	-25,532	Anchoring Method
	Enhance sense of accomplishment	7.85	33,405	Willingness to Pay, WTP
	Sense of being needed	7.59	32,299	Anchoring Method
	Expanded Interpersonal Relationships	7.88	33,533	Anchoring Method
	Deterioration of Interpersonal Relationships	3.67	-15,617	Anchoring Method
	Reduces fatigue	7.25	30,852	Anchoring Method
	Increased fatigue	6.51	-27,703	Anchoring Method
	Reduces feelings of isolation	7.05	30,001	Anchoring Method
	Increased feelings of isolation	6.33	-26,937	Anchoring Method
	Enhanced Sense of Tranquility	8.01	27,781	Anchoring Method
	Reduce Sense of Tranquility	6	-20,810	Anchoring Method
	Increased perceptions of safety	7.82	27,122	Alternative/Comparative Substitute Method
	Community residents	Increased Pride in the Community	7.75	26,879
	Strengthened Sense of Belonging	7.78	26,983	Anchoring Method
	Reduce the sense of belonging	6.8	-23,584	Anchoring Method
Local producers and merchants	Increase revenue	-	80,000	Actual revenue

6.4.4 Stakeholder Valuation and Verification Process

The valuation of outcomes for all stakeholder groups—including ABKCG, Community Associations, community residents, volunteers, local producers, and merchants—was carefully reviewed to ensure proportionality and to avoid overclaiming.

Valuation decisions were grounded in both stakeholder engagement and empirical data, consistent with the Principles of Social Value and the SVI Assurance Standard (2017).

1. Stakeholder Involvement in Valuation

Throughout the evaluation process, representatives from each stakeholder group participated in verification meetings and feedback sessions. They were invited to review the identified outcomes, discuss their perceived importance, and confirm whether the proposed indicators and proxy values accurately reflected their lived experiences and changes. Stakeholders confirmed the relevance, direction, and magnitude of change, which formed the basis for value estimation.

2. Conservative and Evidence-Based Valuation

For outcomes with available market or proxy benchmarks (e.g., increased community income, reduced waste, or green space expansion), conservative values were adopted within the lower range of comparable SROI or public-sector evaluations. For more abstract or organizational outcomes—such as improved reputation or trust—the valuation was limited to the institutional benefit, ensuring that values did not double-count community-level changes.

3. Multi-Stakeholder Verification

All valuation results were subsequently reviewed in cross-stakeholder meetings involving ABKCG, the three Community Associations, and representatives of residents, volunteers, and local producers. This collaborative process helped validate both the reasonableness and proportionality of the assigned values, reinforcing the credibility and inclusiveness of the final SROI ratio.

Future evaluations will continue to expand stakeholder participation by inviting each group to contribute their own indicative valuations or ranking of outcome importance, further strengthening the stakeholder-informed approach to valuation.

6.5 Causality of Outcomes

In line with the Social Value Principle 5 – Do Not Overclaim, this study carefully examined the causality of outcomes to ensure reported results reflect genuine changes attributable to the Kaohsiung Rural Regeneration Program, while avoiding overstatement. The discount factors used in this analysis—deadweight, attribution, drop-off, and displacement—were all derived directly from stakeholder survey data collected during the evaluation phase, rather than from secondary research or assumptions. This approach follows Principle 4: Do Not Overclaim in the Guide to Social Return on Investment (2012), which emphasizes that stakeholders' perspectives should inform judgments about how much of the observed change is genuinely attributable to the program.

6.5.1 Stakeholder Involvement in Impact Factor Evaluation

To assess causality, stakeholders were invited to respond to specific questions designed to isolate project impact:

1. **Deadweight**

Question design: *"To what extent might you have achieved the same outcome within one year through other channels, even without the rural regeneration program?"* (Options: 0%, 25%, 50%, 75%, 100%)

Purpose: To estimate the portion of outcomes that may have occurred naturally.

2. **Attribution**

Question design: *"Besides ABKCG or the Community Association, were other individuals or organizations responsible/contribute for this outcome? To what extent?"* (Options: 0%, 25%, 50%, 75%, 100%)

Purpose: To assess the relative contribution of the program versus external factors.

3. **Drop-off / Duration**

Question design: *"How long do you think the time of this outcome will last? "*

Objective: Based on stakeholder feedback about how long the outcomes lasted, we used a linear projection to calculate the decline rate.

4. **Displacement**

Question design: *"Do you think this outcome may have been transferred from someone else? Does it cause other people's resources to decrease or lose their rights?"*

Questions were included in stakeholder interviews to explore whether any benefits created by the project had replaced or reduced benefits elsewhere. None of the respondents reported such effects, and no documentary or observational evidence suggested displacement. Therefore, displacement was considered not applicable to this program. However, as this represents a unilateral perspective from stakeholders, further analysis is conducted in Section 6.6 to prevent potential losses.

6.5.2 Non-Participant Considerations

In cases where some stakeholders did not participate in surveys, the main reasons were lack of willingness or difficulty reaching respondents. The research team applied purposive sampling to strengthen representativeness and minimize bias, while conducting sensitivity analyses to account for potential estimation risks. All limitations were explicitly noted to maintain transparency.

6.5.3 Interpretation of Impact Factors

- **Deadweight:** The deadweight value is estimated by investigating stakeholders' assessments of the outcomes. This process helps to determine whether the change would have occurred naturally even without the project's implementation, thereby confirming the project's actual contribution to the outcome. The specific value for deadweight is determined based on a questionnaire survey of stakeholders.
- **Attribution:** The attribution is calculated by asking stakeholders whether the outcome was influenced by other organizations or external factors, which helps to assess the project's actual impact. The specific value for **attribution** is determined based on a questionnaire survey of stakeholders.
- **Drop-off:** The drop-off rate was estimated and extrapolated by asking stakeholders about the duration of the outcomes. In addition, for those outcomes where

stakeholders claimed would last longer than one year, an actual monitoring survey was conducted a year later to assess how the impact of the outcomes changed over time.

- **Displacement:** The displacement assesses whether each achievement may have a crowding-out effect or divert resources from other groups. Based on stakeholder feedback, no cases were found where other groups lost their original resources or rights due to the project's interventions. For the outcome of **increased income**, while it is theoretically possible that one group's gain could reduce opportunities for others, a review of multiple SROI reports on community and small business income consistently found displacement factors of **0%**, indicating negligible crowding-out in similar contexts. Therefore, we have applied a displacement rate of **0%** for this outcome (Apart from Community Association and Local Merchants). To ensure the integrity of the assessment, we will continue to monitor the scope of each outcome's impact and pay attention to any potential negative externalities in the future.

6.6 Displacement

In this report, the displacement of project outcomes—i.e., the extent to which benefits may have been achieved by crowding out or diverting resources from other groups—was carefully considered for the outcome of increased income.

To ensure a robust assessment, we reviewed publicly available SROI reports published on the Social Value International (SVI) website¹⁰, as well as other relevant studies focusing on community or local business income (See as table 23). Key findings are summarized below:

- For directly generated community or business income (including local enterprises, suppliers, distributors, or organizational turnover), the majority of SROI reports set the displacement factor at 0%.
- These reports concluded that such income is newly created value, without evidence of crowding out other groups or resources.
- While the formal calculations use 0%, some reports conduct sensitivity analyses, testing higher displacement rates (typically 10–30%) to assess the robustness of results.

Table 23 Representative examples of displacement factors for community or business income in SROI reports

Report/Project	Outcome(Income)	Displacement Factor	Notes
Rural Women's Gathering	Increased income for local businesses	0%	Project activities generated new income; no negative impact on other groups. Sensitivity analysis tested 10% and 30%.
SunnyRush Community Workshop	Increased turnover for team or distributors	0%	Stakeholder feedback indicated no loss of revenue for other groups; formal calculation set at 0%.

¹⁰ Social Value International (SVI) <https://socialvalueuk.org/reports-database/>

Home Run Readers	Increased income for online bookstore partners	0%	Stakeholders reported no negative impact on other groups; displacement factor set at 0%.
Mountain City Mushroom	Increased income for farmers and community participants	0%	Income and employment opportunities were considered newly created, with no displacement of other opportunities.
Dandelion Character Class	Increased charity fundraising	0%	All revenue gains were additional, with no transfer from other projects; displacement factor set at 0%.
TianZhong Marathon SROI Evaluation Report	Economic gains for hospitality and catering sectors; income effects for other stakeholders	0% (most stakeholders) 25% (hospitality & catering)	Most individual and organizational stakeholders had 0% displacement, as outcomes did not disadvantage other groups or represent output transfers. For hospitality & catering industries, 25% displacement was applied to reflect possible revenue shifts from surrounding areas due to visitor inflow.

Based on the review of comparable SROI reports, the displacement factor for directly generated community or business income is generally set at 0%, as most documented cases indicate that income gains reflect newly created value rather than a transfer from other regions. Among the reviewed reports, only the *TianZhong Marathon SROI Evaluation*¹¹ applied a higher displacement factor (25%) specifically for the hospitality and catering sectors, accounting for the likelihood that visitor spending might be diverted from surrounding areas.

In contrast, stakeholder interviews in the present project revealed that the products, experiences, and tour services provided by the communities are highly localized and unique, meaning that they are not available in other markets. As a result, consumption occurring at these sites does not reduce spending elsewhere, supporting a displacement estimate of 0% for directly generated income.

However, to avoid overlooking potential but unobservable substitution effects—which may not surface through interviews alone—this study adopts a conservative displacement estimate of 5% for income-related outcomes. This approach balances the strong qualitative evidence for minimal displacement with the need to maintain analytical rigor and transparency. It also provides future users of this report with a clear rationale for the chosen assumption, while leaving room for sensitivity testing or follow-up assessment should external conditions change.

¹¹Social Return on Investment (SROI) Evaluation Report of TianZhong Marathon
<https://socialvalueuk.org/reports/social-return-on-investment-sroi-evaluation-report-of-tianzhong-marathon/>

6.7 Deadweight

Deadweight represents the proportion of outcomes that would have occurred naturally without the program. To estimate this factor, only respondents who experienced actual outcome changes were considered. Average deadweight values were calculated for each outcome (see Table 24).

For income-related outcomes, an additional adjustment was made to account for the portion of income growth that may naturally occur without the project. In line with SROI guidelines, natural economic growth is considered part of the deadweight for financial outcomes. Therefore, Taiwan's 2023 real GDP growth rate—1.31%¹², as reported by the Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, was used as the reference indicator of naturally occurring income change during the study year. This ensures that increases in revenue attributable to broader macroeconomic conditions are not overstated as project impact.

Applying this approach, the baseline stakeholder-derived deadweight values for income outcomes were adjusted by adding the 1.31% natural growth rate:

- Local producers and merchants – Increase revenue:
Baseline deadweight: 48.0% → Adjusted: 49.31%
- Community Association – Increased Community Income:
Baseline deadweight: 63% → Adjusted: 64.31%

Table 24 Deadweight ratio of the outcomes

Stakeholder	Outcomes	Deadweight(%)
ABKCG	Enhanced Public Visibility	50%
	Strengthened Community Trust and Identification with ABKCG	35%
Community Association	Strengthened Community Trust and Identification with ABKCG	75%
	Increased Community Income	64.31%
	Increased Community Visibility	63%
Planet (Earth)	Environmental Quality Improvement	63%
	Increased Sense of Belonging	85%
Community volunteers	Decreased Sense of Belonging	50%
	Perceived Self-Growth	82%
	Perceived Regression	75%
	Enhanced Sense of Accomplishment	83%
	Sense of Being Needed	84%
	Expanded Interpersonal Relationships	82%
	Deterioration of Interpersonal Relationships	50%
	Reduced Fatigue	69%
	Increased Fatigue	58%
	Reduced Feelings of Isolation	86%

¹² Taiwan's real gross domestic product (GDP)
https://eng.dgbas.gov.tw/News_Content.aspx?n=4438&s=233048

	Increased Feelings of Isolation	58%
	Enhanced Sense of Tranquility	60%
	Reduced Sense of Tranquility	63%
Community residents	Increased Perceptions of Safety	57%
	Increased Pride in the Community	53%
	Strengthened Sense of Belonging	53%
	Reduced Sense of Belonging	70%
Local producers and merchants	Increase revenue	49.31%

6.8 Attribution

Attribution reflects the share of outcomes attributable specifically to the program, relative to other actors or contextual factors. Stakeholders assessed outcome origins, and attribution factors were calculated as averages of those reporting real changes (see Table 25).

Table 25 Attribution ratio of the outcomes

Stakeholder	Outcomes	Attribution (%)
ABKCG	Enhanced Public Visibility	45%
	Strengthened Community Trust and Identification with ABKCG	40%
Community Association	Strengthened Sense of Identity among Local Residents	38%
	Increased Community Income	38%
	Increased Community Visibility	38%
Planet (Earth)	Environmental quality improvement	25%
	Increased Sense of Belonging	34%
Community volunteers	Decreased Sense of Belonging	50%
	Perceived Self-Growth	35%
	Perceived Regression	88%
	Enhanced Sense of Accomplishment	37%
	Sense of Being Needed	39%
	Expanded Interpersonal Relationships	40%
	Deterioration of Interpersonal Relationships	42%
	Reduced Fatigue	38%
	Increased Fatigue	43%
	Reduced Feelings of Isolation	37%
Community residents	Increased Feelings of Isolation	25%
	Enhance the sense of tranquility	26%
	Reduce the sense of tranquility	56%
	Reduced residency risk	33%
	Pride	55%
	A sense of belonging	26%
Local producers and merchants	Reduce the sense of belonging	55%
	Increase revenue	37%

6.9 Drop-off

6.9.1 Methodology and Calculation

Drop-off measures the annual rate at which outcomes diminish or decline in strength over time. To estimate this effect, a follow-up re-survey was conducted in January–February 2025, focusing on outcomes expected to persist beyond one year after the completion of the Rural Regeneration Program. Respondents were asked to rate the persistence of each outcome using a five-point scale—100%, 75%, 50%, 25%, or 0%—indicating the proportion of impact retained compared to the previous year.

The average rating provided by each stakeholder group was used to calculate the drop-off rate according to the following formula:

$$\text{Drop-off (\%)} = 100 - \text{Average Persistence Rating (\%)}$$

For instance, if community volunteers reported that approximately 75% of their “sense of belonging” was sustained after one year, the corresponding drop-off rate was 25%.

These quantitative estimates were triangulated with qualitative feedback collected through follow-up interviews and verification meetings held in May–June 2025 to ensure interpretive accuracy and consistency across stakeholder groups. The confirmed rates are presented in Table 26, reflecting both the persistence and decline of outcomes within the post-program period.

6.9.2 Stakeholder Sampling and Verification

To ensure comparability and longitudinal validity, the re-survey sample was drawn purposively from stakeholders who had participated in the 2024 baseline interviews. This allowed the analysis to measure change persistence directly among the same individuals who had initially reported the outcomes.

The re-survey covered all three participating communities and included:

- Community Associations: 1 representative per community (Tangchang, Xingang, and Xinfu).
- Community Volunteers: approximately 6 participants per community.
- Community Residents: approximately 6 participants per community.

In total, around 39 valid responses were collected. This composition ensured representation from all major stakeholder categories and balanced regional coverage, despite the smaller overall sample size compared to the initial data collection.

The re-survey data were complemented by follow-up qualitative interviews and stakeholder verification meetings in May–June 2025, where participants reviewed the preliminary persistence estimates and provided feedback to refine drop-off calculations. Stakeholders confirmed that the estimated levels of outcome retention (e.g., around 70–80% persistence for well-being and belonging outcomes) aligned with their lived experiences during the post-program period.

Where uncertainty existed—such as outcomes influenced by external factors or community-wide trends—conservative drop-off rates were applied to avoid overclaiming. A

sensitivity analysis was also conducted to test how alternative drop-off assumptions could affect the overall SROI ratio.

Although the limited sample size introduces potential sampling variance, the consistency of findings across the three communities indicates stable outcome persistence patterns. To further enhance precision in future assessments, ABKCG and partner associations plan to:

- Expand longitudinal tracking through larger follow-up samples.
- Integrate administrative and observational data (e.g., volunteer participation logs, environmental maintenance records, local product sales).
- Establish annual monitoring mechanisms for outcome verification.

These actions will strengthen the evidence base for assessing outcome longevity and ensure the ongoing credibility of SROI evaluations.

Table 26 Drop-off ratio of the outcomes

Stakeholder	Well-Defined Outcomes	Duration (year)	Drop-off (%)
ABKCG	Enhanced Public Visibility	1	-
	Strengthened Community Trust and Identification with ABKCG	2	24%
Community Association	Strengthened Sense of Identity among Local Residents	2	23%
	Increased Community Income	2	21%
	Increased Community Visibility	2	21%
Planet (Earth)	Environmental quality improvement	2	29%
	Increased Sense of Belonging	2	17%
Community volunteers	Decreased Sense of Belonging	1	-
	Perceived Self-Growth	2	29%
	Perceived Regression	2	42%
	Enhanced Sense of Accomplishment	2	21%
	Sense of Being Needed	2	21%
	Expanded Interpersonal Relationships	2	17%
	Deterioration of Interpersonal Relationships	1	-
	Reduced Fatigue	2	25%
	Increased Fatigue	1	-
	Reduced Feelings of Isolation	2	21%
	Increased Feelings of Isolation	1	-

Community residents	Enhanced Sense of Tranquility	2	25%
	Reduced Sense of Tranquility	1	-
	Increased Perceptions of Safety	2	29%
	Increased Pride in the Community	2	25%
	Strengthened Sense of Belonging	2	25%
	Reduced Sense of Belonging	1	-
Local producers and merchants	Increased Revenue	1	-

7. Future Value

In social impact assessment, both the **duration** of outcomes and their **rate of decline (drop-off)** are critical determinants of overall value. To avoid overestimation, this study evaluates the sustainable impact and future value of each outcome using stakeholder-informed estimates of duration and drop-off.

The values of duration and drop-off for all outcomes were derived primarily from quantitative questionnaires completed by stakeholders, complemented by qualitative interviews. Where a small number of stakeholders did not provide responses (e.g., incomplete questionnaires or lack of availability), the average values from valid respondents within the same stakeholder group were used. All assumptions and limitations related to missing data are clearly noted to ensure transparency.

The drop-off factor is applied to annual financial valuations in order to calculate the Present Value of Benefits. The formula used is as follows:

$$Value = Outcome\ Value\ of\ first\ year \times (1 - Drop\ off(\%))^{\text{year}}$$

Note: "^" stands for "power"

These declining annual values are then further discounted to present value terms when calculating the Social Return on Investment (SROI) ratio.

By explicitly integrating duration and drop-off into the valuation process, this study ensures that the time-limited and diminishing effects of outcomes are appropriately captured. This strengthens the accuracy, conservatism, and credibility of the impact assessment, while avoiding overstatement of the program's contribution.

8. Conclusions

8.1 Material Outcomes

The purpose of this study is to identify the material outcomes generated by ABKCG's Rural Regeneration Program and to provide a basis for amplifying positive impact in future policy and program design. To maintain analytical rigor, the evaluation emphasized completeness and accuracy—particularly the systematic inclusion of all relevant stakeholders and relevant outcomes.

Consistent with SVI's materiality guidance, we applied two tests—Relevance and Significance—and triangulated findings with empirical data.

8.1.1 Relevance Criteria

An outcome is considered **Relevant** if it meets at least one of the following four criteria:

- **Alignment with Policy/Organizational Goals** – The outcome advances core aims of rural regeneration (e.g., improved rural quality of life, local industry revitalization, and community participation).
- **Stakeholder Importance** – Stakeholders indicate the change has a significant effect on their lives/roles, and assign high importance in interviews or surveys.
- **Social Consensus/Normative Trends** – The outcome aligns with current social and policy directions (e.g., local revitalization, climate action, sustainable rural development).
- **Peer Case Reference** – The outcome is recognized as important in comparable impact assessments or rural development studies.

To ensure completeness and to surface negative and unintended outcomes, open-ended prompts were embedded in qualitative interviews and quantitative questionnaires (e.g., "What challenges or inconveniences arose after participating?" "Did participation create additional burdens or pressure?"). While Community Associations, residents, and producers largely reported no negative effects in interviews, some Community Volunteers reported fatigue due to frequent participation or role pressure. In the survey, volunteers reported exclusion, deterioration of interpersonal relationships, and increased feelings of isolation, while residents reported reduced tranquility and reduced sense of belonging (see the Unintended Outcomes section).

8.1.2 Significance Threshold

For **Significance**, we set a dual threshold:

- **A pre–post change of $\geq \pm 1$ on the Likert scale (including positive and negative changes)**
- **At least 50% of respondents in the stakeholder group experiencing the change.**

Outcomes meeting both criteria were included in impact measurement.

Through iterative consultation with ABKCG, the three Community Associations, Community Volunteers, Community Residents, and Local Producers and Merchants, we

established a logical and verifiable outcome structure. All included outcomes meet the above criteria and align with the overall objectives of the Rural Regeneration Program (see **Table 27**).

Table 27 Materiality Analysis of Stakeholder Outcomes

Stakeholder	Outcomes	Relevance	Significance
ABKCG	Enhanced Public Visibility	2) Stakeholder Importance. This outcome highly valued by the city government and are directly relevant to its policies.	Affects 100% (1/1) of organizational representatives.
	Strengthened Community Trust and Identification with ABKCG	1) Alignment with Goals; 2) Stakeholder Importance. This outcome aligns with the project's goals, and public recognition for it helps build trust and sustainable support for policy implementation. It's a outcome highly valued by the city government and directly linked to its policies	Affects 100% (1/1) of organizational representatives.
Community Association	Strengthened Sense of Identity among Local Residents	1) Alignment with Goals; 2) Stakeholder Importance. This strengthened the trust and cooperation between the association and local residents. Beyond serving the policy goals of rural regeneration, it also forms a crucial foundation for the association's policy initiatives.	Affects 100% (3/3) of associations.
	Increase community industry income	1) Alignment with Goals; 2) Stakeholder Importance. Beyond contributing to the policy objectives of rural regeneration, the association's income—which allows for sustainable operations—is an outcome of importance to the organization itself.	Affects 100% (3/3) of associations.
	Increased Community Visibility	2) Stakeholder Importance. Increasing the association's visibility can attract more potential resources, which is an outcome highly valued by the association.	Affects 100% (3/3) of associations..
Planet (Earth)	Environmental quality improvement	1) Alignment with Goals; 3) Social Consensus/Trends. The association's efforts to promote waste reduction, rural environmental beautification, and natural resource conservation align with both current climate change and sustainable development goals. These initiatives also serve as a key policy objective for rural regeneration.	100% of participating associations reported environmental changes
Community volunteers	Enhanced Sense of Tranquility	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 59% (135/230).
	Decreased Sense of Belonging	2) Stakeholder Importance.	Affects 5% (11/230)

	(Unintended, Negative)	This is a negative outcome that is relevant because it has the potential to reduce the well-being of volunteers.	
	Perceived Self-Growth	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 59% (135/230)
	Perceived Regression (Unintended, Negative)	2) Stakeholder Importance. This is a negative outcome that is relevant because it has the potential to reduce the well-being of volunteers.	Affects 5% (11/230).
	Enhanced Sense of Accomplishment	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 59% (135/230).
	Sense of Being Needed	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 59% (135/230).
	Expanded Interpersonal Relationships	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 63% (146/230).
	Deterioration of Interpersonal Relationships (Unintended, Negative)	2) Stakeholder Importance. This is a negative outcome that is relevant because it has the potential to reduce the well-being of volunteers.	Affects 7% (17/230)
	Reduced Fatigue (Unintended, Positive)	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affects 7% (17/230)
	Increased Fatigue (negative outcome).	2) Stakeholder Importance. This is a negative outcome that is relevant because it has the potential to reduce the well-being of volunteers.	Affected 34% (79/230)
	Reduced Feelings of Isolation	2) Stakeholder Importance. This outcome was identified by volunteers as a Important outcome for them, and it also aligns with the objective of promoting well-being.	Affected 61% (140/230)
	Increased Feelings of Isolation (Unintended, Negative)	2) Stakeholder Importance. This is a negative outcome that is relevant because it has the potential to reduce the well-being of volunteers.	Affects 7% (17/230)
Community residents	Enhance the sense of tranquility	1) Alignment with Goals; 2) Stakeholder Importance; 3) Social Consensus/Trends. This outcome aligns with rural regeneration policy goals, is highly valued by local residents, and	Affects 76% (1505/1977)

		represents a shared objective for social consensus.	
	Reduced Sense of Tranquility (Unintended, Negative)	1) Alignment with Goals; 2) Stakeholder Importance; 3) Social Consensus/Trends. This is a negative outcome that is relevant because it has the potential to reduce the well-being of residents.	Affects 3% (51/1977)
	Increased Perceptions of Safety	1) Alignment with Goals; 2) Stakeholder Importance; 3) Social Consensus/Trends. This outcome aligns with rural regeneration policy goals, is highly valued by local residents, and represents a shared objective for social consensus.	Affects 70% (1378/1977)
	Increased Pride in the Community	1) Alignment with Goals; 2) Stakeholder Importance; This outcome aligns with rural regeneration policy goals, is highly valued by local residents.	Affects 74% (1467/1977)
	Strengthened Sense of Belonging	1) Alignment with Goals; 2) Stakeholder Importance; This outcome aligns with rural regeneration policy goals, is highly valued by local residents.	Affects 73% (1441/1977)
	Reduced Sense of Belonging (Unintended, Negative)	2. Stakeholders pay attention This is a negative outcome that is relevant because it has the potential to reduce the well-being of residents.	Affects 3% (64/1977)
Local producers and merchants	Increased Revenue	1) Alignment with Goals; 2) Stakeholder Importance; 3) Social Consensus/Trends. This outcome aligns with rural regeneration policy goals, is highly valued by local producers and merchants, and represents a shared objective for social consensus.	Affects 95% (75/79)

8.2 Note on Unintended Outcomes and Smaller Changes

Although several unintended or small-scale outcomes did not meet the 50% significance threshold (e.g., Reduced Fatigue among volunteers at 22%; Increased Fatigue at 34%; Deterioration of Interpersonal Relationships, Exclusion, Reduced Sense of Belonging/Tranquility among residents at 3–7%), they highlight potential risks of marginalization and uneven participation. In line with Principle 4 – Only include what is material, these outcomes remain relevant for learning, risk management, and design improvement, and are therefore retained in the analysis and discussion.

8.2 Discount Rate

After adjusting the social value of all outcomes, a discount rate is applied to calculate the **Net Present Value (NPV)**, ensuring that benefits generated in future years are represented at their present value. The discount rate accounts for the time value of money and helps assess the long-term economic rationality of program effectiveness.

For this Rural Regeneration Program's SROI analysis, the **one-year fixed savings deposit rate** announced by the **Central Bank of the Republic of China** on December 31, 2023¹³, was adopted as the benchmark. The fixed rate of **1.6%** was applied as the discount rate to convert the annual value of continued social benefits into present value, thereby reflecting their real contribution.

8.3 Calculating Impact

The value of each outcome was calculated using the following formula:

Outcome Value = Number of Outcomes × Financial Proxy × (1 - Deadweight) × (1 - Attribution) × (1 - Displacement)

For multi-year outcomes, the future value was adjusted according to the drop-off factor, and discounted to present value. The entire calculation process was recorded in the Value Map (see Appendix B).

Final Results:

- **Present Value of Outcomes:** NT\$ 90,111,946
- **Present Value of Inputs:** NT\$35,003,600

$$SROI\ Ratio = \frac{\text{Present Value of Outcomes}}{\text{Present value of Inputs}} = 90,111,946 / 35,003,600 \approx 2.57$$

This means that for every NT\$1 invested, approximately NT\$2.57 in social value was created. The results demonstrate the high efficiency and significant contribution of the Rural Regeneration Program in enhancing community quality of life, strengthening local economic activity, fostering social cohesion, and improving environmental sustainability.

All calculations followed the Principles of Social Value, ensuring transparency and credibility. The full Value Map (Excel) is provided in Appendix B for external review and verification. The assessment was repeatedly cross-checked, incorporating all impact factors (Deadweight, Attribution, Displacement, Drop-off), thereby strengthening analytical integrity.

While this analysis is not intended as a direct investment decision tool, it provides a robust impact management framework, delivering a strong quantitative foundation for decision-making. Remaining risks of estimation are clearly disclosed, in line with the principle of transparency.

¹³ Central Bank of the Republic of China (Taiwan) <https://rate.bot.com.tw/twd/2023-12-31>

8.4 Outcomes distribution

Based on the Social Return on Investment (SROI) calculation results, the distribution of social value across stakeholders is summarized in **Table 28** and **Figure 3**.

For **ABKCG**, outcomes were mainly concentrated in policy promotion and image-building, accounting for a total of **0.97%** of overall value.

Community Associations contributed about **4.85%** of total social value through outcomes such as *Increased Community Income*, *Strengthened Sense of Identity among Local Residents*, and *Increased Community Visibility*. This demonstrates how organizational actions directly contribute to sustainable community development through local promotion and external connections.

For the **Planet (Earth)**, the outcome of *Environmental Quality Improvement* contributed approximately **1.21%** of total social value.

Community Volunteers generated about **5.17%** of total social value, primarily through outcomes such as *Expanded Interpersonal Relationships*, *Perceived Self-Growth*, *Sense of Being Needed*, *Enhanced Sense of Accomplishment*, and *Increased Sense of Belonging*. Negative outcomes—including *Increased Fatigue* (-0.57%), *Deterioration of Interpersonal Relationships* (-0.08%), *Decreased Sense of Belonging* (-0.04%), and *Increased Feelings of Isolation* (-0.16%)—together offset about -0.85%. Despite these, the net value for this group remains clearly positive, though future program design should address workload balance and interpersonal support mechanisms.

Community Residents accounted for the largest share of value, totaling **85.64%**. Major positive outcomes included *Strengthened Sense of Belonging* (26.01%), *Enhanced Sense of Tranquility* (23.79%), *Increased Perceptions of Safety* (20.22%), and *Increased Pride in the Community* (16.03%). Negative outcomes such as *Reduced Sense of Tranquility* (-0.19%) and *Reduced Sense of Belonging* (-0.22%) together reduced total value by about -0.41%. Overall, residents' experiences were overwhelmingly positive, but some cases of reduced well-being highlight the need for ongoing monitoring.

Local Producers and Merchants created the highest direct economic benefit through the outcome *Increased Revenue*, accounting for 2.16% of total social value. This reflects the strengthening effect of the rural regeneration program on the local economy.

In summary, the social value created by the rural regeneration program can be categorized into three domains:

- 1. Life (Residents' Quality of Life and Psychological Well-Being)**

The program improved residents' living experiences by enhancing community safety, comfort, and cohesion. These outcomes go beyond the physical environment, generating psychological well-being and stronger community identity—aligned with the city's policy goal of "creating a livable countryside."

- 2. Production (Industrial and Economic Strengthening)**

The program supported industrial revitalization and market expansion, increasing revenue, strengthening brand visibility, and advancing sustainable business models. These outcomes reflect the policy goal of "promoting agricultural transformation and strengthening the local economy."

- 3. Ecology (Environmental Quality and Sustainability)**

The program improved environmental quality through greening, public space

creation, and ecological conservation. These actions not only increased residents' comfort but also strengthened long-term sustainability through ecosystem protection, carbon reduction, and green space maintenance.

Table 28 Distribution of Social Value Across Stakeholders

Stakeholders	Outcomes	Proportion (%)	
ABKCG	Enhanced Public Visibility	0.26%	0.97%
	Strengthened Community Trust and Identification with ABKCG	0.72%	
Community Association	Strengthened Sense of Identity among Local Residents	1.24%	4.85%
	Increased Community Income	1.76%	
	Increased Community Visibility	1.85%	
Planet (Earth)	Environmental quality improvement	1.21%	1.21%
Community volunteers	Increased Sense of Belonging	0.90%	5.17%
	Decreased Sense of Belonging (<i>negative</i>)	-0.04%	
	Perceived Self-Growth	0.99%	
	Perceived Regression (<i>negative</i>)	-0.01%	
	Enhanced Sense of Accomplishment	0.95%	
	Sense of Being Needed	0.83%	
	Expanded Interpersonal Relationships	1.06%	
	Deterioration of Interpersonal Relationships (<i>negative</i>)	-0.08%	
	Reduced Fatigue	0.58%	
	Increased Fatigue (<i>negative</i>)	-0.57%	
	Reduced Feelings of Isolation	0.73%	
	Increased Feelings of Isolation (<i>negative</i>)	-0.16%	
Community residents	Enhanced Sense of Tranquility	23.79%	85.64%
	Reduced Sense of Tranquility (<i>negative</i>)	-0.19%	
	Increased Perceptions of Safety	20.22%	
	Increased Pride in the Community	16.03%	
	Strengthened Sense of Belonging	26.01%	
	Reduced Sense of Belonging (<i>negative</i>)	-0.22%	

Local producers and merchants	Increase revenue	2.16%	2.16%
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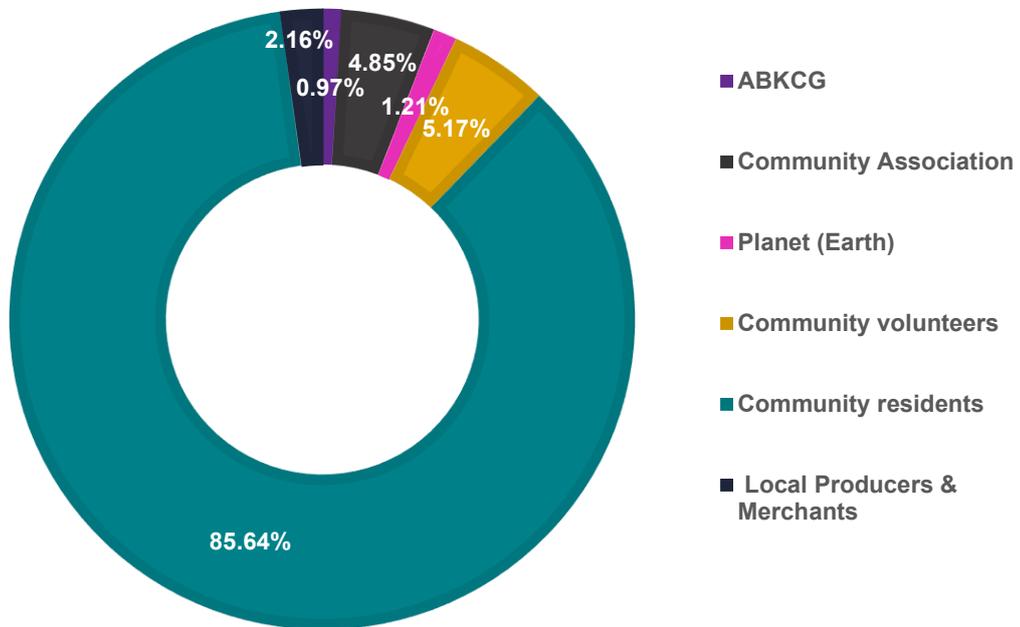


Figure 3 Distribution of Outcomes Among Different Stakeholders

9. Verification

9.1 Verification and Stakeholder Involved

In any social impact assessment, subjective judgment is unavoidable. To ensure accuracy and representativeness, this project followed Principle 7: Verify the Result by engaging stakeholders throughout the verification process after completing the SROI calculation.

Following the assessment of the rural regeneration program, stakeholders—including community residents, community volunteers, community association representatives, and local producers and merchants—were re-engaged through interviews, phone calls, and feedback questionnaires. The aim was to confirm whether the reported outcomes accurately reflected their experiences.

During verification, stakeholder engagement focused on:

- Whether each outcome's event chain aligned with real experience.
- Whether causal links between the program and outcomes were reasonable.
- Whether the calculation methods and data analysis were transparent.
- Whether additional important changes had been overlooked.
- Tracking of drop-off rates through follow-up surveys.

Special attention was given to negative or unintended outcomes to better understand risks, burdens, and challenges. These insights provide a basis for future improvement and risk mitigation. By applying a two-way communication process, this study strengthened both the credibility of the findings and the inclusiveness of stakeholder voices.

The final report was further reviewed by an independent assurance body, ensuring compliance with social value standards. The assured report was then submitted to ABKCG and implementing units for use in policy design, community development, and sustainable governance tracking.

9.2 Risk and Transparency

In the evaluation process of this study, and in line with **Principle 6: Be Transparent** and **Principle 7: Verify the Result**, the impact calculations and stakeholder engagement processes were disclosed in full. In addition, potential sources of risk that may affect the assessment have been proactively identified and disclosed to ensure that external users can fully understand the limitations and conditions of applicability when interpreting the results of this report. The specific risks are as follows:

9.2.1 Quantitative Sampling Risk

Since this survey covered three different communities with a large number of stakeholders, sampling was adopted under limited resources, which created some constraints on the number of responses collected. Although efforts were made to ensure that the survey data remained representative, certain stakeholder groups (e.g., community residents) showed relatively lower response rates, which may affect the comprehensiveness of specific dimensions of the data.

In addition, some stakeholders—particularly older residents, individuals with irregular work schedules, or those facing barriers in using digital tools—were unable to complete the

questionnaires fully or accurately. This created a structural response bias toward certain groups.

This limitation may affect the accuracy of outcome quantities, financial proxy estimates, outcome duration, and the four impact factors (deadweight, attribution, displacement, drop-off). Under the current resource conditions, however, the collected sample is sufficient to provide a tactical basis for decision-making. To capture more nuanced variations across diverse groups and enhance completeness, further research investment is required, such as increasing the number of survey rounds, extending response times, or supplementing with interviews and focus groups targeting specific underrepresented groups. These measures would help ensure a more balanced sample distribution and increase the decision-making value of the data.

9.2.2 Subjectivity in Impact Factors Settings

The attribution, deadweight, displacement, and drop-off factors used in this study were primarily derived from stakeholders' subjective feedback. Although quantitative questions were carefully designed to guide responses, there remains a risk of deviation from actual impact levels, which may lead to underestimation or overestimation of social value.

In particular, the **displacement factor** was judged mainly based on stakeholder responses. However, unrecognized displacement may exist—for example, beneficiaries transferring from similar services but not explicitly mentioning this during interviews. If such hidden displacement is overlooked, the program's social value may be overstated.

To improve the accuracy of impact factor settings in future evaluations, the following measures are recommended:

- **Supplement with policy and market data:** Collect relevant policy documents and industry reports as evidence and benchmarks.
- **Introduce longitudinal research:** Conduct long-term tracking studies or apply control group designs to validate the settings of impact factors more scientifically.
- **Strengthen identification of displacement:** Include deeper questions in interviews to explore beneficiaries' backgrounds, such as whether they had accessed similar services prior to this program, to better capture potential displacement effects.

9.2.3 Risks of Overlap and Event Chain Interpretation

This study recognizes the potential interpretive risks arising from event chains—i.e., the sequential relationship between outcomes in complex social programs. While Principle 5: Do Not Overclaim was observed and direct outcome overlaps were checked during synthesis, another distinct form of risk persists: the over-attribution of value across outcomes that are part of a causal sequence, rather than discrete, independent results.

For example, outcomes such as “[Expanded Interpersonal Relationships] → Sense of Belonging → Strengthened Community Cohesion” are causally linked, with each stage potentially contributing to the next. If these outcomes are each monetized individually without recognizing their interdependence, there is a systemic risk of interpretive inflation, whereby value is assigned to both intermediate and final outcomes without sufficient adjustment for their causal connection. This is not a case of direct duplication (as in double counting), but a structural risk rooted in how outcomes evolve and are framed.

To mitigate this, the research team engaged stakeholders in developing an outcome map that clearly outlined causal relationships and marked intermediate changes with [brackets].

These indicators signaled outcomes that serve as transitional or contributory, rather than ultimate ends in themselves. Furthermore, sensitivity testing was conducted to explore how such causal sequencing might influence the overall value estimation. This transparent approach helps ensure that readers and decision-makers understand the layered nature of impact and the limits of assigning discrete value to outcomes within an interdependent system.

9.2.4 Double Counting Risk

In Social Return on Investment (SROI) analysis, the **risk of double counting** is a key concern. If the value of the same outcome is recorded more than once across different outcomes or stakeholder groups, social value may be overestimated. This study followed **Principle 5: Do Not Overclaim**, carefully reviewing outcomes and valuation logic to minimize the possibility of double counting.

The program involved diverse stakeholders, including community residents, community volunteers, local producers and merchants, community associations, and ABKCG. Outcomes spanned psychological, social, economic, and institutional dimensions. Because some outcomes were subjective or interrelated, the research team conducted overlap assessments and cross-checks during the outcome synthesis and valuation process.

The analysis confirmed that although the following three sets of outcomes show some similarity in description or origin, they are independent results based on survey question design, stakeholder feedback, and event chain logic, and therefore do not constitute double counting:

- **Community Volunteers:** “Expanded Interpersonal Relationships” vs. “Increased Sense of Belonging”
 - *Expanded Interpersonal Relationships* refers to widening social contacts (e.g., through community meetings, event planning, or cross-community exchanges).
 - *Increased Sense of Belonging* focuses on identity and acceptance within the organization or community, even if the number of social interactions remains unchanged.
- **Community Residents:** “Enhanced Sense of Tranquility” vs. “Increased Perceptions of Safety”
 - *Enhanced Sense of Tranquility* refers to improvements in comfort, cleanliness, and overall living environment (e.g., street beautification, enhanced leisure spaces).
 - *Increased Perceptions of Safety* refers specifically to reductions in safety-related risks through infrastructure improvements (e.g., lighting, drainage, disaster prevention measures).
- **Community Associations:** “Increased Visibility” vs. “Strengthened External Recognition”
 - *Increased Visibility* reflects outcomes of exposure and message delivery (e.g., news coverage, exhibitions, marketing channels).
 - *Strengthened External Recognition* represents external groups’ recognition of the community, involving deeper social trust and willingness to cooperate.

Nevertheless, in line with rigorous analytical standards, this study also tested the sensitivity of potential double counting risks in the **Sensitivity Analysis** section. The possible

effects of such overlaps on the SROI ratio were disclosed, providing stakeholders and policymakers with transparent information when using this report for reference or future program design.

9.2.5 Risk of Variation in Community Residents' Outcomes

Community residents exhibited outcome differences across geographic and demographic lines. These differences—such as stronger environmental impacts in Tangchang, moderate perceptual changes in Xingang, and emotional benefits in Xinfra—indicate that local context mediates the strength and type of change experienced.

This creates a risk that aggregated SROI estimates could either overstate or understate the true impact for specific communities. For instance, high-impact areas may have their value diluted when combined with moderate-impact regions, while smaller communities may appear proportionally overrepresented.

To manage this risk, the evaluation presented both aggregate and segmented results (see Section 11), allowing policymakers to interpret the SROI ratio in light of local heterogeneity.

10. Sensitivity Analysis

In the Social Return on Investment (SROI) assessment of this **Rural Regeneration Program**, the sensitivity analysis tested the extent to which changes in key assumptions and variables affect the calculated SROI ratio. This process helps evaluate the robustness of conclusions and ensures that local governments and community organizations can better understand how results might shift under different scenarios when using SROI findings as a basis for future decision-making.

Because SROI calculations rely on multiple parameters—such as inputs, outcome quantities, financial proxies, attribution, deadweight (natural occurrence), displacement, and drop-off—many of which are derived from surveys, interview feedback, or market reference data, some degree of error and uncertainty is unavoidable. Sensitivity analysis therefore plays a critical role in assessing how adjustments in these variables could influence the final SROI ratio. It highlights the importance of careful data collection and methodological rigor to strengthen the credibility of the evaluation.

For this study, sensitivity tests were conducted on the following key variables, each adjusted within a $\pm 25\%$ range:

- **Non-financial inputs (e.g., volunteer time contributions)**
- **Duration of outcomes**
- **Financial proxy values**
- **Impact factors (Deadweight, Attribution, Displacement, Drop-off)**
- **Number of outcomes**
- **Identified risks**

Each variable was adjusted independently to assess its impact on the SROI ratio. This approach allowed the research team to identify which assumptions have the greatest influence on results, and which remain relatively stable. The analysis not only increases the transparency and reliability of this program's SROI results, but also provides governments, community organizations, and program implementers with a flexible decision-making tool to anticipate the effects of different policy priorities or resource allocation scenarios.

10.1 Sensitivity Analysis of Non-Financial Inputs

Non-financial inputs, particularly volunteer time, were adjusted by $\pm 25\%$ to test their influence on the SROI ratio. The results, summarized in Table 29, indicate that the overall SROI ratio remained unchanged at 2.57, showing negligible variation.

This suggests that even with substantial adjustments to non-financial input estimates, the calculation of social value is stable, and this factor is relatively insensitive in the overall model.

Table 29 Sensitivity Analysis: Impact of Non-Financial Inputs on SROI Ratio

Adjust items	SROI ratio
+25% increase in volunteer time input	2.57
-25% decrease in volunteer time input	2.57

10.2 Sensitivity analysis of outcome duration

When assuming a one-year extension of the duration of all outcomes, the SROI ratio increases to **3.39**, indicating that longer-lasting impacts would significantly enhance the overall social value of the program. Conversely, if the duration of all outcomes is shortened by one year (while outcomes originally less than one year remain unchanged), the SROI ratio decreases to **1.50**. Thus, the variation range for this factor lies between **1.50 and 3.39**.

This analysis shows that the SROI results are **highly sensitive to the duration of outcomes**. Since outcome duration estimates are often based on respondents' perceptions, there is a potential tendency toward **overestimation**. To comply with the principle of transparency, this study explicitly identifies outcome duration as a risk factor, underscoring the importance of careful survey design and longitudinal follow-up to ensure accuracy.

Table 30 Sensitivity Analysis: Impact of Outcome Duration on SROI Ratio

Adjust items	SROI ratio
Extend the duration of all outcomes by 1 year	3.39
Shorten the duration of all outcomes by 1 year* (*Outcomes originally lasting less than 1 year remain unchanged.)	1.5

10.3 Sensitivity Analysis of Financial Proxy Values

Sensitivity analysis was also conducted on the **financial proxy values** assigned to each outcome, testing the effect of valuation assumptions on the SROI ratio. If the financial proxy values are increased by 25% across all outcomes, the SROI ratio rises from the baseline value of **2.57** to **3.22**. Conversely, reducing the proxy values by 25% lowers the SROI ratio to **1.93**.

The range of variation caused by this factor—**1.93 to 3.22**—remains reasonable and demonstrates that, although proxy value selection influences the SROI ratio, the results are relatively **stable** within expected limits.

Table31 Sensitivity Analysis: Impact of Financial Proxies on SROI Ratio

Adjust items	SROI ratio
Increase financial proxies by 25% (all outcomes)	3.22
Decrease financial proxies by 25% (all outcomes)	1.93

10.4 Sensitivity analysis of impact factors

A sensitivity analysis was conducted on the four key impact factors—**Deadweight, Attribution, Displacement, and Drop-off**—to evaluate the effect of $\pm 25\%$ adjustments on the Social Return on Investment (SROI) ratio. The results are summarized in **Table 32**.

The analysis results are as follows:

- **Deadweight:** When the deadweight factor is increased by 25% (capped at 100%), the SROI ratio decreases sharply to **1.00**. Conversely, when reduced by 25% (capped at 0%), the ratio rises significantly to **4.20**. The wide variation (1.00–4.20) indicates that deadweight is a **highly sensitive factor**, requiring more precise investigation in future assessments.
- **Attribution:** When attribution is increased by 25% (more results attributed to external factors), the SROI ratio falls to **1.58**. When reduced by 25% (more results attributed to the program), the ratio increases to **3.57**. The range (1.58–3.57) shows that attribution is also a **critical factor** influencing the credibility of SROI results, underscoring the need for careful stakeholder engagement in validating contributions.
- **Displacement:** The baseline assumption for displacement was 0%. In the sensitivity test, when increased to 25%, the SROI ratio decreases to **1.93**. This demonstrates that if resource substitution effects occur in the future, the social value would decline but remain within a **reasonable range**, showing relative stability.
- **Drop-off:** When the annual drop-off rate is increased by 25% (capped at 100%), the SROI decreases to **2.21**. When reduced by 25% (capped at 0%), the ratio rises slightly to **2.93**. The moderate range (2.21–2.93) indicates that SROI is relatively **stable against changes in assumptions**.

Among the four factors, **deadweight and attribution** exhibit the greatest variability and therefore require the most rigorous measurement and validation. Displacement and drop-off show moderate stability, but still warrant monitoring in future evaluations to prevent over- or under-estimation of social value.

Table32 Sensitivity Analysis: Impact of Impact Factors on SROI Ratio

Adjust items	SROI ratio
Increase deadweight by 25% (all outcomes)	1.00
Reduce deadweight by 25% (all outcomes)	4.2
Increase attribution by 25% (all outcomes)	1.58
Reduce attribution by 25% (all outcomes)	3.57

Increase displacement to 25% (all outcomes)	1.93
Increase drop-off by 25% (all outcomes)	2.21
Reduce drop-off by 25% (all outcomes)	2.93

10.5 Sensitivity analysis of the number of changes in outcomes

A sensitivity test was conducted on the **number of stakeholders experiencing outcome changes**, in order to assess the extent to which increases or decreases in the number of beneficiaries influence the overall Social Return on Investment (SROI) ratio. Since participation and beneficiary numbers may fluctuate due to external or internal conditions (e.g., policy changes, demographic shifts, or program participation levels), this test helps evaluate the stability and flexibility of the SROI calculation model.

- When the number of stakeholders experiencing outcome changes **increases by 25%**, the SROI ratio rises from the baseline value of **2.57 to 3.16**.
- Conversely, when the number of beneficiaries **decreases by 25%**, the SROI ratio falls to **1.98**.

The analysis indicates that even with a $\pm 25\%$ fluctuation in the number of beneficiaries, the SROI ratio remains within the range of **1.98–3.16**. This demonstrates that the SROI model is relatively **robust and not overly sensitive** to changes in the number of outcomes, providing confidence in its reliability under reasonable participation variations.

Table 33 Sensitivity Analysis: Impact of the Number of Outcomes on the SROI Ratio

Adjust items	SROI ratio
Increase number of stakeholders experiencing change by 25% (capped at total population)	3.16
Decrease number of stakeholders experiencing change by 25% (floor set at minimum population)	1.98

10.6 Sensitivity analysis of potential risks

In this Social Return on Investment (SROI) assessment, and in line with **Principle 6: Be Transparent**, this study conducted sensitivity analyses on potential risk sources that may affect the calculation results and disclosed relevant uncertainties.

10.6.1 Sensitivity analysis of the risk of double counting

After examining the **Impact Pathway** and stakeholder feedback, three pairs of outcomes were identified as having potential overlap risks:

- **Community Development Associations** – *Increased Visibility and External Recognition*
- **Community Volunteers** – *Expanded Interpersonal Relationships and Enhanced Sense of Belonging*

- **Community Residents** – *Enhanced Sense of Tranquility and Increased Perceptions of Safety*

To avoid overclaiming, sensitivity tests were designed to adjust the total financial proxy values of these outcomes by $\pm 50\%$ and to observe their effects on the overall SROI ratio.

- **Community Development Associations:** Increasing the proxy values of *Increased Visibility* and *External Recognition* by 50% raises the SROI ratio from 2.57 to **2.61**; decreasing them by 50% lowers the ratio to **2.53**. The narrow range (2.53–2.61) shows that potential overlap here has only a minor effect.
- **Community Volunteers:** Increasing the proxy values of *Expanded Interpersonal Relationships* and *Enhanced Sense of Belonging* by 50% raises the SROI to **2.60**; decreasing them by 50% reduces it to **2.55**. Again, the effect is minimal.
- **Community Residents:** Increasing the proxy values of *Enhanced Sense of Tranquility* and *Increased Perceptions of Safety* by 50% increases the SROI to **3.14**; reducing them by 50% decreases it to **2.01**. The wider range (2.01–3.14) indicates that potential overlap in this group has more influence on overall value but remains within a stable and credible range.

10.6.2 Sensitivity analysis of the risk of sampling Error in Questionnaires

Given the different response rates among stakeholder groups, the margin of error (95% confidence level) was estimated as:

- Community Residents: **$\pm 7.6\%$**
- Community Volunteers: **$\pm 13.9\%$**
- Producers and Merchants: **$\pm 18.4\%$**

To reflect these uncertainties, two scenarios were tested:

- **Optimistic (High-Value Estimation):** Outcome proxy values were increased within each group's error range.
- **Conservative (Low-Value Estimation):** Outcome proxy values were reduced within each group's error range.

Results by group:

- **Community Residents:** Adjusting $\pm 7.6\%$ changes the SROI ratio from 2.41 to **2.74**.
- **Community Volunteers:** Adjusting $\pm 13.9\%$ changes the SROI ratio from 2.56 to **2.59**.
- **Producers and Merchants:** Adjusting $\pm 18.4\%$ changes the SROI ratio from 2.56 to **2.57**.
- **Combined Adjustment:** Increasing all three groups by their respective error margins raises the SROI to **2.77**; reducing all decreases it to **2.38**.

The sensitivity analysis of potential risks confirms that even when outcome overlap and sampling error are considered, the SROI ratio remains **within a credible range of 2.01–3.14**. This demonstrates that the rural regeneration program generates **robust and stable social value** across different risk scenarios, while transparently disclosing uncertainty to strengthen decision-making confidence.

Table 34 Sensitivity Analysis: Impact of Potential Risks on the SROI Ratio

Adjust items	SROI ratio
Community Development Association – Visibility & Recognition +50%	2.61
Community Development Association – Visibility & Recognition -50%	2.53
Community Volunteers – Interpersonal Relationships & Belonging +50%	2.6
Community Volunteers – Interpersonal Relationships & Belonging -50%	2.55
Community Residents – Tranquility & Safety +50%	3.14
Community Residents – Tranquility & Safety -50%	2.01
Community Residents – Sampling Error +7.6%	2.74
T Community Residents – Sampling Error -7.6%	2.41
Community Volunteers – Sampling Error +13.9%	2.59
T Community Volunteers – Sampling Error -13.9%	2.56
Producers & Merchants – Sampling Error +18.4%	2.58
Producers & Merchants – Sampling Error -18.4%	2.56
The amount of financial proxy for the overall outcome value of community residents increased by 7.6%, the financial proxy amount of the overall outcome value of community volunteers increased by 13.9%, and the financial proxy amount of the overall outcome value of producers and businesses increased by 18.4%	2.77
The amount of financial proxy for the overall outcome value of community residents decreased by 7.6%, the financial proxy amount of the overall outcome value of community volunteers decreased by 13.9%, and the financial proxy amount of the overall outcome value of producers and merchants decreased by 18.4%	2.38

11. Segmentation

11.1 Purpose and Analytical Rationale

In the preliminary Social Return on Investment (SROI) estimation, this study conducted an overall assessment based on aggregated stakeholder groups from the perspective of ABKCG, thereby obtaining a comprehensive index. However, during the in-depth analysis, it became evident that **community residents, community volunteers, and local producers/merchants** across different **regions** exhibited distinct participation experiences and outcome responses (see Figures 4 and 5).

To more accurately reflect the real changes experienced by these groups—and to avoid the averaging effect of overall valuations that may obscure important differences—this study carried out a **segmented stakeholder analysis**.

Three major stakeholder groups were stratified by **regional attributes**:

- **Xingang Community** (coastal)
- **Tangchang Community** (peri-urban)
- **Xinfa Community** (mountainous)

The layered estimations were displayed in a value map (Appendix B-2).

After stratification, the overall SROI ratio increased from **2.57** to **4.01**. This indicates that in the unstratified calculation, the significant changes experienced by high-impact groups were diluted by averaging with lower-impact groups. Segmentation therefore enables a more precise reflection of diverse stakeholder experiences.

These insights demonstrate that while the rural regeneration program has created clear overall positive value, **specific groups bear concentrated pressures and risks**. Segmentation thus provides critical information for policymakers, highlighting the need to design **targeted support and differentiated resource allocation** to sustain participation and balance community well-being.

The stratified results, including outcome differences among community volunteers, residents, local producers, and merchants, as well as across regional communities, are summarized in **Table 35, Table 36 and Table 37** (see Appendix B-2 for detailed value maps).

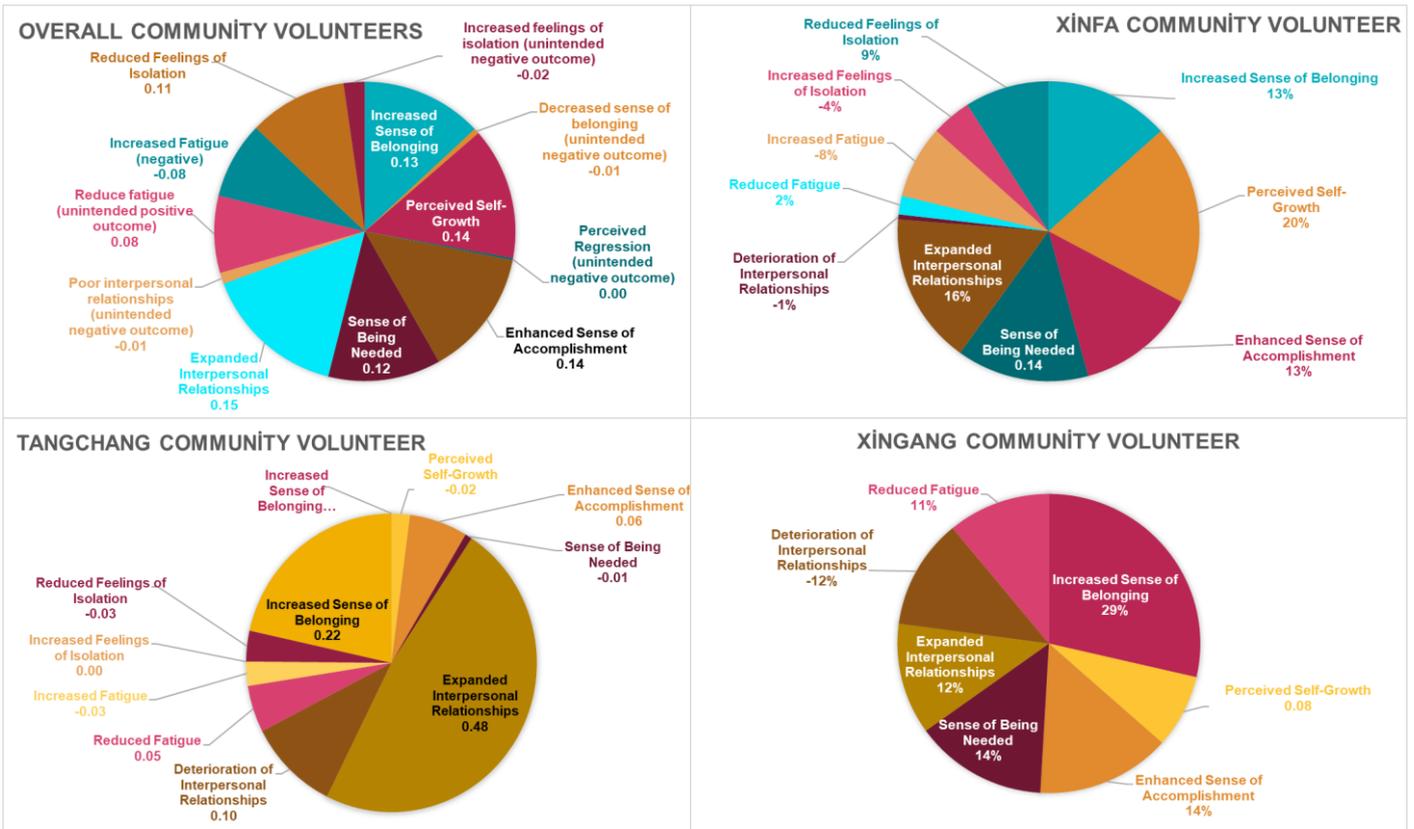


Figure 4 Comparison of community volunteer outcomes

Table 35 Analysis of community volunteers by region

Stakeholders		Outcome	R.I	Q	Du.	Val.	Impact factor			
Sub groups	N						DW (%)	DP (%)	AT(%)	DO(%)
Xinfa community volunteer	30	Increased Sense of Belonging	7.83	15	2	26206	66%	0	49%	17%
		Perceived Self-Growth	7.63	15	2	25536	58%	0	34%	29%
		Enhanced Sense of Accomplishment	7.75	15	2	25938	71%	0	40%	21%
		Sense of Being Needed	7.06	15	2	23629	64%	0	42%	21%
		Expanded Interpersonal Relationships	8	15	2	26775	63%	0	44%	17%

		Deterioration of Interpersonal Relationships	6	2	1	-20081	75%	0	50%	0%
		Reduced Fatigue	4.5	4	1	15061	38%	0	50%	0%
		Increased Fatigue	5.5	17	1	-18408	58%	0	44%	0%
		Increased Feelings of Isolation	6.33	6	1	-21185	58%	0	25%	0%
		Reduced Feelings of Isolation	6.17	8	2	20650	54%	0	38%	21%
Xingang community volunteer	72	Increased Sense of Belonging	8.75	72	2	29285	63%	0	38%	17%
		Perceived Self-Growth	9.5	54	2	31795	81%	0	56%	29%
		Enhanced Sense of Accomplishment	9.67	54	2	31667	75%	0	42%	21%
		Sense of Being Needed	8.75	54	2	29285	69%	0	50%	21%
		Expanded Interpersonal Relationships	9	54	2	30122	75%	0	50%	17%
		Deterioration of Interpersonal Relationships	6.51	54	1	-21754	44%	0	44%	0%
		Reduced Fatigue	8.5	36	2	28448	63%	0	50%	21%
Tangchang community volunteer	128	Increased Sense of Belonging	10	74	2	33468	100%	0	27%	17%
		Perceived Self-Growth	3	12	1	-10041	50%	0	50%	0%
		Enhanced Sense of Accomplishment	9.61	80	2	32163	97%	0	28%	29%
		Sense of Being Needed	6	12	2	-20081	75%	0	88%	42%
		Expanded Interpersonal Relationships	8.6	80	2	49762	85%	0	34%	21%

Deterioration of Interpersonal Relationships	10	80	2	33468	95%	0	38%	21%
Reduced Fatigue	9.77	93	2	32699	98%	0	33%	17%
Increased Fatigue	2.5	12	1	-8367	38%	0	38%	0%
Increased Feelings of Isolation	7.25	50	2	24265	100%	0	25%	25%
Reduced Feelings of Isolation	6.5	12	1	-21754	75%	0	25%	0%
Increased Sense of Belonging	10	116	2	33468	93%	0	35%	21%

* N=Population of the stakeholders; R.I.=Relative importance; Q=Outcome quantity; Du=Duration; Val.=Value; DW=Deadweight; DS=Displacement; AT=Attribution; DO=Drop-off

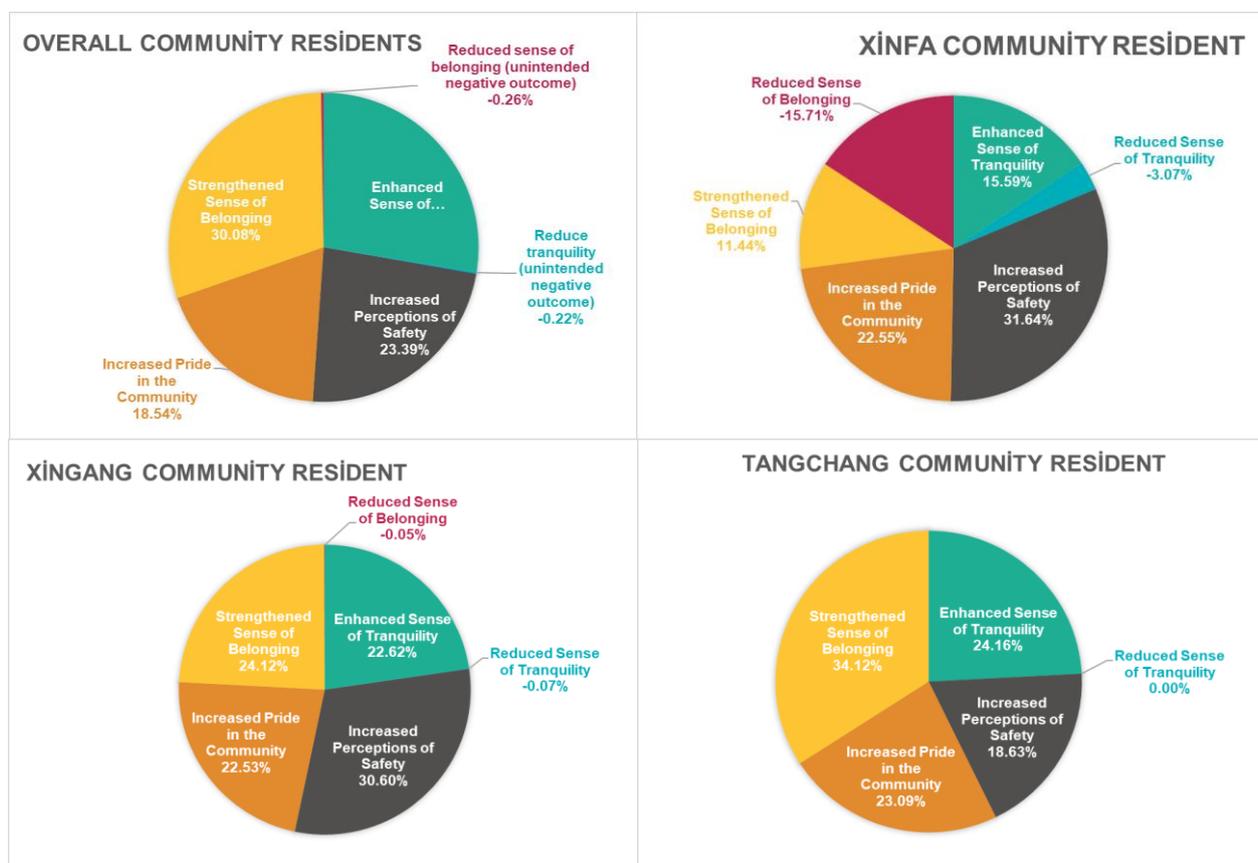


Figure 4 Comparison chart of community residents outcomes

Table 36 Analysis of community residents by region

Stakeholders		Outcome	R.I.	Q	DU	Val.	Impact factor			
Sub groups	N						DW(%)	DP(%)	AT(%)	DO(%)
Residents of Xinfra Community	100	Enhanced Sense of Tranquility	9.13	41	2	29899	78%	0	56%	25%
		Reduced Sense of Tranquility	10	5	1	-32748	50%	0	50%	0%
		Increased Perceptions of Safety	9.62	34	2	49263	68%	0	54%	29%
		Increased Pride in the Community	8.88	41	2	29080	68%	0	55%	25%
		Reduced Sense of Belonging	9.33	9	2	-30554	42%	0	25%	25%
		Strengthened Sense of Belonging	9.33	30	2	30554	81%	0	50%	25%
Xingang community resident	800	Enhanced Sense of Tranquility	8.74	741	2	29251	33%	0	26%	25%
		Reduced Sense of Tranquility	7	10	1	-23428	50%	0	50%	0%
		Increased Perceptions of Safety	8.27	673	2	43604	22%	0	35%	29%
		Increased Pride in the Community	8.1	702	2	27109	25%	0	25%	25%
		Reduced Sense of Belonging	8	20	2	-26775	88%	0	63%	25%
		Strengthened Sense of Belonging	8.21	722	2	27478	25%	0	23%	25%
Residents of the Tangchang community	1077	Enhanced Sense of Tranquility	9.13	862	2	30557	64%	0	34%	25%
		Reduced Sense of Tranquility	10	36	1	-33468	100%	0	75%	0%
		Increased Perceptions of Safety	9.62	862	2	26717	68%	0	33%	29%

	Increased Pride in the Community	8.88	897	2	29720	67%	0	32%	25%
	Strengthened Sense of Belonging	9.33	933	2	31226	59%	0	26%	25%

* N=Population of the stakeholders; R.I.=Relative importance; Q=Outcome quantity; Du=Duration; Val.=Value; DW=Deadweight; DS=Displacement; AT=Attribution; DO=Drop-off

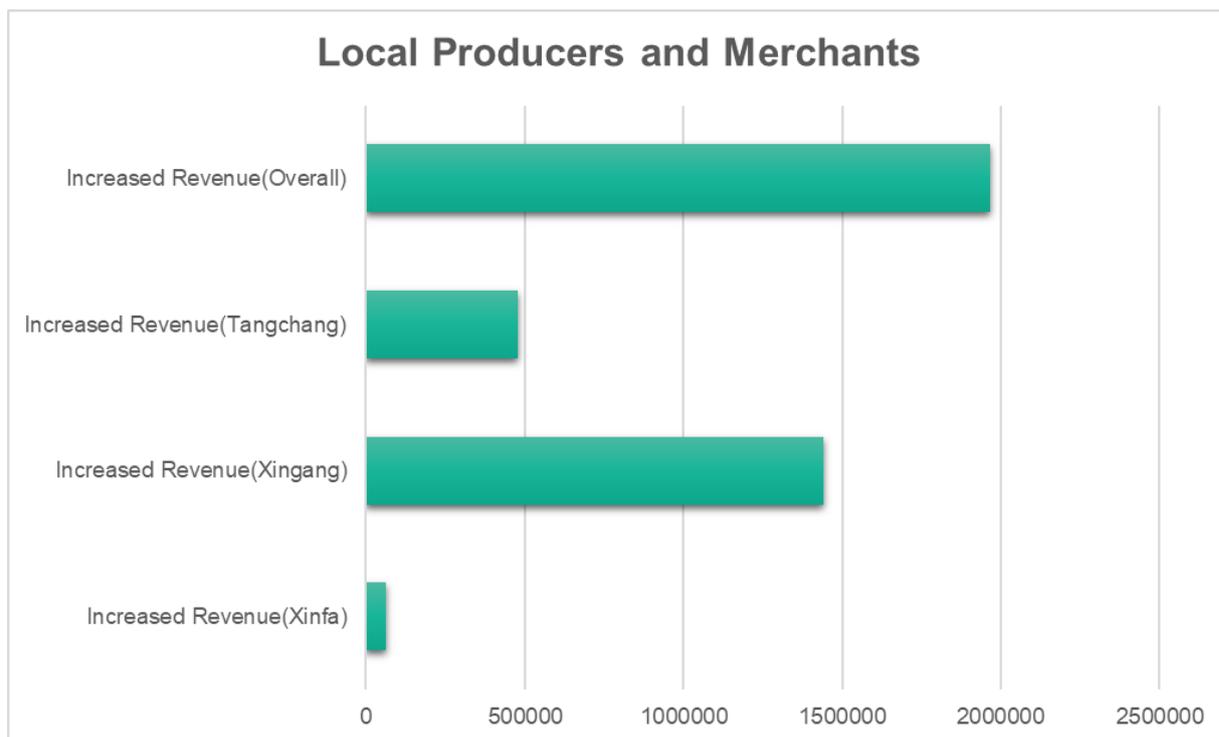


Figure 6 Comparison of the outcome of local producers and merchants

Table 37 Analysis of Local Producers and Merchants by Region

Stakeholders		Outcomes	N	DU	Val.	Impact factor			
Sub groups	N					DW(%)	DS(%)	AT(%)	DO(%)
Xinfa Local Producers and Merchants	7	Increase revenue	5	1	80,000	76.31%	0	38%	0%
Xingang Local Producers and Merchants	60	Increase revenue	60	1	80,000	41.31%	0	50%	0%
Tangchang Local Producers and Merchants	12	Increase revenue	12	1	80,000	41.31%	0	17%	0%

* N=Population of the stakeholders; R.I.=Relative importance; Q=Outcome quantity; Du=Duration; Val.=Value; DW=Deadweight; DS=Displacement; AT=Attribution; DO=Drop-off

11.2 The Value of Segmentation Analysis in This Study

Segmentation analysis is a critical component of this research. It moves beyond a single, aggregated SROI value to provide policymakers with more nuanced and strategic insights. While the overall SROI value offers a high-level, comprehensive indicator, segmentation analysis delves deeper to reveal the **mechanisms of social value creation** and instances of **unequal distribution**.

By using segmentation analysis, this study was able to identify:

- **"Value Multipliers" and "Value Consumption Points"**: The analysis not only identifies which communities or groups are true "value multipliers"—those that create a high level of benefit with a relatively low investment—but also reveals which groups bear a higher negative impact (e.g., increased fatigue among core staff due to overwork). This enables a precise assessment of **who the true beneficiaries are and who might be the potential victims**.
- **Avoiding a "One-Size-Fits-All" Approach**: Placing the segmentation analysis at the end of the report provides a crucial counterpoint to the overall results, offering a **more strategic policy direction**. It clearly indicates that future rural regeneration projects should avoid a uniform, "one-size-fits-all" approach. Instead, policymakers should adopt **differentiated intervention strategies** based on the specific characteristics of each community.
- **Optimizing Resource Allocation**: The segmented data allows us to propose concrete actions: for high-benefit communities, consider replicating and scaling their successful

models; for low-benefit communities, provide targeted support and resource reinforcement. At the same time, it is essential to address and mitigate the excessive burden on core staff to ensure the program's sustainability. By doing so, policymakers can maximize the social value of rural regeneration projects with limited resources, truly achieving an equitable and effective allocation.

11.3 Key Findings by Community

11.3.1 Analysis of Community Volunteers by Region

According to the results presented in **Table 35**, community volunteers across the three regions—**Tangchang**, **Xingang**, and **Xinfa**—exhibited varying patterns of outcome magnitude and risk adjustment parameters (deadweight, attribution, and drop-off).

Tangchang reported the **highest valuation figures** among all groups, with outcomes such as *Increased Sense of Belonging*, *Enhanced Sense of Accomplishment*, and *Reduced Fatigue*. However, the data also show **exceptionally high deadweight and attribution rates**—for instance, *Increased Sense of Belonging* recorded a DW of 100%, and *Sense of Being Needed* had an AT of 88% with a DO of 42%. These findings suggest that while Tangchang volunteers experienced substantial perceived benefits, some of these changes may have been influenced by **pre-existing community engagement** or **external initiatives** that preceded the program. During the verification phase, participants in Tangchang acknowledged that a number of community activities and volunteer structures had been active prior to the Rural Regeneration Program, potentially inflating the perceived net effect. Consequently, these items were treated conservatively in the sensitivity analysis to prevent overestimation.

Xingang volunteers demonstrated **strong positive changes in capability and self-development**, with high values in *Perceived Self-Growth* and *Enhanced Sense of Accomplishment*. Deadweight values ranged between 63%–81%, and attribution between 38%–56%, indicating moderate overlap with existing initiatives such as coastal cultural events and tourism-related activities. Verification discussions confirmed that while the program significantly strengthened these effects, participants' prior engagement contributed partially to the observed change. Attribution rates were therefore maintained at **medium-conservative levels** to reflect this shared causality.

Xinfa, a smaller and more agriculturally dependent community, recorded **lower absolute valuation figures** but showed consistent psychosocial benefits, particularly in *Expanded Interpersonal Relationships* and *Increased Sense of Belonging*. The deadweight (58%–75%) and attribution (34%–49%) levels suggest that part of the perceived improvement stemmed from **longstanding mutual-support traditions** within the community rather than from program-specific interventions alone. Nonetheless, these outcomes represent meaningful progress toward improved social connectedness and cohesion.

Overall, the segmentation analysis demonstrates that **value creation among volunteer groups was unevenly distributed** across regions. Tangchang's results illustrate the challenges of isolating program effects where pre-existing civic structures are strong, while Xingang's data highlight the reinforcement of existing development initiatives. Xinfa's findings underscore the importance of psychosocial outcomes even where economic or visible infrastructural gains are limited.

11.3.2 Analysis of Community Residents by Region

Based on Table 36, residents of Tangchang, Xingang, and Xinfra all experienced positive changes in livability, safety, pride, and belonging, though the scale and attribution of these outcomes differed across communities.

Tangchang residents reported the most balanced and consistent improvements. Outcomes such as *Enhanced Sense of Tranquility* and *Strengthened Sense of Belonging* displayed moderate deadweight and attribution levels, indicating that these effects were largely driven by the program's environmental and participatory initiatives. Valuations for *Perceptions of Safety* and *Pride in the Community* were similarly stable, showing that residents perceived visible improvements in their living environment and social atmosphere. The overall pattern suggests a steady and credible program effect supported by active community participation.

Xingang residents also demonstrated clear gains, particularly in *Perceptions of Safety* and *Enhanced Sense of Tranquility*. These outcomes recorded low deadweight (22–33%) and moderate attribution (26–35%), implying that the improvements were directly experienced and partially attributable to the program. Compared with Tangchang, the overall intensity of change was milder, reflecting more incremental but widespread enhancements in perceptions of community life.

Xinfra, the smallest and most rural community (N = 100), showed the highest per-capita valuation for several psychosocial outcomes—especially *Perceptions of Safety* (DW = 68%; AT = 54%) and *Enhanced Sense of Tranquility* (DW = 78%; AT = 56%). Although higher adjustment factors indicate that some effects were linked to **existing community cohesion**, residents nonetheless reported noticeable improvements in comfort and connectedness, confirming that even limited environmental interventions can generate **meaningful subjective well-being gains**.

Comparative Interpretation

Across all three communities, *Tranquility*, *Safety*, and *Belonging* consistently emerged as the most material outcomes, underscoring residents' emphasis on environmental and social dimensions of rural life.

- Tangchang reflects direct and balanced impacts with moderate attribution, demonstrating effective program delivery.
- Xingang exhibits gradual but broad improvements, consistent with a community adapting steadily to regeneration efforts.
- Xinfra highlights strong psychosocial responses in a small, cohesive setting, though with greater overlap from existing conditions.

These differentiated patterns confirm that the same interventions can yield context-specific forms of value, shaped by community scale, social fabric, and baseline conditions. The segmentation analysis therefore clarifies outcome diversity that would otherwise be obscured in aggregated results and provides ABKCG with evidence to tailor future resource allocation and program strategies to local contexts.

11.3.3 Analysis of Local Producers and Merchants by Region

Based on Table 37, the outcome Increase in Revenue was observed across all three communities—Tangchang, Xingang, and Xinfra—with varying degrees of attribution and deadweight. While the valuation level (NT\$80,000 per producer/merchant) remained constant, the differences in adjustment factors reflect variations in market activity, program reach, and baseline conditions.

Tangchang producers and merchants (N = 12) reported a moderate impact pattern, with deadweight of 40% and attribution of 17%. These figures suggest that although some commercial benefits were linked to the rural regeneration program—such as increased visibility and participation in local events—a portion of revenue growth may also have resulted from existing customer bases or external market factors. The relatively low attribution value implies that Tangchang’s business outcomes were partially influenced by the program but not primarily dependent on it.

Xingang, with a larger participant base (N = 60), showed deadweight at 40% and attribution at 50%, indicating a stronger connection between program activities and actual revenue change. The balance between these two factors suggests that program-led marketing events and product exhibitions effectively enhanced local trade, while a substantial share of income growth can be reasonably attributed to the intervention. This aligns with feedback from stakeholder discussions, where local merchants highlighted increased foot traffic and sales opportunities associated with community-led markets and fairs.

Xinfra, the smallest group (N = 7), presented a different pattern, with high deadweight (75%) and moderate attribution (38%). These parameters indicate that a large portion of revenue change may have stemmed from pre-existing or independent business activities, while only part of the benefit could be attributed directly to the program. Given Xinfra’s limited commercial scale and relatively stable customer base, the regeneration program likely produced indirect or modest financial effects rather than major income shifts.

Comparative Interpretation

Across all three regions, the program’s economic impact on local producers and merchants was positive but heterogeneous.

Xingang demonstrated the strongest program linkage, where structured events and market exposure translated into measurable revenue growth.

Tangchang exhibited moderate and mixed effects, reflecting a blend of program influence and pre-existing market stability.

Xinfra showed minimal short-term economic change, though participants acknowledged intangible benefits such as increased visibility and strengthened community ties.

11.3.4 Synthesis and Policy Implications

The segmentation analysis indicates that, while the Rural Regeneration Program generated broadly positive outcomes across all participating communities, **the scale, persistence, and attribution of change showed observable variations among stakeholder groups**. This suggests that aggregated SROI calculations may obscure local nuances and underrepresent the experiences of certain high-impact groups.

By stratifying stakeholders according to community and role, the analysis revealed that similar interventions can lead to **different expressions and intensities of value creation** depending on geographic, social, and economic contexts. Larger or more organized communities tended to exhibit balanced improvements across social, environmental, and economic domains, whereas smaller or more rural communities reflected stronger psychosocial and environmental effects relative to economic outcomes.

These findings highlight that segmentation is not merely a methodological refinement, but a means to better understand **how contextual factors influence pathways of change**. It allows evaluators to trace distinct mechanisms—such as community engagement, perceived safety, or local industry revitalization—rather than relying on a single composite index.

From a strategic perspective, segmentation provides decision-relevant insights for ABKCG and program partners:

1. Targeted Resource Allocation:

Results indicate that differentiated community contexts require tailored investment strategies. Rather than uniform funding, support should align with each community's developmental stage, organizational maturity, and capacity for self-organization.

2. Adaptive Support Models:

Communities with stronger volunteer participation may benefit from long-term capacity-building initiatives, while smaller or less structured communities may require facilitation and technical guidance to maintain results.

12. Recommendations

The primary purpose of this Social Return on Investment (SROI) assessment is not simply to quantify social value, but to create actionable insights that guide the future design, implementation, and management of rural regeneration programs. By calculating an overall SROI ratio of **2.57** and identifying both positive and negative outcomes across stakeholders, this study provides evidence that rural regeneration generates substantial net benefits for communities, but also highlights important areas of risk and inefficiency.

Aligned with **Principle 8: Be Responsive** of the Social Value International (SVI) standards, the recommendations below are grounded in the evidence collected, the sensitivity analysis, and the stratified segmentation of outcomes. They aim to support **ABKCG**, community associations, volunteers, residents, and local producers in co-creating a more adaptive, efficient, and sustainable policy framework.

The recommendations are organized into three overarching themes, each of which is expanded into detailed sub-recommendations and strategic implications:

12.1 Incorporate Unexpected Outcomes through Feedback and Adaptive Management

The SROI assessment uncovered several **unexpected outcomes** that were not explicitly considered in the original program logic. These include positive results such as *reduced fatigue* (for some volunteers due to better organization) and negative results such as *increased isolation, deterioration of interpersonal relationships, and perceived regression of self-growth*. Although the quantitative impact of these results was smaller compared to core positive outcomes (e.g., sense of belonging, increased revenue, reduced residential risk), their **strategic significance is high** because they represent *systemic warning signals*.

The principle of responsiveness requires that evaluators and program managers treat these signals not as anomalies but as early indicators of risks and opportunities. Ignoring them could create blind spots that undermine long-term sustainability, while systematically addressing them could transform vulnerabilities into strengths.

12.1.1 Strategic Recommendations

- **Establish a Continuous Feedback Mechanism**

- Develop formal channels for stakeholders to regularly report emerging experiences. For instance, a **quarterly feedback survey** or **anonymous digital platform** could allow volunteers, residents, and local merchants to submit both positive and negative reflections.
- Incorporate **structured debriefs** after community events where facilitators record not only the successes but also tensions or burdens expressed by participants.

- **Create Early Warning Indicators**

- Translate unexpected outcomes into **early warning metrics**. For example:
 - Track changes in volunteer fatigue levels before and after peak activity periods.
 - Record instances of social exclusion or interpersonal conflict during collaborative projects.
- Integrate these indicators into the program's monitoring dashboard to trigger timely interventions.

- **Introduce a Flexible Adjustment Mechanism**

- Ensure that project managers have the autonomy to reallocate resources when unexpected outcomes reach critical thresholds. For example, if fatigue rises significantly, additional manpower or schedule adjustments should be implemented immediately rather than waiting until the next annual review.
- Develop scenario-based protocols to respond to negative outcomes. For instance, establish peer mediation or conflict resolution processes when reports of interpersonal deterioration surface.

- **Institutionalize Learning from Unexpected Outcomes**

- Establish a biannual review workshop where ABKCG and community associations jointly analyze accumulated data on unexpected outcomes.
- Decide systematically whether these outcomes should be formally incorporated into the value map in subsequent evaluations, thus ensuring **dynamic alignment** between project design and actual stakeholder experiences.

12.1.2 Expected Benefits

- Reduces risk of volunteer burnout and resident disengagement.
- Strengthens trust by demonstrating responsiveness to minority voices.
- Enhances program adaptability, allowing it to evolve alongside community dynamics.

12.2 Optimize Medium and Long-Term Support Strategies Based on Outcome Durability

The duration and drop-off analysis revealed clear differences in the sustainability of outcomes. For example, *sense of belonging* among volunteers and residents, and *increased industrial income* among local producers, were outcomes with relatively long duration (≥ 2 years). By contrast, outcomes such as *reduced fatigue*, *increased isolation*, and *heightened stress* tended to last only one year or less, with rapid drop-off rates.

This differentiation highlights the need to design tiered support strategies:

- Short-term support to manage volatile or negative outcomes.
- Medium- and long-term reinforcement to consolidate and expand durable positive outcomes.

12.2.1 Strategic Recommendations

- **Strengthen Support for Short-Term, Volatile Outcomes**

- Introduce wellbeing monitoring systems for volunteers, including fatigue management workshops and flexible scheduling options.
- For negative psychosocial outcomes such as isolation, create micro-support structures (e.g., buddy systems, small peer groups) to ensure individuals do not feel marginalized.
- Consider temporary financial stipends or recognition awards for high-intensity roles during peak program phases to offset short-term burdens.

- **Consolidate Long-Term Positive Outcomes**

- For outcomes like *increased community income* or *sense of pride*, implement phased reinforcement activities such as annual recognition ceremonies, media exposure, or reinvestment funds for community industries.
- Establish multi-year contracts or cooperative agreements with local businesses to ensure revenue growth is not a one-off effect but embedded into local economic systems.

- **Develop Transition Pathways**

- Recognize that some short-term outcomes (e.g., self-growth, initial pride) can serve as entry points into longer-term structural change if nurtured. For example, a volunteer's sense of accomplishment could evolve into leadership development if the program invests in mentorship pathways.
- Build bridging mechanisms between project cycles to reduce the risk of "impact fatigue," where enthusiasm wanes once funding or activities slow down.

- **Embed Resilience through Continuous Engagement**

- Replace one-off interventions with recurring engagement structures (e.g., monthly forums, annual community strategy meetings).
- Encourage community-led monitoring, where residents and volunteers themselves track the continuity of outcomes, thereby creating stronger ownership and long-term resilience.

12.2.2 Expected Benefits

- Extends the value lifespan of the program, raising SROI ratios in future cycles.
- Reduces volatility of stakeholder experiences, improving predictability.
- Creates stronger institutional memory and community resilience.

12.3 Clarify High Deadweight Outcomes and Optimize Resource Allocation

The deadweight analysis revealed substantial variation across outcomes and stakeholders. Some outcomes had relatively low deadweight rates ($\leq 35\text{--}40\%$), meaning their value was clearly attributable to the program. Others showed very high deadweight ($\geq 70\text{--}100\%$), suggesting that a significant portion of the change would likely have occurred even without intervention, due to external policies, social norms, or pre-existing trends.

These results imply that while the rural regeneration program produces meaningful additional value, not all outcomes represent equally efficient points of leverage. To maximize the overall SROI, future policy design should prioritize outcomes with low deadweight and high attribution, while carefully reconsidering resource levels for those with consistently high deadweight.

- **Relatively Low Deadweight Outcomes**

- *ABKCG – Strengthened Community Trust and Identification: 35%*
- *Local Producers and Merchants – Increase Revenue: 49.31%*

- *Community Residents – Increased Pride in the Community: 53%, Strengthened Sense of Belonging: 53%*
- *Community Residents – Increased Perceptions of Safety: 57%*

These outcomes show clear additionality: more than 40%–60% of their value can be attributed directly to program interventions, suggesting a strong case for continued or expanded investment.

- **Moderate Deadweight Outcomes**

- *ABKCG – Enhanced Public Visibility: 50%*
- *Community Residents – Enhanced Sense of Tranquility: 60%*
- *Planet (Earth) – Environmental Quality Improvement: 63%*
- *Community Association – Increased Community Income and Visibility: 64.31%*

These reflect mixed attribution: program activities contribute, but external factors such as government policy or general economic shifts also play a significant role. Continued investment is warranted, but with tighter monitoring of overlapping contributions from parallel initiatives.

- **High Deadweight Outcomes**

- *Community Volunteers – Increased Sense of Belonging (85%), Perceived Self-Growth (82%), Enhanced Sense of Accomplishment (83%), Sense of Being Needed (84%), Expanded Interpersonal Relationships (82%), Reduced Feelings of Isolation (86%).*
- *Community Residents – Reduced Sense of Belonging (70%).*
- *Community Development Association – Strengthened Community Trust and Identification (75%).*

In these cases, a large majority of the reported changes appear to stem from natural social dynamics, cultural norms, or existing community practices rather than the program itself. While these outcomes are **socially important**, their high deadweight suggests that **incremental program funding in these areas may yield diminishing returns** unless complemented by innovative, differentiated interventions.

- **Subgroup Variability:**

- In **Xinfa residents**, the *Enhanced Sense of Tranquility* had **78% deadweight**, compared to **33% in Xingang** and **64% in Tangchang**.
- In **Tangchang volunteers**, several psychosocial outcomes (e.g., *Expanded Interpersonal Relationships, Reduced Fatigue, Reduced Isolation*) had **deadweight above 95%–100%**, suggesting that these changes were almost entirely due to external conditions.

This highlights the importance of **regional tailoring**: outcomes that are high-value in one community may be largely redundant in another.

12.3.1 Strategic Recommendations

- **Prioritize Low-Deadweight Outcomes for Investment**
 - Focus on *Increased Revenue for Local Producers (49.31% DW)*, *Community Pride (53% DW)*, *Perceptions of Safety (57% DW)*, and *Trust in ABKCG (35% DW)*..
 - These outcomes provide the highest marginal impact per dollar and represent areas where program intervention clearly adds value beyond natural trends.
- **Reassess High-Deadweight Outcomes**
 - For volunteer psychosocial outcomes ($\geq 80\%$ DW), avoid framing them as primary program impact indicators. Instead, treat them as **secondary or reinforcing effects**.
 - Experiment with **innovative program designs** (e.g., structured volunteer training, formal mentorship schemes) to ensure improvements in belonging and self-growth are truly *caused by the program* rather than natural side effects of participation.
- **Apply Regional Differentiation**
 - Adjust priorities based on community-level deadweight. For example:
 - In **Xingang**, low deadweight (33%) on *Enhanced Tranquility* indicates strong program attribution and high investment potential.
 - In **Xinfa**, very high deadweight (78%) for the same outcome suggests diminishing returns, meaning resources might be better reallocated to safety improvements (68% DW) or pride (68% DW).
 - This approach prevents “one-size-fits-all” funding and enhances allocative efficiency.
- **Integrate Deadweight into Strategic Resource Allocation**
 - Institutionalize a “**deadweight-adjusted budget allocation**” model, where resource shares for outcomes are weighted inversely to their deadweight percentage.
 - Publish an annual **impact efficiency report** that discloses how resource allocation decisions are informed by deadweight analysis, thereby strengthening transparency and accountability.
- **Enhance Complementarity for Moderate Deadweight Outcomes**
 - For outcomes like *Environmental Quality Improvement (63% DW)* or *Community Income Growth (64.31% DW)*, emphasize **cross-sector collaboration**. For example, ABKCG could partner with environmental NGOs or industry associations to co-finance projects, ensuring resources are complementary rather than duplicative..
 -

12.3.2 Expected Benefits

- Maximizes additionality by investing in outcomes where the program has the strongest causal impact.
- Reduces risk of overstating impact by acknowledging high deadweight areas.

- Improves regional equity by tailoring investment to local realities.
- Reinforces credibility and transparency by showing that deadweight explicitly shapes funding decisions

12.4 Integrated Strategic Implications

Bringing together the three recommendation areas, several cross-cutting insights emerge:

- **From Efficiency to Responsiveness**

- The SROI analysis demonstrates that while the program delivers high efficiency (SROI 2.57), its long-term legitimacy will depend on responsiveness to minority experiences and adaptive capacity. Policymakers should not rely solely on aggregate ratios but also on *qualitative depth*.

- **From Uniform to Differentiated Approaches**

- Stratified analysis showed that impacts vary substantially across Xinfa, Xingang, and Tangchang communities. This means policy design must move away from a one-size-fits-all model toward differentiated intervention strategies that reflect local cultural, economic, and geographic realities.

- **From Short-Term Gains to Sustainable Systems**

- The program's strength lies in producing immediate improvements in belonging and income, but sustainability requires embedding these outcomes into structural systems such as long-term funding, institutionalized volunteer networks, and durable economic partnerships.

- **From Counting Outcomes to Managing Impact Pathways**

- The risk of double counting and high deadweight emphasizes the importance of not just measuring outputs but managing the causal chains of outcomes. Policymakers must understand the interaction between psychosocial and economic results to optimize holistic value creation.

12.5 Conclusion

The SROI assessment demonstrates that for every NT\$1 invested in the Kaohsiung Rural Regeneration Program, approximately NT\$2.57 of social value is created. This value manifests in enhanced quality of life for residents, increased psychological wellbeing for volunteers, strengthened community identity, and improved local economic outcomes.

Yet the analysis also reveals that value is unevenly distributed: certain communities act as value multipliers, while others face more challenges; some outcomes are durable, while others decay quickly; and some changes are strongly attributable to the program, while others largely reflect external forces.

The recommendations in this chapter offer a roadmap to:

- **Respond adaptively to unexpected outcomes,**
- **Strengthen durability through medium- and long-term support, and**
- **Optimize efficiency by prioritizing low-deadweight, high-attribution outcomes.**

By institutionalizing feedback loops, differentiating strategies by community, and enhancing cross-sectoral coordination, ABKCG and its partners can ensure that rural regeneration evolves into a sustainable engine of social value creation.

In doing so, Kaohsiung can not only amplify the immediate benefits of rural regeneration but also pioneer a globally recognized model of how SROI-informed governance can translate investments into meaningful, long-lasting, and equitable social value.

Annex A: References

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Annex B-1: Value Map

<https://docs.google.com/spreadsheets/d/1wHRDCTjSli94c6tTftLnK86KXhpUMG4k/edit?usp=sharing&ouid=117092264911683709354&rtpof=true&sd=true>



Annex B-2: Value Map

<https://docs.google.com/spreadsheets/d/1wHRDCTjSli94c6tTftLnK86KXhpUMG4k/edit?gid=676086148#gid=676086148>



Annex C: Qualitative Interview Questions

1. Basic background

1. Please briefly describe yourself (e.g., age, current residence, role in the community, and daily activities).
2. When did you get involved with rural regeneration programs? How do you know?
3. Before the project was launched, what were your views and expectations for the community or yourself?

2. Participation experience

1. How do you get involved in the rural regeneration programs? (e.g., participating in meetings, assisting in activities, providing space, receiving training, participating in construction, etc.)
2. Do these engagements require you to invest time, money, or other resources? Please describe.
3. Which engagement experience did you feel the most? Why?
4. Was there anything difficult or frustrating during your involvement?

3. Outcomes and changes

1. What specific changes have you felt after participating in the rural regeneration program? (Can be explained from individual, community, environmental, industry, social, etc.)
2. How do you feel these changes happened step by step? Can you describe the journey or turning point that occurred?
3. Are there any changes (positive or negative) in your experience that you didn't expect?
4. Have you experienced some negative or unpleasant feelings? Can you share it?
5. How much have these changes affected you? Which change do you think is the most important? Please rate it for importance (1-10 points).
6. Do these changes also affect the people around you (e.g., family, neighbors, clients, partners, etc.)?

7. Besides you, who else do you think have experienced some changes as a result of participating in this project? What are these changes?

4. Social connections and roles

1. Who do you interact with more in this program? Do these interactions make you feel more connected to your community?
2. Do you think this project has had an impact on the community's connections, collaborative culture, or engagement atmosphere? Please give an example.
3. Are there other people (e.g., returnees, foreign travelers, specific families) that should also be included in the program? Why?

6. Feedback and suggestions

1. Looking back on the overall process, what do you think is the greatest value of the rural regeneration programs?
2. If there is a next stage of the project in the future, would you be willing to participate again? What changes are expected to occur?
3. What suggestions do you have for the government (such as ABKCG) or community units, and what do you hope can be done better?
4. Finally, do you have any other ideas you'd like to add or share?

Annex D: Quantitative Data Collection Survey

A.1 Community Association

Part 1: Basic information

1. Name
2. Gender
3. Age
4. Position held in the community

Part II: Outcomes

(1) Community income

1.1 After the implementation of the Rural Regeneration Program in 2023, how has the overall financial operation of the community (through activities, management, fundraising, subsidies, and sales) changed?

- Increase by more than 5% Increase within 5% No change Decrease within 5% Decrease by more than 5%

1.2 Please upload supporting materials

(2) Increased Community Visibility

2.1 How many media reports covered the community during the Rural Regeneration Program in 2023?

2.2 Please upload supporting evidence.

(3) Conservation of Protected Species

3.1 Has the community, through the Rural Regeneration Program and community development efforts, contributed to maintaining habitats for local protected wildlife and biodiversity?

3.2 If yes, please upload supporting evidence

(4) Increase in green space area

The community's investment in rural regeneration and development may expand green spaces (including forests, landscaping, and vegetation). If this issue does not apply, please indicate "None."

4.1 Total area of community green space before 2023 (hectares):

4.2 Total area of community green space after 2023 (hectares):

4.3 Please upload supporting evidence.

(5) Increase in Eco-Friendly Farming Area

The community's efforts may encourage eco-friendly farming practices, reducing pesticide use and expanding toxin-free or organic cultivation areas. If this issue does not apply, please indicate "None."

5.1 Total area of eco-friendly farming before 2023 (hectares):

5.2 Total area of eco-friendly farming after 2023 (hectares):

5.3 Please upload supporting evidence.

(6) Waste reduction

Through rural regeneration and development, has the community reduced waste generation via recycling and circular practices? If this issue does not apply, please indicate "None."

6.1 Total community waste generation before 2023 (kg):

6.2 Total community waste generation after 2023 (kg):

6.3 Please upload supporting evidence.

(7) Reduction in Water Consumption

Through rural regeneration and development, has the community reduced water waste (e.g., rainwater harvesting, water conservation)? If this issue does not apply, please indicate "None."

7.1 Total water consumption before 2023 (m³):

7.2 Total water consumption after 2023 (m³):

7.3 Please upload supporting evidence.

(8) Reduction in Electricity Consumption

Through rural regeneration and development, has the community reduced electricity consumption (e.g., adopting energy-saving behaviors, increasing green electricity use)? If this issue does not apply, please indicate "None."

8.1 Total electricity consumption before 2023 (kWh):

8.2 Total electricity consumption after 2023 (kWh):

8.3 Please upload supporting evidence.

Part 3: Relative Importance and Sustainability of Outcomes

1. For each of the changes (outcomes) caused by the program, how important do you consider them? (Rate on a scale of 1–10, where 10 = most important, 1 = least important).
2. How long do you think the effects of these changes will last? (Please tick the corresponding duration).
3. Do you think it is possible to achieve the same level of outcomes within one year through other channels or means? (e.g., If you believe there is a 75% chance that another activity could also give you a sense of belonging, tick 75%).
4. Besides Community Association, its members, and the Kaohsiung Agriculture Bureau, were there any other people or organizations that contributed to this outcome?

Part 4: Others

1. How strongly do you identify with the primary implementing unit of the Rural Regeneration Program? On a scale of 1 to 10, how strongly do you feel a sense of identity with the ABKCG leading the rural regeneration program?
2. Any additional information you would like to share?

A.2 Community Volunteers

Part 1: Basic information

1. Name
2. Your gender?
3. Your age?
4. Experience in community work (please fill in how many years).
5. Role in the community?
6. What is your job or business?

Part II: Outcomes

(1) Belonging (feeling accepted by the organization).

- 1.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how accepted and recognized did you feel within the organization? *(1 = not accepted at all, 10 = fully accepted and recognized)*
- 1.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how accepted and recognized do you feel within the organization?

(2) Perceived Self-Growth

- 2.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how many opportunities for personal growth and development did you feel existed within the organization?
(1 = no opportunities at all, 10 = abundant opportunities for growth and development)
- 2.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how many opportunities for personal growth and development do you feel exist within the organization?

(3) Sense of Accomplishment

- 3.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how strong was your sense of accomplishment in the organization?*(1 = no sense of accomplishment, 10 = very strong sense of accomplishment)*
- 3.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how strong is your sense of accomplishment in the organization?
- 3.3 How valuable is the sense of accomplishment you get from participating in community activities?
(For example: the amount you would be willing to pay in one year to achieve a sense of accomplishment, such as winning a Rural Award).

(4) Sense of Being Needed

- 4.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how much did you feel that you were needed by the community?*(1 = not needed at all, 10 = completely needed and relied upon)*

4.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how much do you feel that you are needed by the community? *(1 = not needed at all, 10 = completely needed and relied upon)*

(5) Interpersonal Relationships

5.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how would you rate your interpersonal relationships, friendships, and interactions in the community?
(1 = very limited relationships, 10 = very strong interactions and networks)

5.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how would you rate your interpersonal relationships, friendships, and interactions in the community?

(6) Fatigue

6.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how fatigued did you feel due to community work?
(1 = no fatigue at all, 10 = extreme fatigue)

6.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how fatigued do you feel due to community work?

(7) Feeling of isolation

7.1 Before involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how much did you feel isolated or depressed while living in the community? *(1 = not isolated or depressed at all, 10 = very isolated or depressed)*

7.2 After involved in rural regeneration program activities by community organization in 2023, on a scale of 1 to 10, how much do you feel isolated or depressed while living in the community?

(8) Have you experienced any other changes (positive or negative) not listed above? Please describe.

Part 3: Relative Importance, Duration, Causality of Outcomes

1. Please rate the importance of the changes (outcomes) caused by the Rural Regeneration Program to you.
(1 = least important, 10 = most important)
2. How long do you think the effects of these changes will last? (Please check the number of years next to each option).
3. How likely do you think it is that the same level of outcomes could be achieved through other channels or methods within one year?
(For example: If you believe there is a 75% chance another activity could also give you a sense of belonging, please tick 75%).
4. Besides members of the Community Association and ABKCG, are there any other people or organizations that contributed to these outcomes?

Part 4: Others

1. How strongly do you identify with the primary promoters of the Rural Regeneration

Program?

1.1 On a scale of 1 to 10, how strongly do you feel a sense of identity with the Community Association leading the rural regeneration program?

1.2 On a scale of 1 to 10, how strongly do you feel a sense of identity with the ABKCG leading the rural regeneration program?

2. Any other supplementary information or comments you would like to provide?

A.3 Community Residents

Part 1: Basic information

1. Name
2. Gender
3. Age
4. Years of experience in community work
5. Role in the community
6. Occupation

Part II: Outcomes

(1) Sense of Tranquility in the Living Environment

- 1.1 Before the rural regeneration program in 2023, on a scale of 1 to 10, how much did your living environment make you feel clean, comfortable, and at ease?
(1 = not at all comfortable, 10 = extremely comfortable and pleasant)
- 1.2 After the rural regeneration program in 2023, on a scale of 1 to 10, how much does your living environment make you feel clean, comfortable, and at ease?
(1 = not at all comfortable, 10 = extremely comfortable and pleasant)

(2) Perceptions of Safety

- 2.1 Before the rural regeneration program in 2023, on a scale of 1 to 10, how safe did you feel in your living environment? (1 = not safe at all, 10 = extremely safe)
- 2.2 After the rural regeneration program in 2023, on a scale of 1 to 10, how safe do you feel in your living environment? (1 = not safe at all, 10 = extremely safe)
- 2.3 If you were to invest in improving your own sense of residential safety, which of the following would you choose to spend money on within one year?
 - Participate in personal self-defense and emergency first aid training (approx. NT\$2,000)
 - Purchase one-year accident and injury insurance (approx. NT\$7,500)
 - Purchase fire extinguishers, smoke detectors, and personal safety equipment (approx. NT\$15,000)
 - Purchase remote monitoring and security services for one year (approx. NT\$30,000)
 - Strengthen doors, windows, railings, surveillance systems, and alarm systems at home (approx. NT\$100,000)
 - Other (please specify the investment and amount you would be willing to pay)

(3) Sense of Pride in the Community

- 3.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how strong was your sense of pride in living in this community? (1 = no pride at all, 10 = very strong pride)
- 3.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how strong is your sense of pride in living in this community? (1 = no pride at all, 10 = very strong pride)

(4) A sense of belonging

- 4.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much did you feel cared for and supported by the community? *(1 = no sense of belonging at all, 10 = very strong sense of belonging)*
- 4.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much do you feel cared for and supported by the community? *(1 = no sense of belonging at all, 10 = very strong sense of belonging)*

(5) Please describe any other changes (positive or negative) that you experienced through participation in the rural regeneration program.**Part 3: Relative Importance, Duration, Causality of Outcomes**

1. Please rate the importance of the above changes (outcomes) to you personally, on a scale of 1–10. *(10 = most important, 1 = least important)*
2. How long do you think these changes brought about by the rural regeneration program will last? *(Please tick the expected duration: less than 1 year, 1–2 years, 3–5 years, over 5 years, permanent)*
3. Within one year, how likely do you think it would be to achieve the same level of outcomes through other channels or activities outside of this program? *(Please select: 0%, 25%, 50%, 75%, 100%)*
4. Besides the Community Association and ABKCG, are there any other individuals or organizations that you believe contributed to these outcomes?

Part 4: Others**(1) Perceptions of Community as a Place to Live**

- 1.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much did you feel that living in this community was positive and promising for the future?
(1 = I did not want to live here at all, 10 = I was very willing to live here and hoped the next generation would also return)
- 1.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much do you feel that living in this community is positive and promising for the future?
(1 = I do not want to live here at all, 10 = I am very willing to live here and hope the next generation will also return)

(2) Identification with the Main Promoters of the Rural Regeneration Program

- 2.1 On a scale of 1 to 10, how strongly do you feel a sense of identity with the Community Association leading the rural regeneration program?
- 2.2 On a scale of 1 to 10, how strongly do you feel a sense of identity with the ABKCG leading the rural regeneration program?

(3) Please share any additional thoughts or recommendations

A.4 Community Impact Questionnaire (Merchant Owner/Producer).

Part 1: Basic information

1. Name
2. Gender
3. Age
4. How many years have you lived in this community?
5. What is the most impactful project or initiative you have seen from the Community Development Association?
6. What are your main business or production activities in the community? *(to be completed by the respondent)*

Part II: Outcomes

(1) Sense of Tranquility in the Living Environment

- 1.1 Before the rural regeneration program in 2023, on a scale of 1 to 10, how much did your living environment make you feel clean, comfortable, and at ease?
(1 = not at all comfortable, 10 = extremely comfortable and pleasant)
- 1.2 After the rural regeneration program in 2023, on a scale of 1 to 10, how much does your living environment make you feel clean, comfortable, and at ease?
(1 = not at all comfortable, 10 = extremely comfortable and pleasant)

(2) Perceptions of Safety

- 2.1 Before the rural regeneration program in 2023, on a scale of 1 to 10, how safe did you feel in your living environment? *(1 = not safe at all, 10 = extremely safe)*
- 2.2 After the rural regeneration program in 2023, on a scale of 1 to 10, how safe do you feel in your living environment? *(1 = not safe at all, 10 = extremely safe)*
- 2.3 If you were to invest in improving your own sense of residential safety, which of the following would you choose to spend money on within one year?
 - Participate in personal self-defense and emergency first aid training (approx. NT\$2,000)
 - Purchase one-year accident and injury insurance (approx. NT\$7,500)
 - Purchase fire extinguishers, smoke detectors, and personal safety equipment (approx. NT\$15,000)
 - Purchase remote monitoring and security services for one year (approx. NT\$30,000)
 - Strengthen doors, windows, railings, surveillance systems, and alarm systems at home (approx. NT\$100,000)
 - Other (please specify the investment and amount you would be willing to pay)

(3) Sense of Pride in the Community

- 3.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how strong was your sense of pride in living in this community? *(1 = no pride at all, 10 = very strong pride)*

- 3.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how strong is your sense of pride in living in this community? (*1 = no pride at all, 10 = very strong pride*)

(4) A sense of belonging

- 4.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much did you feel cared for and supported by the community? (*1 = no sense of belonging at all, 10 = very strong sense of belonging*)
- 4.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much do you feel cared for and supported by the community? (*1 = no sense of belonging at all, 10 = very strong sense of belonging*)

(5) Increased Revenue

After the community promoted rural regeneration in 2023, how has your income from production, services, or sales changed?

- Increased by more than 5%
- Increased by up to 5%
- No change
- Decreased by up to 5%
- Decreased by more than 5%

(6) Please describe any other changes (positive or negative) you have experienced due to participation in the rural regeneration program.

Part 3: Relative Importance, Duration, Causality of Outcomes

1. Please rate the importance of the above changes (outcomes) to you personally, on a scale of 1–10. (*10 = most important, 1 = least important*)
2. How long do you think these changes brought about by the rural regeneration program will last? (*Please tick the expected duration: less than 1 year, 1–2 years, 3–5 years, over 5 years, permanent*)
3. Within one year, how likely do you think it would be to achieve the same level of outcomes through other channels or activities outside of this program? (*Please select: 0%, 25%, 50%, 75%, 100%*)
4. Besides the Community Association and ABKCG, are there any other individuals or organizations that you believe contributed to these outcomes?

Part 4: Others

(1) Perceptions of Community as a Place to Live

- 1.1 Before implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much did you feel that living in this community was positive and promising for the future?
(*1 = I did not want to live here at all, 10 = I was very willing to live here and hoped the next generation would also return*)

1.2 After implementation of rural regeneration program in 2023, on a scale of 1 to 10, how much do you feel that living in this community is positive and promising for the future?

(1 = I do not want to live here at all, 10 = I am very willing to live here and hope the next generation will also return)

(2) Identification with the Main Promoters of the Rural Regeneration Program

2.1 On a scale of 1 to 10, how strongly do you feel a sense of identity with the Community Association leading the rural regeneration program?

2.1 On a scale of 1 to 10, how strongly do you feel a sense of identity with the ABKCG leading the rural regeneration program?

(3) Please share any additional thoughts or recommendations