

Multidimensional Impact of COVID-19 on Education and Implications on Inclusive Recovery

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I. Introduction

The persistent global inequality crisis has long been a critical social issue due to its substantial economic and social cost. Despite continuous international efforts to mitigate inequality, the problem remains severe. The outbreak of COVID-19 and associated lockdown measures have further exacerbated inequality in various forms, including poverty rates, gender-based labor gaps, and educational gaps. Moreover, global inequality is expected to intensify further due to multiple post-pandemic crises like inflation, climate change, and conflicts.

This report aims to present the findings of Oh et al. (2023), which analyzes the post-pandemic inequality levels in developing countries and derives policy implications for Korea's international development cooperation (IDC) to help reduce inequality, especially in

the education sector. Due to its multidimensionality, a comprehensive approach is required to fully understand the nature of inequality and its resolution. However, paradoxically, because of the vast dimensions, the complexity of inequality cannot be fully explored in a single analysis. Instead, the study thoroughly explores one of many dimensions of inequality, education in particular, and encourages future studies to expand the scope of analysis. The study focuses on education because it is one of three critical components of human capital, along with inherent abilities and skills, thus crucial in mitigating and preventing inequality. In addition, because the pandemic led to an unprecedented global disruption in education, analyzing its effect on the education sector is even more urgent.

To be more specific, the study conducts comprehensive in-depth analyses to understand the

heterogeneous effects of COVID-19 and school closures on post-pandemic educational inequality and derive implications for Korea's IDC strategy. The impact of COVID-19 on education is also multidimensional, with varying levels of heterogeneity across countries, regions, households, and individual stakeholders, including students, parents, and teachers. To comprehensively understand this multidimensionality, the study compares situations in two countries to explore inter- and intra-country educational disparities. After identifying such multidimensionality, the study derives policy implications on how Korea's IDC can better target post-pandemic inequality in education.

II. Education and Inequality

According to Becker (1962), education is a crucial investment behavior in human capital formation. Therefore, education serves as a prominent means for low-income groups to accumulate human capital and increase future income, ultimately reducing income inequality among individuals and alleviating cross-sectional economic inequality.

In a long run, education also contributes to reducing and preventing economic inequality dynamically by increasing intergenerational mobility. Most theoretical models, such as the "Great Gatsby Curve" (Krueger 2012), include education as a core mechanism to explain the relationship between income inequality and

intergenerational mobility. Naturally, empirical analyses of the Great Gatsby Curve also often focus on the role of education.

The core of the discussion lies in that not only the levels, but also the distribution of education is key to reducing inequality. For example, Gregorio and Lee (2002) highlights that high levels of education and equal distribution of education are crucial for alleviating income inequality, based on panel analysis using data from various countries from 1960 to 1990. In other words, understanding the relationship between inequality and education requires addressing not only the question of "how many receive education" but also "who receives education."

III. Diverse Effects of Pandemic on Education in Developing Countries

In Oh et al. (2023), two countries are selected for the in-depth case study to better understand the heterogeneous effects of COVID-19 on education: Ethiopia and Cambodia. Both countries are key partner countries for Korea's ODA, and education is one of the focal areas of cooperation. Also, detailed pre- and post-pandemic household-level data (such as income levels and children's educational activities) is available for both countries, which enables a quantitative analysis as well as qualitative.¹ Additionally, both countries experienced larger impacts of the pandemic on education.

¹ The main dataset used for the quantitative analysis is World Bank's High-Frequency Phone Surveys. The

qualitative analysis includes interviews with local students, teachers, and stakeholders in the education sector of each country.

ation with relatively longer school closure periods, hence making them suitable for analyzing the multifaceted effects of the pandemic.²

The quantitative analysis shows that students from low-income or socioeconomically disadvantaged households were less likely to return to school when schools resumed after the pandemic in both countries. However, the drop in school attendance was bigger in Ethiopia than in Cambodia, a relatively more developed country with a stronger educational system.

The qualitative analysis further reveals the reasons behind such difference across countries. In Ethiopia, a significant amount of time was required for education to return to normalcy after the school closures, preventing students from returning immediately. Despite Cambodia experiencing more extended school closures than Ethiopia, the impact on students' return rates and learning disruptions was relatively minimal. However, the degree of learning loss may differ across Cambodian students due to the quality and delivery method of remote education.

Although both countries' governments announced similar alternative education policies during school closures, there was a significant difference in the effectiveness of implementation. The analysis suggests that infrastructure conditions such as electricity, internet, and mobile accessibility, along with government

support capacity, greatly influenced the adoption of alternative education methods and students' participation in learning. For example, in Ethiopia, restrictions on movement and a shortage of printed materials resulted in inadequate delivery of learning materials, while education through TV, radio, and the internet was ineffective due to lack of information and low accessibility. In contrast, Cambodia has relatively high rates of electricity coverage, internet usage, and mobile users compared to the global average. Therefore, social media platforms facilitated a smoother dissemination of academic information and learning materials during school closures. Additionally, the gradual activation of online learning via smartphones was feasible. However, teachers' low digital literacy and technological capacity was a bigger challenge in delivering high-quality remote education in Cambodia.

IV. Policy Implications

Since the pandemic has generally worsened the fiscal situation of developing countries, the extent of learning loss recovery and future educational inequalities will depend on governments' perception of investment priorities in the education sector. Therefore, it is necessary to comprehensively consider the ripple effects of the pandemic and changes in educational conditions on a country-by-country and regional basis to derive cooperation tasks effectively. For instance, in countries with poorer

² Other selection criteria include Korea's ODA budget for each country, region, economic status, pre-pandemic education levels and educational disparities, and

characteristics of education policies during the lockdown.

education environments, like Ethiopia, restoring basic education functions should be prioritized to compensate for fundamental learning losses. Conversely, in countries with relatively adequate infrastructure, there is a need to support not only reducing learning disparities but also alleviating digital disparities, enhancing ICT education infrastructure, and strengthening utilization capabilities.

There is also an urgent need to improve the quality of education universally. More effective and high-quality education than pre-pandemic levels must be provided to recover from basic academic deficiencies and learning losses caused by school closures and remote education. Finally, given the greater impact of COVID-19 and compounded crises on low-income and marginalized populations, it is necessary to provide various quantitative and qualitative educational opportunities and incentives to mitigate their learning disparities.

Considering Korea's achievements and comparative advantages, the objectives of Korea's IDC in the education sector to alleviate inequality can be divided into two: strengthening basic educational foundations and promoting the digitalization of education.

Meanwhile, given the new post-pandemic educational environment in developing countries, Korea's challenges in education IDC can be summarized into three tasks. First, as the educational environment differs across countries, IDC should be customized to fit each context to be more effective. For example, support for

low-income countries can focus on strengthening basic educational foundations, and support for middle-income countries with higher levels of infrastructure can focus on expanding digital education infrastructure and strengthening digital capacity.

Training parents and teachers and providing high-quality educational content is also needed. The pandemic has deteriorated not only the quantity but also the quality of education. To recover qualitatively, the institutional background and the social role of education must be strengthened by training human resources and producing high-quality teaching materials. In particular, training teachers to increase their digital literacy should be prioritized to support the digitalization of education in developing countries with relatively more advanced infrastructure. Since Korea's ODA projects already focus on vocational training, expanding vocational training for teachers' technological capabilities can effectively achieve such goals.

Lastly, support for vulnerable children, including girls, should be expanded. Currently, most of Korea's ODA projects aim to improve a country's overall educational environment. A consequent increase in a country's average education level will contribute to alleviating inequality. However, the pandemic hit vulnerable students harder. A more proactive way of tackling inequality would be to focus on vulnerable children, directly supporting their education, and ultimately resolving the within-country education gap. **KIEP**

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