# Rapid assessment and microsimulation of impacts of a Cash+ pilot intervention in Kyrgyzstan 

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by
Mari Kangasniemi
FAO
Noemi Pace
University of Teramo
Karina Levina
ILO
Ana Ocampo
WFP
Jessica Owens
UNICEF
Maria Vasile
University of Pisa

Food and Agriculture Organization of the United Nations
Rome, 2022

Required citation: Kangasniemi, M., Pace, N., Levina, K., Ocampo, A., Owens, J. \& Vasile, M. 2022. Rapid assessment and microsimulation of impacts of a Cash+ pilot intervention in Kyrgyzstan. Rome, FAO. https://doi.org/10.4060/cc1182en

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ISBN 978-92-5-136697-4
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## PREPARATION OF THE DOCUMENT

The document is the product of the Inclusive Rural Transformation and Gender Equality Division (ESP) of the Food and Agriculture Organization of the United Nations (FAO).

The paper Rapid assessment and microsimulation of impacts of a Cash+ pilot intervention in Kyrgyzstan was prepared while all authors were working for the Food and Agriculture Organization of the United Nations (FAO).

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## ACKNOWLEDGEMENTS

We are grateful to the individuals and organizations in Kyrgyzstan who supported this research and made this report possible. We are foremost grateful to the key stakeholder driving this study, the Ministry of Labour and Social Development of the Kyrgyz Republic, and specifically to Jamilia Ismailova, who provided critical suggestions during the various stages of the analysis.

The authors wish to acknowledge the Agrifood Economics Division (ESA) and the Inclusive Rural Transformation and Gender Equity (ESP) divisions of FAO for technical and financial support in preparing this report. We would further like to thank Natalia Winder-Rossi, Alejandro Grinspun, Marco V. Sánchez Cantillo, Mauricio Rosales and Svetlana Livinets for their comments and suggestions. A special thank you goes to Nicholas Sitko, Ana Paula de la O Campos and Leopoldo Tornarolli for peer reviewing this report.

Our particular thanks to Alina Namazova and Larisa Minbaeva from RBC Group who supported the organization of the fieldwork and conducted the research data collection throughout. We also wish to thank the local authorities of Bagysh village district, and particularly Adinakhon Kozhonova for her kind and generous assistance and tireless support in the fieldwork in the Cash+ pilot site. Last, our special thanks go to the FAO Representative Office in Kyrgyzstan, and particularly Sagynbubu Mambetova, for the support provided in logistics and in the field.

All remaining errors or inconsistencies are our responsibility.
The "Productive Social Contract/Cash+" pilot in Kyrgyzstan was funded by the Russian Federation under the FAO's Project "Developing Capacity for Strengthening Food Security and Nutrition in Selected Countries of the Caucasus and Central Asia".

## ABBREVIATIONS AND ACRONYMS

| FAO | Food and Agriculture Organization of the United Nations |
| :--- | :--- |
| FGD | Focus group discussion |
| HDDS | Household Dietary Diversity Score |
| HH | Household |
| KIHS | Kyrgyz Integrated Household Survey |
| KII | Key informant interviews |
| MBLIF | Monthly Benefit for Low-Income Families with Children |
| UBK | Uy-Bulogo Komok (formerly the MBLIF) |
| WDDS | Women's Dietary Diversity Score |

## EXECUTIVE SUMMARY

The Cash+ approach has been developed to reap the benefits of integrating cash transfers with productive support interventions and skills training. The approach brings together key sectors, such as social protection, agriculture and nutrition, in an effort to address the key determinants of poverty and some underlying causes of malnutrition. FAO supported the Government of Kyrgyzstan to pilot such an approach in order to foster improved nutrition and boost productive capacities of poor rural households ${ }^{1}$. This pilot combined access to the national social cash transfer programme for low-income families with children (Uy-Bulogo Komok) with training on household nutrition and on nutrition-sensitive and climate-smart agriculture. This Productive Social Contract/Cash+ pilot sought to demonstrate that integrated social protection and agricultural interventions can generate sustainable improvements in food security and nutrition of vulnerable rural households, enhance their agricultural productivity, and support their pathways out of poverty.

This report presents the results of a mixed-method rapid assessment that provides both indicative quantitative information and in-depth qualitative analysis on the household-level impacts of the Cash+ pilot. The assessment focused on the effects of the pilot intervention on dietary diversity, income generation and poverty reduction outcomes as well as household decision-making. To establish the impacts of the pilot, the assessment relied on comparing subjective perceptions of households that participated in the pilot, those receiving only cash transfers but not the pilot, and a sample of other households that did not receive either support (as a comparison group). This was accomplished through a qualitative study and a quantitative study. The rapid assessment was complemented by a microsimulation analysis of potential poverty impacts and implications for food consumption diversity that made use of the Kyrgyz Integrated Household Survey (KIHS) conducted in 2014, which is representative at the national level.

Findings from the quantitative study showed that the Cash+ intervention was associated with positive trends in food security and dietary diversity of children and women in the households that participated in the pilot. Participation was associated with perceived improvements in the

[^0]frequency of consumption of nutrition-rich foods, as well as reductions in both concern about not having enough food and limiting dietary diversity due to lack of resources. These results were supported by the qualitative study, which found that participants of the pilot reported having consciously improved household diets as a result of the new crops and the nutrition education sessions; similar changes were not observed in the comparison groups. The microsimulation analysis also showed that provision of more diverse crops can lead to improved diversity of food consumed in different potential target groups of vulnerable households.

The rapid assessment also showed relative improvements in income generated by own-farm activities and production and sales of crops. The qualitative study supported these findings to an extent, but also revealed that additional production was often used only for self-consumption rather than sales. This is because households face constraints to increasing production beyond small quantities, such as lack of access to inputs, credit and markets, as well as unstable prices (though the qualitative study also highlighted the usefulness of agricultural training). In addition, while women are typically responsible for gardening activities, the pilot did not lead to changes in withinhousehold decision-making or gender roles.

Furthermore, the rapid assessment showed that the pilot households experienced improvements in their subjective perceived poverty status, though they still remained mainly poor. These results are supported by the microsimulation results that show that interventions with a similar value of transfer can have significant effects with regards to reduction of poverty - though as highlighted by the rapid assessment, this requires that they be correctly tailored and used, and complemented by an enabling environment. Although the pilot increased some facets of well-being among the pilot households, these households, as well as those receiving only the cash transfer, felt that they were not well prepared for crisis situations. The comparison group households also expressed the need for expanded social protection.

The report concludes that crop diversity and nutrition education are critical for attainment of improvements in dietary diversity, but longer periods of support and interventions that connect households to markets are critical for larger impacts on income and livelihoods. Adequate size of both productive packages and social cash transfers are necessary to achieve strong impacts. In addition, explicit gender-transformative elements should be integrated into the intervention to generate positive impacts on women's empowerment.

## 1 Introduction

In Kyrgyzstan, rural poverty and high malnutrition rates are persistent challenges. In support of the Kyrgyz Government's efforts to address these challenges, FAO implemented a small pilot of the Cash+ approach which entailed the provision of a flexible combination of social cash transfers with productive support (inputs, assets and training) to rural beneficiaries. The goal of the pilot was to provide insights into how and under what conditions these complementary interventions generate sustainable improvements in food security and nutrition, and contribute to improvements in recipients' livelihoods and productive capacities. In this report, we summarize findings on the impacts of this pilot on recipients' dietary diversity and income. These results will help to inform the future scaling up of Cash+ interventions in Kyrgyzstan.

The Cash+ pilot intervention was designed to complement the national social cash transfer programme - the Monthly Benefit for Low-Income Families with Children (MBLIF) ${ }^{2}$ programme - by providing recipients with the choice of three alternative productive packages: two packages of seeds for kitchen gardens of different scale, intended for self-consumption, and one package including seeds and a greenhouse, aimed at generating additional income through increased production. With the third package, nutrition impacts were sought through additional income to purchase food and, in addition, production for self-consumption. All packages included agronomic and technological training, nutrition education, and coaching.

We present the results of a mixed-method rapid assessment of the pilot, which was designed to provide both indicative quantitative information on the impacts of the interventions, as well as to map subjective perceptions thereof. In particular, we focus on the effects of the pilot interventions on dietary diversity, income generation and poverty reduction outcomes. Though the pilot had no specific gender components, the fact that gardening is usually undertaken by women could also imply changes in intrahousehold dynamics, which can further strengthen dietary and nutrition outcomes. In order to better understand whether the interventions had any impact on such outcomes, the rapid assessment also entailed an assessment of decision-making within households. The results of the rapid assessment were complemented by a microsimulation analysis that made use of data available in the 2014 KIHS, which is representative at a national level. The focus of

[^1]the microsimulation was on how the impacts of the Cash+ intervention would change populationlevel indicators or outcomes for potential target groups, or for the poorest sections of the rural population, if scaled up nationally. While the outcomes measured through this approach were more limited than those explored in the rapid assessment, they nonetheless provide useful insights to inform policy discussion on potential impacts if the intervention were to be scaled up beyond the pilot area.

The structure of the report is as follows. In section 2 we discuss the theory of change and the existing literature on the pathways of impact. In section 3 we describe the intervention and its context, and in section 4 the methodology of the rapid assessment and microsimulation analysis. The results of the analyses are presented in section 5 , followed by conclusions in section 6 .

## 2 Theory of change and previous literature

The overall aim of the Cash+ pilot intervention was to improve household food and nutrition security by supporting increased production of nutrient-rich vegetables. In addition to productionrelated limitations, lack of access to markets is known to constrain food security by limiting the availability of food. Further, high volatility of food prices can further exacerbate deficiencies and lack of diversity in diets. The Cash+ pilot sought to address these challenges by improving household capacity to produce a diverse range of vegetables and by fostering related incomegenerating opportunities through a combination of agricultural interventions, livelihood training and cash transfers.

Impact evaluations of cash transfer programmes in various country contexts show that access to predictable, regular and substantial social assistance programmes (such as cash transfers) can enhance food security and enable access to health and education (Davis et al., 2016; FAO, 2015a). Moreover, these programmes can generate positive impacts on agricultural production and broader benefits for local economies, while contributing to improved dietary diversity at the household level, increased investment in agriculture activities, and livelihood portfolio shifts away from agriculture (FAO, 2015a; Daidone et al., 2019). Furthermore, cash transfers have been hypothesized to have positive impacts on women's empowerment by providing access to resources. Evidence shows that they also have economic impacts for women, though their contribution to women's decision-making or bargaining power is less clear (FAO, 2015b). With integrated interventions, such impacts could potentially be strengthened (de la O Campos, 2015).

Support for agricultural activities, as a complement to cash transfers or by itself, can have both direct and indirect impacts on nutrition and food security (FAO, 2017). In the literature many pathways between productive interventions and dietary diversity have been empirically established. Several studies specifically explore impacts of such interventions on food security and nutrition at the household level, assessing the various impact pathways, including through increased income, effects on production of food crops and/or improvements in crop diversity (e.g. Pandey, Dev and Jayachandran, 2016; Snapp and Fisher, 2015; Ruel and Alderman, 2013; Webb Girard et al., 2012; Leroy, Ruel and Verhofstadt, 2009; Olney et al., 2009; Berti, Krasevec and FitzGerald, 2004).

The first impact pathway involves a direct channel from production to consumption: increasing production of nutritionally valuable food contributes positively to diets through consumption of households' own production. Consumption and production are typically not fully separable in the context of developing country agriculture; i.e. production and consumption decisions are linked, due to limited or costly access to functioning markets for both household labour and their produce outside the household. This is highlighted by a number of studies on the impact of agriculture on diets and nutrition. Some recent works include Dillon, McGee and Oseni (2015), Sibhatu, Krishna and Qaim (2015), Kumar, Harris and Rawat (2015), Pellegrini and Tasciotti (2014) and Jones, Shrinivas and Bezner-Kerr (2014), who find a positive association between production diversity and household dietary diversity.

In the second pathway, increased income through additional production and/or production of higher value crops also improves food security by enabling households to spend more on food. The third pathway also operates through increases in income: the increased income shifts consumer preferences, possibly leading to dietary changes (such as higher consumption of more expensive and nutritious food items). The fourth and fifth pathways are more indirect: on the one hand, higher production can reduce local food prices leading to higher food consumption; on the other, development of agriculture can have impacts on intrahousehold consumption through changes in control of resources. In particular, inclusive strategies for the development and diversification of agriculture production can be associated with changes in status and decision-making power of women, which can lead to more egalitarian intrahousehold allocation of food (Harris-Fry et al., 2017; Quisumbing and Smith, 2007). In addition to the impacts through changes in production, nutrition-related training and psychosocial follow-up can trigger behavioural changes or changes in consumer preferences that can further improve dietary diversity (Webb, 2013).

It is important to note that though an agricultural intervention aiming to improve diets may have specific goals, it is ultimately not possible to control how, for example, the crops provided are used and to what extent they generate impacts through these different pathways. Even when households consume the new crops, there may be significant substitution effects if they simultaneously reduce consumption or diversity of other food items. ${ }^{3}$ Similarly, higher income may translate into

[^2]improved dietary outcomes but the degree to which the additional income is spent on more nutritious food is essentially an empirical question, and there is likely to be heterogeneity in these impacts, depending on the characteristics of the household.

Finally, evidence shows that in rural contexts, the benefits of cash transfers per se can be enhanced through synergistic linkages with productive agricultural interventions, thereby improving the overall livelihoods of poor rural households (Soares et al., 2016). Cash+ interventions have been developed as a response to the emerging insights on such synergistic benefits of integrating cash transfers with productive support interventions and skills training. The Cash+ approach brings together key sectors, such as social protection, agriculture and nutrition, in an effort to holistically tackle key determinants of poverty and certain underlying causes of malnutrition (through the design of nutrition-sensitive agriculture and food systems policies and programmes).

## 3 Cash+ pilot intervention in kyrgyzstan

Social protection in Kyrgyzstan covers a wide range of risks and represents a significant share of public expenditure. The majority of social protection expenditure is directed to social insurance or the contributory pension system, which has achieved nearly universal coverage of retired formal sector workers (OECD, 2018). However, social assistance and labour market programmes, which were introduced in the 1990s, are relatively small in coverage and expenditure.

The MBLIF/UBK is the only social assistance programme intended to mitigate the effects of extreme poverty among households with children (OECD, 2018). However, it is limited in both coverage and adequacy. Coverage has declined in recent years to 4.9 percent of population (OECD, 2018) or around 91000 households, ${ }^{4}$ which is much lower than the national poverty rate -22.4 percent of the population in 2018 (NSC, 2019); further, the coverage has a large exclusion rate of the poorest. The benefit level is also very low: KGS 810 (around USD 11.7) per child per month, with negligible value adjustments for high-altitude areas. The average benefit level in 2018 was 19.9 percent of the required subsistence minimum for children (NSC, 2018a), 55.63 percent of the extreme poverty line and 29.7 percent of the overall poverty line (NSC, 2018b), limiting its impact on the incidence and depth of poverty.

Despite the programme's limitations, the Government is committed to increasing its impact by testing integrated approaches likely to have stronger impacts on poverty reduction. Based on international experiences referenced above on the impact of combined social protection and productive interventions, FAO agreed with the Government to test a Cash+ model combining MBLIF/UBK with productive support, in order to boost beneficiaries' livelihoods and productive capacities, as well as to improve the quality of their diets. ${ }^{5}$

[^3]
## CASH+ PILOT DESIGN

The pilot was implemented in Jalal-Abad oblast. This oblast was selected due to the high rate of headcount poverty ( 45.1 percent $^{6}$ ), low diversity of consumed food among the population, and high incidence of malnutrition, including anaemia among women of reproductive age and high incidence of underweight among children and adolescents aged $0-17 .{ }^{7}$ Given the resources allocated to this pilot and the small number of households to be included as beneficiaries, Suzak rayon (district) was selected, for both its proximity to a "Growth Point" ${ }^{8}$ and its accessibility. Within Suzak, a field mapping exercise identified the middle upper area of the rayon as presenting the most opportunities for a successful pilot implementation, while still presenting a number of production-related challenges, including the shortage of water for irrigation. Advantages included its relative accessibility, interest of the population in crop production, proximity to regular markets in Jalal-Abad and Suzak, and proximity to a vegetable processing plant in Yrys Ayil Okmotu (village district). The existence of a Friday market in Kyzyl-Tuu, another Ayil Okmotu of the area, also served as a development factor (Ocampo et al., 2017).

The design of the productive packages was based on an assessment of the profile of poor and vulnerable households in the Oblast and consultations with the community. The assessment highlighted the high dependency ratios (indicating possible labour supply issues and risk of negative impacts on child labour), high unemployment and small size of accessible land plots (of an average size of 0.7 ha ). Agricultural production mostly consists of meat products and starchy staples, as well as in lesser proportion fruits and vegetables, especially in the third and fourth quarter of the year. In all cases, levels of production are low.

Households' capacities to invest in food production are limited in terms of soil preparation, planting and cultivation as well as financial investment and time allocated to farm labour. Productive inputs and training were therefore identified as potential elements to help improve households' self-sufficiency and nutrition. Because of these constraints, the pilot focused on crops that are easy to grow, which require limited inputs, water and labour. Training and equipment to

[^4]improve water harvesting and soil preservation were necessary complements to guarantee production sustainability in the long run.

Based on a preliminary analysis of household diets and cooking practices, training and inputs for growing crops such as green leafy vegetables, pulses and fruits were included in the pilot. Moreover, based on a more thorough "knowledge, attitude and practices" assessment, ${ }^{9}$ training around nutrition and food preparation was designed to improve nutrition. To complement these interventions, training was also included on food conservation, processing and commercialization in order to support household's livelihoods and economic diversification.

To complement the cash transfer, the MBLIF/UBK recipients in the pilot villages were able to choose between three types of productive packages:

## 1) Kitchen gardens to improve household nutrition (dietary diversity) and selfsufficiency

This package included a variety of seeds for crops that presented a particular nutritional value for households. The package was compatible with a small area of arable land (on average 0.03 ha ) and took into account beneficiaries' limited access to irrigation, seasonality, and the particular soil characteristics and climate. It was primarily intended for household consumption and not necessarily marketing, which was underscored through messaging during enrolment, training, and nutrition education sessions. The seeds included in this package were beetroot, broccoli, carrot, chickpea, lentil, eggplant, pumpkin and spinach.

This option provided a flexible combination of crops already familiar to households in the pilot areas, in line with local dietary traditions and food preferences, and crops that were not yet widely cultivated. The proposed crops were selected in accordance with FAO Food and Nutrition Technical Assistance (FANTA) 2016 recommendations on minimum dietary diversity to compensate for the reported insufficiencies in consumption of some food categories in Jalal-Abad Oblast. ${ }^{10}$

## 2) Small package to boost household nutrition (dietary diversity)

[^5]For households unable to dedicate more time to cultivate their plots of land, the pilot proposed a small package of seeds to promote the production of a limited number of crops that present a high nutritional value but require a relatively low amount of labour and water. Designed for a small area of arable land (on average 0.03 ha ), this package was also intended mainly for household consumption. The crops included in this package were chickpea, carrot and spinach.

This second package similarly aimed to address the insufficiencies in consumption of pulses (through chickpea) and dark-green leafy vegetables (through carrot greens and spinach), as well as to continue improving household consumption of vitamin A-rich vegetables (through carrot and spinach).

## 3) Promotion of income-generating opportunities for households

The third package aimed to promote income generation through the production of higher value crops in local markets. In particular, the objective was to influence household livelihoods through a diversification of income sources, while also improving nutrition through enhanced income. The package was meant for MBLIF/UBK households who felt they had stronger linkages with markets, or those who wished to engage in more market-oriented income-generating activities. No requirements for land parcel size or labour were, however, introduced.

To allow the beneficiary households to produce marketable surpluses in particular in early spring and late fall, when vegetable supplies in local markets dwindle and prices rise, households receiving this package were given unheated, mobile tunnel greenhouses of 24 square metres for crop production in early spring and late autumn, as well as frost-resistant seeds. Furthermore, as they were likely to consume some of the crops themselves, the crops provided were of high nutritional value, similar to the other two packages: namely, lettuce, spinach, tomato, lentil, cucumber and cauliflower.

Ultimately, package 1 was selected by only 7 households, whereas 20 households chose package 2 and most beneficiaries (123 households) chose package $3 .{ }^{11}$

All productive packages were complemented with training, follow-up and nutrition education. The training included agronomic (varying according to the selected package) and technological (i.e. organic agriculture, water-saving technologies, integrated pest management, processing)

[^6]dimensions. A nutrition education component (awareness raising and cooking demonstrations) sought to ensure that the intervention translated into improved nutrition for all pilot households, regardless of the package selected. The follow-up activities were organized together with local specialists on social issues and village leaders, to ensure that beneficiary households received regular visits and counselling.

## Enrolment of beneficiaries in the MBLIF/UBK programme

To be selected for the MBLIF/UBK programme, interested households apply to the district representation of the Ministry of Labour and Social Development, which leads the enrolment process at the local level. Households with children that meet the asset and income criteria are eligible for MBLIF/UBK. Information on income, assets and durable goods is used to assess whether household income is below the means test threshold. The information is verified by a social benefit specialist through household inspections and a review of provided documents. The recipient lists are updated once a month; all recipients must reapply every 12 months to remain in the programme. The benefits may be terminated if a household's status changes, e.g. their income increases, they purchase or obtain high-value durables (e.g. a car) or livestock, or the full household migrates (according to the Law of the Kyrgyz Republic "On State Benefits" No. 163 as of 28 July 2017).

## Selection of participants in the pilot

A total of $150 \mathrm{MBLIF} / \mathrm{UBK}$ participant households residing in the villages of Bagysh, Oktyabr and Safarovka of Bagysh Ayil Okmotu (in Suzak rayon) were invited to join the Cash+ project. These villages were selected because of the high overall number of MBLIF/UBK recipients residing in them, ${ }^{12}$ and the fact that all the MBLIF/UBK households had access to kitchen gardens or other land plots suitable for crop production.

The enrolment strategy involved inviting all MBLIF/UBK households residing in the pilot area to participate in the initiative through direct and/or indirect outreach. However, some households were either not reached or did not want to participate. No incentives other than productive support packages were offered to potential beneficiaries, and some of the households may have simply not been aware of the intervention (due to specific circumstances such as limited means of

[^7]communication or mobility patterns). As such, the actual recipients may have been be subject to a selection bias towards households that were more entrepreneurial, slightly wealthier and with relatively more land, with fewer labour constraints, and/or simply better placed within social networks in the participating pilot communities. It should be noted that participants in the Cash+ pilot - while necessarily poor and vulnerable - may not have been the poorest and most vulnerable within the target communities, thus creating a possible bias in the results.

## 4 Methodology

### 4.1. RAPID ASSESSMENT

### 4.1.1. Quantitative study

We adopted a mixed-methods approach to the rapid assessment, triangulating qualitative and quantitative information to reconcile perceived quantitative trends and in-depth qualitative understanding of how changes accrued as a result of the intervention. The quantitative information collected consisted of a survey of beneficiaries of the Cash+ pilot and two samples of other vulnerable households. The survey took place after the pilot and no baseline data on individual households were available. The conclusions are based on a comparison of mean outcomes and subjective perceptions of past trends in different treatment arms during the pilot.

The sample included four different treatment arms:

1) Cash+ treatment arm: This group encompassed 133 households that were beneficiaries of the MBLIF/UBK programme and who also received the complementary components. ${ }^{13}$
2) Cash-only treatment arm: This group consisted of a random sample of 97 poor households who received the MBLIF/UBK and resided in treatment villages, but were not included, or were not willing to participate, in the complementary interventions. ${ }^{14}$ The sample was drawn from the list of MBLIF/UBK beneficiaries included in the Corporate Social Assistance Information System

[^8]database (administered by the Suzak District Department of Social Development of the Ministry of Labour and Social Development of the Kyrgyz Republic) who resided in the treatment villages: namely, Bagysh, Oktyabr and Safarovka.
3) Comparison treatment arm: This group consisted of a random sample of 99 poor households who received neither the MBLIF/UBK nor the complementary interventions and resided in the treatment villages. ${ }^{15}$ These households were drawn from the so-called "social passports" of poor households, a paper-based quasi-social registry maintained at the level of local authorities to keep track of vulnerable families in Ayil Okmotu and provide targeted support from local authorities. These households are vulnerable but slightly better off than MBLIF/UBK households, or at least do not satisfy all criteria to qualify for social assistance. The households drawn from social passports typically have income below the nationally defined poverty line, have land plots equal to those normally owned by MBLIF/UBK beneficiaries, and live in the same agro-ecological conditions in the treatment villages, namely Bagysh, Oktyabr and Safarovka.
4) Plus-only treatment arm: After the quantitative data collection, it was revealed that 35 households ( 26 percent of the Cash+ study sample of 133 households and 11 percent of the total study sample of 329 households) that were included in the Cash+ group at the time of data collection were not receiving cash transfers anymore: either they no longer qualified for the programme or had not (yet) reapplied for the new cycle by the time data collection started. Therefore, a fourth category of households, the Plus-only group, was analysed separately in the quantitative assessment. To summarize, the study sample was composed of 98 households included in the Cash+ group, 97 households in the Cash-only group, 99 households in the Comparison group, and the residual 35 households in the Plus-only group.

For most of the relevant information collected for the quantitative rapid assessment, we compare the mean values of the Cash+ group with the Comparison group. Moreover, in order to get some insight on the synergies between the cash transfers received through MBLIF/UBK and the benefits received through the pilot, we compare the mean values of the Cash+ group with the Cash-only group. This analysis provides information on the incremental impact of the pilot with respect to cash transfers. Finally, taking advantage of the fourth category of households, we compare the

[^9]Cash-only group with the Plus-only group to provide some insight on whether cash transfers or the activities implemented in the pilot are more effective in reaching the desired outcomes. However, we should interpret the results with some caution given the small group size and the fact that the Plus-only group was not randomly selected from those originally assigned to the pilot. Figure 1 summarizes the design of the descriptive analysis.

Figure 1. Design of the descriptive analysis


Source: Authors' own elaboration.
The survey questionnaire (full questionnaire available in Annex 1) focused on priority areas of concern to the programme. These included household structure and sociodemographic characteristics (all members); agricultural assets; income generation from agriculture and other activities; and food security and nutrition (household level), e.g. number of meals for children, frequency of consumption of various nutritious foods, subjective food insecurity and savings, credit and investment. In addition, a set of questions on women's empowerment and decisionmaking power was included. There were also some specific questions on the use of the MBLIF/UBK transfer and individual perceptions of the role of the intervention and pathways out of poverty.

These data cannot provide evidence on a causal link between observed trends and the interventions, but they do allow the calculation of simple descriptive statistics regarding key indicators and
perceptions of beneficiaries. In the absence of baseline data and actual trends, respondents were asked a set of retrospective questions in order to gauge perceptions on household trends for specific variables of interest. The questions did not ask for a quantitative assessment of the actual rate of change, as during the field testing it emerged that the respondents had difficulties remembering their income or consumption levels from a year earlier. Although retrospective questions are affected by serious recall bias, we considered the quality of the data to be higher with such questions than numerical assessment of the changes experienced. While this approach cannot produce a numerical estimate of the impact of the project, it gives an indication of whether the participants on average perceive that the recent trends in their food security and income generation are more positive than those in the comparison households.

The set of questions aimed for assessing women's empowerment inquired as to who made the decisions on certain domains within the household and whether there had been any changes in this regard. The questions were posed to one male and one female member of the household. A similar approach is often used in studies of women's decision-making power. Decision-making power as such is not intended to be a complete measure of women's empowerment, but captures only one aspect of it.

### 4.1.2 Qualitative study

To complement and verify the findings of the quantitative assessment, qualitative research was conducted in the pilot villages of Safarovka, Bagysh and Oktyabr of Suzak rayon (in Jalal-Abad Oblast). Two focus group discussions (FGDs) were conducted, one with participants from the Cash+ treatment arm, the other with participants from the Cash-only and Comparison treatment arms. The FGD participants were randomly selected from the households included in the quantitative survey. Each FGD was divided by sex to allow for less inhibited expression of viewpoints and perceptions. FGDs were made up of 5-8 participants and were conducted in the Kyrgyz language.

We developed the FGD guides based on the objectives of the study and subsequent meetings with key stakeholders. They explored issues surrounding the following areas:

- impact of the interventions on livelihoods and incomes;
- impact of the interventions on food security and diet;
- use of the cash transfer;
- intrahousehold dynamics and impact on community; and
- pilot design and implementation.

In addition, in each community semi-structured key informant interviews (KIIs) with critical stakeholders were conducted to capture the perceived impact of the intervention on household food security and nutrition, including dietary diversity, agricultural production, income and livelihoods. A total of 13 key informants were interviewed, and the KIIs were held in the Kyrgyz language. The stakeholders interviewed included village heads and municipal and regional specialists in social work, employment, agriculture and investment. The full qualitative guide is available in Annex 2.

### 4.2 MICROSIMULATION ANALYSIS

In addition to the rapid assessment, we assessed potential impacts of similar interventions by using a microsimulation analysis. For this analysis we used existing data from a nationwide household survey and aimed to establish how similar support intended for all eligible households could affect aggregate outcomes. Such analysis highlights the scale-up potential in terms of how such interventions could address overall poverty or diversity of consumed food among beneficiaries, allowing also for an exploration of different targeting scenarios. Unlike specific impact evaluations or rapid assessments, such analysis cannot trace the actually observed impacts of the pilot or provide direct analysis of those elements of the pilot that are not included in the household data, such as specific training. However, given the limitations of the rapid assessment as a small and geographically limited survey with only ex post data on subjective indicators, it is important to establish whether meaningful impacts could be attained with a similar intervention when implemented at scale. For this purpose, we used microsimulation to assess aggregate impacts on poverty rates and on diversity of food consumed by households.

Microsimulation in general consists of first determining potential assumed or estimated impacts of the intervention on variables of interest, such as income or food consumption, and then using them to calculate hypothetical outcomes of the intervention for each household that satisfies the desired eligibility criteria. These simulated outcomes can be used to examine how the outcomes of interest change across the population or in its subgroups, in this instance poverty rate and food
consumption patterns. Microsimulation also provides information on the role of coverage, transfer size and targeting, and gives an estimate of aggregate effects of the intervention.

The two main microsimulation approaches are arithmetical and behavioural simulations. In arithmetical simulations the hypothetical impact of the intervention is calculated using mechanical rules, such as increasing household income by the value of the transfer (in this instance the presumed value of crops obtained from the packages) or in the case of consumption diversity, adding the new food groups from the crop packages to those households that were not previously consuming them. In behavioural simulations the hypothetical outcomes are based on models of household behaviour estimated from the data. These behavioural models are then used to predict new outcomes for the targeted households when the explanatory variables change as a result of the intervention. In both approaches, changes in aggregate outcomes are assessed after calculating hypothetical outcomes for targeted households.

The data we used for the microsimulation analysis was the KIHS conducted in 2014. This survey is conducted on a quarterly basis and interviews approximately 5000 households, with final observations delivered once a year. It is designed to provide representative data at national, rural, urban and oblast (region) level. The data includes a large number of variables related to consumption and production of food items, sources of income, employment, and living conditions of households as well as their agricultural activities. The data do not, however, include the same outcome variables as the rapid assessment questionnaire: for example, there is no individual-level information on the quality of diets or frequency of meals, but only information on household-level consumption of different food items. Hence, the results cannot be directly related to those of the rapid assessment.

The same data are used to establish poverty levels in Kyrgyzstan. Normally, total household consumption is used to measure poverty in the country. In this study, we instead opted for income, because of lack of data on official consumption aggregates and the fact that the income measure that includes net value of agricultural production calculated from the data and income from other sources such as MBLIF/UBK is more directly impacted by the intervention. The results are hence not directly comparable with official poverty estimates. Households tend to underreport their income, and hence the rates of extreme poverty are somewhat higher using our income measure than the official poverty headcount based on consumption ( 9.3 percent vs 1.1 percent for 2014).

For the overall poverty rates, however, the difference between both measures is quite small ( 30.3 percent vs 32.6 percent for 2014). ${ }^{16}$ The main focus of the study is changes in poverty rates rather than the level thereof.

Measurement of dietary diversity is based on a methodology modified from FAO guidelines (FAO, 2010). To compute dietary diversity the food consumed by the household is divided into food groups and the number of the food groups consumed are computed for a two-week recall period. Optimally, data on dietary diversity should be collected within a 24 -hour recall and for each individual separately, but such measures are typically not possible to construct based on standard household surveys. Hence, the measure used here can be considered as a less precise measure of dietary diversity that reflects the diversity of broader food consumption patterns, rather than the nutritional concept of dietary diversity. Due to the longer recall period of the indicator, it may give an overly optimistic picture of dietary diversity, as daily diet is unlikely to include all food groups consumed over a two-week period. We created three different measures of dietary diversity based on the available information of the consumed food items. The results using these measures were relatively similar, hence only those using the Household Dietary Diversity Score (HDDS) are presented in this report. ${ }^{17}$

We simulated three scenarios for the microsimulation analysis: two concerning dietary diversity and one concerning poverty. The scenarios are simulated for selected packages, and for four different coverage options, see Table 1 ; they are further described below. The coverage options define the target groups of the intervention, in this instance households with different levels of income and MBLIF/UBK beneficiary status.

## 1. Arithmetical simulation of dietary diversity

[^10]The simplest arithmetical scenario of dietary diversity is where we assume a full take-up of selfconsumption packages among recipients and full feed-through of additional crops into the number of food groups consumed. This scenario is based on the assumption that the additional crops are used completely for consumption (rather than being sold) and hence add to dietary diversity, and that the consumption of other food groups is not reduced as a result of the additional crops.

The scenario is calculated by adding the additional food groups included in the packages (vegetables, legumes) ${ }^{18}$ to those households qualifying for the assistance that do not already consume them. The households' dietary diversity is then compared before and after the intervention.

## 2. Arithmetical simulation of poverty

The simplest arithmetical simulation concerning household income and poverty of the cash crop package can be carried out by adding an estimate of the additional household income (see Table 2) to the total income, based on the predicted harvest from the inputs distributed and the average prices of the cash crops in question in local markets. Consequent changes in poverty rates are then calculated.

[^11]Table 1. Simulated scenarios

| Scenario and packages <br> modelled | Determination <br> of income | Determination of <br> dietary diversity | Coverage |
| :--- | :--- | :--- | :--- |
| Scenario 1 <br> All three packages | Arithmetical: food <br> groups included in the <br> packages added to <br> diversity score if not <br> already consumed by <br> the household | a) MBLIF/UBK beneficiaries <br> b) Extreme poor <br> c) Lowest quintile of income <br> distribution <br> d) Poor |  |
| Scenario 2 <br> All three packages | Arithmetical: the <br> approximate <br> value of the crop <br> added to income |  | a) MBLIF/UBK beneficiaries <br> b) Extreme poor <br> c) Lowest quintile of income <br> distribution <br> d) Poor |
| Scenario 3 <br> Packages 1 and 3 | Arithmetical: the <br> approximate <br> value of the crop <br> added to income | Prediction from a <br> behavioural model of <br> dietary diversity | a) MBLIF/UBK beneficiaries <br> b) Extreme poor <br> c) Lowest quintile of income <br> distribution <br> d) Poor |

Source: Authors' own elaboration.
Table 2. Approximate value of crops in support packages

| Package | Value of expected yield per year <br> (KGS) |
| :--- | :--- |
| Package 1 | $\mathbf{3 2 ~ 8 5 7}$ |
| Package 2 | $\mathbf{2 0 5 0 0}$ |
| Package 3 | $\mathbf{8 6 6 7 0}$ |

Note: The value of the packages is based on market prices for the provided crops in Jalal-Abad region in 2017 and average yield estimation per crop in Jalal-Abad region on irrigated arable land.
Source: Authors' own elaboration.

## 3. Behavioural simulation of dietary diversity

In scenario 3 we assume that all intended beneficiaries take up packages 1 or $3^{19}$ but their dietary diversity is determined by a model where dietary diversity is depends on the number of crops

[^12]grown, income, and other variables. ${ }^{20}$ Given that the packages also have monetary value, they have an income effect in the model. The assumption is that the packages do not require much labour and hence do not impact on other household production and labour supply, and that income increases by the projected value of the harvest. If the household is not already growing the crop in question, we increase the number of crops cultivated according to the package contents. We then simulate changes in consumption diversity by using the model, ${ }^{21}$ predicting the new values of dietary diversity and comparing them to a simulated baseline. As dietary diversity is an integer variable, the values obtained are rounded to the nearest feasible value.

[^13]
## 5 Results

### 5.1 RAPID ASSESSMENT

We designed the rapid assessment to provide information on the impact of the Cash+ intervention on income-generating activities and food security and nutrition outcomes (as explained in section 4.1). As the treatment was not randomized and construction of similar comparison groups through matching was not possible, the strength of the quantitative rapid assessment depends on how similar the groups are. We detected some differences in the four treatment arms regarding their demographic characteristics, land ownership and size, household assets, agricultural assets, and households' ability to access formal and/or informal credit.

As shown in Table 3, the average age of household heads in the Cash-only group and Cash+ group is significantly lower with respect to households in the Comparison group. Cash+ households are significantly larger than those in the Comparison group, while households in the Cash-only group have fewer non-adult members. The Cash + and Plus-only groups also differ from the Comparison group in terms of their access to land. Land ownership is significantly greater in the Plus-only group, and the size of accessible land (calculated in hectares, summing up the size of the different parcels owned or leased) is significantly greater in both the Cash + and Plus-only groups. These two findings suggest that households with greater availability of land "self-selected" into the pilot and this in turn may have overestimated the impact of the programme. Since there is no way to control for this with the data at hand, we simply acknowledge that it may have occurred.

The average number of total household assets (sum of personal computer, washing machine, fridge-freezer, cell phones and cars) is significantly smaller in the Cash-only group with respect to the Comparison group, suggesting that these households are indeed somewhat more vulnerable than those in the Comparison group, who do not qualify for the MBLIF/UBK. Access to credit from commercial banks, savings and lending groups, microcredit institutions, and relatives and friends, as well as the ability to save, are significantly greater in the Plus-only group. The lack of difference between groups in terms of credit access and ability to save before the beginning of the pilot, however, suggests that these may be outcomes of the pilot rather than resulting from differences before the intervention.

Table 3. Household characteristics in different treatment arms

|  | Comparison | Cash- <br> only | Cash + | Plus-only |
| :--- | :---: | :---: | :---: | :---: |
| Gender of household head (0=female, 1male) | 0.636 | $\mathbf{0 . 7 8 4}$ | $\mathbf{0 . 7 9 6}$ | 0.800 |
| Age of household head | 50.990 | $\mathbf{4 1 . 9 0 7}$ | $\mathbf{4 6 . 5 3 1}$ | 54.486 |
| Education level of household head (0 if $<$ <br> secondary, 1 if $\geq$ secondary $)$ | 0.869 | 0.804 | 0.784 | 0.943 |
| Number of household members | 5.586 | 5.412 | $\mathbf{6 . 2 5 5}$ | 6.000 |
| Number of adults in household | 2.768 | $\mathbf{2 . 1 8 6}$ | 2.500 | 3.143 |
| Household labour-constrained (0=no, 1yes) | 0.091 | 0.165 | 0.092 | 0.086 |
| Land ownership (0=no, 1=yes) | 0.889 | 0.845 | $\mathbf{0 . 9 9 0}$ | $\mathbf{1 . 0 0 0}$ |
| Size of land (ha) | 0.455 | 0.317 | 0.417 | $\mathbf{0 . 7 5 0}$ |
| Number of household assets | 2.636 | $\mathbf{2 . 3 4 0}$ | 2.520 | 2.914 |
| Number of household assets before the pilot | 2.576 | $\mathbf{2 . 2 1 6}$ | 2.337 | 2.743 |
| Number of agricultural assets | 0.848 | 0.515 | 1.071 | 1.171 |
| Number of agricultural assets before the pilot | 0.949 | 0.515 | 1.041 | 0.914 |
| Household able to save money (0=no, 1 "= <br> yes) | 0.051 | 0.010 | 0.051 | $\mathbf{0 . 1 7 1}$ |
| Household able to save money before the pilot <br> $(0=$ No, 1 yes) | 0.061 | 0.031 | 0.031 | 0.118 |
| Access to credit (0=no, lyes) | 0.449 | $\mathbf{0 . 4 3 3}$ | $\mathbf{0 . 5 9 4}$ | $\mathbf{0 . 7 3 5}$ |
| Access to credit before the pilot (0=no, 1 |  | 0.457 | 0.588 | 0.714 |

Note: Values in bold indicate a statistical difference with respect to the Comparison group.
Source: Authors’ own elaboration.

### 5.1.1 Dietary diversity and food security

We assessed the relationship between the programme and food security and dietary diversity through the analysis of several indicators specific for children (age $<18$ years), women (age 1549 years) and the household as a whole. For children, we looked at the number of meals per day; and for children and women frequency of intake of animal-based protein rich food, protein-richvegetable food, vitamin A-rich food, fruit and vegetables and the changes in these frequencies occurring in the past 12 months since the implementation of the pilot. Overall, descriptive evidence suggests that the pilot implemented jointly with MBLIF/UBK was effective in improving food security and diet quality in terms of frequency of children's meals and their consumption of nutritious food.

Figure 2 shows that the number of meals for children is significantly greater for the Cash-only group with respect to the Comparison group (mean difference test P -value $=0.0074$ ). Moreover, receiving the pilot intervention is associated with improved outcomes compared to the cash transfers only: the number of meals in the Cash+ group is significantly greater than in the Cashonly group $(\mathrm{P}$-value $=0.0290)$.

Figure 2. Number of meals for children - by treatment arm


Source: Authors' own elaboration.
With respect to the previous year (see Figure 3) the respondents in the Cash+ group perceived the number of meals for children had increased significantly more often than in the Comparison and Cash-only groups (for both, P -value $=0.0000$ ). The number of meals had also increased more often in the Plus-only group with respect to the Cash-only group $(\mathrm{P}$-value $=0.0001)$.

Figure 3. Change in number of meals for children - by treatment arm


Source: Authors' own elaboration.
The analysis of the frequencies of consuming different food categories suggests that the Cash+ intervention is also effective in improving dietary diversity in favour of more protein- and vitamin A-rich food.

Figure 4 shows that the frequency of children consuming protein-rich-vegetable food is significantly greater in the Cash + group with respect to both the Comparison group ( P -value $=$ 0.0278 ) and the Cash-only group ( P -value $=0.0002$ ). Furthermore, with respect to the previous year, the frequency of protein-rich-vegetable food intake increased significantly more often in the Cash + group than in both the Comparison group $(\mathrm{P}$-value $=0.000)$ and the Cash-only group $(\mathrm{P}-$ value $=0.000)($ Figure 5 $)$.

Figure 4. Frequency of protein-rich-vegetable food intake for children - by treatment arm


Source: Authors' own elaboration.

Figure 5. Change in frequency of protein-rich-vegetable food intake for children - by treatment arm


Source: Authors' own elaboration.

Figure 6 shows the frequency of consuming animal protein-based food (meat, chicken, milk and eggs) for children. No statistically significant difference in the number of meals that contain animal protein was detected between the groups.

Figure 6. Frequency of animal protein-based food intake for children - by treatment arm


Source: Authors' own elaboration.
However, with respect to the previous year, the frequency of animal protein-based food intake was perceived to have increased significantly more often in the Cash+ group with respect to the Comparison group $(\mathrm{P}$-value $=0.000)($ see Figure 7$)$.

Figure 7. Change in number of animal protein-based food intake for children - by treatment arm


Source: Authors' own elaboration.
We found similar evidence for vitamin A-rich food (carrot, sweet red pepper, spinach and pumpkin) and frequency of consumption of fruits and vegetables (broccoli, beets, cauliflower, cucumber, eggplant, tomato and lettuce) for children. For vitamin A-rich food, Figure 8 shows that the Plus-only group has a frequency of consumption significantly greater with respect to the Comparison and Cash-only groups (respectively, P-values of 0.0688 and 0.0161 ). No statistically significant difference was detected between the Cash+ and Comparison groups.

However, with respect to the previous year, the households in the Cash-only, Cash+ and Plus-only groups reported an increase in the frequency of vitamin A-rich food significantly more often than those in the Comparison group (Figure 9). In the Cash+ and Plus-only groups the frequency of vitamin-A rich food was reported to have increased significantly more often than in the Cash-only group, suggesting an incrementally greater impact of the pilot activities compared to the cash transfers. For consumption of fruits and vegetables, Figure 10 shows that the Cash + group has a frequency significantly greater than all other groups. The respondents also reported it to have increased significantly more often over the previous 12 months (Figure 11).

Figure 8. Frequency of vitamin A-rich food intake for children - by treatment arm


Source: Authors' own elaboration.

Figure 9. Change in frequency of vitamin A-rich food intake for children - by treatment arm


Source: Authors' own elaboration.
Figure 10. Frequency of fruit and vegetable intake for children - by treatment arm


Source: Authors' own elaboration.

Figure 11. Change in frequency of fruit and vegetable intake for children - by treatment arm


Source: Authors' own elaboration.
The same set of questions on food security and dietary diversity of children were asked regarding women of ages $15-49$. The results for women's food consumption of nutritious food are equally promising. Indeed, the frequency of protein-rich food intake (both animal and plant-based), vitamin A-rich food intake and consumption of fruits and vegetables in the Cash+ and the Plusonly groups are significantly greater with respect to the other groups. The frequencies of consumption of these categories of food also increased significantly more often in these two groups with respect to the previous year.

In addition to questions on food security and dietary diversity specific for children and women, the questionnaire included a set of questions for the household as a whole, concerning whether members worried about having enough food and thus limited the variety of their diet due to the lack of resources. ${ }^{22}$ Table 4 summarizes the results from these questions. Panel A shows that households in the Plus-only group reported worrying about not having enough food significantly

[^14]less often than both the Comparison group and the Cash-only group. The worries of not having enough food decreased over the past year significantly more often in the Cash+ and Plus-only groups with respect to the Comparison group.

Table 4. Household food insecurity and dietary diversity

|  | Comparison | Cashonly | Cash + | $\begin{aligned} & \text { Plus- } \\ & \text { only } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| Panel A |  |  |  |  |
| Households worried about not having enough food: $0=\text { no, } 1=\text { yes }$ <br> Frequency of worry: $0=$ rarely, $1=$ sometimes, $2=$ often <br> Change since previous year: $0=$ decreased, $1=$ same, $2=$ increased | $\begin{aligned} & 0.434 \\ & 0.930 \\ & 1.063 \end{aligned}$ | $\begin{aligned} & 0.557 \\ & 0.704 \\ & 0.969 \end{aligned}$ | $\begin{aligned} & 0.449 \\ & 0.795 \\ & \mathbf{0 . 6 5 3} \end{aligned}$ | $\begin{aligned} & 0.171 \\ & 0.833 \\ & \mathbf{0 . 7 7 1} \end{aligned}$ |
| Panel B |  |  |  |  |
| Households with limited variety of food: $0=$ no, $1=y e s$ <br> Frequency of limited variety of food: $0=$ rarely, $1=$ sometimes, $2=$ often <br> Change since previous year: $0=$ decreased, $1=$ same, $2=$ increased | $\begin{aligned} & 0.323 \\ & 0.656 \\ & 0.980 \end{aligned}$ | $\begin{aligned} & 0.505 \\ & 0.857 \\ & 0.938 \end{aligned}$ | $\begin{aligned} & \mathbf{0 . 5 1 0} \\ & 0.660 \\ & \mathbf{0 . 6 4 9} \end{aligned}$ | $\begin{aligned} & 0.265 \\ & 0.556 \\ & \mathbf{0 . 7 0 6} \end{aligned}$ |

Note: Values in bold indicate a statistical difference with respect to the Comparison group. Source: Authors' own elaboration.
Panel B shows that households in the Comparison group reported eating a limited variety of food significantly less often with respect to the Cash-only and Cash + groups. In terms of trends, however, households in the Cash+ and Plus-only groups reported decreases in eating a limited variety of food more often than the households in the Comparison and Cash-only groups.

Overall, the evidence at the household level suggests that the activities under the pilot improved food security and dietary diversity, and - though differences in levels were less clear - over the course of the pilot they experienced positive trends.

Evidence from the qualitative study supports these results to some extent. The FGD participants from the Cash+ group reported that they began to make deliberate decisions with regards to the nutrition of their households. For instance, participants shared that they were consuming new kinds of produce as a result of the pilot, such as spinach, broccoli, pumpkin, cauliflower, lettuce and lentil. They also noted that they were moving towards healthier cooking and food preservation methods.

During the FGDs, pilot participants emphasized that the main sources of information on nutrition were the trainings they participated in as part of the pilot project. According to the participants, they were able to use acquired knowledge in practice right after the trainings. Female participants also reported willingness to continue broadening their knowledge on nutrition after the training.

In contrast, the FGD participants who received the MBLIF/UBK but did not participate in the pilot project noted that they did not have sufficient knowledge about healthy diets, whereas those in the Comparison group felt they had some knowledge of nutrition issues. The participants in the Cashonly group had not made major changes in their diets, whereas the Comparison group households felt that there had been a degree of diversification of their diets. They explained that this was due to the fact that vegetables and fruits had become more accessible and local production had increased, thanks to both new farms and the production in the pilot greenhouses. In addition, the prices for this produce had decreased, which was noted also by the participants in the Cash-only group.

These diet improvements were attributed by the pilot participants to the increase in self-production. According to the key informants, poor families have limited access to produce sold in markets, especially in winter or early spring when prices for vegetables and fruits are high. This was corroborated by FGD participants from the Cash+ group who indicated that previously they had not been able to purchase vegetables and greens in sufficient quantities. By using the greenhouses, they were then able to provide these for their families.

The analysis presented so far does not take into account the impact of other potential complicating factors. In order to control for them, we conducted a multivariate regression analysis in which we included household demographic characteristics (gender of household head, number of adult
members, number of children, and household labour constraints ${ }^{23}$ ) and proxies for the level of household wealth before the implementation of the pilot (ownership of a piece of land, household assets and agricultural assets).

The results for food security of children are presented in Table 8 in Annex 4. The Cash+ intervention positively affects the number of meals consumed by children, and the frequency of protein-rich vegetable consumption. The frequency of consumption of vitamin A-rich food and of fruits and vegetables increases significantly in the Plus-only group.

The results for food security of women and for the whole household are presented in Table 9 in Annex 4. The Cash+ intervention increases the frequency of consumption of vitamin A-rich food and of fruits and vegetables, while the Plus-only intervention contributes to a reduction in worry about not having enough food for the whole household.

### 5.1.2. Livelihoods and resilience

One of the main objectives of the pilot programme was to enhance income-generating activities through inputs and assets received. To assess whether the programme had any impact on these activities, we first describe the sources of income by treatment group and then analyse whether each source of income increased, decreased or remained the same since the beginning of the pilot. We find similar patterns of differences (or lack thereof) after unpacking the total income into different sources. Wages and salaries, profits from own-farm activities, pensions, and profits from non-farm business represent the main sources of income for all treatment arms. Income from wages and salaries are significantly lower in the Cash-only group with respect to the Comparison group. Income from own-farm activities and pensions are the lowest in the Cash-only group and the highest in the Plus-only group. In the Cash+ group, income from wages, salaries and pensions is significantly lower than the Comparison group. However, income from own-farm activities in this group is on average not different from the Comparison group.

Focusing only on the main sources of income, Figure 12 presents the changes in income from ownfarm activities occurring since last year. We codify a decreased, stable or increased income as 1 ,

[^15]2 and 3, respectively, so that a higher value represents an improvement over the past year. While income from wages, salaries, pensions and profits from non-farm business did not change significantly, income from own-farm activities was reported to have increased in the Cash+ group, suggesting that the pilot, implemented jointly with the MBLIF/UBK, did indeed increase the income generated from these activities. A more detailed study of levels of income (Table 10 in Annex 4) shows that total income of households in the Cash-only group is on average significantly lower than that of the Comparison and Plus-only groups. The total income for households in the Cash+ group is not statistically different from the Comparison group.

Figure 12. Change in income from own-farm activities


Source: Authors' own elaboration.

Further analysis of agricultural activities highlights some of the issues described above. We first analyse the production of crops, fruits and vegetables, then livestock activities (ownership of livestock and livestock by-products). As far as the former is concerned, the share of households engaged in production of crops, fruits and vegetables varies from 74 percent in the Cash-only
group to 100 percent in the Plus-only group, and it is significantly greater in the Cash+ and Plusonly groups with respect to both Comparison and Cash-only groups. With respect to the previous year, crop production and income from sales increased significantly more often in the Cash+ and Plus-only groups (Table 5). The increase of income from sales of crops, fruits and vegetables may be explained by a larger share of own production sold in local markets or to neighbours.

Table 5. Production and sale of crops, fruits and vegetables

|  | Comparison | Cash- <br> only | Cash+ | Plus- <br> only |
| :--- | :---: | :---: | :---: | :---: |
| Produced crops ( 0=no, 1=yes) | 0.798 | 0.742 | $\mathbf{0 . 9 6 9}$ | $\mathbf{1 . 0 0 0}$ |
| Change in production of agricultural <br> produce: $0=$ decreased, $1=$ same, $2=$ increased | 0.824 | 0.792 | $\mathbf{1 . 6 2 8}$ | $\mathbf{1 . 5 4 3}$ |
| Change in sale of agricultural produce: <br> $0=$ decreased, $1=$ same, $2=$ increased | 0.639 | 0.588 | $\mathbf{1 . 4 2 6}$ | $\mathbf{1 . 4 2 1}$ |

Note: Values in bold indicate a statistical difference with respect to the Comparison group. Source: Authors' own elaboration.

Consistent with the analysis of food security, we conducted a multivariate regression analysis also for livelihoods (Table 11 in Annex 4). We controlled for the same set of covariates, i.e. household demographic characteristics (gender of household head, number of adult members, number of children, household labour constraints) and proxies of the level of household wealth before the implementation of the pilot (ownership of a piece of land, household assets and agricultural assets). The results show that the Cash+ intervention positively and significantly increased agricultural production and income from agricultural production. The positive impact seems to be mainly driven by the pilot activities, since these two outcome variables increased also in the Plus-only group. In this latter group of households, livestock by-products also increased significantly.

The qualitative study provides a more nuanced view of these results. According to key informants, the main sources of income for poor families are social benefits, agriculture and seasonal work. The role of agricultural production is important, as other job and production opportunities in this area are very limited. At the same time, significant increases in income from agricultural production would require a larger volume of production, an expanded range of produce, and
adequate quality to comply with market standards. The FGD participants who had received the pilot package noted that relying less on food purchased in the market and more on their own production had helped to improve their financial stability whereas the participants in the other two FGDs did not report any additional sources of income over the past year. Similarly, some key informants noted changes that had occurred over the past year for the pilot project participants. In their opinion, the greenhouses established under the pilot project became an additional source of income. Even if the family produced only or mainly for its own consumption, the savings on food purchases could be spent on other purposes.

The FGD results clearly indicate that the pilot project indeed increased overall agricultural production in the pilot households. In contrast, for the MBLIF/UBK (Cash-only) group, not all participants were engaged in crop production due to lack of land plots, which highlights the constraints to such interventions. Those who produce crops only grow for their personal consumption. Many of those who received neither the pilot nor the MBLIF/UBK (Comparison group), however, sell their produce, perhaps reflecting that they have more access to resources needed for crop production. The participants in the other two FGDs did not consistently report increases in their income from the sale of agricultural produce, suggesting that there was no such overall trend among vulnerable households.

Pilot participants in the FGDs explained that the limited quantities grown in the greenhouses were not sufficient to be sold in large quantities, though excess crops were sometimes sold to their neighbours or given away for free. According to the FGDs, the incomes of the pilot households did not change over the past year. However, most of the participants did not consider produce grown for their personal consumption as income, though they noted that the increase in the number of crops for personal use did indeed lead to decreases in monetary food expenses. One estimate presented in the female FGD was that vegetable production reduced food expenditure by 10 percent.

This somewhat contradicts the quantitative analysis, or at least highlights the heterogeneity of participating households in terms of their ability to produce for sale. Hence, despite the obvious positive trend in sales, increases in monetary income may be limited. According to the Cash+ pilot participants, the main challenges to earning income from crop sales are low and unstable purchasing prices, problems with transportation, low volumes of production, and competition. In
other FGDs, similar issues were raised: participants who received neither programme (Comparison group) also mentioned many similar issues, such as small volumes of production and transportation problems, and in the case of MBLIF/UBK recipients (Cash-only) noted lack of access to loans and quality seeds.

The project, however, improved access to resources and provision of training on agricultural production methods of relevant crops. The Cash+ FGD participants said that they had gained agricultural skills during the past year, including growing crops, using fertilizer and pest control. At the same time, women stated that they appreciated some of the more generic skills provided by the pilot, such as planning, increasing revenue and crisis management. Participants also reported that their relatives and neighbours were interested in the knowledge they had gained and asked them to share their skills and experiences. Further training in agriculture such as livestock/poultry breeding was also mentioned as desirable by female participants.

The recipients of MBLIF/UBK who did not participate in the pilot noted that they would definitely participate in a similar project, as it would be an opportunity to gain new knowledge. They did not have specific knowledge of how the participants had been selected. Likewise, the Comparison group FGD participants knew that only MBLIF/UBK recipients were invited to participate in the pilot project; they too noted that they would like to take part in such a project if they had a chance, highlighting the need for skills development in agriculture.

The discussions and interviews on sources of income also touched upon the issue of resilience. The majority of key informants believed that Cash+ project participants had become more prepared for crisis events. In addition to consuming fresh crops, the availability of food, including in the form of preserved products, and the skills which pilot participants gained (e.g. pest management) could help solving nutrition-related problems in a crisis situation. Moreover, in their view, Cash+ beneficiaries had become more confident. In particular, women participating in the pilot project noted that in addition to the knowledge gained in the field of agriculture and nutrition, participation in the project had improved their self-confidence.

Nevertheless, the Cash+ pilot participants reckoned that they were not well prepared for crisis situations. The number of income sources was found to be limited. Two female Cash+ pilot participants, however, noted that the greenhouse could provide additional income through increased sales in a crisis situation. Pilot participants pointed out that in order to become more
resilient during crises and operate under market conditions, it would be necessary to gain knowledge not only in agriculture, but also in other areas.

All of the MBLIF/UBK recipients in the FGDs noted the low value of their benefits as a barrier to the programme instilling confidence in the future. However, some female participants from this group recognized that the allowance does provide them confidence as they can rely on the cash transfer as a source of income until their children are 18 years old. However, some men did not share the same perception, as they believed that the state could suspend it at any time. Key informants echoed these views by pointing out that the MBLIF/UBK cannot act as an effective means of risk management because its value only covers a fraction of household expenses, and eligibility criteria are subject to change.

MBLIF/UBK recipients reported mainly using their benefits to purchase food and pay for school/kindergarten. Sometimes, they used some remaining funds to purchase clothes for children. Since women are generally responsible for applying for the social allowance, they are reportedly the ones who decide how to spend the MBLIF/UBK allowance. All FGD participants stressed that the MBLIF/UBK application procedure is lengthy and costly.

The Comparison group FGD participants noted that if they received KGS 800 per child per month, they would spend it on school supplies, clothes for children and as payment for school/kindergarten. In their opinion, cash allowances could cover some costs but would not generate a significant increase in household income. In addition, the participants expressed a desire to have the MBLIF/UBK amount gradually increased to KGS 1000 per child per month.

The male Comparison group FGD participants noted that they did not plan to apply for the MBLIF/UBK, and similarly female participants mentioned the bureaucratic obstacles faced when applying for the allowance. Despite currently not receiving the allowance, all female Comparison group FGD participants reckoned they should be eligible for the social allowances. In their view, all families with children under three years old should be eligible for some sort of social benefit.

### 5.1.3 Self-assessed poverty

Evidence in the literature shows that self-perception regarding positive changes in livelihoods and well-being might bring in turn additional positive changes through increased productivity. In order to get some insight on households' subjective well-being, and at the same time limit the length of the questionnaire, we asked them two simple questions: how they perceived themselves (very poor, moderately poor or non-poor), and whether they felt worse off, the same or better off with respect to the previous year.

Figure 13 shows that there is no difference in self-assessed poverty status between the groups. Most of the households in the evaluation sample in all four groups considered themselves to be "moderately poor". However, there was a significant difference in the change with respect to previous year (Figure 14). Indeed, households in the Cash+ and Plus-only groups considered their status to be improved significantly more often than the Comparison and Cash-only groups. The multivariate regression analysis presented in Table 12 (Annex 4) confirms these results.

Although the sample size is small, this improvement in self-assessed poverty status suggests that the scaling up of the pilot could be potentially powerful in reducing poverty in the country, even if only in relative terms.

Figure 13. Self-assessed poverty status


Source: Authors' own elaboration.
Figure 14. Change in self-assessed poverty status


Source: Authors' own elaboration.

The qualitative study sheds some further light on these results. Regarding broader impacts of the pilot on the community, all key informants noted positive impacts. Apart from the training received by participants of the pilot project, key informants noted that they had become more confident in relying on the knowledge they received. Also, the pilot project contributed to the inclusion of poor families in public life and the formation of new social ties. Some participants reported expanding their circle of friends, beginning to communicate more with their neighbours and meeting new people. The positive results of the pilot project observed at the local level raised interest among the entire community to learn and participate in such initiatives.

### 5.1.4 Household decision-making

The project did not include major gender elements, but the activities supported represent something typically considered to be "women's domain" in the local households. However, the FGDs highlighted that although vegetable production is mainly seen as a women's activity, and all participants agreed that women were responsible for the maintenance of the gardens/plots, there were no major changes in gender roles in general. Some women participants indicated that obtaining more knowledge could decrease their workload in the agriculture. Other women noted that they were coping with the current workload.

The opinions of key informants on trends in gender roles were divided. Some key informants (both men and women) believed any decision-making to be an exclusive prerogative of men. They explained that this is typical for these areas, and hence they did not observe any changes during the last year. Some key informants (both women and men), however, perceived that the roles of men and women were changing. According to them, this was due to the engagement of women in income-generating activities and subsequent strengthening of their economic independence.

The quantitative rapid assessment provides some additional insights. The data show no perceived change in decision-making by women, regardless of the gender of the person interviewed. Figure 15 shows that, with respect to the Comparison group, in the Cash+ group (thick line) the answers are more concentrated around the values 1 (decision taken only by one member of the household) and 2 (decision taken together by men and women). In the Comparison group, the answers are more dispersed over the whole range of possible answers.

To understand whether this difference could be due to the impact of the programmes, we asked whether there has been any change in who usually makes decisions concerning the different domains over the past 12 months. Only a small number of individuals responded that there had been changes, at most seven per domain, suggesting that the programme did not affect decisionmaking. These results suggest that in order to generate meaningful impacts on women's empowerment, or even decision-making, similar projects need to include specific gender-sensitive and gender-transformative components.

Figure 15. Decision-making domains by treatment arm


Source: Authors' own elaboration.


Note: values on the X axis mean decision making by: $1=$ one unique member; $2=$ head of household and his/her spouse; $3=$ only men in household; $4=$ only women in household; $5=$ subgroup of men and women; $6=$ all adults together; $7=$ other.

Source: Authors' own elaboration.

### 5.2 MICROSIMULATION ANALYSIS

As explained above, the microsimulation analysis explored the potential overall impacts of different scale-up options of the "Plus" intervention by generating hypothetical outcomes resulting from providing a similar programme for selected participants, following scenarios presented in Table 1 and using the estimated values of the different packages in Table 2. The aim was to show how interventions of similar value could potentially impact on rural poverty. Furthermore, as the theory of change of this type of intervention includes a transmission of crop variety to dietary
diversity, the simulation aimed to approximate the potential changes in consumption diversity for the targeted groups, given the patterns observed in the data.

The potential impacts on poverty hinge on how the intervention is targeted, the amount by which it would add to household income per capita (which also depends on household size in the targeted group), how many individuals in the target group are below the poverty line, and how far below it they are. The results of each poverty scenario are partly driven by the share of the projected beneficiaries in each coverage option presented in Table 6, as this gives the maximum reduction in the rural poverty rate if all beneficiaries are poor ${ }^{24}$ and the assistance lifts them all out of poverty. The eligibility criteria include access to land, in addition to the income or benefit criteria.

Narrowing the assistance down to families with children under 18 would reduce the eligibility rate only very mildly, ${ }^{25}$ as seen in Table 6. The intervention is essentially designed for rural livelihoods, so only results concerning rural areas are presented here.

Table 6. Share of eligible beneficiaries of rural population

| Coverage option | Rural, all | Rural, <br> with <br> children |
| :---: | :---: | :---: |
| MBLIF/UBK | $11.5 \%$ | $11.4 \%$ |
| Extreme poor | $9.2 \%$ | $9.1 \%$ |
| Lowest income <br> quintile | $20.8 \%$ | $20.2 \%$ |
| Poor | $31.3 \%$ | $30.4 \%$ |

Source: Authors' own elaboration.

The intervention clearly has an impact on poverty rates, as in monetary terms it raises the income of households near the poverty line when targeted based on criteria related to poverty (directly or indirectly), such as the MBLIF/UBK; hence, it decreases poverty. Changes in poverty rates are calculated for scenario 2 (arithmetical poverty scenario for packages 1, 2 and 3, described in Table

[^16]2). The new income is simulated simply by arithmetically adding the estimated value of the harvest obtained from each package to household income and obtaining new per capita monthly income.

These changes depend on how many of the targeted households are within the value of the package of the poverty line and also on the household size of the targeted households, as the additional income is divided by the number of household members to get the impact on per capita income. If the targeted households are large, the effect on poverty rates is dampened compared to a target group with smaller households.

Reductions in overall poverty rates are presented in Figure 16. The horizontal axis denotes the coverage of the benefit and the bars indicate poverty reductions for different package scenarios. The largest decreases are naturally generated by higher coverage or higher value of the package: if successfully targeted to poor households, the largest package or intervention of similar value and targeting criteria could reduce rural poverty by as much as 25 percentage points - a 77 percent relative reduction, which is clearly very large. Targeting MBLIF/UBK recipients with a similar package leads to a 5.5 percentage point reduction in rural poverty, which highlights both the low coverage of MBLIF/UBK as well as the imperfect targeting, though still representing a meaningful reduction. ${ }^{26}$ Targeting the extreme poor or lowest income quintile has naturally smaller effects: notably, providing low-value packages to these groups does not really raise households above the poverty line. ${ }^{27}$

The figure also shows that very small packages such as package 2 (Table 2 ) have very small impacts on actual poverty when measured by the income estimate we use. The estimated value of package 2 in a five-person household only accounts for 14 percent of the value of the poverty line income in optimal conditions, whereas for the income generation package (package 3) the value is 58 percent. Compared to the value of the extreme poverty line, the value of the smallest package (2) for a five-person household is only 23 percent. The fact that during the pilot small packages

[^17]were rarely selected and had a high dropout rate also suggests that low-value packages are not practical for reducing poverty, though they may still influence household dietary diversity.

The rapid assessment showed that there had been some improvements in households' subjective assessment of their poverty, though the data did not allow exact calculation of their income or consumption levels. However, most still perceived themselves as poor, suggesting that meaningful long-term changes may require more intensive support.

Figure 16. Changes in rural poverty rates


Source: Authors' own elaboration.

A few limitations of simulations need to be noted. The maximum value obtainable from the packages were calculated based on the potential yields and prevailing market prices. As demonstrated by the rapid assessment, there may be limitations to reaping maximum gains of the packages or selling them at market price. For the targeting criteria that are actually based on income or consumption, identifying such households is always subject to error. The issues with

MBLIF/UBK targeting mechanism have also been noted previously (OECD, 2018; Timár and Gassmann, 2018). ${ }^{28}$

Looking now at dietary diversity, the rapid assessment indicated that the pilot generated positive changes in the target households' frequency of consuming certain food groups and a reduction in dietary diversity due to lack of resources. To further assess how much scope for such improvements could be at the country level for larger sections of population, a microsimulation of diversity of consumed food was carried out.

Overall, the average number of food groups consumed in rural areas is 9.1 . Average diversity of food consumption among different target populations is usually lower than in the rest of the population in rural areas, though the differences between the target group and the rest of the rural population are only statistically significant when the target group is the poor or extreme poor. Still, as described before, dietary issues are considered a widespread problem in Kyrgyzstan.

Changes in consumption diversity induced by the packages in different scenarios are depicted in Figure 17. The changes in average consumption diversity are shown in the actual targeted groups rather than the overall population, which gives a simulated estimate of the impact or treatment effect of the pilot.

[^18]Figure 17. Changes in diversity of food consumption in the target groups


Source: Authors' own elaboration.

The arithmetical scenario (scenario 1) shows the improvements in dietary diversity that could result from adding the new food groups (i.e. those represented by the pulses and vegetables in the packages) when the household is not yet consuming them. The impacts generated by scenario 3 involve the use of a behavioural model: the new consumption diversity is based on the estimated model of household behaviour, and the impacts occur through the number of crops and increased income. The effects in these scenarios are more muted, as household behaviour when based on historical observations does not necessarily fully respond to the new crops, or households may in turn reduce consumption of other food groups. Package 1 also has more diverse crops than package 3 and generates slightly larger impacts, despite both having an impact also through higher income.

In the arithmetical scenario, there is on average an increase of almost one food group in the diversity score, whereas for the behavioural scenarios the average increase is less than half a food group. These average changes obviously mask heterogeneity, where some households do not increase the diversity of consumed food and others may add several food groups. The improvements follow the same pattern in all suggested target groups.

Again, a few reservations need to be noted. The intervention involved elements that cannot be observed from the data, such as nutrition training, and these cannot be directly integrated into the microsimulation analysis. However, the differences between the behavioural simulations and the arithmetical ones give an indication of the scope for such training effects. The relative strength of the arithmetically calculated changes can be interpreted as a real-world possibility: if households are advised to adapt their diet in order to accommodate the new food groups in their diet while keeping the groups they already consume in their diet, this could lead to meaningful improvements in consumption diversity in rural areas, as compared to scenario 3. Behavioural results show how dietary diversity would be impacted if people behaved "as usual" following an increase in the number of crops or increased income, whereas the arithmetical simulations show what the maximal effects would be if there were a perfect feed-through to diets, perhaps with support from nutrition training.

There are a few shortcomings in the data, which complicates the study of some of the outcomes, in particular at individual level or at the level of demographic groups (as was done in the rapid assessment). For example, intrahousehold distribution of resources is not documented, and it is not possible to assess women's bargaining power or gender equality within households, or households' knowledge of the importance of child nutrition. This further highlights that gender- or age-specific results may significantly deviate from those obtained, depending on the local context and issues such as bargaining power within households.

## 6 Conclusions

By providing livelihood support and capacity development on top of the social cash transfers provided by the Kyrgyz Government, the Cash+ approach implemented through this pilot sought to enhance the economic impacts of cash transfers on livelihoods.

In Kyrgyzstan, the Cash+ pilot was framed within the Government's concept of a "Social Contract" and therefore was intended as a means to support the productive potential of poor rural households, and to progressively foster their economic inclusion. The pilot sought to provide the recipients of the MBLIF/UBK social cash transfers living in rural areas with packages of interventions to support their pathways out of poverty and foster improved nutrition. Although the pilot was small and implemented over a short period of time, it intended to provide a demonstration effect with a clear message on progressive transformation of the lives of the rural poor.

The assessment presented here, which was complemented by a process evaluation (Appaix and Rysbekova, 2020), had the principal objective to gather evidence on the type of complementary support that can have a positive impact on a range of dimensions of critical importance for economic inclusion. This is intended to inform longer and more complex interventions in the context of the Social Contract.

The report found that the Cash+ pilot in Kyrgyzstan achieved its objectives to improve households' agricultural production and food and nutrition security, including dietary diversity. The overall findings underline the importance of coordinated social protection and agricultural interventions. This is critical in order to maximize the impact of social cash transfers and accelerate progress towards improving households' food and nutrition security and stimulating their agricultural production, while progressively bringing them out of poverty.

Findings from the quantitative analysis show that the Cash+ intervention positively affected food security and dietary diversity of children and women; income generated by own-farm activities; production and sale of crops, fruits and vegetables; livestock activities; and perceived poverty status. These results are supported by the microsimulation results that show that this type of intervention can have meaningful effects with regards to reduction of poverty and increasing dietary diversity. The study allowed for highlighting the critical importance of nutrition education and social and behaviour change communication to achieve impacts on nutrition indicators. The
study clearly shows that the size of support needs to be adequate, as small packages have little impact on poverty reduction. The barriers to increasing agricultural production and sales identified during the qualitative study also suggest that continuous and sustainable support for households and changes in the local enabling environment may be required in order for the large potential reductions in poverty to be realized. Such large increases in income may not be easy to attain and maintain through small-scale production without access to inputs, markets and value chains. This is also reflected in the fact that many households reported subjective improvements in poverty status in the rapid assessment, but nevertheless still considered themselves to be poor. A subsequent phase of the pilot should therefore include a longer period of support and be complemented by interventions that connect households to markets while also reducing dependency on input markets.

It also needs to be noted that not all Cash+ households reported improvements in their diets or meal frequency, though they did so more frequently than those in the Comparison group. The report cannot establish whether this was due to certain types of households failing to gain from the pilot or perhaps household-specific shocks occurring during the implementation. It is, however, notable that the quantitative and qualitative assessments presented mixed results in intrahousehold decision-making, highlighting the need to introduce specific gender-transformative elements to interventions.

On this basis, several recommendations can be proposed. These recommendations should be considered in the context of different "Plus" modalities for different agro-ecological zones and different segments of poor rural populations. In addition, these recommendations have policy, programming and fiscal implications that need to be given consideration.

- A longer support period needs to be included in subsequent interventions.
- Attainment of larger improvements in dietary diversity requires special emphasis on dietary practice training, which should be provided more widely than just to the poor.
- Crop diversity should continue to be included in support packages to influence impacts on nutrition.
- Targeting should be addressed in order to include poorer and more vulnerable households.
- The productive package complementing the social cash transfer should be of adequate size in order to achieve desired impacts.
- For larger impacts on income and livelihoods, stronger linkages with market and support infrastructure (logistics, storage) should be established.
- To achieve larger impacts on women's economic empowerment and intrahousehold distribution of labour, more gender consideration should be brought into the design of packages and the intervention as a whole.
- Evidence from vulnerable settings around the world shows that social protection interventions that also promote climate change adaptation can produce stronger impacts in terms of food security and resilience (FAO and Red Cross Red Crescent Climate Centre, 2019). Resilience and climate change adaptation measures should also be considered as outcomes when designing future iterations of the intervention for stronger impact.


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## ANNEXES

## ANNEX 1

"Cash +" intervention in Kyrgyzstan
HOUSEHOLD AND AREA CODES

| Region: |  |  |  |  | Region code: |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Village: |  |  |  |  | Village code: |  |
| Interview result |  |  |  |  |  |  |
| Household ID: |  |  |  |  |  |  |
| HOUSEHOLD INFORMATION |  |  |  |  |  |  |
| Address: |  |  |  |  |  |  |
| HH INFORMATION |  |  |  |  |  |  |
| First name: |  |  | Family: |  |  |  |
| Gender: | 1 Male | 2 Female | DOB: | DD | MM | YYYY |
| Contact tel |  | Contact tel |  |  |  |  |
| RESPONDENT INFORMATION: |  |  |  |  |  |  |
| First name: |  |  | Family: | First name: |  |  |
| Gender: | 1 Male | 2 Female | Gender: | DD | MM | YYYY |
| Contact tel |  | Contact tel |  |  |  |  |
| Interviewer |  |  |  |  |  |  |
| Family: |  |  | ID |  |  |  |

Interviewer, indicate/mark type of a respondent:

| 1 | "Cash+" project participant |
| :--- | :--- |
| 2 | Not a participant of "Cash+" project, recipient of a monthly allowance for low-income families (MILIF <br> and/or ui-buloogo komok) |
| 3 | Not a participant of "Cash+" project, not a recipient of a monthly allowance for low-income families <br> (MILIF and/or ui-buloogo komok) |

## Preamble

My name is $\qquad$ and I work for $\qquad$
This is a study for the evaluation of the pilot CASH + intervention in Kyrgyzstan. Purpose of the study - assess the project impact on households' life.

- Your participation is entirely voluntary.
- Interview will last for about an hour.
- All information collected for this study will be kept strictly confidential.

We are now going to be asking some questions about your whole household. A household is defined as a group of people, who live together, eat together and have a joint budget. Include even those in labour migration, study abroad, on medical treatment abroad and so on to the household members.

## SECTION A - HOUSEHOLD ROSTER (ALL)

QA_00 How many people are in your household including children?
List all household members, starting with the head of the household

| Mem ber ID | $\begin{array}{\|l} \hline \text { QA_01 } \\ \hline \begin{array}{l} \text { Family } \\ \text { name } \end{array} \\ \hline \end{array}$ | QA_02 <br> First name(s) | $\begin{array}{\|l\|} \hline \text { QA_03 } \\ \hline \text { Gende } \\ \mathbf{r} \\ 1 \text { Male } \\ 2 \\ \text { Female } \end{array}$ | QA_04 |  | $\begin{array}{\|l\|} \hline \text { QA_0 }^{2} \\ 5 \\ \hline \text { Age } \\ \hline \end{array}$ | QA_06 <br> Relation to head of household <br> 1 Head of household <br> 2 Husband/wife <br> 3 Son/daughter <br> 4 Father/mother <br> 5 Brother/sister <br> 6 Grand parent <br> 7 Grand child <br> 8 Nephew/niece <br> 9 Son/daughter in-law <br> 10 Father/mother inlaw <br> 11 Grandparent in-law <br> 12 Other relation (specify) <br> 13 Other, no relation | QA_07 <br> Did any of the household members listed here join the household in the last 12 months? <br> 1 Yes <br> 2 No skip QA_09 | QA_08 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Date of birth |  |  |  |  | Date joined |  |
|  |  |  |  | $\begin{aligned} & \hline \mathrm{M} \\ & \mathrm{M} \end{aligned}$ | YY YY |  |  |  | MM | $\begin{aligned} & \hline Y Y \\ & Y Y \end{aligned}$ |
| 01 |  |  |  |  |  |  |  |  |  |  |
| 02 |  |  |  |  |  |  |  |  |  |  |
| 03 |  |  |  |  |  |  |  |  |  |  |
| 04 |  |  |  |  |  |  |  |  |  |  |
| 05 |  |  |  |  |  |  |  |  |  |  |
| 06 |  |  |  |  |  |  |  |  |  |  |
| 07 |  |  |  |  |  |  |  |  |  |  |
| 08 |  |  |  |  |  |  |  |  |  |  |
| 09 |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |


| Member ID | $\begin{aligned} & \text { QA_0 } \\ & 2 \end{aligned}$ | QA_05 | QA_09 | QA_10 | QA_11 | QA_12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | First <br> name <br> Carry over from previo us page | Age <br> Carry over from previous page | FOR OVER 14 YEARS ONLY: <br> Does this person suffer from a permanent physical, mental or psychological disability (deaf, blind, crippled etc.)? <br> Code yes if person has sustained any permanent disabling condition from a prior illness or injury (e.g. a limp) <br> 1 Yes <br> 2 No | FOR OVER 14 YEARS ONLY: <br> Does this person suffer from a chronic illness? <br> A chronic illness is an illness or ailment that recurs persistently and/or has lasted for longer than 3 months <br> 1 Yes <br> 2 No | ONLY FOR MEMBERS OLDER THAN $5 \quad$ AND YOUNGER THAN 19 Y.O. Is this person currently attending school? 1 Yes 2 No | FOR OVER 5 YEARS ONLY: <br> What is the highest level of education achieved by this person? <br> 1. Doesn't have basic education <br> 2. Primary school education <br> 3. Basic general (incomplete secondary) education <br> 4. General secondary education <br> 5. Primary technical education <br> 6. Secondary technical education <br> 7. Incomplete higher professional education <br> 8. Higher professional education |
| 01 |  |  |  |  |  |  |
| 02 |  |  |  |  |  |  |
| 03 |  |  |  |  |  |  |
| 04 |  |  |  |  |  |  |
| 05 |  |  |  |  |  |  |
| 06 |  |  |  |  |  |  |
| 07 |  |  |  |  |  |  |
| 08 |  |  |  |  |  |  |
| 09 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |


| Member ID | $\begin{aligned} & \text { QA_0 } \\ & 2 \end{aligned}$ | QA_05 | QA_13 | QA_14 | QA_15 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | First name <br> Carry over from previo us page | Age <br> Carry <br> over <br> from <br> previous <br> page | Does the member currently live outside the household? <br> 1 Yes <br> 2 No skip Next section | Where? <br> 1 Elsewhere in Suzak <br> 2 Elsewhere in Jalal-Abad <br> 3 Elsewhere in Kyrgyzstan <br> 4 In the Russian Federation <br> 5 In Kazakhstan <br> 6 Elsewhere abroad | When did they leave? <br> Month/ Year |
| 01 |  |  |  |  |  |
| 02 |  |  |  |  |  |
| 03 |  |  |  |  |  |
| 04 |  |  |  |  |  |
| 05 |  |  |  |  |  |
| 06 |  |  |  |  |  |
| 07 |  |  |  |  |  |
| 08 |  |  |  |  |  |
| 09 |  |  |  |  |  |
| 10 |  |  |  |  |  |
| 11 |  |  |  |  |  |
| 12 |  |  |  |  |  |

Section B Other household and land characteristics
QB_01 Please tell me, do your household members own plots of land (owned, leased)? Do not include land plots leased out.

| 1 | Yes |
| :--- | :--- |
| 2 | No $=>$ skip $\quad$ QB10 |

## QB_02 How many parcels?

INTERVIEWER, QUESTIONS QB_03-QB_09 ARE ASKED FOR EACH PARCEL.

| ID |  | PARCEL NUMBER |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 |
| QB_03 | How large is the parcel (ha)? |  |  |  |  |  |
| QB_04 | What type of land is this parcel? <br> 1 Homestead <br> 2 Garden <br> 3 Garden (vegetable) <br> 4 Cottage garden <br> 5 Land share <br> 6 Other (specify) |  |  |  |  |  |
| QB_05 | On what basis is the parcel used? If <>2 => skip QB_07 <br> 1 Rented <br> 2 Owned by the household <br> 3 Used without rent <br> 4 Other (specify) |  |  |  |  |  |
| QB_06 | Who in the household is the registered owner? (IDs of all owners) |  |  |  |  |  |


| QB_07 | Do you water this parcel? <br> 1 Yes <br> 2 No => skip -QB_09 |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| QB_08 | What is the source of water for this parcel? <br> 1 Channel (канал) <br> 2 Reservoir (водохранилище) <br> 3 River, aryk (река, арык) <br> 4 central water supply (центральный водопровод) <br> 5 оwn water supply system (собственная система водоснабжения) <br> 6 Well <br> 7 other (specify) |  |  |  |  |
| QB_09 <br> Do you get sufficient water for this parcel, i.e. water is sufficient to <br> meet the needs of the crops that уоu prefer to grow? <br> 1 Yes <br> 2 No |  |  |  |  |  |

QB_10 What is the main constraint for increasing your overall agricultural production, including livestock? INTERVIEWER ONE ANSWER ONLY

| 1 | Access to land |
| :--- | :--- |
| 2 | Access to water |
| 3 | Access to financial resources |
| 4 | Access to machinery and equipment |
| 5 | Access to labour |
| 6 | Access to other agricultural inputs or services (irrigation, veterinary products or extension and <br> advisory services, etc.) |
| 7 | Not enough demand/buyers for the products of the holding |
| 8 | Selling prices are too low |
| 9 | Decreasing soil fertility |
| 10 | Natural disasters (including floods or droughts) |
| 11 | Lack of safety, thefts, etc. |
| 12 | Poor transportation and/or infrastructure |
| 13 | Other (specify) |
| 14 | No constraints |

QB_11 Do you use the following assets in your agricultural activities? INTERVIEWER, READ OUT

|  | Asset name | Yes | No |
| :---: | :--- | ---: | ---: |
| 1 | Horses, Donkeys | 1 | 2 |
| 2 | Cart | 1 | 2 |
| 3 | Water pump | 1 | 2 |
| 4 | Seeder | 1 | 2 |
| 5 | Tractor, Mini tractor | 1 | 2 |
| 6 | Two-wheel tractor | 1 | 2 |
| 7 | Hay-mower | 1 | 2 |
| 8 | Plows to be used with tractor, Plows to be used with animals | 1 | 2 |

QB_12 Have you used the following assets in your agricultural activities 12 months ago? INTERVIEWER, READ OUT

|  | Asset name | Yes | No |
| :---: | :--- | :--- | :--- |
| 1 | Horses, Donkeys | 1 | 2 |
| 2 | Cart | 1 | 2 |
| 3 | Water pump | 1 | 2 |
| 4 | Seeder | 1 | 2 |
| 5 | Tractor, Mini tractor | 1 | 2 |


| 6 | Two-wheel tractor | 1 | 2 |
| :--- | :--- | :--- | :--- |
| 7 | Hay-mower | 1 | 2 |
| 8 | Plows to be used with tractor, Plows to be used with animals | 1 | 2 |

QB_13 Over the past 3 months have you been able to save any money?

| 1 | Yes | 2 | No |
| :--- | :--- | :--- | :--- |


| QB_14 | Did you or your household members manage to save money between March and May of 2018? |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1 | Yes | 2 | No |
| QB_15 | Do you owe any money? |  |  |  |
|  | 1 | Yes | 2 | No skip - QB_17 |

QB_16 How much do you owe? $\qquad$
QB_17 Did you owe any money 12 months ago?

| 1 | Yes | 2 | No skip $\triangle$ QB_19 |
| :--- | :--- | :--- | :--- |

QB_19 Would you or members of your household be able to obtain credit if you wanted to?

| 1 | Yes | 2 | No skip $\triangle$ QB_21 |
| :--- | :--- | :--- | :--- |

QB_20 From where?

| 1 | commercial bank |
| :--- | :--- |
| 2 | savings and lending group |
| 3 | micro-credit institution |
| 4 | other informal financial institution |
| 5 | relatives |
| 6 | friends |
| 7 | Other (specify) |

QB_21 12 months ago, would you or members of your household have been able to obtain credit if you wanted to?

| 1 | Yes | 2 | No skip $\wedge$ QB_23 |
| :--- | :--- | :--- | :--- |

QB_22 From where?

| 1 | commercial bank |
| :--- | :--- |
| 2 | savings and lending group |
| 3 | micro-credit institution |
| 4 | other informal financial institution |
| 5 | relatives |
| 6 | friends |
| 7 | Other (specify) |

QB_23 Does your household own any of the following objects? INTERVIEWER, READ OUT

|  | objects name | Yes | No |
| :---: | :--- | :---: | :---: |
| 1 | Personal Computer | 1 | 2 |
| 2 | Washing machine | 1 | 2 |
| 3 | Fridge-freezer | 1 | 2 |


|  | objects name | Yes | No |
| :---: | :--- | ---: | ---: |
| 4 | Cellular telephone | 1 | 2 |
| 5 | Car | 1 | 2 |
|  |  |  |  |

QB_24 12 months ago, did your household own any of the following objects? INTERVIEWER, READ OUT

|  | objects name | Yes | No |
| :---: | :--- | :---: | :---: |
| 1 | Personal Computer | 1 | 2 |
| 2 | Washing machine | 1 | 2 |
| 3 | Fridge-freezer | 1 | 2 |


|  | objects name | Yes | No |
| :--- | :--- | ---: | ---: |
| 4 | Cellular telephone | 1 | 2 |
| 5 | Car | 1 | 2 |
|  |  |  |  |

## Section C Participation in programmes

## We will now talk about results of "Cash+" (hereinafter referred to as the Pilot)

QC_01 Did you receive inputs or training from [the pilot]?

| 1 | Yes | 2 | No skip 1 QC_04 |
| :--- | :--- | :--- | :--- |

QC_02 Which of the following elements of the pilot did you receive?

| 1 | Seeds |
| :--- | :--- |
| 2 | Greenhouses (only for package 3) |
| 3 | Agronomic and technological trainings |
| 4 | Nutrition-related trainings |
| 5 | Follow up and coaching by village heads |
| 6 | Other (specify) |

QC_03 Do you agree with the following statements?

|  |  |  |  |  | Yes | No |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| A | My household is better off as a result of the pilot | 1 | 2 |  |  |  |
| B | My household has a more diverse diet as a result of the pilot | 1 | 2 |  |  |  |
| C | My household consumes more fresh and conserved fruit, vegetables and pulses as <br> a result of the pilot | 1 | 2 |  |  |  |
| D | My household now knows better how to grow vegetables and pulses than before <br> the pilot | 1 | 2 |  |  |  |
| E | My household is likely to continue growing vegetables and pulses after the support <br> from the pilot stops | 1 | 2 |  |  |  |
| F | My household will grow more vegetables and pulses than before the pilot even if <br> no free seeds are provided | 1 | 2 |  |  |  |
| G | My household now knows better how to store and preserve fruits, vegetables and <br> pulses for winter | 1 | 2 |  |  |  |
| H | My household now knows better how to cook vegetables and pulses <br> IMy household was able to complement its income through the sale of vegetables <br> and pulses | 1 | 2 |  |  |  |
| J | My household used vegetables and pulses for self-consumption rather than sale | 1 | 2 |  |  |  |
| K | The vegetables and pulses have so high monetary value that it makes sense to sell <br> them | 1 | 2 |  |  |  |

QC_04 Are you participating in any other programmes?

|  | 1 | Yes | 2 | No skip - QC_07 |
| :---: | :---: | :---: | :---: | :---: |
| QC_05 | Specify (name of programme) |  |  |  |

QC_06 What type of support do they provide? INTERVIEWER, READ OUT

|  |  | Yes | No |
| :---: | :--- | :---: | :---: |
| A | Seeds | 1 | 2 |
| B | Fertilizer | 1 | 2 |


| C | Agricultural equipment | 1 | 2 |
| :---: | :--- | :--- | :--- |
| D | Agronomic and technological trainings | 1 | 2 |
| E | Financial literacy and accountancy trainings | 1 | 2 |
| F | Extension and advisory services | 1 | 2 |
| G | Establishment of self-held groups, producer association and/or cooperatives | 1 | 2 |
| H | Nutrition-related trainings | 1 | 2 |
| I | Craft making | 1 | 2 |
| J | Training in non-farm business | 1 | 2 |
| K | Improved access to irrigational water | 1 | 2 |
| L | Other (specify) | 1 | 2 |

QC_07 Do you agree with the following statements?

|  |  | Yes | No |
| :---: | :--- | :---: | :---: |
| A | My household needs training to be able to enhance agricultural productivity | 1 | 2 |
| B | My household has difficulties in finding cash to buy agricultural inputs (including <br> transport costs) | 1 | 2 |
| C | We know which crops to grow to increase our income but are unable to grow <br> them | 1 | 2 |
| D | The best way to improve my household's livelihoods would be to generate more <br> income from outside agriculture | 1 | 2 |
| E | The best way to improve my household's welfare would be for a household <br> member to migrate and send remittances | 1 | 2 |
| F | To enhance our income from agriculture we would need more land | 1 | 2 |
| G | To enhance our income from agriculture we would need better access to water | 1 | 2 |
| H | To enhance our income we would need more agricultural jobs in this area | 1 | 2 |
| I | To enhance our income we would need more non-agricultural jobs in this area | 1 | 2 |
| J | To enhance our income from agriculture we would need better inputs (seeds, <br> fertilizers, equipment) and services (training, extension, credit) | 1 | 2 |
| K | To enhance our income from agriculture we would need better access to markets | 1 | 2 |
| L | The best way to improve our household's welfare would be to receive more cash <br> support from the government | 1 | 2 |
| M | The best way to improve our household's diet would be through increased income | 1 | 2 |
| N | The best way to improve our household's diet would be through increased <br> agricultural production | 1 | 2 |

QD_00 Are there children under age of 18 in your household?

| 1 | Yes | 2 | No skip QD_11 $^{2}$ |
| :--- | :--- | :--- | :--- |

QD_01 How many meals do children (under 18) in this household normally eat in a day (not including meals eaten outside the house at school etc.)?
Number of meals:
QD_02 Compared to the situation 12 months ago, has the number of meals... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_03 How often do the children (under 18) in this household eat animal based protein rich food (meat, chicken, milk, eggs)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_04 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_05 How often do the children (under 18) in this household eat plant based protein rich food (beans, nuts, seeds)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_06 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_07 How often do the children (under 18) in this household eat vitamin A rich foods (carrot, sweet red pepper, spinach, pumpkin)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_08 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_09 How often do the children (under 18) in this household eat other fruit and vegetables such as broccoli, beets, cauliflower, cucumbers, eggplant, tomato, lettuce?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_10 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_11 How often do the women of age 15-49 in this eat animal based protein rich food (meat, chicken, milk, eggs)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_12 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_13 How often do the women of age 15-49 in this eat plant-based protein rich food (beans, nuts, seeds)?

| 1 | Everyday | 4 | 1-2 times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | 2-3 Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_14 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_15 How often did the women of age 15-49 in this household eat vitamin A rich foods (carrot, sweet red pepper, spinach, pumpkin)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_16 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_17 How often do the women of age 15-49 in this household eat iron rich foods (lentils, beans, spinach, dried apricots, liver and other organ meats)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_18 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_19 How often do the women of age 15-49 in this household eat leafy green vegetables (spinach, broccoli, lettuce, beet and carrot greens, pumpkin greens)?

| 1 | Everyday | 4 | $1-2$ times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | $2-3$ Times per month |
| 3 | $3-4$ times a week | 6 | Once a month or less |

QD_20 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_21 How often did the women of age 15-49 eat other vegetables or fruit (broccoli, beets, cauliflower, cucumbers, eggplant, tomato, lettuce)?

| 1 | Everyday | 4 | 1-2 times a week |
| :--- | :--- | :--- | :--- |
| 2 | $5-6$ times a week | 5 | 2-3 Times per month |
| 3 | 3-4 times a week | 6 | Once a month or less |

QD_22 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_23 In the past four weeks, did you worry that your household would not have enough food?

| 1 | Yes | 2 | No skip - QD_25 |
| :--- | :--- | :--- | :--- |

QD_24
How often? INTERVIEWER, READ OUT

| 1 | Rarely (once or twice in the past four weeks) |
| :--- | :--- |
| 2 | Sometimes (three to ten times in the past four weeks) |
| 3 | Often (more than ten times in the past four weeks) |

QD_25 Compared to the situation 12 months ago, has the frequency of this.... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_26 In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?

| 1 | Yes | No skip QD_28 |
| :---: | :--- | :---: | :---: |

QD_27 How often? INTERVIEWER, READ OUT

| 1 | Rarely (once or twice in the past four weeks) |
| :--- | :--- |
| 2 | Sometimes (three to ten times in the past four weeks) |
| 3 | Often (more than ten times in the past four weeks) |

QD_28 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_29 In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?

| 1 | Yes | 2 | No skip $\bullet$ QD_31 |
| :--- | :--- | :--- | :--- |

QD_30 How often? INTERVIEWER, READ OUT

| 1 | Rarely (once or twice in the past four weeks) |
| :--- | :--- |
| 2 | Sometimes (three to ten times in the past four weeks) |
| 3 | Often (more than ten times in the past four weeks) |

QD_31 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

QD_32 In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?

| 1 | Yes | 2 | No skip $\bullet$ QD_34 |
| :---: | :--- | :---: | :--- |

QD_33 How often? INTERVIEWER, READ OUT

| 1 | Rarely (once or twice in the past four weeks) |
| :--- | :--- |
| 2 | Sometimes (three to ten times in the past four weeks) |
| 3 | Often (more than ten times in the past four weeks) |

QD_34 Compared to the situation 12 months ago, the frequency of this .... ?

| 1 | Decreased |  |  |
| :--- | :--- | :--- | :--- |
| 2 | The same |  |  |
| 3 | Increased |  |  |

## Section E - Livelihoods and time use (ALL HOUSEHOLDS)

QE_0 In the last month, how many hours per week on average have any members of $\mathbf{1 5}$-65 years of age of
1 this household worked in any of the following activities?

|  |  | HH member numbers |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
| A | Work as an employee in a formal enterprise, public organization, <br> agricultural cooperative, an institution with the status of a legal <br> entity |  |  |  |  |  |
| B | Seasonal employment |  |  |  |  |  |
| C | Own farm / land plot |  |  |  |  |  |
| D | Self-employed, other than agriculture |  |  |  |  |  |
| E | Other (specify) |  |  |  |  |  |

## QE_0 <br> Compared to the situation 12 months ago, have these numbers.... <br> 2

1 Decreased
2 The same
3 Increased
4 Did not work

|  |  | HH member numbers |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | Work as an employee in a formal enterprise, public organization, <br> agricultural cooperative, an institution with the status of a legal <br> entity |  |  |  |  |

## QE_0 In the last month, how many hours per week on average have any members of $\mathbf{1 5} \mathbf{- 6 5}$ years of age of 3 this household spent in any of the following unpaid household activities?

|  |  | HH member numbers |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
| A | Cooking |  |  |  |  |  |
| B | Child care |  |  |  |  |  |
| C | Fetching water |  |  |  |  |  |
| D | Fetching firewood |  |  |  |  |  |
| E | Shopping and getting services (health etc) |  |  |  |  |  |
| F | Other types of caring practices (helping elderly family members) |  |  |  |  |  |
| G | Cleaning |  |  |  |  |  |
| H | Caring for domestic animals |  |  |  |  |  |
| I | Kitchen garden |  |  |  |  |  |
| J | Other (specify) |  |  |  |  |  |

## QE_0 Compared to the situation 12 months ago, have these numbers....

4
1 Decreased
2 The same
3 Increased
4 Did not work


| B | Child care |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| C | Fetching water |  |  |  |  |  |
| D | Fetching firewood |  |  |  |  |  |
| E | Shopping and getting services (health etc) |  |  |  |  |  |
| F | Other types of caring practices (helping elderly family members) |  |  |  |  |  |
| G | Cleaning |  |  |  |  |  |
| H | Caring for domestic animals |  |  |  |  |  |
| I | Kitchen garden |  |  |  |  |  |
| J | Other (specify) |  |  |  |  |  |

QE_O How much was household income from the following sources (in kind support expressed in monetary 5 terms) during the last month in KGS?

| A | Wages and salaries |  |
| :---: | :--- | :--- |
| B | Profits from own farm |  |
| C | Profits from own non-farm business |  |
| D | Pensions |  |
| E | Scholarship or student grants |  |
| F | MBLIF/UBK |  |
| G | Other social grants |  |
| H | In kind benefits, subsidies and discounts |  |
| I | Remittances |  |
| J | Other income |  |
| T | Total |  |

QE_0
6 Compared to the situation 12 months ago, have these numbers....

|  |  | Decreas <br> ed | The <br> same | Increas <br> ed | There <br> was no <br> income |
| :---: | :--- | :---: | :---: | :---: | :---: |
| A | Wages and salaries | 1 | 2 | 3 | 4 |
| B | Profits from own farm | 1 | 2 | 3 | 4 |
| C | Profits from own non-farm business | 1 | 2 | 3 | 4 |
| D | Pensions | 1 | 2 | 3 | 4 |
| E | Scholarship or student grants | 1 | 2 | 3 | 4 |
| F | MBLIF/UBK | 1 | 2 | 3 | 4 |
| G | Other social grants | 1 | 2 | 3 | 4 |
| H | In kind benefits, subsidies and discounts | 1 | 2 | 3 | 4 |
| I | Remittances | 1 | 2 | 3 | 4 |
| J | Other income | 1 | 2 | 3 | 4 |
| T | Total | 1 | 2 | 3 | 4 |

## SECTION F - AGRICULTURE ALL HOUSEHOLDS

## QF 01 Do you cultivate crops, including in kitchen garden?

| 1 | Yes | 2 | No $\bullet$ QF_04 |
| :--- | :--- | :--- | :--- |

QF_02 Which crops have you grown over the past 12 months?
QF_0 Did you use this crop to self- consumption, sales, or both?
3
INTERVIEWER, ASK QUESTIONS QF_ 03 ON EACH CROP GROWN BY A HOUSEHOLD AND INSERT ANSWERS IN THE TABLE BELOW

|  |  |  |  |  | QF_0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Наименование культуры | QF_02 | Self consumpti on | Sales | Both |
| 1 | Beet |  | 1 | 1 | 2 | 3 |


| 2 | Broccoli | 2 | 1 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | Carrot | 3 | 1 | 2 | 3 |
| 4 | Chickpea | 4 | 1 | 2 | 3 |
| 5 | Cauliflower | 5 | 1 | 2 | 3 |
| 6 | Cucumber | 6 | 1 | 2 | 3 |
| 7 | Eggplant | 7 | 1 | 2 | 3 |
| 8 | Lentil | 8 | 1 | 2 | 3 |
| 9 | Lettuce | 9 | 1 | 2 | 3 |
| 10 | Pumpkin | 10 | 1 | 2 | 3 |
| 11 | Spinach | 11 | 1 | 2 | 3 |
| 12 | Tomatoes | 12 | 1 | 2 | 3 |
| 13 | Onion | 13 | 1 | 2 | 3 |
| 14 | Sweet bell pepper | 14 | 1 | 2 | 3 |
| 15 | Garlic | 15 | 1 | 2 | 3 |
| 16 | Cabbage | 16 | 1 | 2 | 3 |
| 17 | Potatoes | 17 | 1 | 2 | 3 |
| 18 | Sunflower | 18 | 1 | 2 | 3 |
| 19 | Any types of berries (Strawberry, raspberry, blackberry, mulberry, currant, gooseberry , cranberries, blueberries, lingonberries) | 19 | 1 | 2 | 3 |
| 20 | Melons and watermelons | 20 | 1 | 2 | 3 |
| 21 | Apples and pears | 21 | 1 | 2 | 3 |
| 22 | Cherry and sweet cherry | 22 | 1 | 2 | 3 |
| 23 | Apricots and peaches | 23 | 1 | 2 | 3 |
| 24 | Plum, quince and cherry plum | 24 | 1 | 2 | 3 |
| 25 | Grapes and pomegranate | 25 | 1 | 2 | 3 |
| 26 | Corn for silage / Corn | 26 | 1 | 2 | 3 |
| 27 | Hay | 27 | 1 | 2 | 3 |
| 28 | Other, specify | 28 | 1 | 2 | 3 |

QF_04 In your opinion, the production of agricultural products in your household over the past $\mathbf{1 2}$ months compared with previous years...

| 1 | Increased | 3 | Decreased |
| :--- | :--- | :--- | :--- |
| 2 | The same | 4 | Never produced agricultural products |

QF_05 In your opinion income from sales of agricultural products in your household over the past $\mathbf{1 2}$ months compared with previous years ...

| 1 | Increased | 3 | Decreased |
| :--- | :--- | :--- | :--- |
| 2 | The same | 4 | Never sold agricultural products |

QF_06 Does the household own livestock currently?

| 1 | Yes | 2 | No $\Delta F_{-} 10$ |
| :--- | :--- | :---: | :--- |

QF_07 Which livestock?
a
QF_07 How much?
b
QF_08 Have you generated income from sales of livestock or livestock by-products over the past 12 months?
QF_09 Did you consume any livestock yourself during the last 12 months?
INTERVIEWER, ASK QUESTIONS QF 07b-OF 09 ON EVERY TYPE OF CATTLE OWNED BY HOUSEHOLD, INSERT ANSWERS IN Th HE TABLE BELOW

|  | Тип скота | QF_07a | QE_07b | QF_08 | QF_09 |
| :--- | :--- | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Cows, heifers and heifers older than the year | 1 |  | 1 | 1 |
| $\mathbf{2}$ | Bulls and oxen older than a year | 2 |  | 2 | 2 |
| $\mathbf{3}$ | Calves up to one year | 3 |  | 3 | 3 |


| $\mathbf{4}$ | Sheep older than one year and lambs up to one year | $\mathbf{4}$ |  | $\mathbf{4}$ |
| :--- | :--- | :--- | :--- | :--- |
| $\mathbf{5}$ | Goats older than one year and kids up to one year | $\mathbf{5}$ |  | $\mathbf{5}$ |
| 6 | Horses and colts | 6 |  | 6 |
| 7 | Donkeys | 7 |  | 7 |
| 8 | Adult poultry and young poultry | 8 |  | $\mathbf{7}$ |
| 9 | Other species | 9 |  | $\mathbf{8}$ |

QF_10 In your opinion, livestock production/livestock products in your household over the past 12 months compared with previous years ...

| 1 | Increased | 3 | Decreased |
| :--- | :--- | :--- | :--- |
| 2 | The same | 4 | Never produced livestock /livestock products |

QF_11 In your opinion, income from livestock production/livestock products in your household over the past 12 months compared with previous years ...

| 1 | Increased | 3 | Decreased |
| :--- | :--- | :---: | :--- |
| 2 | The same | 4 | Never sold livestock/livestock products |

QF_1 Did you purchase any livestock yourself during the last 12 months?
2

| 1 | Yes | 2 | $N o \not G$ |
| :--- | :--- | :--- | :--- |

QF_13 Which livestock?
a
QF_13 How many?
b
INTERVIEWER, ASK QUESTIONS QF 13b ON EVERY TYPE OF CATTLE OWNED BY HOUSEHOLD, INSERT ANSWERS IN THE TABLE BELOW

|  | Тип скота | QF_13a | QF_13b |
| :--- | :--- | :---: | :---: |
| $\mathbf{1}$ | Cows, heifers and heifers older than the year | 1 |  |
| $\mathbf{2}$ | Bulls and oxen older than a year | 2 |  |
| $\mathbf{3}$ | Calves up to one year | 3 |  |
| $\mathbf{4}$ | Sheep older than one year and lambs up to one year | $\mathbf{4}$ |  |
| $\mathbf{5}$ | Goats older than one year and kids up to one year | $\mathbf{5}$ |  |
| $\mathbf{6}$ | Horses and colts | $\mathbf{6}$ |  |
| $\mathbf{7}$ | Donkeys | $\mathbf{7}$ |  |
| $\mathbf{8}$ | Adult poultry and young poultry | $\mathbf{8}$ |  |
| $\mathbf{9}$ | Other species | $\mathbf{9}$ |  |

## SECTION G - The MONTHLY BENEFIT FOR LOW INCOME FAMILIES

QG_0 In your household a recipient of allowance for low-income families (MILIF and/or ui-buloogo komok)?


QG_0 What do you spend the transfer on? Specify no more than THREE ITEMS. List the items in 1 order of most money spent on each

INTERVIEWER, MARK THE TABLE BELOW TO THREE ITEMS SPECIFIED BY RESPONDENT AS DIGITS 1,2,3...

| 1 | Basic food items (bread, flour, vegetable oil, pasta, rice) and other basic needs |  |
| :--- | :--- | :--- |
| 2 | Special food items (meat, eggs, milk, beans etc.) |  |
| 3 | Health expenditure |  |
| 4 | Education (school uniforms, supplies etc.) |  |
| 5 | Clothes |  |
| 6 | Small household items (crockery, linen, bucket etc.) |  |
| 7 | Large household items (furniture, appliances etc.) |  |
| 8 | Investment in family farm or business (including productive items such as spade or axe etc.) |  |
| 9 | Investment in livestock |  |
| 10 | Saving |  |
| 11 | Repayment of loans and credits to formal and informal institutions, including family members |  |
| 12 | Celebrations, family gatherings |  |
| 13 | Multiple items/cannot say |  |
| 14 | Other (specify) |  |
| 99 | Not available |  |

QG_0 Did your household receive allowance for low-income families (MILIF and/or ui-buloogo komok) 12 months ago?

| 1 Yes | 2 | No $-H$ |
| :--- | :--- | :--- | :--- |

QG_0 What did you spend the transfer on 12 months ago? Specify no more than THREE ITEMS. List 3 the items in order of most money spent on each

|  | INTERVIEWER, MARK THE TABLE BELOW TO THREE ITEMS SPECIFIED BY RESPONDENT AS DIGITS 1,2,3... |  |
| :--- | :--- | :--- |
| 1 | Basic food items (bread, flour, vegetable oil, pasta, rice) and other basic needs |  |
| 2 | Special food items (meat, eggs, milk, beans etc.) |  |
| 3 | Health expenditure |  |
| 4 | Education (school uniforms, supplies etc.) |  |
| 5 | Clothes |  |
| 6 | Small household items (crockery, linen, bucket etc.) |  |
| 7 | Large household items (furniture, appliances etc.) |  |
| 8 | Investment in family farm or business (including productive items such as spade or axe etc.) |  |
| 9 | Investment in livestock |  |
| 10 | Saving |  |
| 11 | Repayment of loans and credits to formal and informal institutions, including family members |  |
| 12 | Celebrations, family gatherings |  |
| 13 | Multiple items/cannot say |  |
| 14 | Other (specify) |  |
| 99 | Not available |  |

## SECTION H - SELF-ASSESSED POVERTY ALL

QH_01 Do you consider your household to be non-poor, moderately poor or very poor

| 1 | Very poor |
| :--- | :--- |
| 2 | Moderately poor |
| 3 | Non poor |

QH_02 Compared to 12 months ago, do you consider your household to be better off, the same or worse

| 1 | Worse off |
| :--- | :--- |
| 2 | The same |
| 3 | Better off |

Section I - Decision making (This section needs to be asked from two household members, the household head and a) spouse of the household head, and in the absence of the spouse the oldest member of the opposite sex to the household head)

## INTERVIEWER, ASK QUESTIONS QI_01- QI_03 TO FIRST RESPONDENT <br> QI_01 Who usually makes decisions on ...

INTERVIEWER, ONE ANSWER PER LINE!!!

|  |  | Member of HH | hh head and spouse together | Men or a sub-group of men in the household | Women or a subgroup of women in the household | A sub group consisting of men and women | All adults together | Other (specify) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | Food crop farming |  | 30 | 31 | 32 | 34 | 35 | 36 |
| B | Cash crop farming |  | 30 | 31 | 32 | 34 | 35 | 36 |
| C | Use of kitchen garden |  | 30 | 31 | 32 | 34 | 35 | 36 |
| D | Use of land plots |  | 30 | 31 | 32 | 34 | 35 | 36 |
| E | Transactions of cattle |  | 30 | 31 | 32 | 34 | 35 | 36 |
| F | Saving |  | 30 | 31 | 32 | 34 | 35 | 36 |
| G | Borrowing |  | 30 | 31 | 32 | 34 | 35 | 36 |
| H | Employment of household members outside own farm |  | 30 | 31 | 32 | 34 | 35 | 36 |
| 1 | Major purchases (furniture, agricultural assets, electronic equipment, vehicles) |  | 30 | 31 | 32 | 34 | 35 | 36 |
| J | Minor purchases (food items, kitchenware, cloths) |  | 30 | 31 | 32 | 34 | 35 | 36 |
| K | Schooling of children |  | 30 | 31 | 32 | 34 | 35 | 36 |
| L | Participation of children on farm work |  | 30 | 31 | 32 | 34 | 35 | 36 |
| M | Household's diet |  | 30 | 31 | 32 | 34 | 35 | 36 |

QI_0 Have there been any changes in who usually makes decisions on ... over the past 12 months?
2
QI_0 Who made these decisions 12 months ago INTERVIEWER, ASK QUESTION QI_03 IN ALL LINES,
3 WHERE RESPONDENT ANSWERED "YES" TO QI_02

|  |  |  | QI_03 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\underset{2}{\text { QI_0 }}$ | Membe rof HH | hh head and spouse | Men or a sub-group of men in | Women or a subgroup of women in | A sub group consistin g of men | All adults togethe r | Other (specify ) |


|  |  |  | togethe <br> r | the household | the househol d | and women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | Food crop farming | 1 | 30 | 31 | 32 | 34 | 35 | 36 |
| B | Cash crop farming | 2 | 30 | 31 | 32 | 34 | 35 | 36 |
| C | Use of kitchen garden | 3 | 30 | 31 | 32 | 34 | 35 | 36 |
| D | Use of land plots | 4 | 30 | 31 | 32 | 34 | 35 | 36 |
| E | Transactions of cattle | 5 | 30 | 31 | 32 | 34 | 35 | 36 |
| F | Saving | 6 | 30 | 31 | 32 | 34 | 35 | 36 |
| G | Borrowing | 7 | 30 | 31 | 32 | 34 | 35 | 36 |
| H | Employmen t of household members outside own farm | 8 | 30 | 31 | 32 | 34 | 35 | 36 |
| 1 | Major purchases (furniture, agricultural assets, electronic equipment, vehicles) | 9 | 30 | 31 | 32 | 34 | 35 | 36 |
| J | Minor purchases (food items, kitchenware , cloths) | 10 | 30 | 31 | 32 | 34 | 35 | 36 |
| K | Schooling of children | 11 | 30 | 31 | 32 | 34 | 35 | 36 |
| L | Participatio n of children on farm work | 12 | 30 | 31 | 32 | 34 | 35 | 36 |
| M | Household's diet | 13 | 30 | 31 | 32 | 34 | 35 | 36 |

INTERVIEWER, ASK QUESTIONS QI_04-Q4_06 TO SECOND RESPONDENT
QI_04 Who usually makes decisions on ...
INTERVIEWER, ONE ANSWER PER LINE!!!

|  |  | Member <br> of HH | hh head <br> and <br> spouse <br> together | Men or a <br> sub-group <br> of men in <br> the <br> household | Women <br> or a sub- <br> group of <br> women in <br> the <br> household | A sub <br> group <br> consisting <br> of men <br> and <br> women | All <br> adults <br> together | Other <br> (specify) |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A | Food crop <br> farming |  | 30 | 31 | 32 | 34 | 35 | 36 |


| B | Cash crop farming | 30 | 31 | 32 | 34 | 35 | 36 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | Use of kitchen garden | 30 | 31 | 32 | 34 | 35 | 36 |
| D | Use of land plots | 30 | 31 | 32 | 34 | 35 | 36 |
| E | Transactions of cattle | 30 | 31 | 32 | 34 | 35 | 36 |
| F | Saving | 30 | 31 | 32 | 34 | 35 | 36 |
| G | Borrowing | 30 | 31 | 32 | 34 | 35 | 36 |
| H | Employment of household members outside own farm | 30 | 31 | 32 | 34 | 35 | 36 |
| 1 | Major purchases (furniture, agricultural assets, electronic equipment, vehicles) | 30 | 31 | 32 | 34 | 35 | 36 |
| J | Minor purchases (food items, kitchenware, cloths) | 30 | 31 | 32 | 34 | 35 | 36 |
| K | Schooling of children | 30 | 31 | 32 | 34 | 35 | 36 |
| L | Participation of children on farm work | 30 | 31 | 32 | 34 | 35 | 36 |
| M | Household's diet | 30 | 31 | 32 | 34 | 35 | 36 |

QI_O Have there been any changes in who usually makes decisions on ... over the past $\mathbf{1 2}$ months?
5
QI_O Who made these decisions 12 months ago
6 INTERVIEWER, ASK QUESTION QI_05 IN ALL LINES, WHERE RESPONDENT ANSWERED "YES" TO QI 06

|  |  |  | QI_06 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\frac{\text { QI_0 }}{5}$ | Membe rof HH | hh head and spouse togethe r | Men or a sub-group of men in the household | Women or a subgroup of women in the househol d | A sub group consistin g of men and women | All adults togethe r | Other (specify ) |
| A | Food crop farming | 1 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| B | Cash crop farming | 2 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| C | Use of kitchen garden | 3 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| D | Use of land plots | 4 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| E | Transactions of cattle | 5 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| F | Saving | 6 |  | 30 | 31 | 32 | 34 | 35 | 36 |
| G | Borrowing | 7 |  | 30 | 31 | 32 | 34 | 35 | 36 |


| H | Employmen t of household members outside own farm | 8 | 30 | 31 | 32 | 34 | 35 | 36 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Major purchases (furniture, agricultural assets, electronic equipment, vehicles) | 9 | 30 | 31 | 32 | 34 | 35 | 36 |
| J | Minor purchases (food items, kitchenware , cloths) | 10 | 30 | 31 | 32 | 34 | 35 | 36 |
| K | Schooling of children | 11 | 30 | 31 | 32 | 34 | 35 | 36 |
| L | Participatio $n$ of children on farm work | 12 | 30 | 31 | 32 | 34 | 35 | 36 |
| M | Household's diet | 13 | 30 | 31 | 32 | 34 | 35 | 36 |

## ANNEX 2

## Focus group discussions

"Thank you for coming. My name is $\qquad$ , and I am with a team of independent researchers RBC Group working with FAO. We are researching effects of the "Productive Social Contract/Cash+ pilot" and MBLIF/UBK, and their effects on household members' nutrition, household economy, livelihoods and well-being and resilience and effects on the community, and are eager to collect your views to improve the way these programmes work. We are not programme staff or officials, and the answers and information you give us will be completely confidential. We will describe what people in this community and others think in a report, but we will not mention any names. Your personal contributions and views will not be shared with anyone else in a way that can identify you.
Also, you don't have to participate if you don't want to, and please interrupt me if you ever want to stop the discussion. The discussion will take about two hours.
Do you have anything you want to ask me before we start?
Can we begin by quickly introducing ourselves to each other?" [Give your name, where you are from and then ask everyone to give their name].

## INFORMATION IN GREEN IS FOR MODERATOR ONLY, DO NOT READ OUT TO PARTICIPANTS!

1.The pilot improved dietary diversity through increased diversity of crops for selfconsumption and increased income generation. With the training, beneficiaries made more informed choices about household diets as well as applied healthier cooking and food preservation practices. In particular the diets of women and children improved

Perceived changes in diet (e.g. diet content, diversity) and in knowledge and consumption practices - and perceived motivations/driving factors for these changes; views/experiences/attitudes about impacts of these changes, with particular focus on children (examine expenditures, consumption practices, preservation/post-harvest methods etc.)
Our discussion will be divided into several blocks of questions. Let's begin our discussion with nutrition issues.
1.1 Do you think you have adequate knowledge of what a healthy diet consists of? What would it be like? What is your view on how different household members (men, women, children) should eat? Have you noticed any changes in this in the community?
1.2 Let's talk about your family diet. Давайте поговорим о рационе питания вашей семьи. Tell me, please, has the diet (variety of products) changed compared to the previous year?
1.3 Have you and your family members consumed more food:

- Various vegetables and fruits (any);
- rich in proteins of animal origin (meat, poultry, eggs),
- legumes (chickpeas, beans, lentils),
- green leafy plants (spinach, lettuce, broccoli, other greens)

```
- vegetables / fruits rich in vitamin A (pumpkin, carrots, dried fruits)?
```

1.4 If yes, why did these changes occur? Who in your family began to consume more of these products, children, women, all family members?
1.5 Has the amount of food consumed changed? If so, why did these changes occur? Who in family experienced these changes - children, women, all family members?
1.6 Has the frequency of meals consumed changed during this period? If so, how? If so, why did these changes occur? Who in family experienced these changes - children, women, all family members?
1.7 Have you started eating new foods? What kind? Why did this happen? For what purpose? Who in your family began to consume these products - children, women, all family members? What are the implications of these changes for your family?
1.8 Has the ratio between food grown at home and purchased on the market changed? If so, why? What are the implications of these changes for your family?
1.9 Have you received nutrition training in the last 12 months? If so, within which projects? Have you learned anything new for yourself? What exactly?
1.10 If yes, have you used nutrition information from this training? If yes, why, if not, why? If so, what were the results, describe. Did this affect the nutrition of children aged 6 months to two years and women? Describe in detail.
1.11 Has your nutritional awareness changed from the previous year? Why did these changes happen? What influence did they have on your family?

## 2. INFORMATION IN GREEN IS FOR MODERATOR ONLY, DO NOT READ OUT TO PARTICIPANTS!

The pilot increased overall agricultural production and sales of agricultural products. Project design and implementation processes led to greater availability of inputs and to access to training on agricultural techniques for crop production.
Changes (perceived/experienced) in household income, including income stability, and reasons for this. Household agricultural activities, how could they be made more productive, market access, access and affordability of inputs, perceptions of knowledge of agricultural technologies and crops.

And now I would like to discuss with your issues related to agricultural production.
2.1 Does your household engage in crop production? What role does crop production play in your household income? In your opinion, how efficient is your production and how satisfied are you with the crop as a whole?
2.2 If yes, do you sell grown products? Is selling agricultural products one of the main sources of income at present? And 12 months ago? If changes have occurred, why?
2.3 Has the income from the sale of agricultural products in your family increased or decreased compared to the previous year? If it changed, why? What impact did these changes have on your family life and income?
2.4 Has your family's total income changed compared to the previous year? If changed, why? What impact did these changes have on your family?
2.5 Do you encounter problems in generating income from the sale of agricultural products? What problems did you face (lack market for sales, low purchase prices, etc.)? And 12 months ago? What has changed, why? What impact did these changes have on your family?

ASK QUESTIONS 2.6-2.9 TO THOSE WHO SOLD / SELLING AGRICULTURAL PRODUCTS.
2.1 Where / who did you sell the products to?
2.2 If sold to a neighbour: why? Was that a barter exchange, and, if so, an exchange for what? Why did your neighbours buy products from you and not from the market?
2.3 If you sold it to wholesale buyers or markets: was it easy to sell the crop (availability of demand, markets / wholesalers, transportation costs) and were the prices satisfactory and stable?
2.4 What were the barriers / difficulties to market?
2.5 What problems do you currently face in agricultural production (there is no access to loans, loans, resources, it is impossible to acquire (quality) assets locally, the price of seeds, fertilizers, services, etc. is too high, there is no knowledge)? And 12 months ago? What has changed, why? What impact did these changes have on your family?
2.6 Do you have experience growing vegetables and legumes, in particular tomatoes, cucumbers, beets, cauliflower, lettuce, spinach, lentils, pumpkins, carrots, eggplants or chickpeas?
2.7 If yes: Do you think that growing these vegetables / crops will help you get a bigger crop, and therefore more income?
2.8 If not: Do you think growing these vegetables / crops could help you get a bigger crop, and therefore more income? Why, explain.
2.9 If it does not help, then what crops will help increase agricultural income?

COSTS AND INVESTMENTS AS A RESULT OF CHANGE, FOR EXAMPLE, PRODUCTION ASSETS, CHILD CARE, EDUCATION, SOURCES OF INCOME
2.1 Have your expenses changed compared to the previous year? If so, how have they changed and why? How has this affected your family? How did these changes in expenses affect your ability to make any investments (FOR THE MODERATOR: FOR EXAMPLE, PURCHASE OF EQUIPMENT, CATTLE, OTHER ASSETS, HOUSES, HEALTH AND EDUCATION COSTS)? When you invested in .... (add during the discussion) or began to spend more on .... (add during the discussion), what has changed?

## QUESTIONS FOR PILOT PARTICIPANTS AND RECIPIENTS OF MBPF ONLY

2.1 How do you use cash from the MBPF (a single allowance for low-income families) or uibuloogo komok?
2.2 Do you use the MBPF (single benefit for low-income families) only for "certain" expenses? Why and for what specific costs?
2.3 Who makes the decision to spend the MBPF?

QUESTIONS ONLY FOR THOSE WHO DID NOT PARTICIPATE IN THE PILOT AND NONRECIPIENTS OF MBPF
2.4 If you received 800 soms for each child under 16 years of age per month as extra income, how would you spend it? How will this affect your life? Would this improve your well-being?
2.5 If you plan to receive an MBPF, who is collecting documents and applying?

DISTRIBUTION OF TIME AND RESPONSIBILITIES IN THE HOUSEHOLD (IN PRODUCTION AS WELL AS IN HOUSEHOLD DUTIES)
2.1 Who grows agricultural products in your family? Who mainly works in the garden, on the land? How has the workload of these family members changed compared to the last year? Why? If they began to spend more time on agriculture, how would they cope with other household duties? 2.2 What would help these family members to cut down / reduce the burden in agriculture, what resources (equipment, training, hiring employees, etc.)?

## SKILLS, KNOWLEDGE AND CHANGES RELATED TO AGRICULTURE

2.3 Have you received any new agricultural skills / expertise in the past 12 months?
2.4 If they say "yes": What skills? What were the implications of acquiring / applying these new skills? Benefits? Disadvantages? Have these skills affected agricultural production and productivity? If so, how. Describe in detail. Have these new skills changed the amount of time spent on agricultural activities? Do you have an intention / plans to continue your studies? Why yes? Why not? Explain.
2.5 Have you shared this knowledge with relatives / friends / neighbours? Why? What is the perception of your neighbours?
2.6 If the answer is "no": why not? Explain.
2.7 What do you think you need to know about agriculture to make it more productive for you?

CHANGES AND PERCEPTION OF CHANGES IN THE COMMUNITY MARKET RELATIONS / ACTIONS (i.e., AVAILABILITY AND DIVERSITY OF GOODS AND SERVICES, PRICES, COMPETITION) AND SUGGESTED CAUSES AND CONSEQUENCES OF CHANGES
2.1 Has the range of products on the market become more diverse compared to the previous year? 2.2 If yes, what do you attribute this to? If not, why?

## 3. INFORMATION IN GREEN IS FOR MODERATOR ONLY, DO NOT READ OUT TO PARTICIPANTS!

The pilot contributed to livelihoods diversification and improved household resilience and reduced the need to consider "last resort" sources of income. The pilot reduced the need for risk aversion in farming and smoothing households' consumption in case of farming failure and strengthened income generation activities with potential for long-term sustainability
Diversification of income sources
I would like to go on to discuss how poor households deal with any difficult life situations and crisis events (for example, crop loss, childbirth, cattle loss ...)
3.1 Over the past year, has your family become more prepared for crisis events that reduce family income (birth, illness of relatives, death, natural disaster, illness and death of farm animals, etc.) if they happen? Why and what do you associate this with? If not, what would help your family feel more secure?
3.2 Over the past year, have any new sources of income appeared in your family that you did not have before? If yes, which ones, tell me. Have new sources of income increased your confidence in the future and your preparedness for crisis events? Tell me.
3.3 Over the past year, has the attitude of your neighbours and the community as a whole changed? Do you feel more involved in the life of the street, village, community, or vice versa, have you become more excluded? Why, what you associate it with.
ATTENTION, MODERATOR! CLARIFY, IF ANY CHANGES HAVE TAKEN PLACE IN JOINING / ACCESSING NEW GROUPS (TO LOAN MONEY, GET FOOD, FINANCIAL
(CASH) OR IN-KIND SUPPORT, RECEIVE NON-MATERIAL/PROFESSIONAL ADVICE (CONSULTATION) AND SO ON)? EXPLAIN - WHICH GROUPS? OBJECTIVES? ADVANTAGES AND ETC. WHICH OF THE EXISTING GROUPS? (AGAIN, CONTROL WHICH GROUPS AND WHY?)

## QUESTIONS FOR PILOT PARTICIPANTS AND RECIPIENTS OF MBPF ONLY

3.1 Does the benefit guide (MBPF) provide confidence in tomorrow for your family? If so, why? If not, why?
4. Overall programme views

Unintended or negative consequences of combined programmes for the beneficiary household, community (for example, economy, social relations, leadership, etc.), views on exclusion from programmes
4.1 What did you like about the programme (pilot and MBPF) or was it particularly useful for you personally and your family? Explain.
4.2 Is there something that you didn't like about the programme (pilot and MBPF) or what, in your opinion, didn't work / create difficulties for your family? Explain. What would you change?

## QUESTIONS ONLY FOR THOSE WHO DID NOT PARTICIPATE IN THE PILOT

4.1 Do you know how participation in the pilot project was determined? Why didn't you participate in the pilot? Do you think you should have participated / would have participated if you had been invited while registering a pilot? Why yes, why not?

## QUESTIONS ONLY FOR THOSE WHO DID NOT PARTICIPATE IN THE PILOT AND NON-RECIPIENTS OF MBPF

4.1 Do you think you should receive social security benefits (for low-income families) for children? Why? How would that change your life?

## KEY INTERVIEWS GUIDE INTRODUCTION

"My name is $\qquad$ , and I am with a team of independent researchers RBCGroup working with FAO. We are researching effects of the "Cash+ " project in Kyrgyzstan. The purpose of the assessment is evaluate its effects on household members' nutrition, household economy, livelihoods, well-being and resilience and effects on the community. Thank you for agreeing to participate in our discussion.
The discussion will take about an hour. All information received is confidential. It will be processed and presented in a form of recommendations. If you have no objections, I will record our conversation on audio for accuracy of information captured used in reporting. In the report, we will mention opinions of your community members, but we will not mention names.
We are not programme staff or officials, and the answers and information you give us will be completely confidential.
We will discuss poor families and outcomes of the pilot project in Oktyabrskoe, Safarovka and Bagysh villages during the interview.

And now, please, introduce yourself? Your name, age and occupation.

Our discussion will be divided into several blocks of questions. Let's begin our discussion with nutrition issues.

## INFORMATION IN GREEN IS FOR FACILITATORS ONLY, DO NOT READ OUT TO PARTICIPANTS!

1.The pilot improved dietary diversity through increased diversity of crops for selfconsumption and increased income generation. With the training, beneficiaries made more informed choices about household diets as well as applied healthier cooking and food preservation practices. In particular the diets of women and children improved
Perceived changes in diet (e.g. diet content, diversity) and in knowledge and consumption practices - and perceived motivations/driving factors for these changes; views/experiences/attitudes about impacts of these changes, with particular focus on children (examine expenditures, consumption practices, preservation/post-harvest methods etc.)

Let's talk about the diet of poor families.
1.1. What kind of nutritional problems do these families experience? Is the diet of these families full and varied? Why? From your point of view, how can the problems of malnutrition of these families be solved / how can it be made more diverse?
1.2. Is the range of products on the market / shops in these villages diverse (focus on affordable vegetables and fruits)? Why? How has it changed compared to the previous year? If it has changed, what do you think is the reason for these changes? What new products appeared on the market? Are these products available to poor families (economic, physical and social accessibility)?
1.3 How are food market prices changing? What is the reason for this? How does this affect poor families?
1.4 In your opinion, how did the pilot affect the diet of poor families (both project participants and those who did not participate in the project) and the variety of available products on the market? And now I would like to discuss issues of the production of agricultural products with you.

INFORMATION IN GREEN IS FOR FACILITATORS ONLY, DO NOT READ OUT TO PARTICIPANTS!
2.The pilot increased overall agricultural production and sales of agricultural products. Project design and implementation processes led to greater availability of inputs and to access to training on agricultural techniques for crop production.
Changes (perceived/experienced) in household income, including income stability, and reasons for this. Household agricultural activities, how could they be made more productive, market access, access and affordability of inputs, perceptions of knowledge of agricultural technologies and crops
2.1 What agricultural products do poor families produce in your community? What crops are usually grown? And what was grown in the last and the year before last? Has something changed during this time, why? What do you think about the changes? What impact did these changes have? Have you started to grow new crops?
2.2 How efficient is this production? Why? What do you think needs to be done to increase the efficiency of agricultural production in general?
2.3 What problems do poor families currently face in agricultural production (sample cases: no access to credit, loans, resources, local assets impossible to acquire, price for seeds too high, fertilizers, services, irrigation, no knowledge, etc.)? And 12 months ago? What has changed, why? What impact did these changes have on family life? What do you think needs to be done to solve these problems? Did the pilot contribute to solving problems in agricultural production for poor families? If so, how?
2.4 What are the risks associated with agricultural production? And 12 months ago? What has changed, why? What impact did these changes have on family life?
2.5 What markets exist in these villages?
2.6 Who do poor families sell their products to: neighbours, in the market, barter exchanges, wholesale buyers / buyers, rent out to processing plants, etc.? And if they sell to wholesale buyers or in markets: was it easy to sell crops (availability of demand, markets / wholesalers, transportation costs) and were the prices satisfactory and stable?
2.7 If you began to grow new crops, are there markets for new crops?
2.8 What barriers do poor families face when selling agricultural products at present? What has changed compared to the previous year? Why? What needs to be done to overcome these barriers?

Now I would like to go on to discuss how poor households deal with any difficult life situations and crisis events (for example, crop loss, childbirth, cattle loss ...)

## INFORMATION IN GREEN IS FOR FACILITATORS ONLY, DO NOT READ OUT TO

 PARTICIPANTS!3. The pilot contributed to livelihoods diversification and improved household resilience and reduced the need to consider "last resort" sources of income. The pilot reduced the need for risk aversion in farming and smoothing households' consumption in case of farming failure and strengthened income generation activities with potential for long-term sustainability
Diversification of income sources
3.1. What do you think are the main sources of income for poor families? Do you think something has changed compared to the previous year?
IF AGRICULTURAL PRODUCTION HAS NOT BEEN MENTIONED, REFINE:
3.2 Is agricultural production one of the main sources of income for these families? Why yes / no? Has agricultural production become an alternative source of income for some poor families over the past year? Why yes / no?
3.3 Do you think poor households have increased income from the previous year? Why and what it can be linked to?

## IF THE PILOT IS NOT MENTIONED, CLARIFY:

3.4 Do you think that the pilot somehow influenced the well-being of families? If so, how? If not, why?
3.5 If the income of families has increased, what do you think these families spend extra income on? Do you think that over the past year these families began to feel more protected from crisis events that reduce family income (death, natural disaster, illness and death of agricultural animals, etc.)? Why and what do you associate this with?
3.6 IF THEY DO NOT MENTION THE PILOT, CLARIFY: Do you think that the pilot project somehow affected the ability of families to feel more prepared for crisis events? If so, how? If not, why?
3.7 In your opinion, does the allowance (MBPF) provide confidence for the poor for tomorrow? If so, why? If not, why?
3.8 What needs to be done to provide stable sources of income for poor households and help them feel confident in crisis situations?
3.9. Who do you think makes the main decisions regarding work, business, agricultural production, income, expenses, etc.? What is the role of women in making these decisions in your community? What has changed compared to the previous year? What are the reasons for these changes?

## 4. Overall programme views

Unintended or negative consequences of combined programmes for the beneficiary household, community (for example, economy, social relations, leadership, etc.), views on exclusion from programmes
4.1 What did you find particularly useful for poor households and the community in the pilot project? What, from your point of view, are the strengths of this project? Did it have a positive effect on the community? Explain.
4.2 Is there something that you did not like about the pilot project or that, in your opinion, didn't work / create difficulties? Did the pilot have any negative effects on the community? Explain. 4.3 What would you change in the pilot project or do it differently?

## ANNEX 3

Table 1A. Model of consumption diversity

|  | HDDS | WDDS | Modified score |
| :---: | :---: | :---: | :---: |
| 0-4 sq m land*number of crops harvested | -0.017 | 0.009 | -0.022 |
|  | (0.073) | (0.072) | (0.076) |
| 4-299 sq m land*number of crops harvested | 0.127*** | 0.109*** | 0.109*** |
|  | (0.028) | (0.028) | (0.022) |
| 3-999 sq m land*number of crops harvested | 0.068** | 0.061*** | 0.072*** |
|  | (0.021) | (0.015) | (0.019) |
| 1000 sq m land*number of crops harvested | 0.064** | 0.064*** | 0.062*** |
|  | (0.020) | (0.015) | (0.018) |
| Number of crops harvested squared | 0 | -0.001 | 0 |
|  | (0.001) | (0.001) | (0.001) |
| Female household head | 0.008 | 0.002 | -0.005 |
|  | (0.059) | (0.043) | (0.050) |
| Ln (monthly total income per capita) | 0.120*** | 0.067** | 0.097*** |
|  | (0.034) | (0.025) | (0.027) |
| Household head education level 1 | 0.487 | 0.164 | 0.19 |
|  | (0.291) | (0.264) | (0.285) |
| Household head education level 2 | 0.293 | -0.083 | -0.043 |
|  | (0.235) | (0.230) | (0.249) |
| Household head education level 3 | 0.402 | -0.022 | 0.006 |
|  | (0.232) | (0.228) | (0.248) |
| Age of household head | -0.001 | 0 | -0.002 |
|  | (0.003) | (0.002) | (0.002) |
| Number of household members under 5 | 0.019 | 0 | -0.044 |
|  | (0.048) | (0.039) | (0.044) |
| Number of household members 5-17 | 0.012 | 0.01 | -0.004 |
|  | (0.034) | (0.027) | (0.030) |
| Number of household members over 62 | 0.140* | 0.106** | 0.129* |
|  | (0.059) | (0.041) | (0.050) |
| Number of women | 0.086* | 0.056* | 0.066* |
|  | (0.035) | (0.024) | (0.029) |
| Number of disabled members | 0.063 | 0.004 | 0.036 |
|  | (0.106) | (0.063) | (0.088) |
| Household size | 0.002 | 0.013 | 0.029 |
|  | (0.031) | (0.022) | (0.026) |
| R-squared | 0.217 | 0.201 | 0.203 |
| N | 4988 | 4988 | 4988 |

* $\mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01,{ }^{* * *} \mathrm{p}<0.001$

The explanatory variables also included oblast and rural/urban indicator and their interactions.

## ANNEX 4

Table 2A. Multivariate regressions: food security of children

|  | (1) | (2) | (3) | (4) | (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of meals for children | frequency of protein-rich food | frequency of protein-rich vegetable food | frequency of Vitamin A rich food | frequency of fruits and vegetables |
| Cash-only | $\begin{gathered} 0.058 \\ (0.100) \end{gathered}$ | $\begin{aligned} & -0.239 \\ & (0.199) \end{aligned}$ | $\begin{aligned} & -0.275 \\ & (0.220) \end{aligned}$ | $\begin{aligned} & -0.049 \\ & (0.262) \end{aligned}$ | $\begin{gathered} 0.021 \\ (0.198) \end{gathered}$ |
| Cash+ | $\begin{gathered} 0.242 * * \\ (0.102) \end{gathered}$ | $\begin{gathered} 0.055 \\ (0.192) \end{gathered}$ | $\begin{aligned} & 0.381^{*} \\ & (0.221) \end{aligned}$ | $\begin{gathered} 0.111 \\ (0.250) \end{gathered}$ | $\begin{gathered} 0.295 \\ (0.194) \end{gathered}$ |
| Plus-only | $\begin{aligned} & 0.257^{*} \\ & (0.132) \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.435^{*} \\ & (0.256) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.212 \\ (0.273) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.590^{*} \\ & (0.310) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.966^{* * *} \\ (0.214) \\ \hline \end{gathered}$ |
| HH head male | $\begin{aligned} & \hline-0.048 \\ & (0.094) \end{aligned}$ | $\begin{gathered} 0.278 \\ (0.181) \end{gathered}$ | $\begin{gathered} 0.132 \\ (0.179) \end{gathered}$ | $\begin{gathered} 0.235 \\ (0.224) \end{gathered}$ | $\begin{gathered} 0.031 \\ (0.171) \end{gathered}$ |
| HH any educ | $\begin{aligned} & -0.032 \\ & (0.100) \end{aligned}$ | $\begin{gathered} 0.503^{* *} \\ (0.225) \end{gathered}$ | $\begin{aligned} & -0.096 \\ & (0.202) \end{aligned}$ | $\begin{gathered} 0.034 \\ (0.267) \end{gathered}$ | $\begin{gathered} 0.078 \\ (0.206) \end{gathered}$ |
| \# HH adult members | $\begin{gathered} -0.060 \\ (0.045) \end{gathered}$ | $\begin{aligned} & -0.059 \\ & (0.090) \end{aligned}$ | $\begin{gathered} 0.196^{* *} \\ (0.085) \end{gathered}$ | $\begin{gathered} 0.062 \\ (0.102) \end{gathered}$ | $\begin{gathered} 0.055 \\ (0.069) \end{gathered}$ |
| \# HH children | $\begin{gathered} 0.019 \\ (0.046) \\ \hline \end{gathered}$ | $\begin{gathered} 0.098 \\ (0.070) \\ \hline \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.073) \\ \hline \end{gathered}$ | $\begin{gathered} 0.182^{* *} \\ (0.088) \end{gathered}$ | $\begin{gathered} 0.091 \\ (0.064) \\ \hline \end{gathered}$ |
| HH labour constrained | $\begin{gathered} 0.010 \\ (0.115) \end{gathered}$ | $\begin{gathered} -0.448^{* *} \\ (0.211) \end{gathered}$ | $\begin{gathered} 0.200 \\ (0.220) \end{gathered}$ | $\begin{aligned} & -0.317 \\ & (0.268) \end{aligned}$ | $\begin{gathered} -0.417^{*} * \\ (0.208) \end{gathered}$ |
| HH own piece of land | $\begin{gathered} 0.156 \\ (0.120) \end{gathered}$ | $\begin{aligned} & -0.148 \\ & (0.260) \end{aligned}$ | $\begin{gathered} 0.343 \\ (0.309) \end{gathered}$ | $\begin{aligned} & -0.135 \\ & (0.414) \end{aligned}$ | $\begin{gathered} 0.073 \\ (0.282) \end{gathered}$ |
| HH assets before pilot | $\begin{gathered} 0.093 * * \\ (0.045) \end{gathered}$ | $\begin{gathered} 0.240 * * * \\ (0.085) \end{gathered}$ | $\begin{aligned} & -0.024 \\ & (0.092) \end{aligned}$ | $\begin{aligned} & -0.071 \\ & (0.104) \end{aligned}$ | $\begin{aligned} & -0.006 \\ & (0.075) \end{aligned}$ |
| HH agr assets before pilot | $\begin{gathered} 0.013 \\ (0.027) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.085^{*} \\ & (0.045) \\ & \hline \end{aligned}$ | $\begin{gathered} -0.152^{* * *} \\ (0.046) \\ \hline \end{gathered}$ | $\begin{gathered} 0.139 * * \\ (0.061) \\ \hline \end{gathered}$ | $\begin{gathered} 0.198^{* * *} \\ (0.049) \\ \hline \end{gathered}$ |
| Constant | $\begin{gathered} \hline 3.105 * * * \\ (0.203) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.270^{* * *} \\ (0.411) \\ \hline \end{gathered}$ | $\begin{aligned} & \hline 0.800^{*} \\ & (0.444) \\ & \hline \end{aligned}$ | $\begin{gathered} \hline 2.347^{* * *} \\ (0.543) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.421^{* * *} \\ (0.395) \\ \hline \end{gathered}$ |
| Observations | 323 | 323 | 318 | 323 | 322 |
| R-squared | 0.059 | 0.149 | 0.085 | 0.063 | 0.157 |

Note: ${ }^{* * *} 1$ percent significance, ${ }^{* *} 5$ percent significance, * 10 percent significance. Huber-White robust standard errors are reported in parentheses.

Table 3A. Multivariate regressions: food security of women and whole household

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | frequency of protein-based meals women | frequency of vitamin A rich meals | frequency of fruits and vegetables | worry of not having enough food |
| Cash-only | -0.076 | 0.119 | 0.192 | 0.059 |
|  | (0.208) | (0.231) | (0.200) | (0.074) |
| Cash+ | 0.231 | 0.385* | 0.795*** | 0.001 |
|  | (0.195) | (0.224) | (0.195) | (0.074) |
| Plus-only | 0.581** | 0.764*** | 1.379*** | -0.234*** |
|  | (0.272) | (0.293) | (0.224) | (0.084) |
| HH head male | 0.122 | 0.159 | -0.293* | -0.001 |
|  | (0.199) | (0.187) | (0.167) | (0.063) |
| HH any educ | 0.483** | -0.119 | 0.328 | 0.149** |
|  | (0.231) | (0.214) | (0.208) | (0.074) |
| \# HH adult members | -0.038 | -0.005 | 0.069 | -0.013 |
|  | (0.090) | (0.096) | (0.073) | (0.027) |
| \# HH children | 0.079 | 0.143* | 0.015 | -0.013 |
|  | (0.070) | (0.077) | (0.061) | (0.025) |
| HH labour constrained | -0.276 | -0.360 | -0.255 | 0.143* |
|  | (0.216) | (0.240) | (0.201) | (0.077) |
| HH own piece of land | -0.160 | 0.066 | 0.030 | -0.110 |
|  | (0.285) | (0.324) | (0.362) | (0.095) |
| HH assets before pilot | 0.315*** | 0.129 | -0.069 | -0.058* |
|  | (0.084) | (0.097) | (0.081) | (0.032) |
| HH agr assets before pilot | 0.063 | 0.134** | 0.198*** | -0.031 |
|  | (0.047) | (0.053) | (0.046) | (0.019) |
| Constant | 2.024*** | 2.145*** | 2.420*** | 0.630*** |
|  | (0.436) | (0.466) | (0.473) | (0.140) |
| Observations | 315 | 315 | 315 | 328 |
| R-squared | 0.140 | 0.093 | 0.208 | 0.112 |

Note: *** 1 percent significance, ** 5 percent significance, * 10 percent significance. Huber-White robust standard errors are reported in parentheses.

Table 4A. Income by sources and treatment group in the Rapid Assessment

| Sources of income |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Comparison | Cash-only | Cash+ | Plus-only |
| Total | 12972.6 | 9594.2 | 11166.6 | 16360.3 |
| Wages and salaries | 6945.4 | 4505.2 | 2939.8 | 6968.6 |
| Profits from own farm | 1241.4 | 401.0 | 1591.7 | 1545.7 |
| Profits own non-farm business | 414.1 | 687.5 | 1076.5 | 885.7 |
| Pensions | 1786.7 | 811.3 | 1717.3 | 3371.4 |
| MBLIF/UBK | 0 | 2450.7 | 2751 | 0 |
| Other social grants | 483.8 | 204.6 | 296.9 | 777.1 |
| In kind benefits, subsidies | 0 | 20.6 | 10.6 | 30 |
| Remittances | 2091.8 | 875.0 | 742.3 | 2514.3 |
| Other income | 45.5 | 0 | 0 | 0 |

Note: In bold mean values significantly greater than the comparison mean.

Table 5A. Multivariate regressions: income generating activities

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Increase in agricultural production | Increase of income from agricultural production | Increase in livestock byproduct | Increase of income from livestock byproduct |
| Cash-only | 0.052 | -0.103 | -0.087 | 0.154 |
|  | (0.118) | (0.135) | (0.122) | (0.101) |
| Cash+ | 0.964*** | 0.851*** | -0.006 | 0.129 |
|  | (0.113) | (0.177) | (0.145) | (0.126) |
| Plus-only | 0.915*** | 0.649*** | 0.590*** | -0.272 |
|  | (0.141) | (0.248) | (0.198) | (0.196) |
| HH head male | 0.034 | 0.122 | 0.134 | -0.043 |
|  | (0.099) | (0.142) | (0.113) | (0.094) |
| HH any educ | -0.201** | 0.089 | -0.120 | 0.080 |
|  | (0.101) | (0.165) | (0.142) | (0.095) |
| \# HH adult members | 0.039 | -0.082 | 0.162** | -0.035 |
|  | (0.043) | (0.069) | (0.063) | (0.043) |
| \# HH children | -0.036 | 0.001 | 0.010 | -0.055 |
|  | (0.038) | (0.063) | (0.054) | (0.047) |
| HH labour constrained | 0.025 | 0.180 | -0.182 | 0.163 |
|  | (0.125) | (0.186) | (0.143) | (0.105) |
| HH own piece of land | 1.447*** | 0.516*** | -0.062 | 0.008 |
|  | (0.120) | (0.131) | (0.141) | (0.099) |
| HH assets before pilot | 0.026 | 0.097 | 0.152*** | -0.059 |
|  | (0.043) | (0.064) | (0.051) | (0.039) |
| HH agr assets before pilot | 0.002 | 0.024 | 0.114*** | -0.120*** |
|  | (0.029) | (0.042) | (0.041) | (0.037) |
| Constant | -3.761*** | -4.033*** | -4.155*** | 4.004*** |
|  | (0.199) | (0.257) | (0.246) | (0.166) |
| Observations | 321 | 311 | 326 | 327 |
| R-squared | 0.476 | 0.197 | 0.221 | 0.143 |

Note: *** 1 percent significance, ** 5 percent significance, * 10 percent significance. Huber-White robust standard errors are reported in parentheses.

Table 6A. Multivariate regressions: self-perceived poverty

|  | (1) | (2) |
| :---: | :---: | :---: |
|  | Self-assessed poverty | Improvement poverty status |
| Cash-only | $\begin{gathered} 0.002 \\ (0.075) \end{gathered}$ | $\begin{gathered} \hline 0.055 \\ (0.085) \end{gathered}$ |
| Cash+ | $\begin{aligned} & -0.005 \\ & (0.083) \end{aligned}$ | $\begin{gathered} 0.461^{* * *} \\ (0.092) \end{gathered}$ |
| Plus-only | $\begin{array}{r} -0.160 \\ (0.103) \\ \hline \end{array}$ | $\begin{gathered} 0.463 * * * \\ (0.126) \\ \hline \end{gathered}$ |
| HH head male | $\begin{gathered} \hline 0.039 \\ (0.077) \end{gathered}$ | $\begin{gathered} \hline 0.194^{* *} \\ (0.080) \end{gathered}$ |
| HH any educ | $\begin{gathered} 0.113 \\ (0.086) \end{gathered}$ | $\begin{aligned} & -0.039 \\ & (0.085) \end{aligned}$ |
| \# HH adult members | $\begin{gathered} 0.032 \\ (0.035) \end{gathered}$ | $\begin{gathered} -0.034 \\ (0.040) \end{gathered}$ |
| \# HH children | $\begin{gathered} -0.020 \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.047 \\ (0.033) \end{gathered}$ |
| HH labour constrained | $\begin{gathered} 0.027 \\ (0.086) \end{gathered}$ | $\begin{aligned} & \hline-0.085 \\ & (0.101) \end{aligned}$ |
| HH own piece of land | $\begin{gathered} 0.425^{* * *} \\ (0.099) \end{gathered}$ | $\begin{gathered} -0.040 \\ (0.144) \end{gathered}$ |
| HH assets before pilot | $\begin{gathered} 0.153 * * * \\ (0.036) \end{gathered}$ | $\begin{gathered} 0.081^{* *} \\ (0.036) \end{gathered}$ |
| HH agr assets before pilot | $\begin{gathered} -0.028 \\ (0.021) \\ \hline \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.022) \\ & \hline \end{aligned}$ |
| Constant | $\begin{gathered} \hline 1.006^{* *} \\ (0.161) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 1.569 * * * \\ (0.188) \\ \hline \end{gathered}$ |
| Observations | 327 | 327 |
| R-squared | 0.161 | 0.163 |

Note: *** 1 percent significance, ** 5 percent significance, * 10 percent significance. Huber-White robust standard errors are reported in parentheses.


[^0]:    ${ }^{1}$ The "Productive Social Contract/Cash+" pilot in Kyrgyzstan was funded by the Russian Federation under the FAO's Project "Developing Capacity for Strengthening Food Security and Nutrition in Selected Countries of the Caucasus and Central Asia".

[^1]:    ${ }^{2}$ The programme was later renamed "Uy-Bulogo Komok" (UBK).

[^2]:    ${ }^{3}$ For discussion and studies on when in-kind transfer increases food consumption or consumption of certain foods, see for example Cunha (2014) and Hoddinott, Sandström and Upton (2018).

[^3]:    ${ }^{4}$ Figure provided by the Ministry of Labour and Social Development, 2019.
    ${ }^{5}$ For more information on the Cash+ pilot intervention in Kyrgyzstan, see Ocampo et al. (2017).

[^4]:    ${ }^{6}$ In 2014.
    ${ }^{7}$ Based on results of the Kyrgyz Demographic and Health Survey DHS (2013), Kyrgyz Republic Multiple Indicator Cluster Survey MICS (2014) and Kyrgyz Republic Household Food Security Assessment (WFP, 2013).
    ${ }^{8}$ As per the Government's Regional Development Strategy for 2018-2022.

[^5]:    ${ }^{9}$ Conducted by the Alliance of Civil Society for Food Security and Nutrition PA in 2018.
    ${ }^{10}$ The analysis of dietary diversity of rural households in Jalal-Abad Oblast was based on the data of the 2014 Kyrgyz Integrated Household Survey regarding consumed food, and supplemented with field information retrieved through key informant interviews.

[^6]:    ${ }^{11}$ Cash+ monitoring report.

[^7]:    ${ }^{12}$ A total of 235 MBLIF/UBK households during the enrolment period in October-November 2017.

[^8]:    ${ }^{13}$ The initial sample for the Cash+ treatment arm included all 150 households initially enrolled in the pilot. However, during the data collection exercise 16 pilot households were not reached due to seasonal migration to the mountains or permanent migration, while one household refused to participate in the data collection.
    ${ }^{14}$ The initial sample for the Cash-only treatment arm included 100 households. However, during the data collection exercise enumerators were not able to access three of these, as they had left their place of residence.

[^9]:    ${ }^{15}$ The initial sample for the Comparison treatment arm included 100 households. However, during the data collection exercise one household was not accessed by enumerators, as its members had left their place of residence.

[^10]:    ${ }^{16}$ The source for consumption-based poverty measures is the National Statistical Committee of the Kyrgyz Republic (available at http://stat.kg/media/publicationarchive/34387970-880d-4b8c-940d-798aa46b95c7.pdf).
    ${ }^{17}$ The two alternative scores were the Women's Dietary Diversity Score (WDDS) and a modified diversity score. Organ meat is a separate group in the full dietary diversity questionnaire, and is included as a food group in the WDDS score; however, it was not possible to separate organ meat based on the household survey data. In addition, the calculation of WDDS was not exactly equivalent to the FAO guidelines: as it is measured at household level, it does not measure women's dietary diversity. The modified diversity score that was created included cereals, white tubers, dark-green vegetables, vitamin A-rich fruit and vegetables, other fruit and vegetables, meat, eggs, fish, legumes, nuts and seeds, and dairy.

[^11]:    ${ }^{18}$ In the alternative diversity scores the packages would also have an impact on green leafy vegetables, vitamin Arich vegetables and other vegetables, depending on the food group classification used. Though the scenario is calculated for the self-consumption packages, in some of the dietary diversity measures (in particular the HDDS, the results of which are reported in the next section) the effect of the income generation package in a similar simulation would be essentially the same, as the income generation package contributes to the same food groups in the classification used for HDDS.

[^12]:    ${ }^{19}$ The simulation was not carried out for package 2, due to the smaller number of crops and lower value. However, the impacts would be the same, only to a lesser degree.

[^13]:    ${ }^{20}$ The coefficients of the model are presented in Annex 3.
    ${ }^{21}$ Such an approach has been used, for example, in Jones, Shrinivas and Bezner-Kerr (2014).

[^14]:    ${ }^{22}$ These questions are modelled after the Food Insecurity Experience Scale (http://www.fao.org/in-action/voices-of-the-hungry/fies/en/) elements, though as individual questions they do not constitute a full validated measure of food insecurity, but only serve as very rough indicators of such experiences and their trends within this sample.

[^15]:    ${ }^{23}$ A household is defined as labour-constrained if the ratio between the number of household members not fit to work and the number of household members fit to work is greater than or equal to 2 .

[^16]:    ${ }^{24}$ In the case of the MBLIF/UBK, not all beneficiaries are poor.
    ${ }^{25}$ In the case of the MBLIF/UBK the rate is obviously the same, as the programme also has children as an eligibility criterion.

[^17]:    ${ }^{26}$ Ultimately, this of course depends on the MBLIF/UBK coverage, which has declined in recent years (Gassmann and Timár, 2020).
    ${ }^{27}$ It is important to note that when measurement errors, difficulty of verification, year-on-year variation and random changes in income are taken into account, targeting income categories becomes difficult. Increasing coverage beyond those who are currently poor also implies further poverty reductions, as higher coverage will also capture some households that end up being poor after random dynamics - though at a higher cost. Increasing coverage beyond poor households would not reduce poverty in arithmetical scenarios, as this would effectively be increasing coverage among the non-poor.

[^18]:    ${ }^{28}$ We also carried out behavioural simulations by modelling household income. The results did show that random variation indeed mutes the impacts on poverty as households move in and out of poverty; also, cash crops were associated with higher household income.

