

審査の結果の要旨

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The research question of this study was to predict the coverage and within-country disparities of access to water supply and sanitation (WSS) services by 2030 under two assumptions: following the current trends and under accelerated poverty reduction. This study focused on the low- and lower-middle-income countries in South Asia, Southeast Asia, and Sub-Saharan Africa comprising of total of 51 countries. There were three main objectives in this study: first, predicting the coverage of basic services of drinking water and sanitation and the reduction in open defecation in 2030 at national level; second, predicting disparities in access to WSS services in 2030 based on the area of residence and economic status of households; and third, predicting changes in the coverage of WSS services caused by accelerated poverty reduction by 2030 at national and urban-rural levels. She used nationally representative household surveys such as Demographic Health Surveys (DHS) conducted by United States Agency for International Development (USAID) and Multiple Indicator Cluster Surveys (MICS) conducted by United Nations Children's Fund (UNICEF). A total of 210 data sets collected between 1994 and 2016 were used.

The key findings of her study are as follows:

1. Following the current trends, by 2030 nine out of the 51 included countries (the Philippines and Vietnam in Southeast Asia; Bangladesh, Bhutan, India, Nepal, and Pakistan in South Asia; and Ghana and Togo in Sub-Saharan Africa) were predicted to achieve over 90% coverage in access to basic drinking water services. None of the countries included in this study were predicted to achieve 90% coverage of basic sanitation services by 2030. 21 out of the 51 countries were predicted to have less than 10% of their households practicing open defecation by 2030.
2. The urban-rural and wealth derived disparities in access to drinking water service and the practice of open defecation were projected to be smaller in South Asia and Southeast Asia than in the countries of Sub-Saharan Africa. However,

the disparities in the projections for basic sanitation services were projected to be pronounced in all included regions.

3. In accelerated poverty reduction scenario, access to basic sanitation services was predicted to improve by as much as 60 percentage points, and access to basic drinking water was predicted to improve by as much as 29.5 percentage points at national level compared to the current trends. Overall improvement in coverage was higher for basic sanitation services than for basic drinking water services.
4. Households residing in rural areas were predicted to benefit more from accelerated poverty reduction than those in urban areas in access to both basic drinking water services and basic sanitation services.

The results of this study suggested that the countries in Sub-Saharan Africa are likely to improve in water and sanitation services by accelerating poverty reduction. Despite accelerating poverty reduction, predicted improvements in water and sanitation sector will not be enough to reach the target of universal access to basic services in low- and lower-middle-income countries. The result is consistent with the decline in official development assistance and heavy reliance on external assistance in the sector. The wider disparities in basic access to WSS services, especially in countries in Sub-Saharan Africa, reinforce the urgency to address the issues in the region.

This is the first to study to provide country specific projections of water supply and sanitation services in 2030 and to investigate the impact of accelerated poverty reduction on access to WSS services. The Sustainable Development Goals (SDG) targets for the water and sanitation sector are ambitious while investments in the sector are stagnant. As such, the findings of this study call for the stakeholders to align their investments with the projections by investing more in the sanitation sector and prioritizing commitment and strategic resource allocation towards the disadvantaged populations. Given the reasons above, the committee considers that this thesis is worthy of a doctoral degree.

よって本論文は博士(保健学)の学位請求論文として合格と認められる。