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The Climate Crisis and the World of Work(II) :
Responding to the Climate Crisis and the Labor Market

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1. The Impact of Carbon Neutrality on the Labor Market

The Korean government's efforts to reduce greenhouse gas emissions started under the Lee Myung-bak administration (25 Feb 2008~24 Feb 2013) and continued under the Park Geun-hye government (25 Feb 2013~10 Mar 2017). However, these efforts have been evaluated as insufficient for Korea's status in the international community, and a meaningful policy shift has begun since the inauguration of the Moon Jae-in government (10 May 2017~9 May 2022). The Moon government presented the reduction target as an absolute value, raised the target to a significant level, and laid the institutional foundation for the implementation of the reduction.

In 2021, the Moon government also presented specific reduction measures together with the announcement of the reduction target. In the target for 2030, priority was given to electrification and efficiency improvement, and rapid changes in production methods and technologies were minimized. As for the target for 2050, significant changes in production methods and introduction of new technologies were suggested as means of reduction. These means are not simply presented as goals, but are implemented by various reduction policies. A major reduction policy is the emissions trading scheme. In addition, there are the Renewable Obligation scheme, the average greenhouse gas and fuel economy standards, and the building energy efficiency certification. After the government announced the reduction target in October 2021, no change in the reduction policy has been detected yet.

In the process of achieving the 2030 target, it is expected that employment in the transition sector and the auto industry will be significantly affected. In the case of coal-fired power plants, the cancellation of most of the LNG-fired power plant transition plans is highly

likely to reduce indirect employment as well as regular employment of power generation subsidiaries. On the other hand, the very rapid expansion of renewable energy is expected to significantly increase employment related to solar and wind power. According to overseas studies, the employment coefficient of renewables is significantly higher than that of thermal power generation, but the net employment increase may be smaller than expected due to imports of major facilities, and there is a possibility that the quality of employment may deteriorate. In the auto sector, employment in the auto parts industry is already declining. With the rapid electrification of automobiles, the decline in employment is likely to accelerate even further as the industry is likely to be unable to take advantage of the growing job opportunities in electrification and self-driving. The manufacturing industries such as steel, cement, petrochemicals, and oil refining are expected to be only affected by rising energy prices until 2030. Afterwards, however, there is considerable uncertainty due to the introduction of new technologies. For now, the reduction target assumes that the current industrial structure will be maintained, and if this assumption is correct, the impact will be limited. However, it is unclear whether the target will be realized in the way it is planned. Building-related employment is likely to increase. Considering the age of buildings, significant institutional changes are expected before 2030 to achieve the 2050 target. This means the creation of a significant labor demand to improve the efficiency of existing buildings.

In order to analyze the impact of the reduction policies, a very detailed, bottom-up analysis of the current production method and labor force utilization must be preceded. After that, functional and regional analysis should be followed. Analyzing the labor market impact of industrial transformation following the reduction policies at this point required the consideration of the following factors. First, in addition to the direct impact, indirect and derivative impact must also be considered. Second, it is necessary to consider the duration of the job effect. Third, the impact of changes in energy prices or changes in imports and exports must be properly reflected. Fourth, the limitations of industry-related analysis should be clearly recognized. Fifth, to make proper policy responses, it is necessary to estimate the impact by function and region, and also consider the impact on the vulnerable.

2. Challenges for a Just Transition of the Coal-Fired Power Industry: Focusing on South Gyeongsang Province

This chapter is a case study based on interviews with the workers of Korea's coal-fired power plants on how they perceive the government's coal exit policy and what they will accept. Until now, research has not been conducted on such topics as what specific choices workers will make when employment changes occur due to coal exit transition, and what support and policies are needed for such choices. To find out, interviews were conducted with power plant workers in South Gyeongsang Province, where coal-fired power plants are concentrated, and future policy implications were drawn.

According to the interview results, workers generally perceived that the reason for the shutdown of coal-fired power plants was to reduce fine dust. They also viewed that job rotation to transition into LNG power plants would be a high-priority alternative following the shutdown of coal-fired power plants. In cases where job rotation was difficult, workers had a high

preference for new and renewable energy-related jobs within the power plants. Their acceptance of job change and regional movement was low. It was confirmed that the low acceptance to job change was caused by not only the attachment to the region and industry, but also the attachment to the job itself (cultural and social attachment).

Once again, it was confirmed that workers' response and expected impacts on them differ by employment type and job. In particular, non-regular workers perceived maintaining immediate jobs as a bigger task than the shutdown of coal-fired power plants due to repeated bidding competition. Regular workers tended to have a wait-and-see attitude, expecting their employment to be maintained. It was also confirmed that non-regular workers had very low expectations and trust in the government's job transfer education that offers no guarantee for maintaining employment and wage.

Therefore, if a just transition is promoted due to the shutdown of coal-fired power plants in the future, support should be provided for not only economic and social shocks from job changes, but also for psychological and emotional shocks. In addition, since fragmented information on the reason, necessity, timing and method of coal exit has been provided until now, it is necessary to share complete and accurate information with workers at the field level. Moreover, to overcome the situation in which structural inequality and instability in the power generation industry and labor market result in delayed responses to future changes, the government should propose a way to resolve existing labor problems such as bridging the gap within the labor market.

In addition, since workers' attachment to the region and technology differs by job and employment type, resulting in varying acceptance of the future phase-out of coal power, the government should analyze the impact of the coal exit policy by job and employment type and investigate the current status. Moreover, the coal exit policy should be pursued while establishing a strategy for job retention and job security by region and industry in consideration of workers' attachment to the region and industry.

3. Policy Tasks for a Just Transition of the Auto Industry: Focusing on Labor Transition

This chapter deals with the policy tasks for a just labor transition in the auto industry. Recently in Korea, the need for industrial transition to cope with the climate crisis and social demand for a just labor transition are growing stronger. A major shift in the industrial structure to prevent the climate crisis and realize carbon neutrality is an irresistible global trend. However, the problem lies in the fact that such a rapid industrial transition is highly likely to have a serious impact on workers and jobs, and the degree of damage can vary considerably depending on the direction and content of the labor transition. In particular, the auto industry is seeing changes in the paradigm itself due to digitalization and decarbonization, and the sharp conflicts between stakeholders surrounding these issues suggest that the agreement of stakeholders on labor transition is a prerequisite for smooth implementation. Since the industrial ecosystem and value chain system are transforming according to the changing trends of future automobiles, the question of to what extent of justice can labor transition be achieved and how to implement labor transition justly is receiving more social attention.

For this reason, in July 2021, the government announced support plans for companies, regions and workers that are highly likely to be affected by industrial transition. The plans mainly consisted of the following three parts: business transition of affected companies to new industrial fields; labor transition for strengthening the capabilities of those currently employed and for implementing job change or re-employment; and regional transition to nurture new growth engines and support employment crisis response in the affected area. However, the key point of this announcement is labor transition. Unlike the existing industrial transition programs centered on reforming the existing industrial structure and corporate restructuring, the support plans for labor transition place a strong emphasis on vocational re-education, including transition training to actively respond to job restructuring, movement of labor, and employment changes required by industrial transition, as well as education for job change and re-employment.

However, the government's support for a fair labor transition is quite insufficient to be evaluated as an employment policy that can lead to active participation and social responsibility of major stakeholders including labor, management and government in the period of great industrial transition and innovatively improve the labor market's ability to fulfill.

With the awareness of the above problem, a national "auto industry labor transition committee" and a regional "automobile cluster policy council" should be formed to achieve a just transition of the auto industry. Furthermore, in order to reduce the impact of business transition and abolition, the 'Public Restructuring Fund ' should be created, and the "auto industry future agreement" should be signed by the tripartite through social consensus.

Furthermore, employment policy tasks directly or indirectly related to labor transition should be systematically promoted in the following three types: job extinction, job transfer, and job creation.

First, for those holding jobs that are destined to become extinct or disappear due to decarbonization or carbon neutrality implementation, vocational education and training should be offered to them to support their finding new jobs. Focus should be placed on developing their vocational competency so that they can work in new jobs created through the revitalization of local industries or the attraction of new growth industries. If job loss is expected due to industrial transition, it would be ideal to provide job transfer education or training for re-employment during the employed period before experiencing job loss, which will not only reduce the social cost of unemployment but also help workers find a new job without career interruption.

Second, when job transfer is unavoidable due to changes in the nature of jobs including the required skills or duties following industrial transition, it is necessary to examine the employment policy by dividing it into job rotation and job transfer. In case of job transfer that requires education and training for job change or rotation for the purpose of maintaining employment of those currently employed in high-carbon industries, it would be effective to operate an education and training center, at the individual company level, that provides career coaching services, such as vocational ability diagnosis, job transfer education, as well as support for job rotation and job search activities. When job transfer takes place and employment adjustment is unavoidable, it would be necessary to form an employment support consortium that provides comprehensive job brokerage services at regional and industry levels beyond individual companies to facilitate

the fulfillment of the labor market in the process of industrial transition.

Third, in order to reduce the employment shock from labor transition, it is necessary to not only create new green jobs according to the characteristics of the industry and region but also implement an education and training policy to foster new human resources and nurture vocational capabilities, particularly in the field of green technology. Investment in green technology to create green jobs should be expanded and private investment should be encouraged through appropriate environmental regulations. And, since green technology required for industrial transition in the era of the climate crisis is a convergence technology that needs to be applied and combined to virtually all industries and jobs affected by the transition, the existing vocational education and training courses should now include contents on low-carbon, energy-efficient, and green technologies.

Most importantly, securing employment sustainability in a just labor process requires mutual respect for tripartite policy consultations and agreements. Trade unions' active participation in job re-education, and training for job transfer and re-employment is needed, and cost sharing and authority distribution based on the cooperation and responsibility of the tripartite would also be crucial.

4. Global Trade, Division of Labor and the Climate Crisis: Focusing on the Clothing Industry

This chapter examines the possibility of a just transition based on the establishment of multicentricity to respond to the global climate crisis by adding labor, the environment, and consumers to the global production system. In this context, we use a just transition in a broad sense. It is a concept that has expanded from the idea of mitigating the impact of job loss due to eco-friendly policies (its meaning in a narrow sense) to achieve a socially and environmentally sustainable system. Here, a shift from a producer's point of view, which only recognizes labor and the environment as means of production, to a communal point of view that organically understands the entire process of production, distribution, consumption, and disposal of goods, is a prerequisite. To do so, it is necessary to break away from a kind of self-oriented analysis limited to the goods and services produced in the end, to examine social, economic, and environmental phenomena that occur throughout the production process, including labor and nature, which are non-capital factors of production.

As part of such efforts, this chapter examines the reasons and directions for discussing a just transition in a broad sense, focusing on the clothing industry, which is a symbol of a transnational global production system, and the fast fashion industry, which represents the present of the clothing industry. Fast fashion means "clothes that are manufactured and sold at a very cheap price so that people can buy new clothes frequently" and the fast fashion industry refers to the clothing industry with "a streamlined system that enables fast design, production, distribution and marketing." The labor-intensive clothing industry has been existent since the beginning of the 2nd Industrial Revolution when the explosive emission of greenhouse gases began. During the period between the 1960s and 1990s, the industry achieved international division of labor by moving to places where labor costs were low, and based on such development, fast fashion has grown rapidly over the past 20 years since the 2000s. Although the international division of labor has led to industrialization in several

countries so far, it did not significantly contribute to the improvement of the actual quality of life of workers due to the inherent structure of exploiting labor and the environment. This structure of exploitation is driven by cost, time and flexibility pressures on manufacturers by global fashion brands that are buyers.

Amid structural exploitation, this study explores the social and environmental weight of the fast fashion industry in terms of labor and climate change. First of all, the wages of workers in the clothing industry do not show a noticeable increase despite the rapid growth of the overall industry and global brands. In addition, because the industry moved in search of cheap labor in places where the level of guarantee of labor rights is low, these workers often already have structural vulnerabilities in society, such as inequality, restrictions on economic activity, and lack of awareness about labor rights. The environmental weight caused by fast fashion can be divided into three stages: production, use, and disposal. And, pollution is the most serious in the production stage. Above all, the inequality impact of the climate crisis is even more severe for workers in the clothing industry. Existing social vulnerability puts them in a vicious cycle that impedes their ability to adapt to the climate crisis and makes them even more vulnerable to the climate crisis. Workers in some regions are already showing signs of vulnerability due to the climate crisis.

Lastly, by examining the efforts of various actors for the just transition of fast fashion, this study attempts to suggest the direction Korea should take and visualize the basis on which multicentricity can work. The current framework for monitoring, managing and overseeing social impacts occurring within transnational fashion production networks were laid down after the fire and collapse of Rana Plaza in Bangladesh in 2013, which killed about 1,134 people. International trade unions also worked in solidarity to draw up a binding "Bangladesh Agreement" after this accident. Some representative projects pursued by international organizations include the Better Work programme jointly promoted by the ILO and the World Bank; the "Just Transition Toolkit" organized as part of the ILO's the Decent Work in Garment Supply Chains project; the "Fashion Industry Charter for Climate Action" created with the support of the UNFCCC; and the OECD's "Due Diligence Guidance for Responsible Supply Chains in the Garment & Footwear Sector." As an example of a national response, this chapter explores the case of the UK, which is actively seeking measures to regulate global supply chains through parliamentary activities. Lastly, this chapter also considers the activities of Fashion Revolution, Clean Clothes Campaign, and Global Fashion Agenda, all of which are the most influential civic groups related to the clothing industry.

Sadly, in Korea, there is not enough discussion or effort to achieve a more just clothing industry supply chain. Just because there are no more garment factory workers in Korea due to rising labor costs and industrial advancement, it does not mean that the country is free from responsibility for working for a just transition. Efforts to bring about a more just fashion industry are not only necessary to alleviate the burden on labor and the environment, which can no longer be neglected, but also a continuation of the passionate path of the Korean labor movement in the past, as well as an opportunity to share it with neighboring Asian countries, which are global apparel production bases, and fulfill its responsibilities as a member of the global value chain. It is hoped that active follow-up research and discussions will continue in Korea.

5. Implications

The COVID-19 pandemic, which started at the end of 2019 and continues to mutate and spread as of the end of 2021, gave birth to the saying that the era of mankind will be divided into BC (Before Corona) and AC (After Corona). If we call the era we live in today the "AC era," the "C" could refer to not only COVID-19, but also Coal and Carbon. This is because the phase out of the fossil fuels that have supported capitalist development since the Industrial Revolution and of the major gases that caused the greenhouse effect generated from production activities using the fossil fuels is a characteristic of the AC era. In the same vein, considering that the current crisis occurred because humans were caught in the trap of industrialism, that is, the illusion of limitless pursuit of wealth or infinite economic growth, that "C" could also refer to Cars, which are synonymous with Fordism that created a mass-production, mass-consumption society and symbolize the speed of cities. Furthermore, the question of whether the current economic system is a truly human work regime raises our imagination that "C" can also include (broken) Capitalism.

In this context, this study can be summarized as providing the following implications regarding the climate crisis and the world of work.

First, the issue of the appropriateness of the reduction target set by the Korean government in response to the climate crisis deserves our attention. Considering that at the COP26 conference held at the end of 2021, the Glasgow Climate Pact requested that countries strengthen their climate pledges by the end of 2022 to put them on track for the 1.5°C target, it can be pointed out that the Korean government's reduction target is not sufficient and the principle of differentiated burdens, in which the high-emission sector has greater responsibility, is not properly implemented.

Second, it is crucial to prepare a bottom-up industrial policy. Although the impact of responding to the climate crisis on the labor market will differ by industry with time lag, it would be necessary to implement a bottom-up demand forecast on the premise of changing production methods in response to mitigation policies, and to prepare and implement job transfer support and education and training policy plans based on such forecast.

Third, the issue of governance should also be noted. Given that questions are being raised about the effectiveness of measures to deal with employment problems that will inevitably accompany the achievement of reduction targets for each business sector, and that workers, who are direct stakeholders, are excluded throughout the transition process, it is urgent to prepare a governance for workers' participation to discuss transition. Here, governance does not refer to dialogue in the narrow sense represented by a presidential advisory body. It means that 1) entities encompassing labor/management or labor/management/government, and, where necessary, experts and civil society organizations 2) engage in information exchange, consultation, and collective bargaining 3) on various agendas surrounding the world of work 4) at the enterprise, industry/sector (and regional) and national level. It is necessary to guarantee the participation of workers, key stakeholders in the company, in the daily and strategic decision-making process, properly grant them the right to collective bargaining to realize the principle of collective determination of working conditions, and promote social dialogue at the national and industrial/sector levels. It should be emphasized that the expansion and reinforcement of collective

bargaining among the multi-layered and diverse forms of social dialogue is the starting point for building a sustainable social dialogue system. Also, keeping in mind that, with the collective bargaining system at enterprise level, which is the dominant bargaining system in Korea, it is not only difficult to deal with industrial/sectoral and national-level labor policies, such as responding to the climate crisis, but also there is a possibility of labor-management collusion within the company in a crisis situation, establishing a collective bargaining system at the supra-enterprise level should be a key task. It has been confirmed by Western experience that a centralized and coordinated collective bargaining system and high coverage of collective agreements enable the labor market to function for the benefit of the majority.

Fourth, the response of the labor circle is important in that the climate crisis is also a labor crisis. In Korea, just as the response from the government and capital was delayed, it can be said that the response of trade unions has just begun in earnest. Their response so far seems close to hedging, meaning that they do not deny the necessity of mitigating climate change but seek to minimize regulations. The perspective of productive/recognitional climate justice, based on the humanization of labor and limiting human labor that are harmful to nature (the expansion of the right to stop work), needs to be considered more fully.

Fifth, as seen in the case of the clothing industry, the response of a single country to the climate crisis is not sufficient. It is necessary to go beyond the problem of "the tragedy of the commons" and think about how to distribute the burden of protecting the common foundation of mankind, the Earth. Emphasis should be placed on the preparation and implementation of transnational strategies to respond to the climate crisis, such as the Decent Work in Garment Supply Chains project and the International Framework Agreement.

Sixth, as we understand the "limitless" economic growth system is the cause of the current climate crisis, the meaning of "labor" needs to be reinterpreted. Rather than having a narrow understanding that humans work "in order to receive wages", we need to look at labor as the fulfillment of individuals' obligations towards each other, that is, from the point of view of social solidarity, and ask questions such as what to make, how we work, and why we work. By doing so, we will be able to implement the concept of labor that can contribute to the public good as much as possible.

This study discussed various issues ranging from the causes of and response strategies to the climate crisis to the subjects surrounding the world of work, including the restructuring of labor law, the response of the labor circle, the impact on the labor market and issues by industry, as well as the need to expand our perspectives when responding to the climate crisis under the international division of labor. Since a multi-layered analysis was attempted to properly incorporate the topic of climate crisis into the agenda of labor research, each chapter may reveal some deviations in terms of logical consistency. However, when we acknowledge the fact that labor research dealing with the climate crisis is in its infancy, this study can be evaluated as containing the diversity of viewpoints and approaches. All of the six aspects derived as the implications of this study can be the subject of future research.