

Summary for Overseas Travel WENDI 2018-2019

Name	Tomoka Tabata
School	Asian and African Area Studies
Grade	First
Supervisor's name	Shuichi Oyama
Travel period	From November/11/2018 to January/28/2019
UN agencies / International organization visited	Food and Agriculture Organization of the United Nations
Theme of overseas travel	Assessing Impacts of Information Technology on Agricultural Productivity and Rural Livelihoods in Zambia: Potentials and Challenges

Outline of the activities (4 pages including photos, figures, etc.)

My research aims to estimate the potentials and challenges of information technology (IT) in agricultural development by focusing on linkage between the progress of IT and rural livelihood in Zambia, southern Africa. I particularly took the case of social influences of the electronic vouchers (e-voucher) installation in Zambia as one of the government subsidy which started in 2015 to supply of the agricultural inputs.

I engaged in the fieldwork from November 22, 2018 to January 28, 2019. To build a basis for this research, I stayed for 10 days in the capital city Lusaka and visited the Food and Agriculture Organization of the United Nations (FAO.) Subsequently, I stayed for two months in a rural area in Mpika District in northern part of Zambia.

I observed the farmers' dairy life by spending time with my host family from morning till night. I helped cooking, watering and wiping at home. Additionally, I helped farming from plowing to seeding. In addition to the participatory observation, I conducted the semi-structured interviews. Based on the participatory observation, I interviewed about the farming activities and the e-voucher system. The targets of interview are 55 households of small scale farmers, one agricultural cooperatives, five agro-dealers, two district offices of Ministry of Agriculture and Livestock, and FAO.

I collected the data about work and diet in the village, agricultural productivity, family budgets, system of e-voucher and distribution process of agriculture inputs. The villagers are full time farmers. Their life really depends on what they harvested from last season. The rainfall has been unstable for last five years. The farmers consider that climate change has started in Mpika District. They mostly consume maize porridge with two relishes of vegetables, or one relish of vegetables and one relish of chicken/fish. Once it rained too much in the research period, my host family's garden sank so badly by a flood that we couldn't enter the garden to pick vegetables up. Due to this situation, my host family bought some vegetables from the neighbors. Sometimes we ate leaves of beans and pumpkins staved off the lack of vegetables, and sometimes we didn't take any vegetables because of cash shortage. It happened in many places too around the research village.

Regarding e-voucher. I figured out that people in Mpika District recognized the e-voucher system itself is good with transparency in that it connects each farmer and the Zambian government directly to make the distribution system of agriculture inputs visible. Farmers who have e-voucher cards get inputs from agro-dealers directly instead of getting ones from governmental distribution trucks. Agro-dealers use tablet devices offered by the government to register the purchase information of each farmers. When they provide products to farmers, the purchase information reaches to government database immediately. Thus the central government can check which farmer receive inputs.

However, there are some problems; the major problem is that only 30% of the farmers in Mpika District own

e-voucher cards. The total population of the farmers couldn't get enough numbers of agricultural inputs. E-voucher holders necessarily belong to the agriculture cooperatives or the women's development clubs. They mostly need to share the inputs in their group of the cooperatives or women's clubs. Moreover, the price of the chemical fertilizers became three times higher than the last year, 2017/2018 agricultural season. Farmers in the research villages cannot afford to buy enough fertilizers and seeds for maize covering self-consumption. Unfortunately, the newest e-voucher project in the entire Zambia is still on the way to be fixed. The future is unstable as I heard at the District offices of Ministry of Agriculture and Livestock. The officers said that the system will be changed next year in the Chongwe District and also changed two years later in Mpika District. Each of the agricultural subsidy policy and supply of chemical fertilizer, the produce of the maize directly connects national and local food security. The villagers complained a lot for the distribution system of agriculture inputs, whereas the farmers near town respectively considered no longer they can depend on the subsidy. They were trying to find a way to be independent from the government's support. I need to see how this e-voucher project will be implemented in Zambia to make a policy proposal.



Telecom services provider shop



Inside of an agro-dealer



Farmers transporting fertilizers with taxi



Flow of the e-voucher system in Zambia

(1) Global leadership

My vision for a leadership has been built up since I attended the career seminar of FAO in Kyoto University in October, 2018. As a main presenter, the former student from agricultural department who is a staff of FAO now, talked about how he had gotten the position and how he was doing the job of Junior Professional Officer at Food Safety and Quality Unit of Agriculture and Consumer Protection Department. Because of the three reason; (1) he is the senior of

Kyoto university, (2) he belonged to the Advanced Leadership Studies (Shishu-kan Program,) and (3) he works in the field of Food Security which I research on the Global Survivability Studies (GSS) Program, he is the closest person on the way I might aim to be.

I have admired to be an officer in international organizations for a long time since I was a high school student, but I couldn't find the reason, and my feeling is just "cool." Thanks to attend the FAO seminar, I realized that what I felt "cool" is about the attitude of people in international organizations. I was impressed by their sincere and earnest manner towards work. Additionally, I learned it necessary to have a leadership when I work with the people from the different expertise expecting to bring out their abilities.

Moreover, Nitobe Inazo's words made me go through the reason of "cool." "The primary is to be and the secondary is to do." According to the explanation about the words by Mr. Sasaki (2013,) a good leader is a person who does right thing and a good manager is a person who decides thing in a right way. Right thing is to contribute something for others. Mr. Sasaki continued that people work in order to be loved and to be respected by building trust and brushing up themselves. Through those experiences in work, people become a leader. I believe the right thing for me at this moment is to solve the inequality caused by agricultural policy in developing countries. Fieldwork made me believe it more strongly. During the fieldwork I heard the small scale farmers' voice for the first time that they are suffering from poverty and hunger. I follow Nitobe's words and I will do my research hardly in sincere manner to master leadership. Unlike Nitobe and the FAO officer, I don't have agriculture background in academic field before, so I need to study more.

【Citation】 Sasaki, T. 2013. Konna Ridah ni Naritai –Watashi ga Eranda 24nin no Ikikata-
[I want to be the leaders like them -24 lives I selected-] : 163-170

(2) Scientific significance

For Zambia, located in Central and Southern Africa, maize cultivation and distribution are extremely important in the domestic politics. Government provides an inexpensive staple food to the urban residents as well as providing cash income for the rural farmers. After 1970s the subsidy started for low cost supply of fertilizers, the chemical fertilizers are now being provided to the farmers by the e-voucher through the twists and turns. This study addresses neo-liberalism of penetration to progress and food security of information technology in Africa. At the same time, it intends to process modern challenge of life stability of the urban residents.

In recent years, the spread of mobile phones and smartphones are more significant than the fixed phone in African countries. Mobile phone service has come out many development assistances with agriculture-related field, and this is remarkable pilot operated by the government and UN agencies. Considering a global perspective, I want to clarify how the information technology will contribute in order to fill the gap of economic and education between the developed and the developing countries.

(3) Originality/Universality

Within 15 years, mobile and smart phones have been spreading more than landline phones in African countries. Many of the studies of information technology, especially mobile phones in Africa, have been focused on money transaction commencing with M-PESA originated in Kenya. They mostly investigated the actual situation of use and clarify the economic influences and mutual aid system. On the other hand, few studies conducted to clarify the aid policy of African countries using information technology. This is area I would like to contribute to fill in the gap.

Some kinds of application were tested in villages in Zambia, such as an application for army worm, for distribution of cash crops and for supply agricultural input. As a case study, I particularly focus on the social influences of the introduction of e-vouchers to the fertilizer supply in Zambia. The e-voucher was originally invented by the World Food

Program for targeted food security programs, and it has today been adopted for another purpose—supplying fertilizer to maize cultivation by the government that contributes to provide cash income for rural farmers and to stabilize food supply for urban area. The other type of e-voucher has been used for delivering health care in other countries. Food security in Africa is considered as a global development challenge. That is why budget of agricultural subsidy is covered by foreign countries and international organization. My research attempts to examine the possibility of information technology in the context of food aid. The reality in African rural lives should be elucidated how it influenced by the introduction of information technology from the user's point of view.

(4) Reasons and motivations for visiting UN agencies / International organizations

I visited FAO as an international organization. The reason why I chose this visiting agency is an advisory institution for the Ministry of Agriculture. E-voucher is a system that was introduced by the Ministry of Agriculture. FAO has been the advisor for the agricultural subsidy program called “Farmer Input Support Program.” FAO distributes to the system improvement by the evaluation. Since I visited the institution which evaluates e-voucher system at the beginning of my research, I could grasp the whole picture. Finally, three main advantages were drawn below.

- 1) A FAO officer took me to the District office of the Ministry of Agriculture which located in a capital suburb called Chongwe. An officer from Ministry of Agriculture showed me the current state of the e-voucher system.
- 2) I gained clear vision where and who I need to visit in my research village.
- 3) I gained on the newest information of e-voucher in Chongwe. Fieldworks in my research village with this information, I was able to tell the villagers about the current situation of Chongwe and the governmental future plan of e-voucher. They really appreciated to hear that because they scarcely get news.

Visiting FAO made my research easier. I thank the FAO for their cooperation. This research travel was supported by WENDI. I deeply show gratitude to WENDI program.



FAO office in Lusaka, Zambia



Conservation Agriculture Scale-Up Project Officer Mr. Mtendere Mphatso