

Session 1

On the Possibility of a Green Revolution in Sub-Saharan Africa

Keiji OTSUKA

Program Director, GRIPS/FASID Joint Graduate Program, Foundation for Advanced Studies on International Development, Japan

Abstract

While population continues to grow rapidly in Sub-Saharan Africa (SSA), uncultivated land has been largely exhausted. Since the yield of food grain per unit of land has remained largely unchanged for more than several decades (Figure 1), per capita grain production in the region has been declining (Figure 2). Therefore, there are growing worldwide concerns regarding the widespread and persistent or even worsening poverty and food insecurity in SSA. This is similar to the situation in Southeast and South Asia in the 1950s and up to the mid 1960s, but in sharp contrast to the experience in this region thereafter: Rice and wheat yields began to grow dramatically in the late 1960s, due to the development of fertilizer-responsive, high-yielding modern rice and wheat varieties (MVs), which is heralded as the "Green Revolution." Grain yield more than doubled and production tripled for the last several decades in tropical Asia, resulting in increased grain production per capita.

In order to improve food security in SSA, Green Revolution must be realized in this region by developing fertilizer-responsive MVs suitable for SSA and increasing the application of fertilizer, be it chemical or organic. The critical question is why we have miserably failed to repeat the Asian Green Revolution in SSA. Related and more relevant question is if it is possible to realize a Green Revolution in this region.

In my presentation, firstly I will attempt to identify the essence of the Asian Green Revolution. Secondly, I would like to explore why it has been so difficult to realize a Green Revolution in SSA. Thirdly, I will review if there is any encouraging evidence for the possibility of African Green Revolutions. And finally, I would like to discuss the strategy to realize a Green Revolution in SSA.

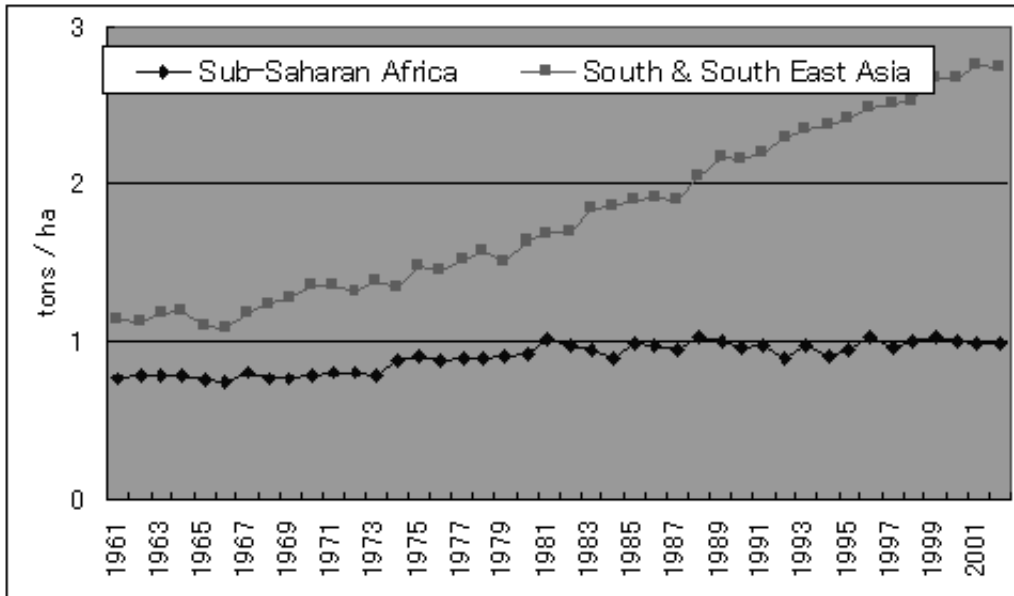


Figure 1. Changes in grain yield (ton per ha) in Sub-Saharan Africa and South/South-East Asia

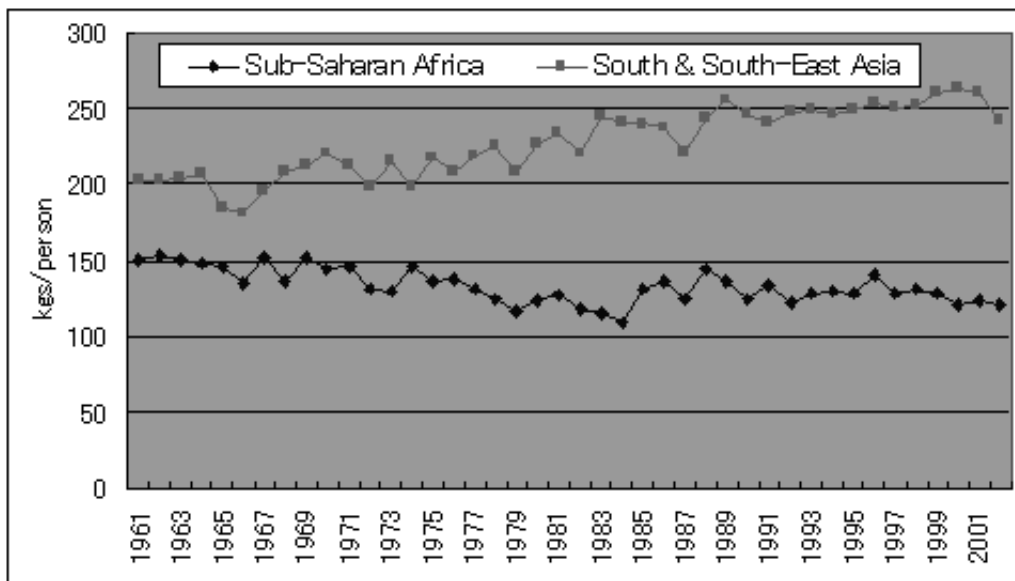


Figure 2. Grain production per person (total population) in Sub-Saharan Africa and South/South-East Asia

Keiji Otsuka

Associate Member, Science Council of Japan
 Program Director, GRIPS/FASID Joint Graduate Program, Foundation for
 Advanced Studies on International Development, Japan

Academic Degrees

- 1971 B.A. Agricultural Sciences, Hokkaido University
- 1974 M.A. Economics, Tokyo Metropolitan University
- 1979 Ph.D. Economics, University of Chicago

Field of Study

Development Economics

