Inclusive Productivity: Engaging the Youth

Dr. Akira Murata

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Asian Productivity Organization

The Asian Productivity Organization (APO) is an intergovernmental organization that promotes productivity as a key enabler for socioeconomic development and organizational and enterprise growth. It promotes productivity improvement tools, techniques, and methodologies; supports the National Productivity Organizations of its members; conducts research on productivity trends; and disseminates productivity information, analyses, and data. The APO was established in 1961 and comprises 21 members.

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Inclusive Productivity: Engaging the Youth

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PREFACE

The P-Insights, short for "Productivity Insights," is an extension of the Productivity Talk (P-Talk) series, which is a flagship program under the APO Secretariat's digital information initiative. Born out of both necessity and creativity under the prolonged COVID-19 pandemic, the interactive, livestreamed P-Talks bring practitioners, experts, policymakers, and ordinary citizens from all walks of life with a passion for productivity to share their experience, views, and practical tips on productivity improvement.

With speakers from every corner of the world, the P-Talks effectively convey productivity information to APO member countries and beyond. However, it was recognized that many of the P-Talk speakers had much more to offer beyond the 60-minute presentations and Q&A sessions that are the hallmarks of the series. To take full advantage of their broad knowledge and expertise, some were invited to elaborate on their P-Talks, resulting in this publication. It is hoped that the P-Insights will give readers a deeper understanding of the practices and applications of productivity as they are evolving during the pandemic and being adapted to meet different needs in the anticipated new normal.

INTRODUCTION

Young people are vulnerable in the labor market as many of them lack the skills, work experience, job-search abilities, and financial resources to find employment. Under the past global financial and economic crises that began in 2007, the number of young unemployed increased globally by 6.6 million between 2008 and 2009 [1]. With the spread of COVID-19, the state of youth employment deteriorated globally more than that of other age-groups [2].

According to world demographic statistics reported by the UN [3], it was estimated that 58.9% of the world's youth resided in Asia in 2020. That percentage is expected to be 55.6% in 2030. Young workers were hit hard by COVID-19 in all areas. The International Labour Organization (ILO) estimated that there was a loss of young employment of 8.7% as opposed to 3.7% of adults [4]. Many vulnerable young people in the labor market generally do not lose their jobs but drop out of the workforce or delay entering the labor market. Most vulnerable youth are thus in a state of inactivity in the labor market. Nevertheless, the crisis has worsened the link between youth and the job market [5]. As the vulnerability of global youth employment increases, it is urgent to reengage young people in the labor force.

Productivity is an important measure of the economic performance of companies and countries. Increasing public productivity ultimately leads to higher workers' wages. By doing so, it will be possible to raise the standard of living for households to purchase all kinds of goods and services. Increasing productivity can also help companies improve their profitability [6].

According to the UN [3], the Asian region is estimated to maintain an economic market of half the world's population for at least the next 30 years. In this region, however, national demographic profiles differ. Some countries face aging societies and are struggling with population onuses, while other economies have been enjoying population bonuses. In terms of increasing youth employability, inclusiveness and productivity are among the most important challenges that we must deal with. With the lessons learned from past economic development, once a country's per capita GDP increases (that is, economic development), a youth bulge is a common phenomenon in many

developing countries at the early stage of development when success is achieved in reducing infant mortality, but women still have high fertility rates. In Asia, India and Bangladesh have undergone rapid demographic changes in recent decades, and Pakistan is chasing these countries slowly. Some argued that demographic changes in Bangladesh, India, and Pakistan from 1990 to 2040 would be slightly dominated by changes in fertility transitions and mortality rates, and the impact of migrants on demographics could be largely negligible in all three countries [7]. As a result, most of the population of these Asian countries consists of children and young adults, and today's children will be the young adults of tomorrow.

In many APO member economies, the growth of labor productivity fluctuates. Some countries like India and Vietnam have been maintaining continuous growth of labor productivity over time [8]. Engaging the youth to increase available labor is important in many APO member countries, particularly where the economies are facing a youth bulge. However, the situation is not simple. Some APO members have already faced aging societies, where the share of the population aged 65 or over exceeds 14%, for example, Japan, the Republic of Korea (ROK), Singapore, and Thailand [9]. An aged economy must aim to improve labor productivity while maintaining the inclusiveness of young people for sustainable development. With aging populations, the pursuit of inclusive productivity can be a major challenge for many APO economies in the future.

This paper introduces effective policy initiatives to enhance youth participation in productive economic activities. Highlights include equipping young people with skills matching labor market needs, creating a socioeconomic environment to increase youth's employability, and the roles of government, industry, and academia in facilitating school-to-work transitions and new industrial skill training.

The structure of this paper is as follows. Section 2 examines two factors influencing inclusive productivity: quantity of labor; and quality of labor. In section 3, some of the latest good practices for improving the volume of youth employment in Japan are introduced. Based on those good Japanese practices for improving the volume of youth employment, three policy initiatives are derived, which are explained in Section 4. Finally, Section 5 gives a summary and conclusion.

TWO FACTORS INFLUENCING INCLUSIVE PRODUCTIVITY

This paper examines two factors influencing inclusive productivity: quantity of labor; and quality of labor. The quantity factor is related to inclusion of the youth, and the quality aspect denotes labor productivity, for example, the skill levels and educational achievements of labor.

Quantity of Youth Labor

In terms of the quantity of youth labor, inclusion is a key word. The unemployment rate in developing countries is usually low because most young people will take any job, regardless of pay or working conditions. Table 1 shows the total and youth unemployment rates in APO member countries in 2020. The youth unemployment rate is the lowest in Cambodia. According to the OECD Development Centre [10], many young people moved out of agriculture jobs into the service and sales sectors. On the other hand, I.R. Iran and Turkiye have been struggling with higher unemployment rates regardless of age-group.

TABLE 1

TOTAL AND YOUTH UNEMPLOYMENT RATES IN APO MEMBERS, 2020 (%).

Country	Total	Youth
Bangladesh	5.41	14.77
Cambodia	0.33	0.77
ROC	3.80	11.60
Fiji	4.72	16.32
Hong Kong	5.83	15.50
India	8.00	24.90
Indonesia	4.28	14.53

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Country	Total	Youth
I.R. Iran	12.17	28.52
Japan	2.80	4.64
ROK	3.93	10.15
Lao PDR	1.03	2.62
Malaysia	4.50	14.03
Mongolia	7.01	17.65
Nepal	4.72	8.09
Pakistan	4.30	9.21
Philippines	2.52	7.06
Singapore	4.10	10.58
Sri Lanka	5.88	25.53
Thailand	1.10	5.23
Turkiye	13.11	24.55
Vietnam	2.39	7.29

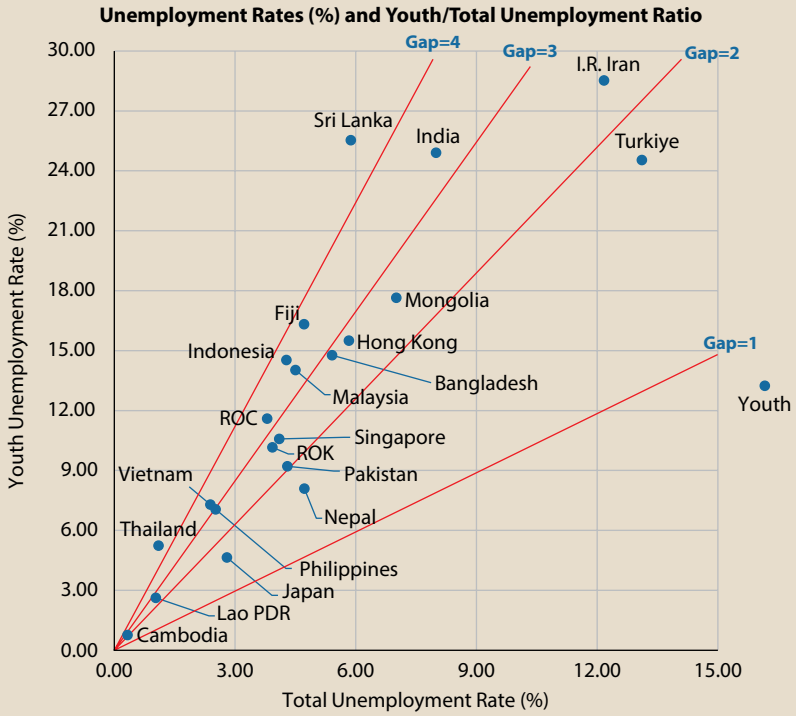
Sources: Reproduced with permission from the World Bank [11] (last updated 15 February 2022); for the ROC, from the ILO [2] (https://ilostat.ilo.org).
Notes: Unemployment, total = % of total labor force (modeled ILO estimate).
Unemployment, youth total = % of total labor force ages 15–24 (modeled ILO estimate).

The seriousness of youth unemployment varies from country to country. Figure 1 compares the youth unemployment rates and total unemployment rates in APO members. The four red lines depicted in this figure show the level of the unemployment gap between youth and the whole and were obtained by dividing the youth unemployment rate by the overall unemployment rate. Youth unemployment has been more serious in India and Sri Lanka, where the rate is more than four times the total.

In all APO members, youth unemployment rates were found to be higher than total ones. Young people are vulnerable to unemployment due to a lack of skills and experience. The recent fall in economic activity due to the

FIGURE 1

UNEMPLOYMENT GAPS BETWEEN YOUTH AND TOTAL UNEMPLOYMENT RATES IN APO MEMBERS, 2020 (%).



Sources: Reproduced with permission from the World Development Bank [14] (last updated 15 February 2022); for the ROC, from the ILO [2] (https://ilostat.ilo.org).
Notes: Unemployment, total = % of total labor force (modeled ILO estimate). Unemployment, youth total = % of total labor force ages 15–24 (modeled ILO estimate).

COVID-19 pandemic has impacted youth employment. Many young workers may be shifting from formal to informal jobs. The ILO and ADB [12] estimated youth unemployment rates in 2020 for selected Asian economies, which included 13 APO members. The results are based on the estimated impact of COVID-19 on sectoral output for each country, regardless of the timing of spread, using two scenarios: one in which COVID-19 spread within three months and the other within six months. The youth unemployment rates were estimated to be far worse in all 13 countries from 2019 to 2020 (Table 2).

TABLE 2

ESTIMATED YOUTH UNEMPLOYMENT RATES FOR 13 APO MEMBERS, 2020 (%).

Country	Youth Unemployment Rate 2019 (%)	Youth Unemployment Rate 2020 (%)	
		Within 3 months spread of COVID-19	Within 6 months spread of COVID-19
Bangladesh	11.9	20.5	24.8
Cambodia	1.1	9.4	13.1
Fiji	14.8	29.8	36.8
India	23.3	29.5	32.5
Indonesia	17	22.7	25.5
Lao PDR	1.7	2.4	2.7
Mongolia	25.3	28.5	30.4
Nepal	2.3	4.8	6.1
Pakistan	8.9	17.3	21.5
Philippines	6.8	15.1	19.5
Sri Lanka	21.1	32.5	37.8
Thailand	4.2	16.4	22.1
Vietnam	6.9	10.8	13.2

Sources: Reproduced with permission from ADB estimates using ILO data [2] and ADB Multiregional Input–Output Tables [12].
Note: The data for the remaining eight APO member countries were not estimated by the ADB.

For further analysis, changes in the gap between youth unemployment and total unemployment at two time points, 1991 and 2019, are shown in Table 3. Figures in the fourth column show the gap in 1991. The next three columns show the rates in 2019, and the far-right column represents the amount of change between 1991 and 2019. In this table, countries are listed in alphabetical order (Table 3). Japan, the ROK, and Turkiye showed the only positive changes in the unemployment gap. This means that youth unemployment in these three countries improved quantitatively during the selected period. Meanwhile, youth unemployment in other countries deteriorated over time. Although its overall unemployment rate was low, Thailand's unemployment gap was among the most exacerbated, which might lead to the frustration of many young people due to unfairness.

TABLE 3

GAPS BETWEEN YOUTH AND TOTAL UNEMPLOYMENT RATES IN APO MEMBERS, 1991–2019.

Country	1991			2019			1991-2019
	Youth	Total	Youth/ Total Ratio	Youth	Total	Youth/ Total Ratio	Change in Ratio
Bangladesh	5.45	2.20	2.48	12.69	4.44	2.86	–0.38
Cambodia	1.90	0.73	2.60	0.43	0.15	2.91	–0.31
ROC	4.60	1.50	3.07	11.90	3.70	3.22	–0.15
Fiji	9.10	4.06	2.24	15.66	4.45	3.52	–1.28
Hong Kong	4.18	1.80	2.32	8.54	2.93	2.91	–0.59
India	15.47	5.60	2.76	22.74	5.27	4.32	–1.55
Indonesia	7.67	2.62	2.93	13.36	3.62	3.69	–0.76
I.R. Iran	21.86	11.10	1.97	25.81	10.74	2.40	–0.43
Japan	4.49	2.10	2.14	3.90	2.40	1.62	0.51
ROK	7.13	2.41	2.96	9.86	3.75	2.63	0.33
Lao PDR	5.87	2.53	2.32	2.27	0.85	2.66	–0.34
Malaysia	10.58	3.65	2.90	11.21	3.26	3.44	–0.54
Mongolia	11.08	6.39	1.73	16.42	5.44	3.02	–1.28
Nepal	3.20	1.77	1.81	5.95	3.10	1.92	–0.11
Pakistan	1.47	0.62	2.38	7.88	3.54	2.23	0.16
Philippines	9.15	3.78	2.42	6.78	2.24	3.03	–0.61
Singapore	3.92	2.18	1.80	7.68	3.10	2.48	–0.68
Sri Lanka	36.86	14.66	2.51	21.26	4.35	4.89	–2.37
Thailand	5.19	2.63	1.97	4.28	0.72	5.94	–3.96
Turkiye	15.41	8.21	1.88	24.71	13.67	1.81	0.07
Vietnam	4.30	2.09	2.05	6.74	2.04	3.30	–1.25

Sources: Reproduced with permission from the World Bank [11] (last updated 15 February 2022; for the ROC, from the ILO [2] (https://ilostat.ilo.org).
Notes: Unemployment, total = % of total labor force (modeled ILO estimate). Unemployment, youth total = % of total labor force ages 15–24 (modeled ILO estimate).

Quality of Youth Labor

We may wonder whether productivity levels can increase more for adults than for young people, since adults have acquired more skills and experience. Some previous research considered whether productivity declines with age. Other studies examined whether population aging harms economic growth. Using a big data set on German service-sector companies, Börsch-Supan et al. [13] found no decline in average productivity in the age range of 20–60 years. However, the age–productivity profile increased in all age-groups as tasks became more intellectually demanding. On the other hand, it declined for basic routine tasks. Moreover, using the data on 2,710 full-time workers, Lee et al. [14] found that the decline in productivity due to the aging of workers could be mitigated by promoting vocational training to acquire appropriate ICT skills. In addition, high-level educated workers and skilled workers can be more productive than younger workers. The research evidence on age–productivity profiles cannot often be conclusive as it is hard to measure all aspects of human resources development, including skills and experience. This paper assumes that the age–productivity profile averaged over all tasks is flat when examining the quality of youth labor. Therefore, the quality of young people's labor can be defined as labor productivity per worker.

Table 4 shows the per-worker labor productivity in APO member countries in the selected two years, 1991 and 2019. In this table, countries are listed alphabetically. Figures in the second column from the left show labor productivity per worker in 1991, while the third column represents that in 2019. Productivity improvement is an important issue in any country, including both aging societies and those with youth bulges. From the results in Table 4, per-worker labor productivity in India increased by more than four-fold, and it improved from 3.91 in 1991 to 16.53 in 2019. Vietnam had the second-highest growth rate, with per-worker labor productivity rising from 3.55 in 1991 to 13.33 in 2019.

TABLE 4

PER-WORKER LABOR PRODUCTIVITY IN APO MEMBERS, 1991–2019 (THOUSAND USD).

Country	1991	2019	2019/1991 Ratio
Bangladesh	4.24	10.84	2.56
Cambodia	3.29	7.29	2.22
ROC	39.3	104.11	2.65

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Fiji	21.5	29.52	1.37
Hong Kong	61.96	117.69	1.90
India	3.91	16.53	4.23
Indonesia	11.67	24.63	2.11
I.R. Iran	37.01	51.88	1.40
Japan	65.84	78.95	1.20
ROK	29.31	76.07	2.60
Lao PDR	6.12	14.72	2.41
Malaysia	26.8	56.94	2.12
Mongolia	11.05	32.7	2.96
Nepal	4.55	8.53	1.87
Pakistan	10.07	15.57	1.55
Philippines	10.09	21.5	2.13
Singapore	64.57	151.08	2.34
Sri Lanka	11.54	32.93	2.85
Thailand	13.21	32.76	2.48
Turkiye	32.39	84.75	2.62
Vietnam	3.55	13.33	3.75

Source: Reproduced with permission from the APO [8] (updated 19 March 2022).
Note: In constant prices and 2017 PPP (reference year, 2019).

Quantity and Quality of Youth Labor

Figure 2 summarizes the results of the analysis above from the viewpoint of the quantity and quality of youth labor. In the table on the left side, numbers in the second column from the left show the quantity aspect of youth labor derived from Table 3. This quantity measurement denotes an improvement in the unemployment gaps between 1991 and 2019. Numbers in the third column show the improvement in the quality of young workers obtained by dividing the value in 2019 by that in 1991 shown in Table 4.

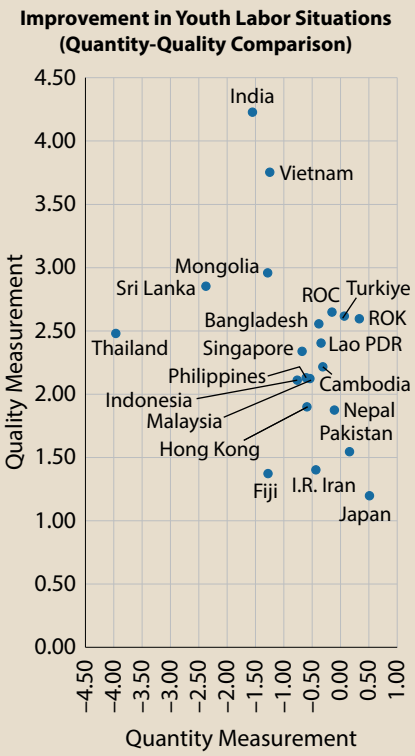
An increase in youth productivity leads to greater employability of young people in the medium to long term. Both quantity and quality dimensions of improvement in youth labor are summarized on the right side of Figure 2 using a scatter plot. Looking at the results, there seems to be a trade-off between quantity and quality. For example, the quantity measurement for Japan improved

the most at 0.51, while the change in quality was the most stagnant at 1.20. On the other hand, India, Sri Lanka, Thailand, and Vietnam did not improve in quantity, but quality was on an improving trend among APO member countries. The improvement in quantity is an urgent issue for many APO members. However, from the above-mentioned results of Japan, improving the amount of labor does not seem to be sufficient for inclusive productivity. Not only is it important to improve the quantity of labor, but all efforts to improve the quality of labor are essential for an improvement in youth labor situations. The following sections introduce some of the latest good practices for improving the quantity and quality of youth employment utilized in Japan.

FIGURE 2

MEASURING THE QUANTITY AND QUALITY DIMENSIONS OF YOUTH LABOR IN APO MEMBERS.

Country	Quantity	Quality
Bangladesh	–0.38	2.56
Cambodia	–0.31	2.22
ROC	–0.15	2.65
Fiji	–1.28	1.37
Hong Kong	–0.59	1.90
India	–1.55	4.23
Indonesia	–0.76	2.11
I.R. Iran	–0.43	1.40
Japan	0.51	1.20
ROK	0.33	2.60
Lao PDR	–0.34	2.41
Malaysia	–0.54	2.12
Mongolia	–1.28	2.96
Nepal	–0.11	1.87
Pakistan	0.16	1.55
Philippines	–0.61	2.13
Singapore	–0.68	2.34
Sri Lanka	–2.37	2.85
Thailand	–3.96	2.48
Turkiye	0.07	2.62
Vietnam	–1.25	3.75



Sources: Reproduced with permission from the APO [8] (updated on 19 March 2022 (for quality) and World Development Bank [11] (for quantity).

JAPAN'S GOOD PRACTICES FOR IMPROVING YOUTH EMPLOYMENT

Youth Employment Situation in Japan

According to the World Bank's World Development Indicators [11], the youth unemployment rate in Japan decreased from 4.49% in 1991 to 3.90% in 2019, while the total unemployment rate increased from 2.10% to 2.40% during the same period (see Table 3). The quantity of Japanese youth labor has therefore improved over time. However, its labor productivity remains lower than in other APO members, as shown in Figure 2.

In Japan, the Ministry of Health, Labour and Welfare and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) jointly surveyed the employment situation of graduates of universities and technical-vocational high schools as of 1 April 2021 and announced that the employment rate was 96% among total university graduates (95% for men, 97.2% for women) and 100% among technical-vocational high school graduates.

Roles of Government, Industry, and Academia in Promoting Youth Employment

Japan's government maintains a job database and manages unemployment insurance benefits at employment service centers, called "Hello Work." The government also promotes a job card system to identify careers and skills. Furthermore, the government has established an enrollment system of career consultants and creates test systems to certify job skills. Private industry offers young people information on recruitment, working hours, and required skills and possible development of vocational and educational abilities via internships. Academia, including universities and secondary schools, provides not only education but also career support for matching youth and employers directly or through Hello Work centers.

Job Creation Projects for Regional Economic Revitalization

Since fiscal 2016, the Ministry of Health, Labour and Welfare [15] has been implementing the Regional Revitalization Employment Creation Project in order to secure a stable place for full-time employment in regions. This project subsidizes the expenses required for the implementation of the project for up to three years (up to three years and two months for the fiscal 2020 regional employment revitalization course) by selecting a project that is highly effective in securing full-time employment from among projects proposed by local government units (LGUs).

The main purpose of current projects is to secure high-quality, stable employment opportunities through changes in employment patterns and improvement of working conditions in conjunction with industrial policies and to promote employment stability and capacity development by revitalizing regional employment affected by the COVID-19 pandemic, thereby strengthening regional productivity improvement and economic bases.

After LGUs obtain the approval of the local council organized by regional parties such as economic institutions, academic experts, labor unions, financial institutions, the Bureau of Labor, and the Bureau of Economy, Trade and Industry, the government selects a project that is likely to be effective in ensuring full-time employment through a contest among business proposals submitted by LGUs. There are two target categories: strategic industrial sectors (e.g., agriculture, construction, healthcare, IT, aerospace, etc.); and sectors particularly affected by the COVID-19 pandemic (e.g., tourism and accommodation, restaurants, manufacturing, etc.). The implementation period is up to three years, and the maximum project cost is JPY250 million (approximately USD2.16 million as of April 2022). The government subsidizes 80% of the expenses. However, the new Coronavirus Infection Control Project subsidizes 90% of the expenses as a special case. As of August 2021, the central government had accepted 55 job creation projects.

Example 1: Hyogo Next-generation Industry DX Introduction and Human Resources Development Project

This project covers advanced fields (e.g., aerospace, robotics, environment and energy, health and medical care, new materials, etc.) that Hyogo prefecture has positioned as priority strategic industries expected to grow in the future under the basic policy of prefectural administration on economy

and employment. The project runs for three years from 2021 to 2023 with a budget of JPY750 million, and the goal is to generate 873 full-time jobs within the prefecture.

For implementation, there are three pillars of the project. First, the Prefectural Ministry of Industry and Labor will be the center of the LGU, which consists of related organizations representing commerce, industry, and labor organizations and external experts such as academic experts, to ensure efficient, smooth implementation. Second, as support for business owners, the LGU will establish awareness seminars and consultation desks on DX and provide support for individual companies by experts. In addition, workshops and seminars will be held to develop and secure human resources with technical capabilities in order to improve the productivity and competitiveness of companies and provide advice on the design of work for ICT, system construction, security measures, etc. Third, as support for job seekers, coordinators and technical support staff will be assigned, and seminars on the utilization of AI and the IoT will be held for new graduates and those who wish to leave their companies because of the COVID-19 pandemic.

Example 2: Miyazaki Regional Employment Revitalization Project for Post-COVID-19

This project focuses on the following four sectors affected by the COVID-19 pandemic: 1) agriculture, forestry, and fisheries; 2) manufacturing; 3) transportation; and 4) accommodation and food and beverage service. The project runs from 2021 to 2023 with a budget of JPY570 million, and the goal is to generate 585 full-time jobs in Miyazaki prefecture, located in the Kyushu region.

Miyazaki prefecture has been promoting initiatives to attract young people to the prefecture and regional industries such as food businesses, as the outflow of the youth population has not stopped and measures against population decline have become a major issue. However, the prefecture's economy, industry, and employment have been hit hard by the impact of the global spread of COVID-19. For this reason, in order to minimize the impact of the pandemic on the prefecture and to build a sustainable industrial and employment base that can respond to new changes, it is necessary to provide employment support such as assistance to companies in diversifying management and improving the skills of job seekers who have left their companies for COVID-19-related reasons.

As support for business owners, the LGU will provide detailed accompanying support for business operators who are motivated to diversify, etc., and support for improvement of business processes using ICT. In addition, from the conception stage to implementation, the LGU will provide detailed, tailor-made support, such as dispatching experts according to each phase and supporting matching with companies. Moreover, seminars on improvement of business processes will be held, and experts will be dispatched to support the improvement of business processes according to the actual situation of each company. In order to respond to the new post-COVID-19 needs, a full-time coordinator will be assigned to support the development of new businesses, including promotion of the use of e-commerce and review of existing enterprises, and multiple seminars will be held to acquire new skills and improve existing ones.

As support for job seekers, the LGU will provide skill improvement training, workplace experience, and support for effectively disseminating employment information to job-seekers who have left companies for COVID-19-related reasons. In order to promote employment in the ICT sector, which is expected to grow, it will provide integrated support to job-seekers, including basic technology acquisition support required as IT engineers and employment support by effectively disseminating job information. In order to promote employment and prevent mismatches after hiring, the LGU will provide workplace experience at agricultural corporations for a certain period and provide employment support after that. Furthermore, the LGU will hold employment consultations, seminars, and workshops to provide the specialized skills necessary for employment.

Example 3: "Citizen's Dynamic" Kyoto Challenge Project

In Kyoto prefecture, the project mainly focuses on: 1) manufacturing; and 2) tourism-related sectors (e.g., accommodation and food service, wholesale and retail, transportation and postal services, lifestyle-related services, and entertainment). The project runs for three years and two months from 2020 to 2023 with a budget of JPY710 million, and the goal is to generate 1,000 full-time jobs within Kyoto prefecture.

For post-COVID-19 society, the sense of a labor shortage in a company can suddenly turn into a sense of overwork (mainly for large companies). On the other hand, the long-term trend associated with the declining birth rate and

aging population is a shortage of human resources. Efforts are needed to promote an industrial paradigm shift through bold human resources movement between companies from large corporations to SMEs, as well as between people from industrial fields affected by COVID-19 to information-related fields and those that support industrial and lifestyle infrastructure.

As support for business owners, the LGU will support companies with "design" processes such as product design by dispatching experts (designers) to companies aiming for business transformation. The LGU will also support industry conversion and diversification through new manufacturing and other initiatives by holding workshops for exchanges and collaborations. Through study sessions for companies, the LGU will support the development of products that continue to provide value to consumers, technology improvement and sales channel development, and expansion into different fields. In addition, the LGUwill support corporate growth by promoting DX, AI human resources development seminars, promotion of industry conversion to fields in expanding markets such as health, medical care, nursing care, etc., and IT human resources development training based on corporate needs when hiring people who will change careers to IT-based jobs.

As support for job-seekers, the LGU will establish a "Lifelong Active Creative Center," a recurrent education base for working adults, to support career change and enable movement beyond industries and occupations through consultation and training, centralization and dissemination of recurrent education information, and implementation of recurrent education. In addition, the LGU will hold small-scale matching meetings, develop recruitment companies, support matching, support "mindset seminars" (considering employment destinations from a multifaceted perspective) in cooperation with industry groups, human resources development, and matching support through worker and corporate exchange meetings (recruitment with an emphasis on personality). Furthermore, the LGU will develop human resources through technical introduction training to promote understanding of occupations such as in the construction industry and web production.

POLICY INITIATIVES

Based on the latest good practices of some projects for improving the volume of youth employment in Japan, the following three types of policy initiative are important: 1) (re)skilling; 2) developing AI literacy; and 3) sharing knowledge.

Policy Initiative 1: (Re)skilling

Some young people can acquire high levels of digital technology skills (e.g., programming and data analysis) on their own, but others cannot. Thus, it is important to equip those young people with basic knowledge of AI and the IoT, particularly DX and AI planning. AI planning helps specify and understand project aims and purposes.

Policy Initiative 2: Developing AI Literacy

At the university level, a curriculum for AI and data science classes was newly established. However, in Japan today, the quality of education may not sufficiently meet the needs of industry. Teacher training to improve AI literacy is a priority at the primary and secondary education levels.

Policy Initiative 3: Sharing Knowledge

The speed of the industrial transformation, including DX, is rapid and requires spaces to share good practices, like online knowledge hubs or libraries. It is essential to continuously share knowledge through platforms like the Productivity Talks organized by the APO.

CONCLUSION

In terms of the quantity of youth labor among APO member countries, the analyses on which this report was based found that Japan, the ROK, and Turkiye showed the only positive changes in the unemployment gap. This means that youth unemployment in these three countries improved quantitatively during the period covered. Meanwhile, youth unemployment in other member economies deteriorated relatively over time. Although the overall unemployment rate was low, Thailand's unemployment gap was among the most exacerbated, which might lead to the frustration of many young people due to unfairness.

Productivity improvement is an important issue in any country including both aging societies and those with youth bulges. From the results of this paper, among APO member countries, productivity in India was found to have increased more than four-fold, from 3.91 in 1991 to 16.53 in 2019. Vietnam had the second highest growth rate among APO member economies, with per-worker labor productivity rising from 3.55 in 1991 to 13.33 in 2019.

Looking at the analyses of both the quantity and quality of youth labor, there seems to be a trade-off between the two. For example, the quantity in Japan improved the most at 0.51, while the change in quality was the most stagnant at 1.20. On the other hand, India, Sri Lanka, Thailand, and Vietnam did not improve in quantity but showed improving trends in quality. The improvement in quantity is therefore an urgent issue for many APO member countries, and some of the latest good practices for improving the volume of youth employment in Japan were introduced to address this.

Three projects in Japan were introduced which aim to provide high-quality, stable employment opportunities through changes in employment patterns and improvement of working conditions in conjunction with industrial policies. They also promote employment stability and capacity development by revitalizing regional employment affected by the COVID-19 pandemic, thereby strengthening productivity improvement and the economic base.

Based on these latest good practices of Japan's three projects for improving the volume of youth employment, this report emphasizes the importance of three

types of policy initiative: 1) (re)skilling; 2) developing AI literacy; and 3) sharing knowledge.

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