REPUBLIC OF ZAMBIA
Ministry of Agriculture (MOA) and Japan International Cooperation Agency (JICA)
Expansion of Community-Based Smallholder Irrigation Development Project
(**E-COBSI**)
E-COBSI News Letter **No.15, April 2020**

Results of Baseline Survey done by E-COBSI CPUs and JICA project team

As we discussed in the last issue of the newsletter, the team members of JICA E-COBSI are now working from Japan. Here in Japan, though COVID-19 cases have gradually decreased, the challenges remain unpredictable. But, we are all in this together. We will get through this together. During work at home, the team members continued with data analysis of baseline survey which we conducted from September to December 2019 in all the 45 target districts of the follow-up and new provinces. This issue shares the results and gives you findings and suggestions from the baseline survey.

4 Types of Baseline survey by E-COBSI

During the E-COBSI implementation period, four types of Baseline surveys are planned as follows.

No.1	Social and Economic Survey (Farmer's Household Survey) in FU and New
No.2	Existing Irrigation Sites Survey (Survey for Smallholder Irrigation Development) in FU
No.3	Survey for Natural and Social Condition in New
No.4	Nutrition Survey in FU

Out of the four baseline surveys, we already reported the results of No. 3 and No. 4 in the Progress Report and the previous newsletters. Then, the analysis of No.2 is now in processing, and we would like to share the results in the next issue of the newsletter. In this newsletter, we only report the results of social and economic survey analysis, which is baseline survey No.1.

Questionnaire survey form of No. 1 had two-parts; the first one is about "site profile" of all the district model sites (hereafter "DMS") in the 45 districts and the second one is about "social and economic status of individual farmers household" in these DMSs. Note that on both parts, since the data of Lavushimanda, Manyinga and Masaiti districts are still in processing, those data are not included in this analysis. After the data input is completed, these districts will also be included in the report and this newsletter shows tentative results.

Model Site Profile of all the 45 DMSs in New target and FU provinces

In the FU provinces, fourteen sites are permanent weir sites out of 23 sites, though the team did not request the districts to select a permanent one as a DMS. Since the DSMs should be a center of extension services to introduce COBSI approach in each district, the offices tended to select the permanent weir sites where farmers have strong groups and irrigation facilities.

Meanwhile, all the 21 sites are simple weir sites in the new target provinces. While a few sites are "improvement sites" which farmers rehabilitated existing weirs and furrows by COBSI technics, most of the DMSs in the new target provinces are "newly constructed sites" which trained CEOs introduced a simple weir after the KOT in 2019.

In the FU provinces, more farmers collected membership fees and water fees in the DMSs than those in the new target provinces. It is obvious that continuous technical support by JICA with MoA through COBSI study and T-COBSI empowered the farmers' organization and sustained the irrigation facilities. On the other hand, few farmers collect the fees in the New target provinces since most of sites were constructed last year. E-COBSI tries to promote the farmers to collect the fee for sustainable irrigation maintenances.

Focus Group Interview using questionnaire form at Kasempa District in Northwestern Province. They were discussing vegetable marketing.

Focus Group Interview at Nakonde District in Muchinga Province

In addition, the average irrigation area per DMS in the FU provinces is larger than that in the new target provinces (FU; 45 Lima per site, New; 6 Lima per site). Since many DMSs have a permanent weir, the farmers extended the furrows year by year. In the new target provinces, farmers just finished simple weir construction and started furrow construction, gradually. We can expect the farmers will extend their irrigation area from this year.

Social and economic survey for individual farmers household at the 45 districts in New target and FU provinces

Individual interview to household headed woman at Chingola District in Copperbelt province. The officer was asking about household income and other economic status.

Following the focus group interview to make the DMS profile, we interviewed about 10 farmers to clarify the social and economic status of E-COBSI beneficial farmers in each district. Finally, we collected the data from nearly 450 households and analyzed the results. A survey questionnaire included family status, agriculture and non-agriculture incomes, access to infrastructure and water facilities, gender roles, farming and marketing technologies, water management and irrigation, etc.

Out of them, we show the results related to E-COBSI PDM indicators in this newsletter and summarized in the following table.

	FU	New Target	Total
Crop and Horticulture Income (Net)	5,078 K	7,396 K	6,237 K
Total HH Income	8,091 K	11,547 K	9,819 K
Actual Irrigated Area in Last Year 2018	1.7 Lima	1.5 Lima	1.6 Lima
Actual Field Crop Area in Last Year 2018	5.1 Lima	4.0 Lima	4.5 Lima

Compared to the FU provinces, both crop and household income are higher in the new target provinces, 7,396 K and 11,547 K, respectively. The new target provinces have a significant advantage in terms of marketing since they have large consumption areas such as Ndola, Kitwe, and Solwezi, there are many nonfarm payroll employments. This would greatly contribute to small-scale farmers' economic status, and the farmers still have a big potential for irrigated agriculture and marketing.

We also asked how much appropriate agriculture technologies farmers apply, such as gravity irrigation, marketing survey, crop calendar making, compost and *Bokashi* making, farming record and account, mulching, IPM, etc. The project team clarified such thirty-three technologies able to improve farmers' agribusiness, and the PDM indicator is applied these technics more than 80% by the target farmers. As a result, the application rate of the 33 technologies was 64% in the FU provinces and 49% in the new target province. In Isoka and Nsama districts, farmers achieved more than 80% and this means on average 26 technologies out of 33 technologies were already used by the farmers.

Individual interview at Kanchibiya District in Muchinga Province

Implication for creating ZAMBIAN SHEP

In addition, the results of the baseline survey showed a vital suggestion to adopt SHEP approach to the Zambian contexts. We found that 91% of farmers individually sell their vegetables at the market, while only 16% of farmers sell the vegetables as a group. Note that some farmers do both marketings. Thus, group marketing is not much positively practiced, and farmers still prefer individual business. However, more than 70% of farmers in some districts such as Milenge, Nakonde, Mungwi, Ikelenge sell the vegetables as a group. On E-COBSI, we will clarify an advantage and a disadvantage of group marketing and examine whether we will introduce it to the E-COBSI target farmers as one of Zambian SHEP activities.

Besides, the average distance to the primary market is 29.6 km, and it differs district by district: maximum 290 km in Mbala and a minimum 3.2 km in Chitambo district. Thus, we should examine several options for Zambian SHEP in terms of market distance, for example promoting market survey at neighboring markets and holding matching forum at distant markets. In this wise, E-COBSI must create Zambian SHEP in the context of Zambian markets, cultures, farmers' practices, etc. See you at next issue of the Newsletter!

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