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## 学位論文内容の要旨

博士の専攻分野の名称：博士（経済学）

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### 学位論文題名

Prioritizing Economic Development for Increasing Dietary Diversity

(十分な栄養摂取を行うための優先的な経済発展)

This doctoral dissertation is structured in chapters, each of which presents an article. The article in chapter one explains how food production diversity mitigate dietary diversity against shocks-induced income variations. It is co-authored by Professor Shingo Takagi. We construct survey-panel data sets, separate 2,336 households by their credit status, and estimate a switching regression model. Increasing vulnerability of Nigeria`s farm households to food security risks motivate this study. As Nigeria relies on oil revenues, global shocks generate macroeconomic fluctuations. This complicates policymaker`s attempt to boost food production using agricultural transformative reforms. Households try to diversify crop production to sustain quality nutrition, but they are constrained by credit to do so. We find that credit-unconstrained households diversified food production, but credit-constrained households could not. However, diversifying crop production show infinitesimal mitigation to nutritional quality. Therefore, income growth remains very important for sustainable food security. To discover secrets of sustainable development of advanced countries, we proceeded to our second paper.

The second article, which is reported in chapter two, investigates similarities in effects of infrastructure on economic growth of 130 countries over 25 years. An autoregressive distributed lag (ARDL) model is used to extract the extent of disparities in wages, income, and nutrition originating from skilled labor and infrastructure complementarity. We identify latent country groups based on unknown group structure in panel ARDL models. We find that infrastructure has group-heterogeneity of effects on economic growth across countries. Most African countries fell into groups that do not reap infrastructure and skilled labor complimentary advantages for economic growth. However, infrastructure has narrow economic growth prospects in Africa because of limited industrialization. Education of labor might be more viable for Africa`s sustainable development, necessitating the article presented in chapter three.

The paper examines the effect of human capital investment on economic growth of 102 countries over 15 years. I estimate the econometric model of the supply of and demand for educated services with macro production technologies. The results indicate a significant positive causality between educated services and economic performance. Investing in education shows optimum at three to six years of schooling where enterprise-needed skills are taught. Most developed countries maximize growth because they have workers with ideal education and skills needed by companies. This maximum growth generates employment for unemployed workers with the enterprise-required skills. Africa`s workers show inadequate education compared with labor in advanced nations. Therefore, poor education account for the low income of in Africa and effort to suggest a remedial measure led to my fourth research project as discussed in chapter four.

This manuscript links the rising terrorism, kidnapping, and fraud in Africa to extreme unemployment and poverty that are rendering households hopeless and frustrating several individuals. To reduce the accompanying threat to life and property, households should be saved of hunger, starvation, and malnutrition. These contribute to families` ill-health when they lack resources to pay medical bills. This study, therefore, provides a guide on education and allocation of labor to minimize unemployment and poverty. To realize this goal, production formula that secure jobs and maximize wages should be acquired. I find that completing tertiary education is consistent with having these required production ideas.

My ongoing research explores the nutritional insurance of personal saving and transfers in Africa. A complete information about the study and its findings would be publicly available soon. However, the analysis so far indicates that own saving and money transfers do not provide substantial consumption insurance against macroeconomic shocks. This information coupled with that in the previous summary establish a conclusion that: Economic development should be prioritized to ensure a sustainable food security of households. This concluding empirical fact, which remains relevant to every country, corresponds my doctoral dissertation theme.