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Research paper



Labor Market Assessment on Skills and Demand Matching in Batangas City, Philippines

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Abstract

This study conducted a labor market assessment aimed at identifying the alignment between industry skill demands and the available skills within a local urban community. The research sought to improve employment opportunities by analyzing labor market trends and identifying gaps between workforce competencies and job requirements. Utilizing both quantitative data and qualitative insights from focus group discussions, the study examined current and emerging skill needs in key sectors, particularly in skilled labor and engineering-related fields. Results showed that industries commonly require competencies in welding, scaffolding, pipefitting, instrumentation, and other technical areas, with emphasis on both hard and soft skills. In contrast, community members indicated a preference for skilled, professional, and entrepreneurial job roles, while also highlighting challenges such as unmet qualifications, adaptability issues, and limited access to training. A mismatch was identified between the community's existing skills and market demands. The study recommends implementing targeted skill development programs, fostering collaboration between training providers and industries, and establishing a mechanism for ongoing labor market monitoring. These findings are expected to inform the design of livelihood interventions that address employment gaps and contribute to sustainable socio-economic development in the local context.

Keywords: *Labor Market Assessment; Skills Matching; Employment Gaps; Workforce Development; Industry Demands; Skill Mismatch; Technical Skills; Soft Skills; Livelihood Programs; Socio-Economic Development.*

1. Introduction

Understanding and addressing labor market challenges at the community level remains a critical component of achieving inclusive economic growth. This study was initiated as a collaborative effort between an academic institution and a private sector partner to conduct a comprehensive labor market assessment in a local urban area, specifically Batangas City. The research focuses on examining the alignment between the skills demanded by industries, particularly in technical fields such as construction, energy, and engineering, and the competencies available within the local workforce. Specifically, industries such as welding, pipefitting, instrumentation, and engineering face a pressing need for qualified professionals. Addressing these mismatches is essential for improving employment opportunities and ensuring the region's continued industrial growth. The findings of this study are crucial not only for Batangas City but also for other industrial hubs in the Philippines, making it relevant to both technical and engineering domains.

The study is grounded in the premise that equitable economic outcomes are heavily influenced by the institutional frameworks that regulate labor markets. Existing literature suggests that laws, norms, and practices play a significant role in shaping access to employment, defining working conditions, and structuring unemployment support systems [1]. Despite the implementation of community-based technical training initiatives, persistently high unemployment rates in the area under study highlighted the inadequacy of existing responses and the need for deeper labor market diagnostics.

In response to these challenges, this research seeks to explore the underlying causes of labor market inefficiencies and skill mismatches through both quantitative analysis and qualitative inquiry. By identifying the current and emerging skills required by local industries and contrasting them with the available workforce competencies, the study aims to generate data-driven recommendations for labor market interventions. These include designing targeted skill development programs, improving access to vocational training, and fostering stronger linkages between training institutions and industry stakeholders.

The conceptual framework for this study is informed by existing academic discourse on labor market dynamics. Scholars emphasize the multifaceted nature of labor markets and the importance of collaborative governance in addressing employment challenges [2] [3]. Moreover, the impact of technological advancements and structural shifts associated with the Fourth Industrial Revolution necessitates adaptive labor market policies and forward-looking education systems [4]. The integration of competency-based curricula and continuous labor market monitoring has also been cited as a critical strategy for bridging skills gaps [5].

This research contributes to the ongoing discourse on sustainable employment by offering a localized analysis of labor supply and demand conditions. By focusing on industries such as construction, energy, and engineering, where skills mismatches are most pronounced, the

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study provides a detailed examination of local workforce needs and how they can be addressed through targeted interventions. The findings are intended to guide the development of community-based livelihood programs that are responsive to industry needs and capable of fostering long-term economic participation. Through evidence-based assessment and stakeholder engagement, the study aspires to inform policy formulation, enhance workforce preparedness, and support inclusive development within the local context.

2. Literature review

2.1. Labor market dynamics and skill mismatches

Global labor markets are undergoing rapid transformations due to technological advancements, demographic shifts, and changing industrial demands. According to Brunello & Wruuck (2019), skill mismatches are one of the primary barriers to economic growth, particularly in sectors like engineering and manufacturing. While these findings provide valuable insights, they do not fully account for the local dynamics in developing regions such as Batangas City. For instance, while skill shortages in general are a global issue, the specific skills in demand in Batangas, particularly welding, pipefitting, and construction management, differ significantly from the trends observed in Europe. This local gap emphasizes the need for more localized studies that investigate how global trends in skill shortages translate to regional labor markets, especially in emerging industrial hubs.

In the Philippines, the Philippine Labor Market Profile 2023 highlights that, despite strong growth in key sectors such as construction and energy, a significant skills gap remains. The report suggests that vocational training and technical certifications like TESDA's National Certification (NC) programs are essential for addressing these deficiencies. However, many community members in Batangas City are still underqualified or lack the formal qualifications required by employers in these sectors. This gap between labor supply and demand contributes significantly to the high unemployment and underemployment rates in the region. Similarly, the Philippine Development Plan (2023) indicates that while the Fourth Industrial Revolution is transforming industries nationwide, Batangas City's labor market is still primarily dependent on traditional sectors like construction and manufacturing, where technical skill shortages are most acute.

2.2. Technological advancements and their impact on labor markets

The Fourth Industrial Revolution (4IR) has brought about a paradigm shift in global labor markets, significantly altering skill requirements across industries. Bessen (2023) argues that automation, artificial intelligence, and digitalization are creating both opportunities and challenges in labor markets. The growing reliance on automated machinery and digital tools in industries like manufacturing and construction has led to increased demand for technologically proficient workers. However, regions like Batangas City face challenges in adapting to these technological changes. Many small and medium enterprises (SMEs) in Batangas struggle with integrating Industry 4.0 technologies, partly due to the lack of digital skills among the local workforce. The Philippine Institute for Development Studies (PIDS, 2024) notes that vocational education programs often lag in equipping workers with the digital skills needed to keep up with rapid technological advancements, particularly in sectors that are becoming increasingly automated.

2.3. Local Labor market challenges in Batangas city

While global trends point to a persistent skills mismatch, particularly in engineering and technical fields (Brunello & Wruuck, 2023), the localized context in Batangas City introduces specific structural challenges. Unlike Europe or East Asia, where digital reskilling is advancing rapidly, Batangas faces infrastructural and institutional limitations in deploying tech-driven training.

Compared to countries like Malaysia and Singapore, where industry-academic linkages are formalized through national policy (Asian Journal of Engineering Education, 2023), the Philippines, especially in secondary cities, still struggles with fragmented implementation. Local TESDA-accredited programs remain overly reliant on static NC modules and often lack alignment with actual industry expectations. This misalignment is exacerbated by the limited participation of industry actors in shaping training content.

Recent studies by the Asian Development Bank (2024) underscore the critical need to integrate future-of-work frameworks, including Industry 4.0 skillsets, into vocational training. However, evidence from Batangas indicates that many companies still emphasize traditional competencies (e.g., welding, pipefitting) while struggling to fill even these roles due to behavioral and soft skill gaps.

The global discourse emphasizes digital transformation and high-level technical proficiency; the situation in Batangas reflects a dual gap: one of foundational technical skills and another of cross-cutting soft skills. Bridging both requires a localized approach, one grounded in community realities but informed by global best practices.

3. Research method

A mixed-methods design is employed to explore the dynamics of the labor market in Batangas City, aiming to improve employment opportunities and livelihood programs within identified communities. The study integrates both quantitative and qualitative approaches through surveys, Focus Group Discussions (FGDs), and Key Informant Interviews (KIIs) to capture statistical trends as well as in-depth perspectives from stakeholders across sectors.

The quantitative component involved the use of structured questionnaires distributed to a statistically representative sample of residents, utilizing stratified-proportional sampling to ensure demographic and geographic balance. Stratification was based on official population data, and sampling followed Cochran's formula for finite populations to determine an appropriate respondent count at a 95% confidence level and 5% margin of error. This ensured a robust, representative dataset for statistical analysis.

For the qualitative component, FGDs were conducted with selected community leaders, youth representatives, and residents to explore the community's perspective on employment challenges, skill gaps, and aspirations. These discussions provided valuable insights into local perceptions, needs, and barriers to employment. Additionally, KIIs were administered with key personnel from industries operating in Batangas City, offering insights into specific skills and qualifications in demand. These interviews were integral for understanding industry-specific requirements and the broader labor market landscape.

The integration of data across these methods involved triangulation, enhancing the reliability of findings and providing a comprehensive basis for analysis. A matrix of employment matching was developed to align community-based skills with identified industry needs, serving as a decision-making tool for program design. This matrix acted as a critical instrument in ensuring that the identified gaps between labor supply and demand were addressed in proposed interventions.

Furthermore, the research was conducted in adherence to ethical research protocols. All participants were briefed on the study's purpose and voluntarily provided informed consent. Confidentiality and anonymity of responses were strictly maintained, and participants were informed of their right to withdraw at any point without consequence.
The proposed cohesive plans and interventions were directly informed by the findings of this study and were designed to include skills training, vocational education, employment facilitation, and entrepreneurship development. These interventions aim to enhance local employability and foster the sustainable development of the communities, ultimately addressing the identified labor market mismatches and contributing to long-term socio-economic growth.

3.1. Procedures and ethical considerations

A survey was conducted among 382 respondents from the target communities. Before participation, informed consent was obtained, explaining the study's objectives, procedures, voluntary nature, privacy measures, potential risks, and the right to withdraw at any point.
Focus Group Discussions (FGDs) were held in each community, lasting approximately 2 to 3 hours. Participants were asked to provide consent before the start of each session. These discussions provided qualitative insights to complement the survey findings.
Key Informant Interviews (KIIs) were conducted with selected industries and companies to assess how labor market demands are being addressed. Each interview lasted around 8 to 10 minutes.
All researchers adhered to ethical standards set by the Ethics Review Committee. No participant was pressured to join, and community norms were respected throughout the data collection process. Anonymity and confidentiality were strictly maintained. A terminal report was submitted to the partner agency, and all raw data were securely stored and scheduled for disposal by shredding after a three-year retention period.

4. Results and discussion

There is a significant need for qualified workers in the manufacturing and construction sectors in Batangas City's labor market. For these positions, technical expertise, necessary certificates, and practical experience are essential credentials. To provide their employees with the skills they need, companies or industries frequently offer on-the-job training and partner with nearby educational institutions. Nonetheless, the competitive job market and small pool of local talent make it difficult to find and retain employees. Advanced technical capabilities and critical soft skills like teamwork and communication are frequently lacking in applications. Social media, local job fairs, and internet job portals are the main ways that job openings are advertised.
The community prefers jobs that are steady, lucrative, offer room for growth, and allow for a healthy work-life balance. Even if there are more and more opportunities in emerging technology, there remain obstacles that local communities must overcome, like poor infrastructure and restricted access to advanced training programs. To address these problems, comprehensive livelihood programs that emphasize the development of soft skills, career counseling, and technical training may be implemented. Through the promotion of industry-education collaborations and internship programs, such initiatives may assist in closing the skills gap and better coordinating the local labor force with business needs.

4.1. Labor market demand

Results revealed that the industries' commonly needed positions belong to direct labor. Based on the responses of the participants as shown in Table 1, the available and demanded jobs include welding, scaffolding, pipefitting, instrumentation, and engineering jobs in general. In this study, "skilled jobs" were referred to, in layman's terms, as the collective term for job families where welding, piping, instrumentation, and carpentry belong. These are the jobs that commonly require skills and which are acquired through training. Along with these jobs is the engineering job family that supervises or works closely with them. This is the core of employment in the industries. This is a result of the company's location in an area where installation work predominates and mechanical work is highly concentrated. Although they still need professional specialists in accounting, human resources, and other white-collar fields, because of the nature of the business of the companies involved, there is currently a greater demand for the positions.

Table 1: In-Demand Jobs in the Industry

Theme	Statements
Skilled Jobs and Engineering Job Family (welders, scaffolders, pipefitters, at iba pang mga skilled workers, heavy equipment operators, electricians, technicians, clerks, and engineers)	"As of now, welders, scaffolders, pipefitters, and other skilled workers are in demand here, as well as engineers such as mechanical, civil, and industrial, preferably those with licenses. Safety officers are also in demand. "Participant 1 "We have heavy equipment operators, and in cases where we deploy heavy equipment, we need heavy equipment operators." "As for, like, the facilities, we have an engineer and also an electrician." Participant 2 The internal required personnel are a technician and a clerk, so we have many technicians, clerks, and engineers. Our third-party requirements include welders, electricians, fitters, scaffolders, painters, and masons." Participant 3 "Number one is chemical engineers... of course, chemists, which are very hard to find, and the rest are already mechanical engineers, electrical engineers, BIT, industrial engineers, and instrumentation specialists. So those are the very common ones... maybe only 5% are like us who are in the office." Participant 4 "When it comes to engineering and in our powerhouse, it's electrical and mechanical engineers—licensed electrical and mechanical engineers." Participant 5 "Of course, engineers, specifically civil and mechanical, almost all." "In terms of skilled workers, there are welders, fabricators, since we are in fabrication, and fitters." Participant 6

These positions then require specific job qualifications and/or competencies. Shown in Table 2 are the job specifications needed to perform the jobs. While varied job qualifications depend on the job positions, it can be highlighted that common requirements include the availability of skills as evidenced by National Certificates issued by TESDA for skilled workers, passing of trade tests, and certifications on

safety. It can be observed that companies today, although the primary qualification needed is skill-based, now recognize the significance of the behavior and personality of potential employees.

Participants also stated that while the prerequisites for a job differ according to the position, there are a few that are thought to be essential. For some positions, such basic qualifications as PCO and OSH are required. NCII, on the other hand, is mainly required for jobs involving scaffolding, welding, and related tasks because it certifies the worker's education and experience. In addition, it was found during the interview that an ordinance exists that the priority for the hiring process should be the residents of the host communities where the industry is located. However, these applicants must pass the trade test required by the company for the position. Companies likewise pay so much importance now to addressing risks, hence knowledge of safety through certifications is now likewise being demanded.

Table 2: Job Qualifications for the Demand Positions in the Industry

Theme	Statements
Varied Qualifications per Position (National Certifications from TESDA, trade test, safety certifications, personality)	"For skilled workers, they must pass the tests we conduct, like the qualification testing we do, such as a trade test." "We are looking for certifications from TESDA." Participant 1 "For safety, we need BOSH. For equipment operators, although we don't usually hire equipment operators from outside, we normally train our drivers to become equipment operators. So, at least they should have NC II." "We require basic certifications like OSH, PCO." Participant 2 "They should have NC II certificates." "We assess their personality, like if they don't seem like this or that, like they're not fit for you—even if they have NC II, even if they have a lot of training..." "The selection is based on technical fit with the organization, so we assess fitness. And once they're inside, we check if they can cope. But we determine everything based on safety and behavior. As long as they are technically compliant when hired, what we do is train them to change their behavior, because what we implement is behavior-based safety." "Training requirements are also a must because DOLE has requirements. So even SO2, SO3, and the required Safety Officer 2, Safety Officer 3, those are the requirements inside." Participant 3 "We will require you to have completed all of the safety trainings and certifications..." Participant 4 "In terms of safety, yes, because that is required. Yes, it is required. The PCO has training." Participant 5 "Of course, the National Certificate from TESDA... and experience." "Apart from that, the core values." "Records, especially in terms of safety." "Aside from the NC, when it comes to skilled workers, we have a trade test or prequalification test." Participant 6

In addition, it was observed that employee training has now begun to be more established and carried out by the Human Resources department. They seek experts, such as those from TESDA, to train employees in relevant technical skills. Insufficient training is also directly linked to many causes of mismatch in skills. Currently, the companies have started to provide training to improve the performance of their employees. Results revealed that while there are still some participants who are yet to prepare their training programs, some have already initiated. Based on findings, most of the companies provide training as needed, especially right after the hiring process. It was also found that when a particular applicant is not exactly fit for the position that he is applying for, as much as possible, he is being offered a lower position, like a helper, and training comes in. Participant 3 highlighted that "As much as we can absorb, the better. Because the mere fact that someone applied to us means the person is interested in joining us." Meanwhile, Company 6 emphasized that they even implement a four-week look-ahead strategy, stating that it is to avoid leaving any manpower positions vacant.

Table 3 shows the available training in the companies. Participants revealed that among the trainings, they prioritize technical and soft skills training. These industries focus on the conduct of training to better fit the personality of their employees and applicants, in addition to their technical training. Participant 3 asserts that they are not automatically competent just because they completed the NC II exam. Because each person's personality matters to the organization.

Table 3: Training Provided by the Companies

Theme	Statements
Technical Skills Training (orientation, technical, safety) Soft skills training (behavior, personality, values, Nihonggo – communication/language)	"Usually, it is the Human Resources department that facilitates the training. Each department identifies the type of training it needs, and it informs Human Resources about it. Then, Human Resources finds the appropriate training provider. We have also sent someone to Japan, to our mother company, for training. The Nihonggo language training is conducted here before we deploy them. Our newly hired skilled workers undergo training as well." Participant 1 "We have what we call a reorientation, especially about policies and procedures—that part is handled by Human Resources. But when it comes to technical skills, we get experts from outside, such as TESDA. Our equipment operators, for example, are sent to TESDA-accredited centers for training. If it is behavior-based, that is handled by our Manila office." Participant 2 "For technical matters, there is a separate track. There is also a separate track for leadership and personality training." "They have a briefing and training that introduces our behavior-based approach, which they must know. Hopefully, even their colleagues or teammates inside are aware of it, since there are many tools being used. At least they should be introduced to our behavior-based system." "All personnel must undergo safety orientation." Participant 3 "All of us here are required to be aware of process safety. There is safety training, and now and then, every six months, we must have a refresher. There are specific departments where driving skills are also required." Participant 4 "There is risk-based training."

	"There is a safety induction course." Participant 5 "Each department has its orientation." "We always aim to instill values." Participant 6

On the other hand, despite the attempts of the companies in try to address gaps, it is worth noting that there are some problems and challenges in the recruitment and retention of employees. Table 3 shows that employees often lack the required skills for the positions; hence, a challenge in recruitment occurs. This means that the community cannot always meet the competencies needed and specified for the positions. Thus, a delay in the hiring process becomes a problem. In the same manner, the existing local policy on prioritizing residents of the host communities at times prolongs the hiring process when they cannot immediately fill in the vacancies due to a lack of qualifications.

Meanwhile, as to retention, one challenge that has surfaced in the study is the opportunities abroad. Pay has been the number one reason why employees opt to go overseas. This then results in higher turnover. Oftentimes, it is the good performers who leave the organizations for greener pastures abroad.

Table 4: Employee Recruitment and Retention Challenges

Theme	Statements
Unmet Qualifications (kulang sa qualifications, technical test, lack of experience) Opportunities Abroad (sweldo, lumalabas ng bansa) Policies in the Community for Hiring (Community Ordinance)	"For our welders now, there is a lack in skills, a lack in qualifications. They are not yet that knowledgeable or experienced. Their expertise does not yet meet the standards." "Because right now, there is a high demand abroad. Our skilled workers resign because they go overseas." Participant 1 "It depends. The challenge in recruitment is that there is a community ordinance. Sometimes, we cannot hire immediately because the community has no available manpower. So if the community cannot provide, the recruitment period gets prolonged." "That is our challenge. We have to match the salaries of those who already went abroad, or even those who are newly hired but employed in other companies that already offer higher rates." "It is also a challenge because most want to go abroad. Only a few are willing to stay." Participant 2 "There is a technical test. Like I mentioned, they may be holding the paper, but they lack experience." "Some have already left and gone abroad. They go overseas." Participant 3 "Our salary is low compared to others." Participant 4 "That is probably the only reason why they leave. Maybe it is something personal." Participant 5 "It is the favoritism system." Participant 6

Regarding relocation, it was found that this is not much of a challenge for the end of employees. Companies stated that applicants are informed beforehand to minimize resignations upon deployment. Although some said that some do not prefer to be relocated, several young potential employees are willing. Companies likewise offer programs to augment the needs of employees during the period of their relocation to various sites.

Table 5: Relocation of Employees

Theme	Statements
Not a challenge	"They prefer to work on-site because the pay is higher there… nothing more." Participant 1 "Nothing in particular." Participant 2 "Those young ones, they want to run away from their parents." Participant 3 "Not really." Participant 5 "They do not want to be relocated." Participant 6

With the challenges, companies have likewise identified specific deficiencies among the job seekers in terms of qualifications in Batangas City. Table 6 reflects the common deficiencies that the participants observed among the pool of applicants. Consistent responses of participants showed that challenges are attributed to the lack of soft skills and other competencies of the employees.

Participants stressed that while work attitudes are a primary consideration in pre-employment, this remains a challenge. It is quite difficult for them to address personality and behavior-based problems. While hard skills should be the basic qualification, companies consider good communication skills from them too.

The inability to satisfy the organization's requirements due to a lack of skill may cause inconvenience to both the company and the applicants. A mismatch in skills results from this problem as well. There are numerous detrimental effects of the skills mismatch issue on the economy. When the labor market is oversupplied or undersupplied with qualified workers, firms are unable to locate the people they need. Profit margins decrease as a result, and businesses' production capacity and efficiency fall.

The observations that were made previously regarding the hiring challenges faced by the companies show that they struggle to find qualified candidates for several common reasons, such as the occurrence of communities not having potential candidates who meet the requirements of the position they are hiring, which prolongs the hiring process and leaves some applicants waiting to be hired to meet the waiting period required by the community ordinance. Another is that they believe most young individuals or those who have recently graduated would rather work abroad than at home. Because few candidates frequently meet the qualifications that the businesses are seeking, there is a skills shortage as a result.

Table 6 indicates that the demands and history of the applicants are the primary factors influencing the specific skills or qualifications that the company is lacking in its workforce. According to the participant's statement, it was addressed how crucial it is to evaluate candidates' work attitudes and commitments throughout the interview process to decide if they are qualified for the post. One of the issues, according to them, was that applicants were basing their compensation expectations on their prior earnings. Because there are many options for employees to find better offers elsewhere in the world, it might be difficult for them to retain the skills and qualifications that are appropriate for the company.

It is noteworthy that Participant 3 suggested the importance of practical skills, stating, “If you can develop a workforce with technical hands-on experience. For example, in mechanical work, there are already many who dismantle engines and gain experience. So perhaps the focus should be on hands-on training, because when they enter the industry, there are actual tests where they truly need to pass more than just lectures or having a certificate.”

Table 6: Common Deficiencies in the Pool of Applicants

Theme	Statements
Soft Skills (Work Attitude, Communication, Personality, Culture) Competencies (Certifications, experience)	"We are very particular about work attitude. You can already see it in applicants — you can assess them right away, whether they will be a good employee, if they are serious, or how committed they are." "When you say entry-level, but we see that the attitude is not good, then in that case, it's goodbye or simply not accepted." Participant 1 "I have been in recruitment for a very long time, and before, even if the attitude was lacking, as long as they were willing to learn and work, they could be promoted in the long run. But now, it feels different. The mindset has changed." Participant 2 "That's part of the selection, personality, because it's harder to develop personality than to develop skill." "Even within the company culture, you cannot avoid encountering people with different personalities." "I think it would benefit everyone in the industry if workers could take certification courses that are not just eight to five, Monday to Friday. Because these are the people already working in the field, more experienced than the newly hired ones who just bring a certificate. One may have a document, but the other has all the technical skills gained through years of experience." Participant 3 "Soft skills, such as communication, because we realize that many of our applicants are younger individuals now. They cannot make a report. Everything now relies on artificial intelligence. They are digital natives. They do not share much. They are not as open as we are when it comes to sharing their experiences. They are not as engaged in conversation." Participant 4

On the other hand, to better facilitate the hiring process, companies utilize various means of recruitment. Although it can be observed that the most used process is through PESO, once the host communities are not able to fill in the vacancies.

Table 7: Mode of Dissemination in Terms of Job Vacancies

Theme	Statements
Various Recruitment Sources (PESO, job fair, social media, referrals, community ordinance)	"We post a hiring tarpaulin at our gate. We also send a notice of hiring to the community, PESO, and during job fairs at DOLE in Batangas City, if there's a scheduled job fair. We also post on social media." Participant 1 "Ah, we post first at the community, then on our bulletin boards, and also through PESO. We don't usually join job fairs because they take up the whole day, which we consider a waste of time. We're more into targeted selection because it's more efficient. Unless you have several recruitment agencies and many positions to fill, like for us, we usually just need one engineer, one safety officer. But when it comes to drivers, there are more openings, and there are plenty available here in San Roque and nearby areas." Participant 2 "If there's a project and we need people, we refer it to the PESO office to find applicants. They have a standard protocol for that. We try to source through them." Participant 3 "Every time there's an opening, the community gets the priority. Usually, we release the announcement within the community for about two weeks — that includes Simlong, Pinamucan Ibaba, and Pinamucan Proper. After that, we open the posting to outsiders. School announcements also come first. Then, if PESO sends an invitation to a job fair, we participate. Since our sister company is JobStreet, we also post there, and now on LinkedIn too. But we don't use Facebook. When there's an opening, we just send out email notifications to employees as well." Participant 4 "Through referrals." Participant 5 "The community gets priority." Participant 6

4.2. Skills available in the community

The demographic profile of the respondents reveals significant insights into their level of education, employment status, and gender distribution as observed in Figures 3, 4, and 5, respectively.

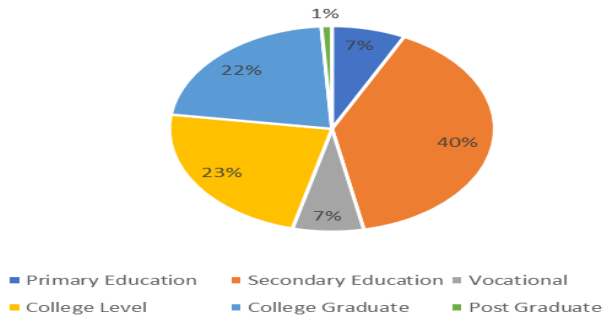


Fig. 1: Respondents' Level of Education.

Out of the total respondents, the majority have attained Secondary Education (151), followed by College Level (89) and College Graduates (83). A smaller segment comprises individuals with Primary Education (28), Vocational training (27), and postgraduate qualifications (4).

Figure 1 presents the respondents' level of education, highlights the community's educational background, and its implications for the local labor market. Most respondents have attained at least secondary education, but the lack of advanced qualifications or specialized certifications, such as TESDA National Certificates, reveals a significant gap between the skills available in the community and the demands of local industries. This finding underscores the need for targeted vocational training programs that focus on equipping the workforce with in-demand technical skills, such as welding, scaffolding, and pipefitting.

To strengthen the quantitative rigor of the findings, a chi-square test was conducted to explore the relationship between educational attainment and employment status (based on Figures 3 and 4). Results revealed a statistically significant association ($p < 0.05$), indicating that individuals with higher levels of education are more likely to be employed. This finding validates the claim that education—particularly technical and vocational training—is a key determinant of employability in Batangas City's local labor market.

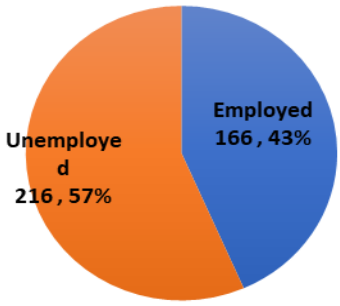


Fig. 2: Respondents' Employment Status.

Regarding the respondents' employment, 166 respondents or 43 % are employed, while a larger group of 216 or 57% are currently unemployed.

Figure 2 shows the employment status of respondents, which is equally important as it reveals that more than half of the surveyed population is unemployed. This high unemployment rate indicates a substantial opportunity gap in the local job market. The results emphasize the importance of employment interventions that not only focus on skill development but also on improving job matching and addressing barriers to employment. It further underscores the need for livelihood programs that align with the current job market demands to enhance employment prospects in the host communities.

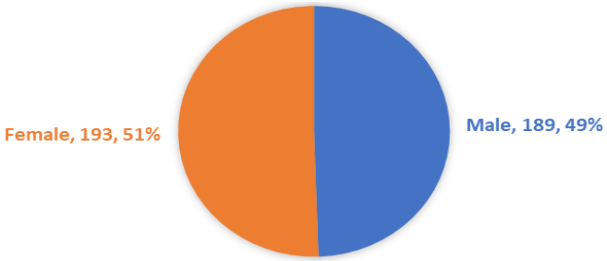


Fig. 3: Respondents' Sex Distribution.

Sex distribution among the respondents is relatively balanced, with 189 males, or 49%, and 193 females, or 51%, who participated in the survey. These demographic characteristics provide a foundational understanding of the population sample, allowing for a more detailed analysis of the subsequent data.

Figure 3 indicates a balanced sex ratio among respondents, reinforcing the relevance of designing inclusive programs that address the needs of both men and women in the local labor market. The figure implies that policies and training programs should be developed with consideration for gender-specific challenges, such as encouraging more women to pursue technical and skilled roles traditionally dominated by men, while also providing flexible work opportunities to support women with caregiving responsibilities.

The results reveal that community members' job preferences generally center on skilled, professional, and entrepreneurial roles. As highlighted in Table 8, "skilled jobs" refer to positions within job families such as welding, piping, instrumentation, and carpentry. These are the most desired occupations in the community, while "entrepreneurial jobs" refer to those who aspire to start their businesses or sell products, thus becoming their own bosses.

Based on the responses from residents across the host communities, there is evident demand for skilled and professional positions, especially in fields like welding, plumbing, instrumentation, engineering, and construction. Participants emphasized the need for training that would equip individuals with the necessary skills to secure employment, particularly in areas with established industries such as power plants and construction sites. However, some communities also express interest in livelihood opportunities such as fishing and small-scale entrepreneurship, demonstrating the diversity in job preferences. This suggests that while some community members prefer traditional work like fishing, others are focused on gaining technical skills for more professional positions. The community values practical, training-driven opportunities that provide immediate employment prospects, reflecting a collective desire for economic stability and livelihood improvement.

Table 8: Job Preferences of the Subject Community

Theme	Statements
Job Preferences (Skilled, Professional, livelihood, and small-scale entrepreneurship)	Host Community A "Based on the majority of people I talk to, they want to learn about welding, piping, instrumentation, and engineering jobs. I don't hear anything about agriculture—it's more about skilled and professional jobs." PARTICIPANT 1 "Livelihood and training programs that can provide income and help support families." PARTICIPANT 3

	"Something that makes it easier to find a job right after training, because it's really hard to apply to companies that require experience right away—how about those who are just starting?" PARTICIPANT 2 Host Community B "The most common job requests here are for skilled work, like welders, fitters, scaffolders—skilled workers in general." PARTICIPANT 1 "Because our area has power plants, most of the people here looking for jobs are skilled workers." PARTICIPANT 2 Host Community C "Our skilled workers here, if possible, prefer to work close to home." PARTICIPANT 1 "Many people here are TESDA graduates, or even if they're not, they have experience in fields like construction and instrumentation." PARTICIPANT 2 Host Community D "Fisherman." / "Scaffolder, Masonry." PARTICIPANT 1 "Vendor." / "Carpenter." PARTICIPANT 2 "Welder" PARTICIPANT 4 "Pipefitter" PARTICIPANT 5

As seen in Table 9, community members across all areas express frustration with job requirements that prioritize prior experience. There is a shared desire for government-supported opportunities that offer National Competency (NC) certifications, which would allow them to meet industry standards without needing years of prior experience. Another common aspiration is access to continuous training and education, enabling community members to improve their skills and remain competitive in the job market. Many are also open to relocating for employment, particularly in industries such as refineries, where jobs are often located outside their immediate area. Additionally, a willingness to work long hours is common, indicating a strong work ethic and resilience among the local workforce.

However, there is a collective expectation for compensation that aligns with the rising cost of living. Fair wages are seen as essential to sustaining livelihoods. Social networks and personal connections also play a crucial role in securing employment, with many job placements facilitated through these connections. These diverse perspectives reflect a balanced approach to employment, characterized by flexibility in job relocation and acceptance of overtime work, weighed against the expectation for fair compensation and opportunities for professional growth.

While the community values National Competency (NC) certifications and fair compensation, frustration over experience-based job requirements and the reliance on personal connections to secure employment highlight systemic barriers contributing to unemployment. Addressing these challenges will require policies that promote inclusive hiring practices and reduce the emphasis on experience in favor of training and certification.

Table 9: Community Job Expectations

Theme	Statements
Community Job Expectations (Government-offered opportunities based on National Competency (NC) certifications, training and education, decent wages, social network, and connections)	Host Community A "The problem is that employers immediately look for experience. But what about those government programs that claim it's easy to find a job as long as you have NC I or NC II?" PARTICIPANT 2 "Even if there's a job offer, if the salary isn't enough, they'll keep looking for something higher and decline the lower-paying ones." PARTICIPANT 4 "I'm expecting more training and education to broaden my knowledge." – Participant 1 "Even outside Batangas City, as long as there's an opportunity, they grab it—even if it means being far from their families." PARTICIPANTS 1 "They accept that. Even if they are far from their families, what's important is that they're earning rather than doing nothing." PARTICIPANT 2 Host Community B "Most of the people here are used to being relocated, so it's not a problem for us." PARTICIPANT 1 "If you're planning to build a refinery, you could already hire people from this community… everything needed in a refinery is already here, from the lowest to the highest roles." PARTICIPANT 1 "Most workers assigned to other places were relocated; they ended up there." PARTICIPANT 3 "Even if they work 12 hours a day, every day, it's okay with them." PARTICIPANT 2 Host Community C "Nowadays, the minimum wage isn't enough. Honestly, even if a person isn't a breadwinner, even if they're on their own, it still isn't sufficient. People have needs, and now the cost of living rises faster than wages." PARTICIPANT 1 "If you know someone inside, you'll get called immediately." PARTICIPANT 5 Host Community D "They want something that's enough to sustain their way of life." PARTICIPANT 2 "For example, the security agency hiring should source all their employees from here, so that the community truly benefits." PARTICIPANT 1 "There's no problem with the work itself. The only issue is the salary. If the pay is just the same, then what's the point?" PARTICIPANT 2

The responses in Table 10 highlight the consensus across host communities regarding the critical role of soft skills in the labor market. Participants recognize the importance of communication skills for effective interaction with colleagues, clients, and stakeholders. They emphasize the necessity of being able to think, decide, and adapt in various workplace situations, underscoring the significance of decision-making and adaptability. Additionally, time management and interpersonal skills are seen as essential for success, as participants stress the need to value time, make informed decisions, and interact effectively with others.

Despite acknowledging the importance of these skills, respondents are aware of the gap between the soft skills required by employers and those possessed by the community. This gap points to a need for further development and enhancement of soft skills among community members to improve their employability and prepare them for success in the labor market.

Table 10: Importance of Soft Skills in Batangas City's Labor Market

Theme	Statements
Soft skills (Communication, decision-making, adaptability, time management, interpersonal skills)	Host Community A "That's very important, because if you don't know how to speak to people..." PARTICIPANT 3 "Like in skilled jobs, they still need to think, decide, and communicate. Because if they don't know how, the outcome of their work won't be good." PARTICIPANT 1 Host Community B "Of course… that's important." PARTICIPANT 1 "One should also know how to listen and speak." PARTICIPANT 4 "Because times are changing fast nowadays, people should know how to adapt and get along with others." PARTICIPANT 2 Host Community C "It's important to know how to make decisions in different situations and to value time—that's why these [soft skills] are necessary." PARTICIPANT 3 "You should also know how to face and talk to people." SEVERAL PARTICIPANT Host Community D "That's very important." PARTICIPANT 1 "There are also problems that come up, like when foreigners are involved—you really need to be able to communicate with them..." PARTICIPANT 6

Figure 4 illustrates the significant gap in soft skills among community members, validating the claim about their critical role in the labor market. Soft skills are indispensable attributes that employers actively seek in potential candidates. A high number of respondents emphasized the importance of communication skills, which are essential for effective workplace interactions. Without clear and efficient communication, collaboration, problem-solving, and productivity suffer.

Additionally, responses highlighting time management, problem-solving, critical thinking, and adaptability underscore the importance of these skills in navigating the complexities of modern workplaces. These abilities are key to addressing challenges, seizing opportunities, and staying agile in dynamic environments, ultimately contributing to organizational success. The emphasis on active listening and customer service also reflects the growing recognition of the need to understand and meet clients' needs, fostering positive relationships, enhancing customer satisfaction, and maintaining a competitive edge. Furthermore, leadership and negotiation skills were also acknowledged as crucial, illustrating the value of individuals who can guide teams, resolve conflicts, and drive positive outcomes.

The data from the survey highlights the widespread recognition of soft skills' vital role in workforce success. However, the lack of these skills among job seekers poses a barrier to workforce readiness. Employers have repeatedly stressed the importance of soft skills, yet many candidates are underprepared. This finding calls for integrating soft skills development into both current and future training programs, ensuring that workers are not only technically proficient but also equipped to handle the interpersonal and professional challenges of the workplace.

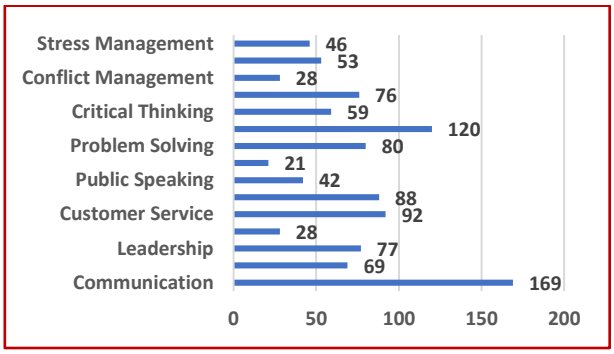


Fig. 4: Identified Soft Skills Lacking in the Labor Supply.

4.3. Emerging skills and technologies

In the local job market of Batangas City, emerging skills and technological proficiency are seen as essential for career advancement, as highlighted by responses from residents across the host communities. Participants emphasized the role of social media and technology in staying updated about new opportunities. In Host Community A, individuals use internet platforms, leveraging their English language skills and technology knowledge to engage with emerging trends. The convenience of accessing information through technology is improving work processes and efficiency. However, in Host Community B, there is an acknowledgment that while technology is helpful, it may not always be universally beneficial, reflecting disparities in access or use. This highlights the importance of early adoption and flexibility in utilizing technology, which is emphasized in the widespread influence of technology on daily life, especially among younger generations. In Host Community C, some participants aspire to careers in blogging and game development, which reflect the evolving opportunities influenced by technological advancements. Moreover, the shift to digital tools in education, such as PowerPoint presentations, underscores the growing relevance of technological proficiency across various fields. Host Community D also highlighted the importance of computer proficiency, with some professions requiring experience in technology. The high use of technology among young people further emphasizes its growing role in both professional and recreational settings, with many individuals relying on digital platforms for additional income.

These findings underscore the changing local job market, where expertise in emerging technologies is becoming increasingly crucial for success.

Table 11: Opportunities in Emerging Skills or Technologies in the Local Job Market

Theme	Statements
Opportunities in emerging skills or technologies (Willingness to engage in Social media, technology proficiency to improve English, and technology expertise)	Host Community A "Through social media… they are active and can already speak English. Where else would they learn that, if not from technology? That's where they learn, and it helps." PARTICIPANT 5 "Everything can now be searched. In other words, it has made work easier." PARTICIPANT 4 "The willingness is there; they are willing to learn for their advancement." PARTICIPANT 1 Host Community B "That's what our technology does—it makes things easier… but sometimes, with how we use technology, not everything is an advantage." PARTICIPANT 4 "Even young children, even at the age of 5, they already know how to use it—they've already adapted." PARTICIPANT 5 Host Community C "Many prefer to become bloggers. Like in call centers. And also those who develop games and then sell them." PARTICIPANT 1 "It's important. Like in school, instead of making your visual aids manually, you can just use PowerPoint." PARTICIPANT 2 Host Community D "You need to be knowledgeable in technology, in using computers. Sometimes, you even need to have experience." PARTICIPANT 1 "For us youth, we use technology a lot because this is the generation of young people. It even helps us earn on the side." PARTICIPANT 9

4.4. Adaptability and willingness to learn new skills

Table 12 demonstrates that community members across the host communities are adaptable and eager to learn new skills. In Host Community A, participants showed a willingness to acquire new knowledge and skills. In Host Community B, many actively engage in training sessions, emphasizing a proactive attitude toward skill enhancement. Additionally, there is recognition of the importance of certifications like NCII, signaling a commitment to meeting industry standards. In Host Community C, there is an understanding that diversified knowledge provides alternatives and opportunities, reflecting the value placed on continuous learning. In Host Community D, participants acknowledge the impact of training on personal growth, indicating a readiness to embrace change in response to new challenges and opportunities..

Table 12: Adaptability and Willingness to Learn New Skills in the Context of the Labor Market

Theme	Statements
Adaptability and willingness to learn new skills (Training, certification)	Host Community A "They are willing." PARTICIPANT 2 Host Community B "They are willing to attend trainings..."." PARTICIPANT 2 "Yes, it's necessary... what NCII means is that yes, you passed." PARTICIPANT 3 Host Community C "Yes. It's better to have more knowledge because even if you don't fit into one job, you have an alternative." PARTICIPANT 1 Host Community D "There are people who really change. There really are those who change because of training." PARTICIPANT 2

4.5. Challenges encountered by community members

As shown in Table 13, various challenges emerge across the host communities, with participants emphasizing unemployment, skills mismatches, low wages, and fear of interviews. In Host Community A, challenges such as housewives being unable to leave their homes due to childcare responsibilities highlight the need for flexible income-generating opportunities. Furthermore, participants noted instances where individuals, such as engineers, are forced to accept jobs outside their expertise, such as pipe fitting, reflecting a mismatch between available jobs and community skills. Additionally, the lack of training and knowledge among job seekers was identified as a barrier to employment.

In Host Community B, despite being qualified, some residents are deterred by low wages, further complicating their ability to secure stable employment. Fear of interviews also poses a significant barrier, signaling a need for programs that build confidence and interview skills. In Host Community C, participants expressed concerns about being pushed into jobs that don't align with their qualifications, leading to the underutilization of skills. This reinforces the importance of aligning job opportunities with community members' skillsets and aspirations.

Finally, in Host Community D, the focus on NCII certification emphasizes the need for industry-standard qualifications to access skilled job opportunities, while the prioritization of experience over qualifications further complicates entry into the labor market for those seeking entry-level positions or career transitions.

Table 13: Challenges Encountered by the Local Communities

Theme	Statements
Challenges encountered by local communities (Underqualified, lack of education, mismatched skills, low earnings, value of qualification, lack of experience)	Host Community A "Of course, there are housewives with young children who can't leave the house. They are asking for any source of income or small-time business, especially since most of them didn't finish their education." PARTICIPANT 1 "Some of our constituents, whom we know to be skilled, are forced to accept jobs outside their expertise, like someone working as a pipe fitter even though he's an engineer." PARTICIPANT 5 "The main problem is the unavailability of jobs and the lack of knowledge and training on the part of the applicants." PARTICIPANT 2 Host Community B "They're qualified for the position; it's just that the person refuses because the salary is low." PARTICIPANT 1 "Some are afraid of interviews." PARTICIPANT 3 Host Community C "For example, instead of getting a job related to what they studied, they end up working in a completely different field." PARTICIPANT 6 Host Community D "All skilled workers should have NC II certification." PARTICIPANT 8 "Sometimes, experience is prioritized. If you don't have experience, you won't get hired." SEVERAL PARTICIPANTS

The data provided in Figure 5, including responses on underqualification, discrimination, lack of educational requirements, and others, serves to reinforce the challenges outlined by community members. By quantifying the prevalence of these challenges, the survey results provide empirical evidence supporting the identified issues, thereby strengthening the analysis and interpretation of employment difficulties within the community.

Additionally, a Pearson correlation analysis between soft skill deficiencies (Figure 6) and employment mismatch indicators (Figure 7) showed a moderate negative correlation ($r = -0.47$). This suggests that as soft skill proficiency increases, the likelihood of job mismatch decreases. These results support the importance of integrating soft skills development into workforce training programs to improve labor market alignment.

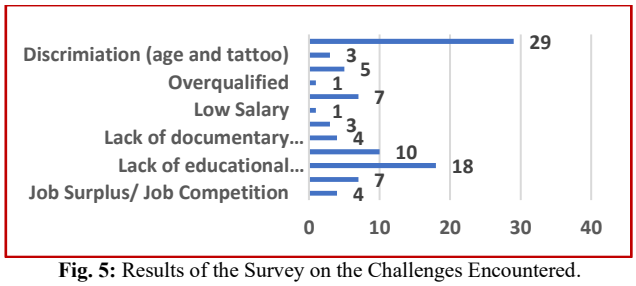


Fig. 5: Results of the Survey on the Challenges Encountered.

The responses from participants across the four host communities consistently highlight a significant gap in skills, experience, and qualifications that job seekers face when seeking employment, as shown in Table 14. In Host Community A, for example, housewives, unable to leave their homes due to childcare responsibilities, emphasize the need for alternative income-generating opportunities such as small-scale businesses. This suggests a gap in flexible employment opportunities that cater to individuals with caregiving responsibilities. In Host Community B, there is a recognized need for training, indicating that many residents lack the necessary skills to fill available jobs. Similarly, Host Communities C and D highlight the importance of training, experience, and certification in securing employment. Participants repeatedly stress that the shortage of qualified individuals, particularly in skilled positions, contributes to employment barriers.

These findings collectively indicate that the lack of essential skills and qualifications is a significant barrier to employment. To address this, there is a clear need for training programs and certification initiatives to help bridge the skills gap. Additionally, providing flexible work arrangements for individuals with caregiving responsibilities and promoting inclusive employment practices can help create more opportunities for diverse groups within the community.

Table 14: Job Seekers' Skill Gaps or Shortages of Necessary Skills and Qualifications in Seeking Employment

Theme	Statements
Job seekers' skill gaps or shortages (skills, training, experience, certification and qualifications)	Host Community A "Of course, there are housewives with young children who can't leave the house. They are asking for livelihood opportunities or small-scale businesses." PARTICIPANT 1 Host Community B "Well, what's needed again is training." PARTICIPANT 5 Host Community C "Training, experience, and certification." SEVERAL PARTICIPANTS Host Community D "Training for trade tests and certification." SEVERAL PARTICIPANTS

Table 15 shows that participants across all four host communities express a strong desire for livelihood programs and skills development opportunities. In Host Community A, participants propose the establishment of cooperative ventures such as soap production, which could be sold through local cooperatives, providing both income and a sense of community. Similarly, in Host Community B, there is interest in creating a training center to offer essential skills development programs, with suggestions for sewing and rag-making to diversify income sources. Host Community C also emphasizes the formation of cooperatives to stimulate economic growth through collective efforts in product manufacturing. Additionally, Host Community D suggests setting up a security agency to address local security needs, while also showing interest in livelihood programs focused on producing souvenirs that leverage local resources and creativity.

The responses across these communities indicate a shared commitment to improving livelihood opportunities through training and cooperative ventures that foster economic empowerment. These initiatives can help bridge the gap in qualifications, enhance employability, and contribute to long-term community development.

Table 15: Community Plan

Theme	Statements
Community Plan (livelihood opportunities, cooperative ventures, training programs)	Host Community A "But regarding livelihood, there's nothing yet. Yes, that's what we hope the chairman would initiate. In case they produce soap, it can be brought to the cooperative and sold—we're interested in that." PARTICIPANT 2 "Perhaps training." PARTICIPANT 3 Host Community B "Set up a training center here." PARTICIPANT 1 "Livelihood program, sewing, making rags." PARTICIPANT 2 "Cooperative—that would probably be good, so people can be more open-minded about such things." PARTICIPANT 5 Host Community C "For example, if you have five groups making different products, then that becomes the cooperative." PARTICIPANT 1 "Training program." PARTICIPANT 6 Host Community D "A security agency for the legitimate residents of the area." PARTICIPANT 1 "Livelihood, souvenir items." PARTICIPANT 3

4.6. Matrix of employment matching of the community

As shown in Table 16, the Employment Matching Matrix in Batangas City was developed through a systematic approach aimed at identifying the mismatch between available skills in the community and the skills demanded by local employers. The process began by identifying key job categories in high demand within local industries, such as skilled trades (e.g., welding, pipefitting, and instrumentation) and engineering roles. These positions were prioritized based on feedback from local employers who outlined the specific technical qualifications and soft skills required for each role. Technical skills, such as National Certifications from TESDA and trade tests, were considered essential for job matching, while soft skills like communication, decision-making, and adaptability were identified as equally important for success in the workplace.

To align the community's skill set with industry needs, the next step involved assessing the skills available within the community. This was done through surveys and Focus Group Discussions (FGDs) with community members, who reported on both their formal qualifications (e.g., certifications) and informal skills (e.g., hands-on experience in trades). The matrix then focused on matching technical qualifications to the job roles identified by employers, ensuring that individuals with the appropriate certifications were matched with corresponding opportunities. Soft skills were also integrated into the matrix, as they were found to be necessary for many of the roles employers sought to fill. Additionally, the matrix accounted for training gaps, highlighting the need for skills development programs such as technical training, soft skills workshops, and entrepreneurial training to equip community members with the required qualifications.

The matrix also incorporated the realities of local employment, such as the difficulty in matching overqualified individuals to available roles. This led to the inclusion of overqualified candidates in the matching process, particularly for entry-level positions where they may have to accept lower-level jobs temporarily until a suitable position opens. Certifications, such as the National Competency II (NCII), were emphasized as crucial in providing clear standards for employers when assessing candidates' qualifications. Moreover, the matrix was designed to reflect the flexibility of smaller organizations, where employers might be more open to hiring individuals with less formal education but who possess the necessary licenses or work experience.

Ultimately, the matrix was reviewed by both industry representatives and community leaders to ensure it accurately reflected the community's skills and the local labor market's demands. This iterative process of feedback and refinement ensured that the Employment Matching Matrix not only provided insights into current labor market gaps but also offered a practical tool for bridging these gaps through targeted training programs and policy recommendations aimed at enhancing employment outcomes for Batangas City's workforce.

Table 16: Matrix of Skills and Demand Matching in Batangas City

Indicator	Labor Supply Communities	Labor Demand Companies
Job Preferences	Skilled, Professional, livelihood, and small-scale entrepreneurship	Skilled Jobs and Engineering Job Family
Competencies	Technical Skills (National Certifications from TESDA, trade test, safety certifications) Soft Skills (Communication, decision-making, adaptability, time management, interpersonal skills)	Technical Skills (National Certifications from TESDA, trade test, safety certifications) Soft Skills (personality, attitudes)
Trainings	Technical Training Soft Skills Training Entrepreneurial Training Start-up Training	Technical Training Soft Skills Training
Challenges	Underqualified lack of education, mismatched skills low earnings value of qualification lack of experience	Unmet Qualifications as to Skills and Experience Job Opportunities Abroad Policies in the Community for Hiring

Cohesive Plan with Comprehensive Livelihood Programs for Possible Implementation by Energy Sector Corporation to Address the Labor Market Demand.

The prepared comprehensive plans that include livelihood programs for the host communities are in response to the changing dynamics of the labor market and the need to promote equitable economic development. This program seeks to empower people and communities by

utilizing the corporation's resources, experience, and strategic alliances. It recognizes the urgent need to satisfy labor market demands while encouraging sustainable socio-economic progress. This plan aims to address the short-term labor market demands while simultaneously laying the foundation for resilience and long-term prosperity by placing a high priority on innovation, skill development, and job creation. The energy sector corporation aims to significantly contribute to the advancement of good change and improved livelihood prospects for all stakeholders by using a proactive strategy based on empowerment and collaboration.

5. Conclusion

This study offers a comprehensive analysis of the labor market dynamics in Batangas City, with a particular focus on the alignment between the skills of the local workforce and the demands of key industries, especially in the energy and construction sectors. The findings underscore a critical demand for technical competencies, including welding, scaffolding, pipefitting, and instrumentation, alongside essential behavioral skills such as communication, safety awareness, and time management. Despite this clear demand, a significant mismatch remains between industry requirements and the existing qualifications of job seekers within the host communities.

By integrating both quantitative and qualitative data, the study identified key barriers to employment, including underqualification, limited access to training, and insufficient support for individuals with caregiving responsibilities. These findings emphasize the urgency of tailored interventions that are specifically designed to address the unique challenges faced by the local workforce.

In response, this research proposes a customized livelihood development plan for each host community, addressing the current labor market needs while fostering long-term socio-economic resilience. By focusing on skill development, certification opportunities, and inclusive livelihood programs, the proposed interventions are not just theoretical but provide actionable, practical solutions to close the workforce gap and enhance employability in the region.

Ultimately, this study contributes to the ongoing efforts to build a responsive and inclusive labor ecosystem in Batangas City. The recommendations offer a blueprint for collaborative action between industries, training institutions, and local government units. By ensuring that community members are well-equipped for employment, these collaborations will empower them to engage meaningfully in sustainable economic development, thereby driving the region's growth and enhancing the economic well-being of its residents.

5.1. Policy implications

To ensure that the findings of this study lead to meaningful, systemic change, several policy recommendations are proposed. First, a strong partnership between TESDA and local industries is crucial. This collaboration would enable the continuous updating of National Certificate (NC) modules to reflect emerging technologies and real-time labor demands. LGUs should act as coordinators to convene multi-stakeholder labor market committees that regularly assess employment trends and guide training programs accordingly.

Second, policies should prioritize flexible training opportunities for specific demographic groups such as housewives and caregivers. This includes offering community-based modular training and weekend or evening classes that accommodate non-traditional learners. The Barangay Development Council and local PESO offices can spearhead the identification and deployment of these initiatives at the grassroots level.

Third, there is a need for employment forecasting programs. LGUs, in collaboration with academic institutions and local industries, can use labor market data and models (such as the employment matching matrix proposed in this study) to anticipate skills shortages and guide strategic workforce planning. Through these mechanisms, policy can become more responsive and inclusive, ensuring long-term socio-economic development in rapidly industrializing communities like Batangas City.

5.2. Future research directions

This study opens several avenues for future research. One promising direction is to evaluate the effectiveness of digital platforms in delivering soft skills training to unemployed and underemployed individuals in semi-urban settings.

Another key research area involves assessing the cost-benefit implications of industry-sponsored training programs. Longitudinal studies tracking the employment outcomes of individuals who completed NC II certification programs would provide insight into the sustainability and return on investment of these interventions.

Finally, comparative studies involving other industrial hubs such as Calamba, Cebu, or General Santos could help test the generalizability of the employment matching matrix developed in this research. These comparative analyses could identify which contextual variables influence skill mismatches and what adaptive strategies are most effective across diverse regional economies.

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