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LAND USE, FOOD AND NUTRITION SECURITY – CASE STUDY IN RURAL UZBEKISTAN

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1   ABSTRACT

The present research is realised in the frame of the ZEU project "LUCA" (Land Use, Ecosystem Services and Human Welfare in Central Asia). LUCA builds a platform for joint analysis of land use effects for a whole region, involving participants from various countries of Central Asia.

In the transition from planned to market economies, the Central Asian Republics experienced rising poverty, food insecurity and malnutrition as well as serious degradation of water and land resources. The process to a market oriented economy has not been adequately supported by national institutional development. It resulted in a reduced living standard.

Land use strategies in Uzbekistan determine the level of food security. While the area of rangelands is vast, the livestock farming and production of grains, fruits and vegetables play a major role in food security and also are the basic source of rural population income.

More than 60% of Uzbeks live in rural area. Uzbekistan produces adequate calories to supply the population but almost 30 % lives below the food poverty line (IFPRI, 2006). The poorest population spends more than 60 % of income for food and takes a diet dominated by cereals. The existing system of the "state order" to produce cotton and wheat does not allow to growing up food crops in adequate amount.

The survey is focused on questions on the socio-economic situation, societal determinants of food supply, food consumption patterns, eating habits, and coping strategies managing food crisis on household level.

Markhamat region of Andijan province and Denau region of Surkhandarya province are the two most populated regions of Uzbekistan and presented as the study area.

The data collection is based on the own structured questionnaire, on the Household Food Security Survey Module (HFSSM), Food Consumption Score (FCS), and Food List Recall. Data analysis was done with SPSS.

The main results show the percentage of food secure and food insecure households as well as the food consumption status of these households concerning cash and food crops households are producing on their farm land and/or on their homestead plot.

The results show that the main indicator of the level of income, food security situation and food consumption status of household is the production strategy. Thereby the more households

produce cotton and wheat they will have less income, and a worse food security and food consumption status.

2   MOTIVATION AND RESEARCH QUESTIONS

The main motivation to conduct the research on food security is the lack of such a survey on household level. The set of studies on food security on macro level was conducted in Uzbekistan, but the majority of results are not generally accessible for open public by different reasons. Detailed information on land use, livelihoods, the socio-economic situation as well as data on the status of health and food in Uzbekistan are scarce.

The main objective of the study is to analyse empirically the current food and nutrition situation of farmers' household in the two research regions Markhamat and Denau.

Specific study objectives are in the following:

- To analyse the income, food and nutrition situation of households according to producing cash and food crops on farm land, and/or on homestead plot (incl./excl. livestock keeping)

- To analyse the relationship between homestead plot size and household's food security

- To analyse the share of income spent for food in households and share of preserved and consumed food produced on farmland and/or homestead plot

- To identify coping strategies for achieving food and nutrition security

3   DATA AND METHODS

Selection of sample size: Markhamat and Denau regions are the selected research areas as highly populated rural regions. In each region 110 farm households were investigated. Snowball effect was selected as an instrument for sample recruitment.

Field research steps and procedure: Before starting primary data collection several meetings with representatives of local authorities in both regions took place. Main general data needed for research was obtained from these sources.

Pre-test of questionnaire: Questionnaires developed for primary data collection were pre-tested in order to modify and/or aborted some questions. It is also necessary for proving the understandable of all questions and tables to be completed by respondents.

Data collection:

I.   Primary data collection was conducted using the following questionnaires:

   1. Own household questionnaire includes: socio-demographic data, socio-economic data, dwelling unit data, crop production on farm land and homestead plot.

2. Modified HFSSM (Household's food security survey module) questionnaire focuses on self-reports of uncertain, insufficient or inadequate food access, availability and utilisation due to limited financial resources, compromised eating patterns and food consumption that may result.

3. Food consumption score (FCS) questionnaire is based on the frequency of consumption of one or more items from the eight food groups. Thresholds for separating groups of households are generated by using a weighted food consumption score.

4. Food list recall (for the last 7 days). Ideally, detailed food consumption surveys would be used to measure caloric intake; however, the cost and time limitations of surveying an adequate sample is needed mean that such surveys are rarely conducted. In spite of this limitation this kind of survey was conducted using the "Food list recall".

II. Secondary data was collected from the different database of local and international organisations as UNDP, FAO, World Bank, ADB, SDC, SIC ICWC, UzStat, etc, as well as from different literature and official web-sites.

Data processing: The study is based on different statistical methods in order to achieve the research objectives. There were descriptive statistics, t-test, U-test and Logistic regression. SPSS (versions 18 and 19) were used for these aims.

4   MAIN RESULTS

In both regions 4% of all households have borderline food consumption thereby 96% of households have an adequate food consumption. There is no statistically significance between the regions (U-test: p=0.21).

Further, 37% of all households have a high food security status, 24%- marginal, 34%- low, and 6% have a very low food security status. Again, there is no statistically significance between the regions (U-test: p=0.65).

Analysis shows that food secure household have 0.036 ha of the home stead plot, and food insecure households have 0.03 ha. In the same time potatoes and onions are more produced by food insecure households. But food secure households produce more tomatoes and cucumbers. Thereby the production on homestead plots also has influence on household`s food consumption.

Some results were obtained in the analysis of influencing of crops produced on farm land on the level of income. Hereby, those farmers who produced only cotton and wheat have an average 470000 UZS per month; those who produce cotton, wheat and food crops have 1600000 UZS per month; and those who produced only food crops on farm land have 3 Mio UZS per month. In order to better understand these results it is necessary to note that the minimum wage (or poverty line) in Uzbekistan in 2011 was 63000 UZS per person per month. The average yearly currency rate for 2011 was 1 €=2400 UZS.

To analyse the influence of education, household composition, level of income as well as production on homestead plots and farm land on food consumption status and food security status, Logistic regressions are used. Two different kinds of models were analysed. First, in the

full model, all possible independent variables were included. The regression analysis indicates that household food consumption status as well as household food security status clearly depends on the kind of crop produced on the farm land. In these models, all other variables are statistically not significant. Deleting kind of crop produced as independent variables leads to the second, reduced model version. Here, the influence of education, household structure as well as income on food consumption

status and food security status is confirmed. Further, an increasing number of crops produced on the homestead plot increases the probability that the household is food secure.

These preliminary results indicate that land use strategies, especially the state order system, clearly influences food consumption and nutrition security in Uzbekistan. Diminishing the state order system as well as supporting production on homestead plots (in size as well as variety of crops) seems to be relevant strategies to reduce food and nutrition insecurity.

5 CONCLUSIONS AND RECOMMENDATIONS

Currently through the authorized bodies the State defines for farmers both the volume of production for the state order and areas of land occupied by strategic crops. Defining the production only by volume either than by land occupied will give the opportunity to reach the necessary volume of strategic crops production even from smaller areas. On the liberated areas the growing of food crops could be organized.

Following stage should be the decreasing of the state order volumes. Decreasing of the state order for cotton in the conditions of Uzbekistan will not mean the decreasing of the volumes of its production. The infrastructure for cotton growing is developed enough, in comparison with other crops, and the basic part of farmers at the first stages will not be interested in crop change. Introduction of the offered recommendation could lead the conditions for a crop choice. Thus, the economic freedom for farmers will be provided, and in turn, that is the extremely important for market mechanism introduction and functioning.

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