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The relationship between the quality of the workforce and educational factors in Cibogo Village, Subang Regency

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ABSTRACT

This program examines the potential and challenges of Cibogo Village, Subang Regency's workforce during the Community Services Program (Kuliah Kerja Nyata or KKN) activities conducted by the Universitas Pendidikan Indonesia. Despite Cibogo Village having a significant workforce, particularly within the productive age range, disparities in the quality of the workforce are the primary focus. Data indicates that most of the workforce has only basic education, such as completing primary school or its equivalent, creating obstacles in meeting the demands of an increasingly developing industrial era. Additionally, there is an imbalance in job participation between men and women, with a significant number of women choosing to be homemakers. A descriptive approach with data collection through observation was used in this program. The results suggest the need for efforts to improve education and skills training to enhance the quality of the workforce in Cibogo Village. Furthermore, a deeper understanding of gender roles in job participation is essential to create equality and empowerment between men and women. Based on this, Cibogo Village can obtain an overview of its potential, mainly related to factors that can be of concern for improvement, especially in terms of gender equality, absorption of science and technology, and development of UMKMs.

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ABSTRAK

Program ini mengkaji potensi dan permasalahan angkatan kerja di Desa Cibogo, Kabupaten Subang saat kegiatan Kuliah Kerja Nyata (KKN) Universitas Pendidikan Indonesia berlangsung. Meskipun Desa Cibogo memiliki jumlah angkatan kerja yang signifikan, terutama dalam rentang usia produktif, perbedaan kualitas angkatan kerja menjadi sorotan utama. Data menunjukkan bahwa sebagian besar angkatan kerja hanya memiliki pendidikan dasar, seperti tamat SD atau setara, sehingga menciptakan hambatan dalam memenuhi tuntutan pekerjaan di era industri yang semakin berkembang. Selain itu, terdapat ketidakseimbangan dalam partisipasi pekerjaan antara laki-laki dan perempuan, di mana sebagian besar perempuan memilih untuk menjadi ibu rumah tangga. Pendekatan deskriptif dengan pengumpulan data melalui observasi digunakan pada kegiatan ini. Hasil menunjukkan bahwa perlu adanya upaya peningkatan pendidikan dan pelatihan keterampilan untuk meningkatkan kualitas angkatan kerja di Desa Cibogo. Selain itu, perlu pemahaman lebih mendalam terkait peran gender dalam partisipasi pekerjaan agar dapat menciptakan kesetaraan dan pemberdayaan antara laki-laki dan perempuan di dunia kerja. Berdasarkan hal tersebut Desa Cibogo dapat memperoleh gambaran potensi desa, utamanya berkaitan dengan faktor-faktor yang dapat menjadi perhatian untuk ditingkatkan, khususnya dari sisi penyetaraan gender, penyerapan IPTEK dan pengembangan UMKMs.

Kata Kunci: Angkatan kerja; faktor pendidikan; kuliah kerja nyata.

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INTRODUCTION

Indonesia possesses a substantial workforce, which could be a significant asset if accompanied by highly competent human resources. However, the reality, as revealed by FEB UGM in 2021, indicates that out of Indonesia's 135 million-strong workforce, approximately 90%—or around 120 million individuals—have never participated in certified skills training. Alarmingly, 16% of this 90% are young individuals aged 25 or below, and a stark 55% of these uncertified workers reside in urban areas (see: <https://feb.ugm.ac.id/id/berita/3475-90-angkatan-kerja-di-indonesia-belum-pernah-mengikuti-pelatihan-bersertifikat>).

Despite this, certification is crucial for adding value to these workers by demonstrating their specialized skills. Certification can significantly aid individuals in the competitive job market ([Jagannathan et al., 2019](#); [Zubaidi et al., 2020](#)). Naturally, those with specialized skill certifications are more likely to be sought after by employers and are more probable to secure better positions, thereby improving their overall welfare.

The current job market is facing intense competition, leading to a rising number of unemployed individuals as job opportunities fail to absorb all available workers. This situation was further exacerbated by the COVID-19 pandemic, which impacted every facet of society, including the workforce, resulting in numerous unilateral terminations and business closures.

According to data from the Central Statistics Agency (BPS) on November 5, 2021 (see: <https://jabar.bps.go.id/pressrelease/2021/11/05/902/tingkat-pengangguran-terbuka--tpt--jawa-barat-sebesar-9-82-persen.html>), and consistent with statements from West Java Governor Ridwan Kamil, West Java's total workforce reached 24.74 million people. Of this, 22.31 million (approximately 90.18%) were employed, while 2.43 million (about 9.82%) remained unemployed.

A breakdown of the unemployed workforce by age group reveals: 15-19 years old: 426,022 unemployed, with an Open Unemployment Rate (OUR) of 38.80%; 20-24 years old: 695,382 unemployed, with an OUR of 23.77%; 25-29 years old: 407,090 unemployed, with an OUR of 13.38%; 30-34 years old: 226,356 unemployed, with an OUR of 7.62%; 35-39 years old: 168,443 unemployed, with an OUR of 5.74%; 40-44 years old: 134,218 unemployed, with an OUR of 4.78%; 45-49 years old: 134,769 unemployed, with an OUR of 5.13%; 50-54 years old: 72,382 unemployed, with an OUR of 3.30%; 55-59 years old: 60,411 unemployed, with an OUR of 3.65%; 60 years and above: 105,074 unemployed, with an OUR of 4.22%. While the percentages for older age groups may seem small, the total of 2.43 million unemployed individuals is substantial and represents an increase from the previous year.

Furthermore, in Subang, data from the West Java Provincial Central Statistics Agency in 2021 shows that out of 763,589 residents aged over 15 who were part of the labor force and employed, 82,673 individuals were classified as openly unemployed. This means approximately 9.77% of Subang's productive-age population was unemployed.

The issue of workforce quality is also pertinent in Cibogo, Subang. Despite being designated as an industrial area, not all available labor is absorbed. There are many other intriguing aspects to explore concerning the workforce in Cibogo Village, ranging from the total number of workers and their quality to the factors influencing the quality of the workforce.

Literature Review

Unemployment Rate

A high unemployment rate can be attributed to several factors, with education level being a significant one. The Indonesian workforce is predominantly comprised of individuals with only a basic education (Adriani & Yustini, 2021; Masturnin, 2022). In 2015, the proportion of the workforce in Indonesia with an elementary school education or lower was 44.27%. This proportion is considerably higher compared to several other ASEAN countries, such as Singapore (19.8%), Malaysia (36.3%), the Philippines (37.1%), and Thailand (56.7%).

In West Java itself, according to data from the West Java Provincial Central Statistics Agency (2021) (see: <https://jabar.bps.go.id/indicator/6/91/1/penduduk-jawa-barat-berumur-15-tahun-ke-atas-menurut-jenis-kegiatan-selama-seminggu-yang-lalu.html>), among the total workforce of 9,116,956 residents aged 15 and above by highest completed education and activity in the past week, Elementary school or lower education: 6.07% Open Unemployment Rate; Junior high school education: 9.53% Open Unemployment Rate; Senior high school (General) education: 13.51% Open Unemployment Rate; Senior high school (Vocational) education: 16.71% Open Unemployment Rate; Diploma I/II/III/Academy/University education: 7.02% Open Unemployment Rate.

The level of education significantly impacts the quality of the resulting workforce. The high proportion of the workforce with only an elementary school education or lower means that the productivity growth of the Indonesian workforce is not as rapid as that of other ASEAN countries (Adam & Negara, 2015; Wibowo, 2019). Furthermore, non-formal education, such as skills training, is also crucial for increasing the “market value” of the workforce in an increasingly competitive job search environment.

Data from the Central Statistics Agency indicates a notably significant proportion: 12.65% of the workforce with a Vocational High School (SMK) background are still unemployed, with only 9.44% of this group currently employed (see: <https://www.bps.go.id/id/pressrelease/2021/05/05/1815/februari-2021-tingkat-pengangguran-terbuka--tpt--sebesar-6-26-persen.html>). According to Lyu *et al.* (2019) unemployment is a problem in every region, not just rural areas but also urban areas. Another point to consider is that when the workforce has a low educational background and lacks specialized skills, opportunities for higher-level positions are often limited to basic roles, such as manual laborers. The quality of the workforce must be given greater attention to further improve the quality of community life (Fulmer *et al.*, 2021; Palange & Dhatrik, 2021). This requires not only government action but also significant public awareness.

Workforce and Labor Force

The term workforce refers to the population aged 15 to 64 years old, encompassing individuals who are already employed, those actively seeking employment, and even those unable to work due to other commitments such as attending school, pursuing higher education, or engaging in household duties. Based on this definition, the workforce can be broadly categorized into two groups: the labor force and the non-labor force.

The labor force comprises that portion of the working-age population capable of working, whether they are currently employed, unemployed but seeking work, or preparing to enter the workforce (Eichhorst *et al.*, 2020; Hoggness, 2020). Conversely, the non-labor force includes individuals within the 15-64 age bracket who cannot perform work because they are engaged in other activities, such as managing a household or continuing their education (Andrew *et al.*, 2022; Dvouletý, 2019).

The workforce is a driving force of the economy. If adequately supported by sufficient job opportunities, high-quality education, and individual skills, it will undoubtedly lead to increased regional income, which in turn enhances community welfare. This is because the population serves as both the subject and object of development. The progress of a nation's development hinges on the quality of its populace acting as the subject, and the success or failure of the development process (Dwyer, 2023). Progress ultimately impacts the population itself, which is the object of development; if successful, the quality of life for the community will also improve, and vice versa.

METHODS

The descriptive method is an approach aimed at describing or explaining a phenomenon or event in a detailed and systematic manner. In this method, the community service team collects data on observed variables directly to understand the distribution of workforce quality at the implementation site. Data collection techniques in the descriptive method involve observation, interviews, and documentation studies to obtain a comprehensive overview of a phenomenon (Muzari *et al.*, 2022).

According to Al-Ababneh (2020), data analysis in the descriptive method involves describing the characteristics, relationships, or patterns emerging from the collected data. These findings serve as the basis for Cibogo Village to illustrate its potential by examining the demographic distribution of its labor force.

RESULTS AND DISCUSSION

Results

Workforce and Labor Force in Cibogo Village

Table 1. Population and Workforce of Cibogo Village

Year	Information	Male	Female	Amount
2021	Total population	5.313	6.137	11.450
2022	Working Age Population 18-56	4.035	4.933	9.028

Source: Service, 2022

Based on the data from **Table 1**, which we obtained from the village authorities, a comprehensive survey completed on June 15, 2022, revealed that there are 9,028 individuals within the working age range (18 to 56 years old). This figure includes 4,035 males and 4,933 females. It is evident from this data that the number of working-age female residents significantly outnumbers males.

The same data also shows that the total population of Cibogo Village surveyed in 2021 was 11,450 people, with 5,313 males and 6,137 females. This allows us to conclude that a substantial portion of Cibogo Village's population is within their productive age. Similarly, when comparing by gender, both males and females individually constitute more than half of their respective total populations in the productive age group.

This demographic structure could positively impact regional income if it is matched by the availability of sufficient job opportunities. However, this large productive population could become problematic if continuous growth is not accompanied by job creation, as community welfare would stagnate. Conversely, it would exacerbate poverty if the labor force is not adequately absorbed, leading to an increase in unemployment within the village.

Table 2. List of Community Absorption Levels in Cibogo Village

Date	Total Working Age	Working Age Who Become Housewives	Working Age Full Time Employment	Working Age Who Work Uncertainly
23/05/2022	Total population	5.313	6.137	384

Source: Service, 2022

Based on the data we obtained from **Table 2**, it is evident that not all productive-age residents are employed. Data collected by the Cibogo Village government on May 25, 2022, shows that only 5,762 residents have full-time employment, 384 have irregular work, and 2,562 women choose to be homemakers.

What stands out is that out of 4,933 women entering the working age, more than half opt to be homemakers. This highlights the prevailing mindset that a woman's primary role is to manage the household, seemingly limiting their opportunities for employment and higher education. Women who work or pursue higher education are sometimes viewed as defying societal norms or engaging in futile endeavors, as some believe women will ultimately end up in the kitchen. Nevertheless, this traditional paradigm is challenged by the realities on the ground, particularly the phenomena observed in industrial areas, including Cibogo Village.

Cibogo Village is part of an industrial zone in Subang Regency. An industrial zone is essentially an area designated for factories and supporting infrastructure for production. This is bolstered by Cibogo Village's strategic location, being relatively close to the city center, which ensures easy transportation with daily public transport access. Furthermore, there is ample land available for industrial development, and residential areas are conveniently located near the production sites. Several factories already operate in Cibogo, with PT. Taekwang being one of the largest. As noted by local village officials, Cibogo's presence within an industrial zone offers distinct advantages, such as a designated quota of jobs exclusively for Cibogo residents, which helps absorb the local workforce and reduce unemployment. However, it is acknowledged that most of the absorbed labor is at the manual worker level, primarily due to the limited skills and lower educational attainment of the local community. Additionally, the presence of factories has created business opportunities for residents selling goods around these sites, as well as for those who convert their buildings into boarding houses and similar accommodations.

However, not all available labor can be absorbed by the factories, and the demand is predominantly for female workers, leading to an imbalance and a shift in traditional gender roles. Contrary to societal paradigms, it is now often the reverse, where women are employed while men manage household tasks. Even women who choose to be homemakers often don't solely focus on household duties; some operate Micro, Small, and Medium Enterprises (UMKM) from home, supplementing their daily income.

Beyond the positive impact of workforce absorption, there are also noticeable negative consequences. These include the conversion of significant agricultural land into industrial sites, leading to environmental disruption, pollution, and shifts in community social behavior. Furthermore, the area frequently experiences traffic congestion, especially during factory break times or dismissal hours, which inevitably causes inconvenience.

Factors Influencing Workforce Quality

Cibogo Village has a total population of 11,450. Of this, 9,028 individuals are part of the workforce, also known as the labor force, which comprises individuals actively involved or seeking involvement in economic activities. Individuals are categorized as part of the labor force if their main activity in the preceding week was working (K) for at least one hour, or if they were seeking or had not yet found work (MP) within one hour in the previous week. This gives us the labor force identity equation: $AK = K + MP$.

Therefore, AK = 5,762 + 384

AK = 6,146

This formulation of the labor force is known as labor supply, representing the supply side. There is also the term labor demand for those who are employed and thus fall under demand. Hence, the total labor supply and demand in Cibogo Village is 6,146 individuals.

Given the overall population, this figure suggests that Cibogo Village has a relatively high labor force participation rate. However, a survey conducted by the community service team revealed that the quality of the labor force in Cibogo Village is considerably low when educational attainment is considered as a criterion. Human resource development is crucial when education plays such a significant role. Through education, individuals can acquire knowledge about effective work practices and make informed decisions related to their jobs. Thus, education not only directly enhances individual capabilities but also serves as a foundation for self-development (Haleem et al., 2022; Kuzminov et al., 2019). Furthermore, Febianti et al. (2023) argue that a higher level of education leads to improved performance and productivity, a concept known as “working capacity.” Education can be gained not only through formal schooling but also through non-formal channels.

From **Table 1** there is a discrepancy in the quality of the male workforce: out of 4,035 males, there is a difference of 3,598 individuals when considering quality. Similarly, for the female workforce, only 494 individuals are considered to have a quality workforce, compared to the total female workforce of 4,933, resulting in a difference of 4,439 individuals. This indicates a significant disparity in the quality of the labor force in Cibogo Village. These figures are based on the educational attainment of Cibogo Village residents. Moreover, the education level of the workforce is a crucial indicator of performance quality for every worker (Varshney & Varshney, 2020; Wijaya et al., 2021).

The low quality of the workforce is attributed to the minimal application of science and technology (IPTEK) in the production of goods and services, especially within Micro, Small, and Medium Enterprises (UMKM) in Cibogo Village. Consequently, the competitiveness of locally produced goods and services, in terms of both quality and quantity, remains low. This aligns with Tomasik et al. (2021), who state that an individual’s income can increase with improved education. In other words, higher education levels lead to greater earning potential. Beyond education, skills are equally important for the labor force. While foundational workforce quality emphasizes education, the job market increasingly prioritizes skills in developing competence, performance, and productivity (Škrinjarčić, 2022).

Therefore, collaboration between relevant institutions and the community is essential. To enhance the skills of the workforce in Cibogo Village, the village government has established a platform to foster the creativity of both the workforce and the wider community. Specifically, the Cibogo Village Government created an UMKM community called “Sentral UKM Desaku” (My Village’s SME Center). This UMKM community is expected to provide an opportunity for the workforce to train their skills and abilities, hopefully meeting workforce qualifications and ultimately transitioning from labor force status to employed members of society.

Considering the workforce quality outlined in **Table 3**, it is clear that education and skills are investments for the community. Education serves as capital that can influence employment and income. Similarly, skills go hand-in-hand as a supporting factor to education, becoming an investment in business capital.

Table 3. List of Education Levels of Cibogo Village Residents

Year	Number of Residents with Elementary School/Equivalent Education Completed	Number of Residents with Junior High School/Equivalent Education Completed	Number of Residents with High School/Equivalent Education Completed	Number of Residents with a Bachelor's Degree Completed	Number of Residents with a Master's Degree
2022	223	134	805	10	2

Source: Service, 2022

Based on the data in **Table 3**, the highest number of individuals in the 2022 labor force, when categorized by education level, are those who completed SMA/equivalent education, totaling 805 people. These individuals from Cibogo Village are considered part of the workforce. When further categorized by their quality, these 805 individuals can fall into three types: skilled labor, trained labor, and unskilled/untrained labor.

Skilled labor refers to individuals possessing expertise or abilities acquired through formal and non-formal education (Kalenda *et al.*, 2022). Trained labor encompasses individuals with competence and work experience in specific fields, gained through repeated practical training. Conversely, unskilled or untrained labor refers to individuals who perform work primarily relying on physical strength without formal education or specialized training, such as manual laborers or porters.

Referring to this theory, the 805 individuals who completed SMA/equivalent education, who are part of the labor force, could potentially be skilled, trained, or neither. This discrepancy is precisely why the quantity of the labor force does not always align with the available job opportunities. Thus, it can be concluded that education is closely linked to the quality of the labor force in Cibogo Village.

Discussion

Based on the collected data, Cibogo Village possesses a considerable workforce potential, particularly within the productive age range of 18 to 56 years. However, a significant disparity exists in the quality of this workforce, primarily when assessed by education level. While the total number of individuals in the labor force is quite high, many only possess a basic education, such as elementary school completion or its equivalent. This low educational attainment presents a barrier to meeting the demands of an increasingly developing industrial era (Jones *et al.*, 2021; Li, 2020; Stentoft *et al.*, 2021). Furthermore, it is observed that a substantial number of working-age women in Cibogo Village opt to become homemakers, creating an imbalance in labor participation between men and women. Cultural factors and traditional gender role perceptions likely influence these choices.

Within the context of Cibogo Village's industrial area, the presence of factories, such as PT. Taekwang, positively contributes to workforce absorption and the overall village economy. Nevertheless, it is crucial to note that the majority of absorbed workers are at the manual labor level, while the demand for higher skills and education continues to grow. The community needs to be encouraged to enhance their education and skills to compete effectively in an increasingly complex job market (Ellitan, 2020; Hameed & Irfan, 2019; Hang, 2021). Additionally, negative impacts such as environmental changes and traffic congestion must be managed judiciously to ensure sustainable economic development and comprehensive community well-being.

CONCLUSION

Based on the results and discussion above, we can conclude that the workforce comprises individuals aged 15 to 64 years who are of working age and are able to work. The workforce is categorized into two main types: the labor force and the non-labor force. The labor force includes productive-age individuals who are either employed, actively seeking employment, or those who are unable to work but still considered within the labor force. Conversely, the non-labor force refers to individuals outside the working-age bracket. Additionally, the workforce can be classified by quality: skilled, trained, or unskilled/untrained labor.

From the descriptive analysis conducted by the community service team, it's evident that education is directly linked to workforce quality. This is supported by the collected data, which shows that 805 residents completed SMA/equivalent education. Furthermore, the data on workforce quality for males (437 individuals) and females (494 individuals) reveals a significant disparity compared to the total available labor force.

Consequently, the quality of the workforce, particularly in terms of education, hinges on the adoption of science and technology (IPTEK) in the production of goods and services, especially within Micro, Small, and Medium Enterprises (UMKM) in Cibogo Village. This understanding provides Cibogo Village with a clear picture of its potential, highlighting key areas for improvement, specifically concerning gender equality, IPTEK absorption, and UMKM development.

AUTHOR'S NOTE

Penulis menyatakan bahwa tidak ada konflik kepentingan terkait publikasi artikel ini. Penulis menegaskan bahwa data dan isi artikel bebas dari plagiarisme.

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