



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



## Feed the Future Knowledge-based Integrated Sustainable Agriculture in Nepal (KISAN) II Project Year 5 Annual Report July 16, 2021 to July 15, 2022



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# FEED THE FUTURE KNOWLEDGE- BASED INTEGRATED SUSTAINABLE AGRICULTURE IN NEPAL (KISAN) II PROJECT

YEAR 5 ANNUAL REPORT

JULY 16, 2021 – JULY 15, 2022

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## **DISCLAIMER**

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## **Cover photo:**

*Natthu Ram Badayak (right), proprietor of Nain Rice Oil and Flour Mill, a KISAN II partner, provides technical training and demonstrations to support 1,650 farmers like Desh Rani Chaudhary (middle) and Sona Devi Chaudhary (left) to cultivate lentils. This assistance also enhances farmers' access to agri-inputs, government subsidies, and markets. After realizing the benefits of lentil cultivation, Desh Rani and Sona Devi doubled their lentil production area, increased lentil harvest by 93 percent (from 255 kg in 2021 to 490 kg in 2022) and sold 450 kg to Nain Rice Oil and Flour Mill in 2022. Photo credit: Rabik Upadhayay for USAID.*

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## ACRONYMS

ADS	Agriculture Development Strategy
ADS-JSR	Agriculture Development Strategy–Joint Sector Review
AI	Artificial insemination
AITC	Agriculture Information and Training Center
AKC	Agriculture Knowledge Center
BLP	Business Literacy Program
BMMC	Bihani Madhyavarti Multipurpose Cooperative
CCDABC	Center for Crop Development and Agro-biodiversity Conservation
CEAPRED	Center for Environmental and Agricultural Policy, Research, Extension and Development
CLA	Collaboration, learning and adaption
DAG	Disadvantaged group
DEPROSC	Development Project Service Center
DLS	Department of Livestock Services
EMMP	Environmental Management and Monitoring Plan
FAW	Fall armyworm
FTFNIPM	Feed the Future Nepal Integrated Pest Management
ha	hectare(s)
HGI	Himalayan General Insurance
IALDO	Integrated Agriculture and Livestock Development Office
ICT	Information, communication, and technology
IPM	Integrated pest management
JNSC	Joint National Steering Committee
JRIP	Joint Rice Implementation Program
JTA	Junior Technical Assistant
kg	Kilogram(s)
KISAN II	Knowledge-based Integrated Sustainable Agriculture in Nepal
GESI	Gender Equality and Social Inclusion
GON	Government of Nepal
LIBIRD	Local Initiatives for Biodiversity, Research and Development
LQ	Learning Question
MEL	Monitoring, evaluation, and learning
MOALD	Ministry of Agriculture and Livestock Development
MOAFTLM	Ministry of Agriculture, Food Technology and Land Management
MOLMAC	Ministry of Land Management, Agriculture and Cooperatives
MT	Metric ton(s)
NAMEA	Nepal Agriculture Machinery Entrepreneurs Association
NAP	National Agriculture Policy
NLBO	National Livestock Breeding Office
NRB	Nepal Rastra Bank
NRs	Nepal rupees
NSAF	Nepal Seed and Fertilizer
NWCL	Nepal Warehouse Company Public Limited
OSC	Overseas Strategic Consulting Ltd.
PADS	Provincial Agriculture Development Strategy
PAM	Provincial Agriculture Ministry

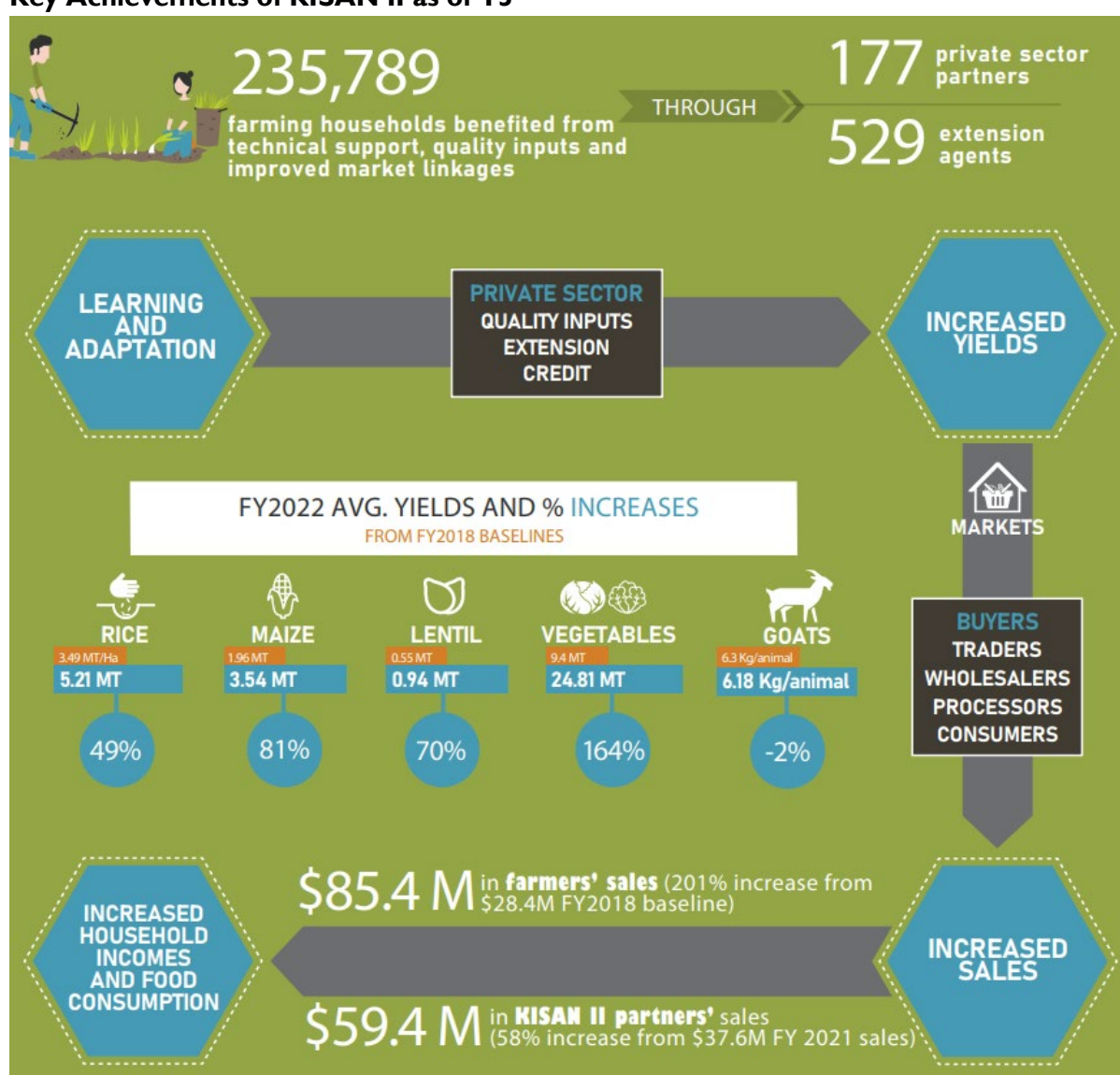
PCU	Provincial Coordination Unit
PERSUAP	Pesticides Evaluation Report and Safe Use Action Plan
PIU	Project Implementation Unit
PPR	Peste des Petits Ruminants
PMAMP	Prime Minister Agriculture Modernization Project
PSA	Public service announcement
PSE	Private sector engagement
RFA	Request for application
RMM	Rice Mill Model
SME	Small and medium enterprise
SMS	Short message service
SOP	Standard operating procedure
SSOW	Supplemental Scope of Work
TC	Technical Committee
TOT	Training of trainers
USAID	United States Agency for International Development
USD	United States Dollar
USG	US Government
Y5	Year 5
ZOI	Zone of Influence



## EXECUTIVE SUMMARY

In Year 5 (Y5), the Feed the Future Nepal Knowledge-based Integrated Sustainable Agriculture in Nepal (KISAN) II project continued to implement and promote a private-sector led approach to increase the resilience, inclusiveness, and sustainability of income growth through agriculture development in Nepal. During this reporting period, the country dealt with unexpected heavy rainfall and flooding (in October 2021), which destroyed 14,000 hectares of rice crops, including in the KISAN II Zone of Influence. COVID-19-related supply chain disruptions also continued in Y5. Despite these challenges, to date KISAN II has reached 235,789 farming households, helping farmers and market actors become more resilient in the face of market constraints through 177 partnerships and strategic engagement with the Government of Nepal (GON). This has led to more than USD 85.4 million in farm sales, an increase of nearly 201 percent over the project's adjusted baseline sales. The figure below highlights key achievements of KISAN II as of the end of Y5.

### Key Achievements of KISAN II as of Y5



This year, KISAN II closed out three value chains (goat, lentils, and vegetables) and the Component 4 Business Literacy Program (BLP). KISAN II's interventions in the vegetable sector helped increase average Y5 vegetable yields by 164 percent and Y5 vegetable sales by 391 percent compared to baseline values. KISAN II's Y5 lentil interventions reached 33,654 lentil-producing households and resulted in the production of seven improved lentil varieties on nearly 5,000 hectares of land, with a 70 percent increase in lentil farmer yields from baseline. KISAN II's goat sector support resulted in 315 artificial inseminations using improved goat breed semen and reached 13,063 households with improved feed, health, and husbandry guidance in Y5 to boost the sector's sustainability.

In Y5, KISAN II initiated supplemental scope of work (SSOW) activities to respond to COVID-19, promote transformational change in the rice and maize sub-sectors, and create agri-employment opportunities in eight targeted districts. Under the SSOW, KISAN II signed 25 new partnerships this year (9 rice mills, 8 traders, 3 cooperatives, 3 agrovets, an insurance company and an agriculture learning platform partner) targeting an additional 35,900 households.

### Promoting fine rice with GON

- To help the GON replicate KISAN II's successful rice mill model (RMM), project staff presented the model to the National Planning Commission, organized an RMM experience-sharing visit for GON officials, and created a flyer, an animated video, and four television episodes featuring the RMM. The project also provided GON officials in Province 1, Madhesh Province, Lumbini Province, and Sudurpaschim Province with RMM technical support and training. As a result, the GON incorporated the RMM into its annual work plan through provincial agriculture ministries, the Agriculture Knowledge Center-Banke implemented a fine rice promotion program, and the Bardiya Integrated Agriculture and Livestock Development Office budgeted for fine rice promotion.
- KISAN II helped link partner rice mills with nine municipalities to implement a fine rice promotion program. This led to municipal support of 85.4 metric tons of fine rice and 28 metric tons of yellow maize seeds at subsidized rates to 6,325 rice and 6,255 maize farmers.

### Year 5 Highlights

- To date, partnered with **177** private sector partners targeting **239,930** farming households.
- Supported **258,808** participants (73 percent women) through trainings and demonstrations.
- Met Y5 yield targets for rice (99 percent), lentils (91 percent), vegetables (95 percent), and goats (99 percent).
- Exceeded Y5 annual farm-level sales targets for goats (298 percent).
- Y5 firm-level sales of **USD 59.3 million**, 60 percent of which came from small or medium enterprises, exceeded target by 41 percent.
- Facilitated GON investments of **NRs. 109 million** (USD 923,729) for irrigation, seeds, machinery, polyhouses, and market infrastructure.
- Facilitated access to **NRs. 26.3 million** (USD 222,881) in wholesale loans for three partner cooperatives.
- Supported the Krishi Guru digital application, which was downloaded **19,800** times and reached **39,080** agriculture stakeholders.
- Concluded the BLP, which graduated **62,494 participants** (86 percent female, 59 percent from disadvantaged groups) from long and short courses to date.
- Fine rice and maize produced for feed and industrial purposes by KISAN II-affiliated farmers substituted imports by **8.6 percent** and **24.8 percent**, respectively, in Y5.

### **Engaging three tiers of government for a sustainable agriculture sector**

- KISAN II and partners conducted 18 meetings and 36 joint monitoring visits with municipal officials. The project presented appreciation letters to key officials in 68 municipalities where activities were closing and provided introductory letters to 18 municipalities where SSOW activities were starting up. As a result of collaboration meetings and visits in Y5, municipalities and some provincial- and federal-level organizations provided NRs. 109 million (USD 923,729) for irrigation, seeds, machinery, polyhouses, and market infrastructure.
- KISAN II helped finalize a provincial agriculture development strategy (PADS) for Sudurpaschim Province. The PADS was submitted for approval in March 2022 and is now under consultation with concerned provincial ministries and the provincial planning commission. KISAN II is finalizing the PADS for Lumbini Province, which is expected to be completed in Y6T1.
- With KISAN II's support, the Ministry of Agriculture and Livestock Development and provincial agricultural ministries organized sub-national consultations in all provinces to collect feedback on the National Agriculture Policy, Nepal Agriculture Extension Strategy, Crop and Livestock Insurance Directives, and Subsidized Fertilizer Distribution Management Directives. Inputs will be used to revise these policies to suit the federalized context, and to monitor the production and processing of fine rice, industrial maize, tea, and cardamom in accordance with decisions made at the March 2021 annual National Agriculture Development Strategy–Joint Sector Review meeting.

### **Support to high potential sectors**

- KISAN II trained 14 officials of National Livestock Breeding Office to produce quality goat buck semen and trained 31 technical extension staff on using frozen buck semen for artificial insemination. To date, trained technicians have conducted 315 artificial inseminations.
- KISAN II supported the upgrading of vehicles to transport live goats and to strengthen market linkages. As a result, Umesh Khadhya Khudra Tatha Pasu Pankshi Bikri Farm in Surkhet has sold 2,600 goats worth NRs. 48.6 million (USD 411,864) since April 2021 compared to just 900 goats valued at NRs. 15.7 million (USD 133,051) in 2020. Another partner, Chaudhary Bangur Mashu Pasal, improved its transport of live goats and frozen meat, boosting its average monthly collection of live goats by 79 percent.
- To date, KISAN II partner Hillpark Agriculture and Livestock Farm, in Banke, has provided Boer goat breeding services to 800 does.
- A KISAN II rapid assessment to identify systemic maize sector constraints concluded that maize imports can be minimized by improving the quality of maize produced in Nepal and reducing post-harvest losses. Based on these findings, KISAN II supported aggregators (Dhananjaya Trading, Annapurna Suppliers) to pilot a grain dryer and cocoon bags for grain storage and signed a partnership with Nepal Warehousing Company Limited to install grain silos, all of which will help reduce post-harvest losses.

### **Strengthening a resilient agriculture sector**

- KISAN II has supported 208 firms, 206 of which improved their overall performance in Y5 across five domains.<sup>1</sup> Firm sales increased by 35 percent (141 percent over Y5 target) and rice producers expanded the area under fine rice production by 123 percent over target.

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<sup>1</sup> 208 firms supported by KISAN II also includes 31 retail agrovets affiliated with partner wholesale agrovets and cooperatives.

- KISAN II conducted virtual leadership development training to 36 board of director members from 17 cooperative partners on how cooperatives can operate as efficient, for-profit businesses. The project trained 42 representatives of 21 cooperative partners on business diversification and financial management to enable them to analyze and select profit centers for enhanced financial stability and sustainability to help them adapt to lingering COVID-19 impacts.
- The project oriented partners on how to access subsidized agriculture and livestock loans. As a result, three rice mills (Sunil Rice Mill, Sri Radha Krishna Rice Mill, and Saurav Rice Mill) registered under the Office of the Company Registrar, and each obtained a subsidized loan of NRs. 50 million (USD 423,729) for improving mill capacity. KISAN II also helped three cooperative partners access wholesale loans worth a combined NRs. 26.3 million (USD 222,881), with additional pending loans of NRs. 20 million (USD 169,492).
- KISAN II linked Everest Insurance Company, Himalayan General Insurance, and Sanima Insurance with partner cooperatives to allow farmers' easier access to insurance services. This led to one cooperative obtaining an insurance license and selling more than 100 policies for cattle and goat coverage to its members.
- KISAN II graduated 9,397 participants from the BLP short course. In total, KISAN II's business literacy program graduated 62,494 participants (86 percent female, 59 percent from disadvantaged groups) from short and long courses, meeting its life-of-project target (62,000 graduates).
- KISAN II conducted a rapid assessment on the use of post-COVID-19 relief and recovery measures under the GON and Nepal Rastra Bank's Monetary Policy 2020/21. The assessment revealed limited use of these facilities by farmers and agro-entrepreneurs due to an overall lack of awareness, complicated procedures, and inadequate business management skills. KISAN II met with high-level officers from Nepal Rastra Bank to discuss the findings, and the bank agreed to include the recommendations in the 2022/23 monetary policy.

### **Innovating and digitizing services to boost farmers' success**

- KISAN II partner ICT for Agriculture digitized and integrated KISAN II's agriculture training manual into its Krishi Guru application and Facebook chat bot platforms to reach targeted participants in the KISAN II Zone of Influence. Within two months, the Krishi Guru App was downloaded 19,800 times reaching 39,080 new agriculture stakeholders.
- The project disseminated four videos to over 34,200 farmers (80 percent female) through pico-projectors in BLP classes and through social media. A mini survey of 104 farming households confirmed that more than 65 percent of farmers adopted technologies promoted through videos and had no major issues understanding video messages.
- KISAN II disseminated 31 agri-technology related videos developed by partners to 9,397 participants (81 percent female) via smartphones during BLP classes. KISAN II uploaded audio dramas and videos onto a memory card and distributed them to 2,521 participants (2,018 female, 1,696 from disadvantaged groups) and to 134 community trainers (119 female).

### **Supplemental Scope of Work accomplishments**

- KISAN II partnered with 25 firms targeting an additional 35,900 farming households to implement SSOW activities in the rice and maize sectors. KISAN II conducted training of trainers for 71 extension staff (32 female) to orient them on KISAN II's private sector-led

approach, with a focus on SSOW activities and technical aspects of fine rice and industrial maize production.

- KISAN II signed partnerships with two maize partners, Nepal Warehouse Company Public Limited and Annapurna Suppliers (Bardiya), for aggregation, storage, and marketing services. The project also partnered with National Vision Agro Private Limited (Dang) to support commercial maize livestock feed.
- SSOW partner Rana Agrovat scaled up its branchless banking counter, providing financial services to 450 clients residing in remote Laljhadi Rural Municipality and providing agriculture loans to clients worth NR. 5.6 million (USD 47,458).
- Nearly 22,000 rice producers associated with KISAN II partners planted fine rice on 11,706 hectares in six districts, exceeding the Y5 target by 123 percent.
- KISAN II-affiliated farmers (5,496) planted industrial maize on 1,774 hectares in eight districts (55 percent of total maize produced). The yields from these plantings accounted for 86 percent of total maize sales.
- Fine rice and maize produced for feed and other industrial purposes by KISAN II-affiliated farmers in eight districts provides a substitute for 8.6 percent of fine rice imports and 24.8 percent of feed and industrial maize imports.

## INTRODUCTION

The Knowledge-based Integrated Sustainable Agriculture in Nepal (KISAN) II project seeks to increase the resilience, inclusiveness, and sustainability of income growth through agriculture development with a focus on five commodities: vegetables, rice, maize, lentils, and goats. KISAN II contributes to the objectives of the Government of Nepal's (GON's) Agriculture Development Strategy and the US Government (USG) Feed the Future Initiative. The project has been implemented by a consortium of organizations, each bringing specialized expertise (see Box 1).<sup>2</sup>

KISAN II has five specific components:

Component 1: Improved productivity of selected agricultural market systems

Component 2: Strengthened competitiveness, resilience, and inclusiveness of selected agricultural market systems

Component 3: Strengthened enabling environment of selected agricultural market systems

Component 4: Increased ability of vulnerable communities to act on business opportunities within selected market systems

Component 5: Collaboration, learning, and adaptation applied to market systems development

KISAN II uses a private sector-led facilitative approach to identify and address constraints within key market systems. It works in partnership with multiple value chain actors, such as input suppliers, cooperatives, agrovets, traders, millers, and financial service providers, to ensure farmers are food- and income-secure. KISAN II also provides select households with business literacy training to encourage vulnerable populations to participate in commercial agriculture. In the COVID-19 context, KISAN II pivoted to help its partners adapt to current constraints by revising business strategies, accessing financial services, expanding or adding commodities and profit centers, maintaining access to inputs, and using innovative means, such as short message service (SMS) and other digital technologies, to safely reach customers. This not only helped partners cope with COVID-19 but built their resilience to withstand future shocks.

In November 2020, the United States Agency for International Development (USAID) provided additional resources to KISAN II through a supplemental scope of work (SSOW) to enable the project to respond to the COVID-19 pandemic in Nepal and promote transformational change in the rice and maize sub-sectors. Under the SSOW, KISAN II is investing in strategic partnerships, scaling up the adoption of proven business models, transforming domestic staple crop supply chains into competitive industries, and harnessing the talents and entrepreneurial spirit of migrant returnees to address systemic challenges. Work under this scope is reported in the section titled "Responding to COVID-19 pandemic in Nepal: Facilitating systemic change and transformational

### Box 1. Consortium Brings Specialized Skills

**Winrock International** – Prime contractor; provides overall direction and management, facilitation of market systems development, agribusiness enabling environment strengthening, and collaborating, learning, and adapting  
**CEAPRED** (Center for Environmental and Agricultural Policy, Research, Extension and Development) – Agricultural productivity  
**DEPROSC** (Development Project Service Center) – Business literacy, microfinance  
**Siddharth Inc** – Business diagnostics, business development services  
**Digital Green** – Information, communication, and technology (ICT)-based extension solutions  
**OSC** (Overseas Strategic Consulting Limited) – Behavior change analysis, communications

<sup>2</sup> Sub-contracts for all consortium partners except CEAPRED were closed as of the end of year 5.

growth in the rice and maize sub-sectors and creating agri-employment opportunities.” This year, KISAN II closed out three of its five value chains (goats, lentils, and vegetables) as well as the Component 4 Business Literacy Program. Starting in year 6 (Y6), the project will focus solely on SSOW activities.

## **IMPACT OF SHOCKS ON AGRIBUSINESSES AND FARMERS AND PROJECT ADAPTATIONS**

### **COVID-19**

COVID-19 continued to impact agribusinesses and farmers in year 5 (Y5). Although some seeds, pesticides, and micronutrients were available, the market witnessed a shortfall of chemical fertilizers like urea and di-ammonium phosphate, leading to inadequate supplies and higher prices. Agricultural inputs such as hybrid seeds were also unavailable or expensive. Thus, farmers scaled back, planting an average of 50 percent less than the target planting areas. This also decreased overall production.

Some key market centers were partially closed during the COVID-19 Omicron wave, which resulted in disruptions to vegetable sales and other field-level activities in some project districts. However, partners continued to adapt, using mechanisms that were followed during previous COVID-19 waves to sustain operations. Some rice millers provided transportation services to collect aggregated rice and cereal crops from farmers’ groups. Vegetable traders also sent vehicles to fetch produce directly from growers. Agrovets continued to disseminate key technical information through extension services, SMS, radio messages on local FM stations, and home delivery services. While conducting in-person field activities, partners followed COVID-19 safety precautions, and most partners initiated digital payment systems and digital government tax payments, for added safety.

During the peak COVID-19 outbreak (2020 and 2021), most agribusinesses and farmers experienced losses due to shortages of agri-inputs, decreased trade of agriculture commodities, and increased operational costs. The re-opening of the economy in Y5 led to a spike in demand for all agricultural commodities. As a result, some partners as well as farmers witnessed increased sales. While many agribusinesses successfully adapted to the changing business environment, some struggled to transition to a more resilient and sustainable business model. KISAN II continued efforts to support these adaptations. Because many cooperatives faced potential liquidity crises, KISAN II trained partner cooperatives on liquidity management and supported them to acquire wholesale loans. The project also supported cooperatives to adopt digital payment systems for added safety and to adapt to an increasingly digitized business context. To better enable producers to mitigate the risks associated with external shocks, KISAN II provided packhouse management training to partner cooperatives and supported them to operationalize cold storage facilities. KISAN II conducted orientations to link market actors with mass SMS providers to enable them to provide remote technical backstopping and marketing. To strengthen and improve the business operation and management of selected rice mills, KISAN II offered mentorship and other services through a business development service provider.

### **UNEXPECTED HEAVY RAINFALL AND FLOODING IN OCTOBER 2021**

Abnormal post-monsoon downpours and flooding in mid-October 2021 caused enormous losses of ready-to-harvest and harvested paddy across the KISAN II Zone of Influence (ZOI). According to the GON Department of Hydrology and Meteorology more than 100 mm rain occurred in 24 hours on October 18 in most parts of Western Nepal. Ultimately 14,000 hectares (ha) of crops were lost

due to this climate event. KISAN II responded in force to help farmers by disseminating SMS alerts on submerged and wet paddy harvesting, drying, and storage to more than 95,000 farmers. Later, these farmers were linked with rice mills for sale of the salvageable rice. Despite these after-the-fact mitigation measures, it was clear that weather information, disseminated through a robust early warning system, would have helped farmers harvest in a timely fashion. Further, broader uptake of crop insurance, which would have helped farmers recoup losses, and improved harvesting and storage technologies could have affected the ultimate outcome for farmers in this time of crisis. To that end, KISAN II will focus on harnessing weather information, promoting crop insurance, and improving harvesting and storage technologies under its SSOW in years 6 and 7.

## IMPACTS OF RUSSIA-UKRAINE WAR

Nepal's agriculture sector is transitioning from largely subsistence-level to commercial. The private sector is poised to increase investment in developing agro-enterprises, strengthening backward linkages with farmers (producers), and delivering technical and supply chain services. Unfortunately, the Russia-Ukraine war, which erupted in late February 2022, has caused an increase in global food and agri-inputs prices that have negatively affected Nepal's agricultural sector (see Box 2).

**Box 2. A growing risk for Nepal:  
Potential impacts of Russia-Ukraine War on KISAN II households**

The Russia-Ukraine war, which erupted about six months ago, has caused an increase in global food prices due to measures taken by many countries to safeguard their people against food insecurity and deterioration of living standards. For example, India has banned the export of wheat to assure a supply within its borders. Nepal's agricultural output is low and food imports are rising. If India faces a food crisis, it could limit food exports to Nepal as well. There is also a fear of fertilizer shortages for the same reason.

A rapid field assessment in KISAN II's eight ZOI districts revealed the following challenges at household and firm levels, following the start of the war:

- Soaring input prices increase farmers' production costs, reducing their competitiveness. Indian farmers fare better because of a much higher scale of production, combined with government support.
- Constraints may cause Nepali farmers to shift to low-input-requiring production systems.
- KISAN II interventions target vulnerable communities through inclusive business practices, and often involves transporting relatively small volumes of produce for niche markets. Fuel costs have increased, primarily because of the Russia-Ukraine war, making transport challenging.
- Private sector partners fear making large investments since soaring agri-input prices diminish demand and lead to a potential decline in revenue.
- Agro-enterprises are facing constraints accessing credit from banks and financial institutions due to a liquidity crunch.

Rising input costs, particularly of chemical fertilizers, machinery, and transportation, may make it difficult for the GON to allocate increased funds to mitigate potential risks. However, as the global price for fine rice and industrial maize soars, KISAN II sees an opportunity to motivate farmers and partners to escalate production and marketing of these commodities.

## KEY OUTPUT LEVEL INDICATOR RESULTS

In Y5, KISAN II performed well against key output indicators despite two major constraints: unseasonal heavy rains (particularly in October 2021) and COVID-19-related national and district prohibitory orders (during April-August 2021 and January-February 2022) which affected overall



input supply, production, and agricultural sales. The following discussion compares key output indicators' targets to actual achievements and includes a brief explanation of factors that affected results.

In Y5, KISAN II signed 25 new partnerships (9 rice mills, 8 traders, 3 cooperatives, 3 agrovets, an insurance company and an agriculture learning platform partner) under the SSOW targeting an additional 35,900 households. Through 177 partnerships to date,<sup>3</sup> KISAN II aimed to reach 239,930 farming households by the end of the performance period of Y5, but actually reached 235,789 farming households (98 percent of target). Table I shows the number of KISAN II-supported partnerships by type, along with associated target/reached farming households details.

**Table I. Partnerships and households details by type of organization**

Firm Type	Partner		Households		
	No.	% of Total	Target	Actual	% of Target
Cooperatives	69	39	87,262	89,037	102
Agrovet/Input Suppliers	61	34	83,448	79,539	95
Traders	20	11	22,553	21,230	94
Rice Mills	18	10	41,589	40,987	99
Goat Farms	7	4	5,078	4,996	98
Insurance Companies	1	1	—	—	—
Learning and Training	1	1	—	—	—
<b>Total</b>	<b>177</b>	<b>100</b>	<b>239,930</b>	<b>235,789</b>	<b>98</b>

Table 2 shows the project reach for households, farmers, and firm-level indicators, including performance against targets.

**Table 2. Project reach at beneficiary and firm level**

Indicat or No.	Abbreviated Indicator Title	Y5 Target	Y5 Actual	% of Target
<b>Households and Farmers</b>				
K1 EG. 3-1	Number of farming households benefiting directly from USG assistance *	233,000 <sup>4</sup>	235,789	101
K2 EG. 3-2	Number of individuals (farmers, firms, and government) participating in KISAN II program **	237,800	258,808	109
K3 EG.3.2-1	Number of individuals trained, who have received short-term agriculture and food security training	81,800	85,223	104
<b>Firms</b>				
K14 EG. 3.2-4	Number of firms receiving organizational development assistance	260	272	105
K22 EG.4.2-2	Number of firms intermediaries (cooperatives) serving poor households and microenterprises	69	74	107

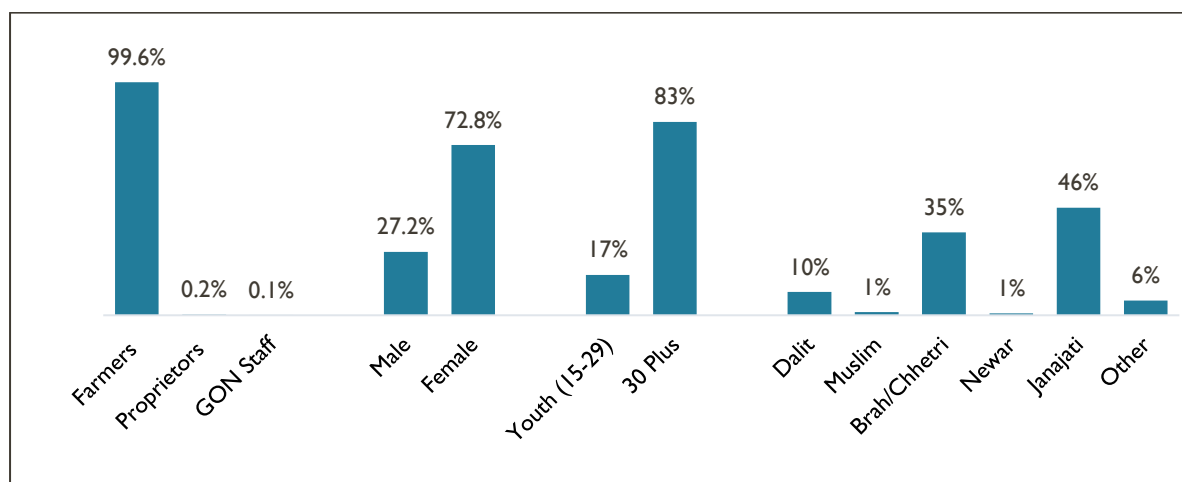
\* A household benefits directly if it has at least one individual who is a direct KISAN II beneficiary. An individual is a direct beneficiary if s/he comes into direct contact with a set of interventions (goods or services) provided by a project activity. Individuals who receive training or benefit from activity-supported technical assistance or service provision are considered direct beneficiaries, as are those who receive a ration or another type of good.

<sup>3</sup> KISAN II's 177 partnerships include 171 grantees and 6 memoranda of understanding (MOUs) with household partners. Of these, 152 are no longer active, 23 are active under the SSOW (rice and maize), and 2 others remain active. Wholesale partners (agrovets/cooperatives) have 31 affiliated retailers, which brings the number of supported organizations to 208.

<sup>4</sup> Although 233,000 is the target number of households in the Performance Indicators Tracking Table, the 177 partners aimed to cover 239,930 households (an additional 6,930 households).

\*\* These are participants of Feed the Future-funded programs, including those reached directly, those reached as part of a deliberate service strategy, and those participating in markets the project is strengthening.

As shown in Table 2, 258,808 individuals participated in KISAN II-supported training and demonstrations, including Business Literacy Program (BLP) training (K3). Of these, 73 percent were women, 17 percent were youth and 10 percent were Dalit (Figure 1).



**Figure 1. Proportion of individuals participating in USG food security programs**

## KEY OUTCOME LEVEL INDICATOR RESULTS

This section highlights key outcome level results including the new SSOW indicators on fine rice and industrial maize. Some of the project indicators, especially production area and sales were adversely impacted this year due to the impact of lingering effects of COVID-19 on supply chain, unexpected rain and floods in October 2021, and the Russia-Ukraine war (see previous section). Despite these constraints, commodity yields remained relatively steady. Detailed information on targets and results, including factors affecting indicators, can be found in Annex 5 (Performance Indicator Tracking Table).

### FARM-LEVEL YIELDS

KISAN II met Y5 yield targets for rice (99 percent), lentils (91 percent), vegetables, (95 percent), and goats (99 percent).<sup>5</sup> The shortfall in maize yield (89 percent) was due mainly to unavailability of quality seeds, disruptions in the supply chain, and lower adoption of improved technologies (see Table 3). Despite this, the Y5 maize yield was 58 percent higher than the baseline yield (1.9 metric tons [MT]/ha) and 20 percent higher than the national average yield.

**Table 3. Farm-level yields of targeted commodities**

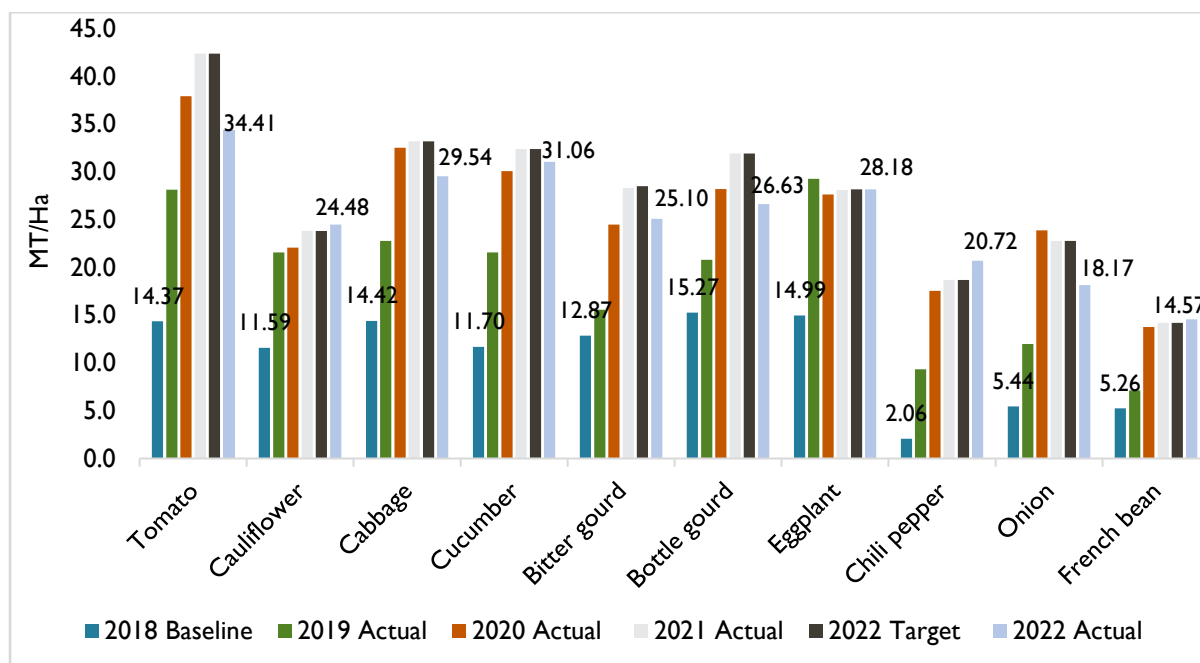
Indicator No.	Commodity	Y5 Target	Y5 Actual	% of Target	KISAN II ZOI Average Yield (2020/21) <sup>6</sup>
EG.3-10 (MT/ha)	Rice	5.28	5.21	99	3.81
	Maize	4.00	3.54	89	2.96
	Lentils	1.03	0.94	91	1.19
	Vegetables	26.1	24.81	95	13.06

<sup>5</sup> Based on +/-10 percent allowable deviation, these KISAN II yield targets are considered met.

<sup>6</sup> Source: Statistical information on Nepalese agriculture, 2077/78 (2020/2021), GON, Statistics and Analysis Division, 2022.

Indicator No.	Commodity	Y5 Target	Y5 Actual	% of Target	KISAN II ZOI Average Yield (2020/21) <sup>6</sup>
EG.3-11 (kg/animal)	Goats	6.22	6.18	99	NA

Figure 2 compares Y5 vegetable targets and actuals to baselines of ten KISAN II-focused vegetables. Cauliflower and chili pepper yields exceeded targets by 11 percent and 18 percent, respectively; whereas yields of cabbage, bottle gourd, and onion were 9 percent, 6 percent, and 24 percent lower than the targets.<sup>7</sup> Even so, vegetable yields in the KISAN II ZOI remained higher than the national average (Table 3).



**Figure 2. Vegetable crop yields 2018–2022, with 2022 yield targets**

Contributing factors for deviations of more or less than 10 percent are described below:

- Cabbage.** The overall area planting cabbage per household decreased by 42 percent and production per household decreased by 38 percent. In addition, the yield for cabbage was 29.54 MT/ha, 11 percent lower than the target of 33.22 MT/ha. Reduced yield was due mainly to October 2021 rain, which washed seedlings from the nursery beds and left farmers no choice but to use damaged or poor-quality seedlings.
- Tomatoes.** Because of reduced demand for tomatoes during the COVID-19 pandemic, farmers reduced Y5 cultivation areas for tomato by 30 percent. In addition, October 2021 rains destroyed all nurseries in Terai and farmers did not re-plant. This led to decreased household production of 35 percent and decreased yield of 19 percent. Farmers in the hill areas (about 75 percent of total) experienced lower yields (32.80 MT/ha) than in Terai (55.67 MT/ha), pulling down the average yield (Table 3).
- Bitter gourd.** Due to the untimely rains, farmers planted bitter gourds on 67 percent less area than planned. Supply chain issues made it difficult or expensive to obtain better varieties like *Pali*, thus farmers used alternate varieties which reduced production by 67 percent and yield by 12 percent (26.63 MT/ha).

<sup>7</sup> Rains and flooding impacted 63 percent of the total beneficiaries (126,888 households) in the Sudurpaschim hill districts, Terai districts, and Palpa and Surkhet districts.

- **Bottle gourd.** Farmers could not plant bottle gourds on time due to October 2021 rains, especially as most of these off-season bottle gourds are produced in plastic tunnels. Another contributing factor for bitter gourd's low yield was that farmers chose less expensive (less productive) varieties as per availability in the market.
- **Onion.** Farmers lost 100 percent of onion seedlings in their nursery beds during the October 2021 rain. As it was too late to re-sow, farmers re-planted the few seedlings that remained, which were insufficient to cover the planned production area. Consequently, the area transplanted in onions was reduced and the use of inferior seedlings caused yields to be decreased by 24 percent from target.
- **Chili pepper.** As with tomatoes, farmers reduced production area for chili pepper because of lack of demand during the pandemic. This 42 percent reduction in planting area, combined with the destruction of Terai nurseries during October 2021 rains, led to a decrease in production per household of 31 percent. Despite lower overall production, yields of chili pepper increased by 11 percent due to the use of hybrid varieties.

## FARM-LEVEL SALES

Due to significant weather events, KISAN II met only 49 percent of its overall Y5 annual farm-level sales target in Y5. Rice, maize, lentil, and vegetable sales were 60 percent, 53 percent, 79 percent, and 43 percent of targets, respectively. However, goat sales were 298 percent of the target, mainly because of artificial insemination (AI) and intensive support by partners to goat raisers. Despite low sales for commodities affected by the untimely rains, all exceeded baseline values (rice by 132 percent, maize by 332 percent, lentils by 231 percent, and vegetables by 391 percent) (Table 4).

**Table 4. Farm-level Annual Sales**

Indicator No.	Commodity	Baseline 2018	Y5 Target (USD)	Y5 Actual (USD)	% of Target	% over Baseline
K17 EG. 3.2- 26	Rice	6,789,764	26,240,488	15,755,631	60	232
	Maize	769,592	6,325,000	3,323,944	53	432
	Lentil	590,976	2,466,102	1,958,159	79	331
	Vegetables	11,901,397	135,827,574	58,430,439	43	491
	Goats	830,9787	1,991,809	5,935,056	298	71
	<b>Total</b>		28,361,516	172,850,974	85,403,228	49

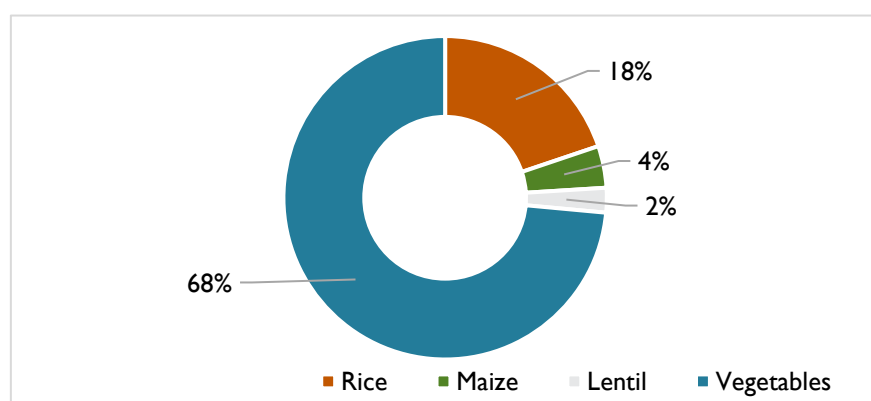
Overall, the contributing factor that most affected the farm level sales performance was optimistic target-setting based on the assumption that the COVID-19 situation would be normalized in Y5, enabling KISAN II partners to work at full capacity from March 2022 onwards. In addition, the targets assumed normal weather patterns and did not account for the unexpected and untimely rains that flooded an area of 14,000 ha where rice was ready to harvest or just harvested, and damaged lentils and vegetable crop nurseries and recently transplanted seedlings.<sup>8</sup> Commodity-specific contributing factors for lower achievement are summarized below.

- **Rice.** Around 82,000 farmers associated with KISAN II partners planted rice on only 88 percent (43,488 ha) of the targeted cultivation area (49,460 ha) and harvested only 87 percent (226,666 MT) of the targeted production (260,995 MT). The lower production led to farmers selling only 66 percent in volume (77,254 MT) and 60 percent in value (USD 15.7 million) as compared to targets. While some farmers were able to sell small quantities of

<sup>8</sup> In a meeting with USAID held in early November 2021, it was agreed not to revise targets in response to extensive crop damage but rather to observe the impacts of unexpected rain, make recommendations, and document lessons learned.

submerged/low quality rice at an extremely low price, ultimately USD 10.4 million worth of loss and damage was incurred.

- **Maize.** Annual sales of maize were 53 percent below the target. Contributing factors include lower maize yields (11 percent below target), farmers in the hills replaced maize with alternative crops like soybeans and potatoes,<sup>9</sup> which resulted in a 30 percent reduction in maize area. In addition, only 50 percent of producers sold maize versus the anticipated target of 76 percent.
- **Lentil.** Annual sales of lentils were 11 percent below the target. Key reasons include farmers planting lentils in 15 percent less area than targeted, lower lentil yields (9 percent below target), and lower production (38 percent less than targeted). Farmers could not plant lentils in lowland areas due to excessive soil moisture after the October 2021 untimely rain. Although lentil prices were 27 percent higher than the target, farmers only sold 80 percent of the targeted annual sales.
- **Vegetables.** Annual sales for vegetables were 43 percent below the target and the annual sales losses were greatest for this sector as compared to the other KISAN commodities (Figure 3). The untimely October 2021 rain, which washed away farmers' nurseries, left only a small quantity of inferior quality seedlings that were not adequate to cover the targeted planting area. This caused overall production and sales of vegetables to be low.



**Figure 3. Share of commodities in annual sales loss.**

- **Goats.** Annual goat sector sales were 198 percent above the target due to the use of AI and partners' intensive support to goat farmers.

The average annual sales per smallholder farming household showed a trend similar to annual sales (Table 5). The following factors were key influencers in reduced household-level sales: smaller planted area, impact of climate events, and market uncertainty and lingering COVID-19 impacts.

**Table 5. Farm-level annual sales per smallholder farming household**

Commodity	Y5 Target (USD)	Y5 Actual (USD)	% of Target
Rice	320	193	60
Maize	127	68	54
Lentils	101	58	58
Vegetables	860	369	43
Goats	340	454	134

<sup>9</sup> Due to the less perishable nature of the commodity and market demand, farmers chose crops like soybeans, potatoes, and sugarcane (annual survey 2022).

Commodity	Y5 Target (USD)	Y5 Actual (USD)	% of Target
<b>Total</b>	850	422	50

## FIRM-LEVEL SALES

Total firm-level sales exceeded the Y5 target of USD 41.9 million by 41 percent mainly due to increased farmers' demand for durable equipment and machinery (Table 6). Of this, 60 percent (USD 35.8 million) came from 37 small and medium enterprises (SMEs) and the remainder came from 171 microenterprises. In Y5, KISAN II focused on fine rice production and the sales of processed and value-added products. Increased demand for durable equipment, machinery and liquid fertilizers as well as skyrocketed price of agri-inputs increased sales for these partners by 53 percent and 254 percent, respectively, over Y4 sales. KISAN II partnered with 37 SMEs, which led to an increase in average sales of 39 percent (USD 969,519 compared to anticipated average of USD 679,050). This led to total sales that were 41 percent above the target. In Y5, partners continued business operations through adaptations such as initiating digital payment systems, online delivery, and establishing one-stop shops to provide agri-inputs, aggregate produce, and conduct financial transactions.

**Table 6. Firm-level sales**

Firm Classification	No. of Firms		Total Sales		% of Target
	Y5 Target (USD)	Y5 Actual (USD)	Y5 Target (USD)	Y5 Actual (USD)	
Micro-enterprise	183	171	16,107,334	23,487,838	146
SME	38	37	25,874,147	35,872,214	139
<b>Total</b>	<b>221</b>	<b>208</b>	<b>41,981,480</b>	<b>59,360,052</b>	<b>141</b>

## USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

A total of 81 percent of the farming households now have access to information on improved management practices and technologies through information, communication, and technology (ICT) channels (Table 7), 29 percent higher than the Y5 target. Fifty percent of these households have applied the information to their farming practice. In Y5, 57 percent of the farmers supported by KISAN II had smartphones, 15 percent more than in Y4. Of the farmers accessing ICT, 73 percent were women, 21 percent were youth, and 7 percent were Dalit.

**Table 7. ICT use among KISAN II households**

Indicator No.	Indicator Title	Y5 Target (%)	Y5 Actual (%)	% of Target
K20 EG.3.2-309-CUST	Percentage of USG-assisted households accessing information on improved technologies and practices through improved ICT channels or content	63	81	129
	Text messages (SMS)		41	
	Extension videos		61	
	Mobile apps		32	
	Websites		15	

## ACCESS TO FINANCE

In Y5, KISAN II exceeded targets for total agriculture financing (K23) by 28 percent (Table 8). While smallholders and microenterprises targets for agriculture financing exceeded by 54 percent and 21 percent respectively, the SMEs were slightly under target (6 percent) due Nepal's evolving liquidity crunch. Overall, the project surpassed the combined target for new USG commitments and private sector partner investment (K27) by 19 percent; only 91 percent of the targeted USG commitment was achieved but the balance will be disbursed in Y6. Although the number of participants engaged in group-based savings, microfinance, and lending programs underperformed the target (K24) by 19 percent, the value of their household savings deposits (K25) is 26 percent above the target, reflecting an increase in average savings per household (from USD 48 to USD 70). Many households increased deposits, indicating that farmers are returning to pre-COVID-19 saving patterns and/or accessed loans for non-KISAN II targeted commodities (potatoes, wheat, livestock, etc.). Access of loans for non-KISAN commodities resulted in outstanding balances on agriculture loans (K26) that were 56 percent higher than the target.

**Table 8. Finance and investment outcomes**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K23 EG. 3.2-27	Total agriculture-related financing (USD)	59,344,896	76,017,944	128
	Producer (smallholder)	31,645,065	48,630,689	154
	Microenterprise	4,919,644	5,963,975	121
	SME	22,780,187	21,423,280	94
K27 EG.3.1-14	Value of new USG commitments and private sector investment	1,513,614	1,807,195	119
	USG commitments	1,230,000	1,123,582	91
	Private sector investment	283,614	683,613	241
K24 EG.4.2-7	Number of individuals participating in USG-assisted group-based savings, micro-finance, or lending programs [IM-level]	150,176	121,139	81
K25 EG.3.2-311-CUST	Value of household savings deposits of USG-assisted smallholders	6,773,719	8,529,707	126
K26 EG. 3.2-312-CUST	Value of the outstanding balance on agriculture loans of USG-assisted households	23,811,860	37,236,400	156

## IMPROVED MANAGEMENT PRACTICES AND TECHNOLOGIES

In Y5, farmers applied fewer improved management practices and technologies than anticipated due to the unexpected rains in October 2021, reduced intensity of in-person training and support activities to farmers by former (grantee) partners, and COVID-19 restrictions on movement. Farmers were discouraged from planting larger areas in Y5 as they could not sell their produce (especially vegetables) in year 4 due to COVID-19 impacts. Reduced crop areas resulted in fewer hectares under technology adoption. As KISAN II reduced its ZOI and focused efforts on the SSOW, reductions in the intensity of training and other support activities led to a smaller number of individuals adopting improved management practices and technologies.

Table 9 details farmer adoption of improved practices and technologies based on the results of KISAN II's Y5 farm survey. At least one improved management practice or technology was adopted by 97 percent of respondents. Reduced number of individuals cultivating in less area led to a 28 percent reduction in areas under improved management practices and technologies (K8) from the target. Out of 53,321 ha where farmers applied improved management practices and technologies, farmers applied technologies that promote climate risk reduction (K12) on 31,900 ha, which is 20 percent below the target for this indicator. However, the quantity of nutrient-rich vegetables kept aside for home consumption (K41) surpassed the target by 29 percent as farmers consumed produce that was not sold.

**Table 9. Farmer adoption of improved management practices and technologies**

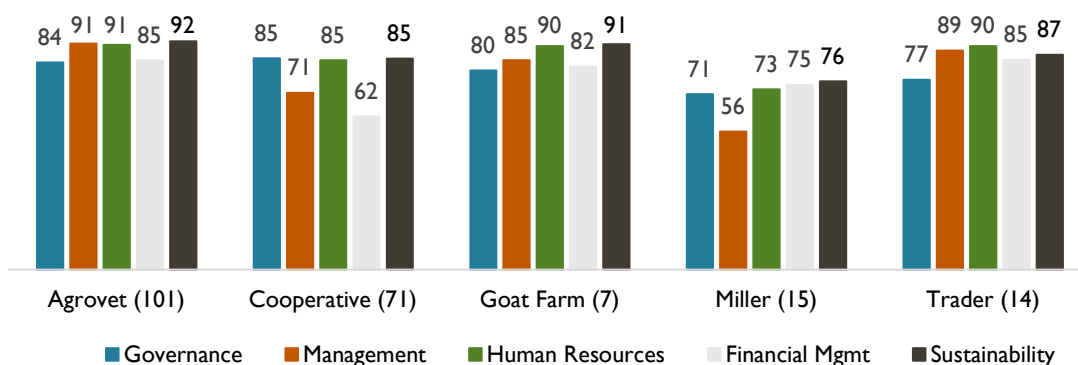
Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K4 EG.3.2.2-24	Number of individuals who have applied improved management practices and technologies	203,316	197,084	97
K8 EG.3.2-25	Number of hectares under improved management practices or technologies with USG assistance	74,075	53,321	72
K12 EG.3.2-28	Number of hectares under improved management practices or technologies that promote improved climate risk reduction and/or natural resources management with USG assistance	39,961	31,900	80
K41 EG.3.3-11	Quantity of nutrient-rich value chain commodities set aside home consumption (MT)	21,487	27,667	129

## ORGANIZATIONAL CAPACITY DEVELOPMENT OUTCOMES

The performance of 206 of the firms supported by KISAN II improved in Y5.<sup>10</sup> Census data for Y5 suggests that firms are improving across all five capacity development domains: governance, general management, human resources, financial management, and sustainability (Figure 4). Results differ across types of organization and capacity domain. Agrovets performed well in human resources, management, and sustainability (more than 90 percent improvement over baseline) but were weaker in governance and financial management. Traders performed better in management and human resources but are weaker in governance and financial management. Overall, partners who expanded their customer base, provided extension services, and built linkages with vertical and horizontal market actors had better performance. Poor performance in financial management and sustainability—as shown for some agrovets, cooperatives, goat firms, millers, and traders—may be the result of poor recordkeeping and/or lack of vision for business growth.

<sup>10</sup> This includes 177 partners and 31 affiliated retail firms (101 agrovets, 71 cooperatives, 7 goat farms, 15 millers, and 14 traders).





**Figure 4. Average percentage improvement across five capacities by type of firm**

## INCLUSION

KISAN II met the Y5 target for women’s participation (K6) although youth access to productive resources (K7) was under target.<sup>11</sup> This shortfall was the result of the lingering COVID-19 impacts on loan availability and the fact that youth deplete their meager savings quickly, decreasing their access to productive resources. Likewise, KISAN II met the target for women leadership (K49),<sup>12</sup> and surpassed youth trained on social or leadership skills (K51) by 33 percent through the BLP program.

**Table 10. Inclusiveness indicators**

Indicator No.	Indicator Title	Y5 Target (%)	Y5 Actual (%)	% of Target
K6 GNDR-2	Percentage of participants in programs designed to increase access to productive economic resources who are female (unique)	80	84	105
K7 YOUTH-3	Percentage of participants in programs designed to increase access to productive economic resources who are youth (unique)	15	10	69
K51 YOUTH-1	Number of youths trained in social or leadership skills through USG assisted programs	2,700	3,593	133
K49 DR.4.3-304-CUST	Percent of leadership positions in business management entities (firms) that are filled by a woman or member of a vulnerable group	53	48	90

Gender equality and social inclusion (GESI) results from KISAN II's 2022 annual survey show that over 54 percent of farmers associated with KISAN II partners are Janajati (indigenous), with an average of 0.26 ha allocated per household for producing vegetables, rice, maize, and lentils. Dalit households have the lowest average sales per households (with an average of 0.08 ha in cultivation). Vegetables and goats are women-friendly commodities: in 62 percent of the households, decisions to produce and sell vegetables are made by women compared to 53 percent for rice, while in 57 percent of households, decisions to produce and sell goats are made by women. More than 40 percent of goat farmers are Brahmin/Chhetri and these farmers have the highest average household income from goat sales.

<sup>11</sup> Feed the Future access to productive resources includes only those who had access to finance.

<sup>12</sup> Leadership positions are owner, chair, vice chair, treasurer, and secretary; the actual was within +/- 10 percent of the target, which qualifies as being met.

## ENABLING ENVIRONMENT AND GOVERNMENT COLLABORATION

KISAN II continued to promote and support GON's agriculture-related policies, laws, regulations, guidelines, and operating procedures to create an enabling environment and collaboration. In Y5, KISAN II intensively supported all policy works related with policy formulation (K28), and supported GON requests for a market feasibility study, exposure visits, and an animated video on the Rice Mill Model (RMM) (K34). This enabled KISAN II to exceed Y5 targets for both policy advocacy support and studies on investment feasibility (Table 11).

**Table 11. KISAN II policy advocacy support**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K28 DR.2.1-301-CUST EG.3.1-12	Number of agricultural and nutritional enabling environment policies analyzed, consulted on, drafted, or revised, approved, and implemented with USG assistance *	4	6	150
K34 EG.3.2-313-CUST	Number of investment feasibility studies, exposure tours, and/or guidance documents produced that promote evidence-based local investment in market system **.	4	9	225

\* Includes i) Private Sector Engagement Guidelines; ii) Food Safety Regulation on "Food Business Registration and Licensing Regulation 2078"; iii). Food Safety Regulation on "Food Export and Import Inspection and Certification Regulation, 2078"; iv). Joint Rice Intervention Program Operating Procedure, 2077 (2020); v). Provincial Agriculture Development Strategy (PADS) for Lumbini Province; and vi). PADS for Sudurpaschim Province.

\*\* Includes i) Agricultural market feasibility study for Melamchi Municipality (2021); ii) Provincial level exposure visit; iii) Public private partnership for self-sufficiency in rice (flyer), iv) Rice Mill Model animation video; and v) 4 TV episodes.

## BUSINESS LITERACY PROGRAM

KISAN II met targets for all three BLP outcome-level indicators (Table 12). KISAN II and its partners trained vulnerable households with the potential to adopt high-value commercial farming, enabling them to improve farming practices, and integrate into existing market systems. In Y5, COVID-19 continued to pose challenges to conducting BLP training in a regular classroom environment. KISAN II adapted its BLP training approach by conducting virtual training or a mix of virtual and in-person training, as needed. As of the end of Y5, KISAN II completed its BLP activities and organized community-level closing events engaging BLP graduates and local government representatives.

**Table 12. KISAN II BLP indicators**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K36 EG.3.2-305-CUST	Number of people trained in entrepreneurial skills	9,000	9,397	104
K39 EG.3.2-314-CUST	Percentage of business literacy trainees that pass a competency test	90%	89%	99
K40 EG.3.2-302-CUST	Percentage of entrepreneurial literacy trainees who initiate or expand sales of goods and services	90%	83%	93

## COLLABORATION, LEARNING, AND ADAPTING

KISAN II built the capacity of private sector organizations and staff to use adaptive management approaches, and supported the use of collaboration, learning and adaptation (CLA) to build

competitive, inclusive, and resilient agriculture market systems. In Y5, KISAN II met all targets for CLA at individual and firm level indicators (Table 13).

**Table 13. Collaboration, learning, and adaptation indicators**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
<b>Individual-level CLA indicators</b>				
K42 EG.3.2-1	Number of individuals who have received short-term training on adaptive management	8,648	8,693	101
K45 EG.11-1	Number of people trained in climate change adaptation supported by USG assistance	20,325	21,732	107
K46 EG.11-6	Number of people using climate information or implementing risk-reducing actions to improve resilience to climate change as supported by USG assistance	24,708	26,570	108
<b>Firm-level CLA indicators</b>				
K43 EG.3.2-4 Disaggregation	Number of for-profit firms and organizations receiving USG organizational assistance related to CLA or monitoring shocks and stressors	21	21	100
K44 EG.3.2-20 Disaggregation	Number of for-profit firms and organizations that have applied CLA or have a mechanism in place for monitoring shocks and stressors	12	13	106
K50 EG.5-3	Number of microenterprises supported by USG assistance on agriculture and food security related development	242	259	107

## SCIENCE, TECHNOLOGY, INNOVATION, AND RESEARCH

KISAN II tracks a wide range of private sector investments that respond to identified challenges (Table 14). In Y5, KISAN II continued several innovations through USG assistance (K47) and achieved targets for all indicators. The innovations supported were: i) zero energy cool chamber, a cost-effective technology for storing vegetables to reduce post-harvest losses; ii) cool chambers, temperature moderated cool rooms used to store perishable goods; iii) seed dryers, which eliminate moisture from seeds and grains; iv) plastic mulching, a technology used to suppress weeds and conserve water in vegetable production; and v) the RMM. Cool chambers and the RMM were supported through USG assistance with demonstrated uptake by the public and private sectors, enabling these innovations to be scaled up in Y5.

**Table 14. Science, technology, innovation, and research**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K47 STIR 10	Number of innovations supported through USG assistance			100
	Total innovations			
	New innovations	5	5	
	Ongoing innovations	0	0	
		5	5	
K48 STIR 11	Number of innovations supported through USG assistance with demonstrated uptake by public and or private sector	2	2	100

## Supplemental Scope of Work

Under the SSOW, KISAN II met or exceeded all targets except the expansion of cultivated area for industrial maize (K49). The percentage change in firm sales after receiving USG assistance (K54) increased by 26 percentage points, indicating good growth and business despite constraints related to COVID-19 and climate change impacts. In Y5, 106 private enterprises<sup>13</sup> increased access to finance due to USG assistance against 113 targeted, but this still falls within 10 percent of the target and qualifies as being met. KISAN II identified and engaged 3,356 migrant returnees and COVID-19-affected persons in agribusiness in Y5 (K56) and will assess the value of sales per returnee and other COVID-19-affected population (K57) in Y6. Rice producers expanded the area under fine rice production (K58) by 223 percent of the target, whereas maize growers achieved only 37 percent of the targeted area (K59). Farmers reduced areas under maize cultivation as they were discouraged by being unable to sell all their maize production last year due to COVID-19 market disruptions. In Y5, only 50% of producers could sell maize compared with a target of 76 percent.

**Table 15. Indicators under SSOW**

Indicator No.	Indicator Title	Y5 Target	Y5 Actual	% of Target
K52 EG.5-1	Sales of firms receiving USG funded assistance (USD)	41,981,480	59,360,052	141
K53 EG. 5.2-1	Number of firms receiving USG funded technical assistance for improving business performance (EG.5.2-1)	199	206	104
K54 Custom 1	Percentage change in sales of firms after receiving USG assistance	9%	35%	383
K55 Custom 2	Number of private sector enterprises with increased access to finance due to USG assistance	113	106	94
K56 Custom 3	Number of migrant workers and other population engaged in agri-businesses	3,000	3,356	111
K57 Custom 4	Value of sales per returnees and other priority populations (USD)	1,200	NA	NA
K58 Custom 5	Area expanded under fine rice with USG assistance in two districts in Sudurpaschim and four districts in Lumbini provinces	5,241	11,706	223
K59 Custom 6	Area expanded under maize for feed and other industrial uses with USG assistance in 2 districts Sudurpaschim and 4 districts of Lumbini, Palpa and Surkhet districts.	4,720	1,739	37

## INDICATORS FOR FINE RICE AND MAIZE FOR FEED AND OTHER INDUSTRIAL PURPOSES

In Y5, nearly 22,000 rice producers associated with KISAN II partners planted fine rice. They exceeded the targeted area for expansion by 223 percent of the target by planting 11,706 ha in six districts (Kanchanpur, Kailali, Banke, Bardiya, Dang, and Kapilvastu) (Table 15). Massive in-person and social media promotion on fine rice production encouraged farmers to plant fine rice on 33 percent of their overall rice production area as (Table 16), compared to 17 percent fine rice

<sup>13</sup> During planning, it was uncertain how many SSOW partners there would be, so the total number of firms accessing finance was selected to give a clear picture of all firms accessing finance due to USG assistance. Beginning in Year 6, only SSOW partners will be included under this indicator.

production area coverage nationally<sup>14</sup>. It is observed that fine rice contributes to 33 percent of total rice production and total production area, whereas it contributes to 29 percent (USD 3,706,281) to total annual rice sales<sup>15</sup>

**Table 16. KISAN II-supported production and sales of fine rice in SSOW districts**

Crops	Target Area (Ha)	Actual Area (Ha)	No of Producers	Production (MT)	Yield MT/ha	No of Sellers	Sales Volume (MT)	Sales Value (USD)
Fine Rice	5,241	11,706	21,898	60,390	5.16	9,124	17,120	3,706,281
% Fine Rice / All Rice	11	33	29	33	98	24	27	29
All Rice	49,460	34,964	74,558	184,460	5.28	37,279	63,851	12,760,864
% Fine Rice / All Rice	11	33	29	33	98	24	27	29

In Y5, 5,389 farmers associated with KISAN II partners planted industrial maize on 1,739 ha in eight districts (Kanchanpur, Kailali, Banke, Bardiya, Dang, Surkhet, Palpa and Kapilvastu). This was 63 percent lower than the target area. Although the proportion of industrial maize over total maize production area and production was 50 and 55 percent respectively,<sup>16</sup> Y5 sales of industrial maize account for 86 percent of the total maize sales (USD 1,474,696) (Table 17).

**Table 17. KISAN II-supported production and sales of industrial maize in SSOW districts**

Crops	Target Area (Ha)	Actual Area (Ha.)	No of Producer	Production (MT)	Yield/ha	No of sellers	Sales Qty (MT)	Sales Value (USD)
Maize for Feed Industry	4,720	1,739	5,389	7,359	4.23	5,389	5,511	1,474,696
All Maize	12,650	3,458	21,557	13,228	3.85	9,510	6,305	1,714,179
% Industrial Maize / All Maize	37	50	25	55	110	57	87	86

#### **Production of fine rice and industrial maize in the SSOW ZOI reduces import burden.**

An estimated 1.3 million MT of fine rice and 400,000 MT of maize will be imported to Nepal in FY 2021/2022.<sup>17</sup> Production in the eight SSOW districts (Kanchanpur, Kailali, Banke, Bardiya, Dang, Kapilvastu, Surkhet, and Palpa) can substitute for some of these imports, as shown in Table 18. In addition to providing the average national import volume and production of fine rice and maize for feed and other industrial purposes, Table 18 shows total (KISAN II-related and other) fine rice and industrial maize production in the SSOW ZOI. Based on these figures, fine rice production in the SSOW districts can substitute for 8.6 percent of national imports while industrial maize production in the SSOW districts can substitute for 24.8 percent of industrial maize imports. This is loosely

<sup>14</sup> Rice varietal mapping in Nepal: Implication for development and adoption, MOALD (2015).

<sup>15</sup> The fine rice sales figure reflects three factors: i) farmers kept some of the rice produced for home consumption apart from selling it, ii) only 42% of the producers sold fine rice (i.e., 9,124 sellers out of 21,898 producers), and iii) the yield of fine rice is about 2% lower than that of other rice (5.16 MT/ha).

<sup>16</sup> The proportion of maize for feed and other industrial purposes is calculated as its ratio over total maize.

<sup>17</sup> <https://www.fao.org/giews/countrybrief/country.jsp?code=NPL&lang=ar>

corroborated by recently published data from the GON Department of Customs showing an 18 percent decrease in fine rice import nationally.<sup>18</sup>

**Table 18. Import substitution analysis for fine rice and maize based on ZOI production**

Particulars	Fine Rice (MT)	Maize for Feed and Industrial Purposes (MT)
Estimated imports at national level *	1,300,000	400,000
Total production in 8 SSOW districts	111,679	99,155
Private sector production under KISAN II	60,390	7,359
Production under agriculture knowledge centers (AKCs), the Center for Crop Development and Agro-biodiversity Conservation (CCDABC), municipalities, cooperatives, and non-government organizations (NGOs) ††	51,289	91,796
% Substitution **	8.6%	24.8%

\* Source: <https://www.fao.org/giews/countrybrief/country.jsp?code=NPL&lang=ar>

†† Source: AKCs, CCDABC, Integrated Agriculture and Livestock Development Office, municipalities, NGOs and cooperatives.

\*\* % substitution is calculated as a ratio of total local production divided by total import quantity at the national level.

## VALUE CHAINS CLOSED OUT IN YEAR 5

This year, KISAN II closed out three value chains (goat, lentils, and vegetables). This section provides an overview of these value chains and key results<sup>19</sup>.

### VEGETABLES

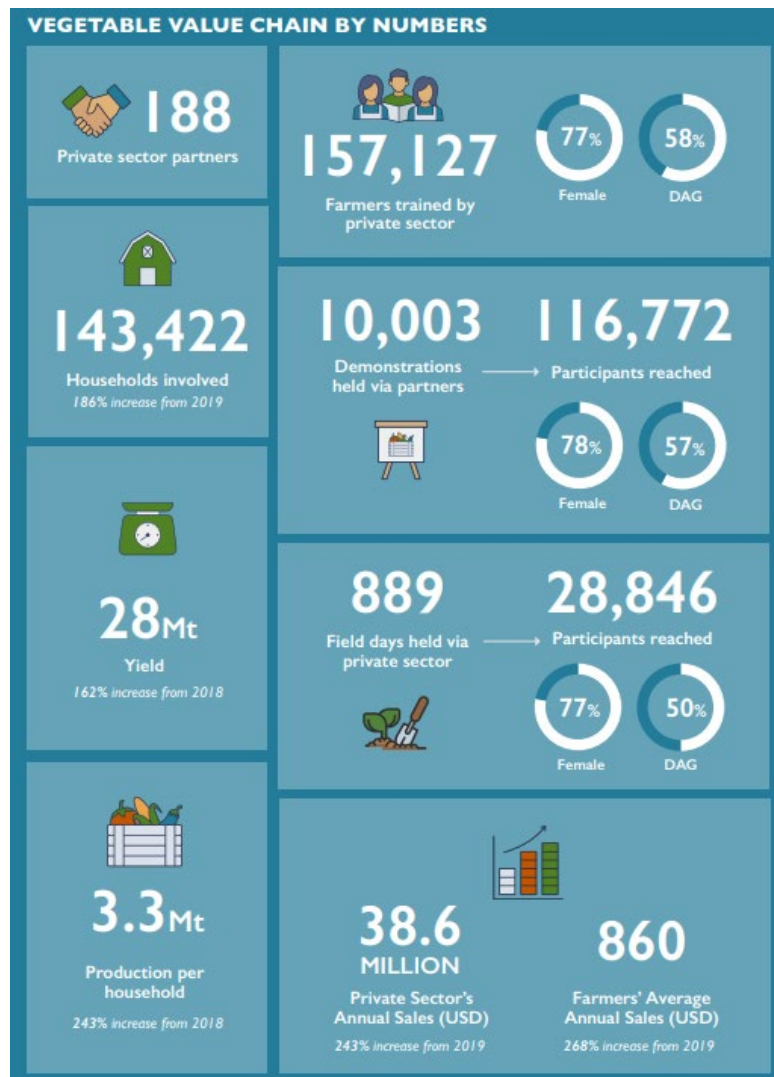
Nepal's vegetable sector continues to be challenged by limited availability and accessibility of quality agri-inputs, inadequate extension services, limited adoption of proper post-harvest practices and technologies, poor road connectivity, and other logistical issues. KISAN II focused its efforts on improving supply chain management, building the capacity of partners to provide quality extension services, facilitating adoption of better post-harvest management practices, and upgrading production planning and management based on market demand. Specific activities focused on:

- **Linkages.** To improve supply chain management, partners strengthened linkages among farmers, input suppliers, and traders. By linking private sector firms and farmers with banks, financial institutions, and insurance companies the project increased access to capital and helped reduce risks. KISAN II also encouraged partners to give presentations to local government officials and attend joint events, thus fostering productive relationships and the potential leveraging of public resources.
- **Capacity building to increase production.** Farmer capacity and production was enhanced through numerous training, demonstrations, and field days. Information was disseminated in various forms—including through smart phone messaging and videos to help farmers improve production technologies and practices and to address specific issues.
- **Improved management.** Farmers were encouraged to adopt production planning and management based on market demand. Farmers and other value chain actors were encouraged to reduce post-harvest losses through better post-harvest management.

<sup>18</sup> <https://www.customs.gov.np/page/fts-fy-207879>

<sup>19</sup> Technical briefs on three value chains (goat, lentils, and vegetables) will be ready for circulation in Y6T1.

KISAN II used a wide range of activities to facilitate linkages, build capacity, and improve management. The project compiled a list of major vegetable traders in KISAN II ZOIs and shared it with farmers to facilitate linkages. The success of a small-scale cold chamber pilot at a vegetable wholesaler in Surkhet district led to replication of cold chambers by other traders and cooperatives. To build partners' capacity to operate cold chambers efficiently, KISAN II developed packhouse operation guidelines and trained partners on cold chamber operation and management. The project promoted zero-energy cold chambers at the farm level and helped operationalize vegetable collection centers during COVID-19, providing partners with support to implement COVID-19 safety protocols. Wholesale vegetable market studies enabled staff and partners to better understand how these markets



**Figure 5. KISAN II accomplishments in vegetable sector**

function in Nepal. Collaboration with the Plant Quarantine and Pesticide Management Center provided retail pesticide-licensing training to 36 potential entrepreneurs, increasing access to these products. KISAN II supported the installation of 724 small irrigation schemes to boost vegetable production. With the Ministry of Agriculture and Livestock Development (MOALD), KISAN II developed materials on food safety and grading for post-harvest vegetable management and then disseminated these materials through BLP training. Numerous field-level joint monitoring reviews strengthened agri-sector collaboration, encouraged government buy-in, and boosted sustainability.

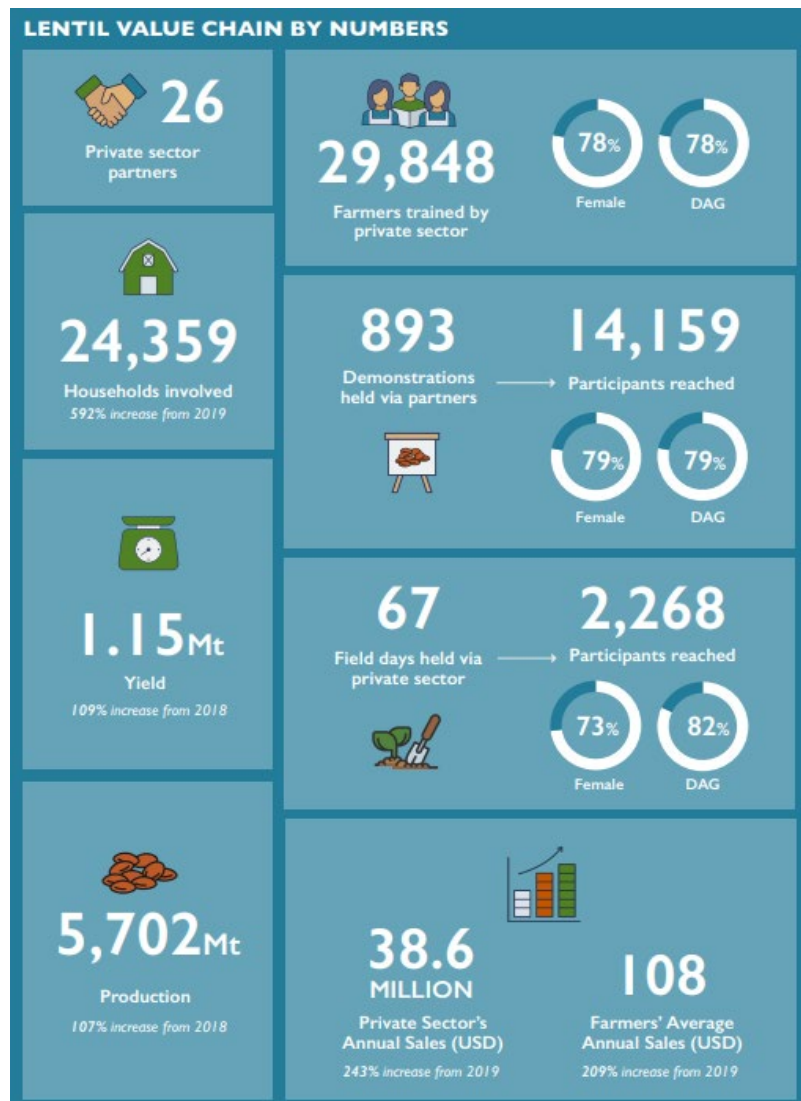
As a result of KISAN II's interventions and activities in the vegetable sector, KISAN II helped increase the average yield of vegetables by 164 percent and annual vegetable sales by 391 percent in 2022 compared to the 2018 baseline. These and other key results in the vegetable value chain are illustrated in Figure 5.

## LENTILS

Until 2018, Nepal was the world's fifth largest producer of lentils. Lentils have high domestic demand, great economic value, export potential, and benefits for the soil and humans, but are weather sensitive. The annual lentil crop, fed by winter rains, thrives in cool conditions. Warmer temperatures and wetter weather associated with climate change lowers yields and increases pests

and diseases that spread in high humidity. Yet lentils remain part of Nepal’s staple diet and a major source of protein and are thus an essential crop. Lentils have nitrogen-fixing properties and, considering Nepal’s recurring fertilizer shortage, can help maintain soil quality. To improve lentil production and sales, KISAN II partners conducted the following key activities:

- **Trainings.** In-class instruction and coaching to farmers on modern practices and technologies, including production planning, crop protection, integrated pest management (IPM), post-harvest management, and marketing.
- **Demonstrations.** Agrovets and cooperatives promoted new technologies and management practices by showcasing results on lead farmers’ fields. They provided hands-on lessons, inviting local government officials to attend, and providing participants with a firsthand view of lentil demonstration site successes, including IPM applications.
- **Field days.** Agrovets, cooperatives, and traders introduced farmers and invited municipal representatives to positive outcomes of the training on demonstration plots.



**Figure 6. KISAN II accomplishments in lentil sector**

Unexpected heavy flooding in October 2021 in Banke, Bardiya, Kanchanpur, Kailali, and Kapilvastu districts occurred at the start of lentil planting season. KISAN II supported partners such as Siddhababa Agro Private Limited to broadcast key technical messages on improved lentil cultivation through local FM stations. This included information on sowing times and how to prepare land in wet conditions. The radio promotion campaign generated increased demand that resulted in Siddhababa selling 1.4 MT of lentil seeds, a 75 percent increase in sales volume from 2020. The lentils were planted on 46 ha and produced 46 MT of lentils, 80 percent of which was sold to aggregators and traders. Another partner, Sana Kisan Krishi Sahakari Cooperative, collaborated with the Raising Incomes of Small and Medium Farmers Project (RISMFP) to purchase two processing machines to construct a processing center. Under a cost-share scheme between RISMFP and KISAN



II, the cooperative purchased and installed a lentil scanner and polisher with a capacity of 2 MT per hour. This equipment removes the seed coat from lentils, producing better quality pulse, and preventing about 12 percent post-harvest losses during processing. Overall, the cooperative has enhanced business through the processing, packaging, and sale of quality pulses.

In Y5, 33,654 lentil-producing households received technical support from 26 KISAN II partners (4 rice mills, 11 cooperatives, and 11 agrovets). This resulted in the production of seven improved lentil varieties on 4,879 ha of land. In addition, KISAN II's 2022 farm survey indicated lentil farmer yields of 0.94 MT/ha with sales of USD 1.9 million from 2,269 MT of lentils in 2022. Other key KISAN II accomplishments in the lentil value chain are illustrated in Figure 6.

Climate change, productivity constraints, reduced domestic sales, and cheap imports have stifled Nepal's lentil value chain. Climate-related issues are being addressed by the ongoing breeding and introduction of weather- and disease-resistant seed varieties. Lentils will continue to serve as an important part of a diversified cropping strategy, in part because growing lentils is relatively easy and the related costs to farmers are low. Using and building on the promotional skills from KISAN II trainings, processors and others can now promote Nepali lentils, which are already cherished nationally and internationally for their distinct taste. Given the right branding, a niche market for Nepali lentils can be established easily, especially if supported by projects focused on trade and competitive markets.

## GOATS

Goats are a key livestock sector in the Nepalese farming system. Nearly half of all households in Nepal raise goats and, according to MOALD (2018/19), goats contribute 14 percent to the national livestock domestic gross product. Despite this, Nepal continues to import around 12 to 5 percent of its total goat meat consumed from India. Most of the goats from India are sold in Kathmandu, followed by Bharatpur, Nepalgunj, Butwal, Pokhara and Biratnagar. The growth of local goat production is hampered by poor quality goats and use of traditional breeding practices by goat farmers, among other factors.

To better identify goat sectoral constraints and to develop a clear strategy for the sector, KISAN II conducted a rapid market assessment in year 2. The major sectoral constraints identified were: i) poor quality breeding stock and indiscriminate breeding system with high rates of inbreeding; ii) lack of access and information to quality feeds and fodder; iii) limited access to formal markets; and iv) limited adoption of improved goat husbandry practices. To mitigate these constraints, KISAN II focused efforts on the following areas:

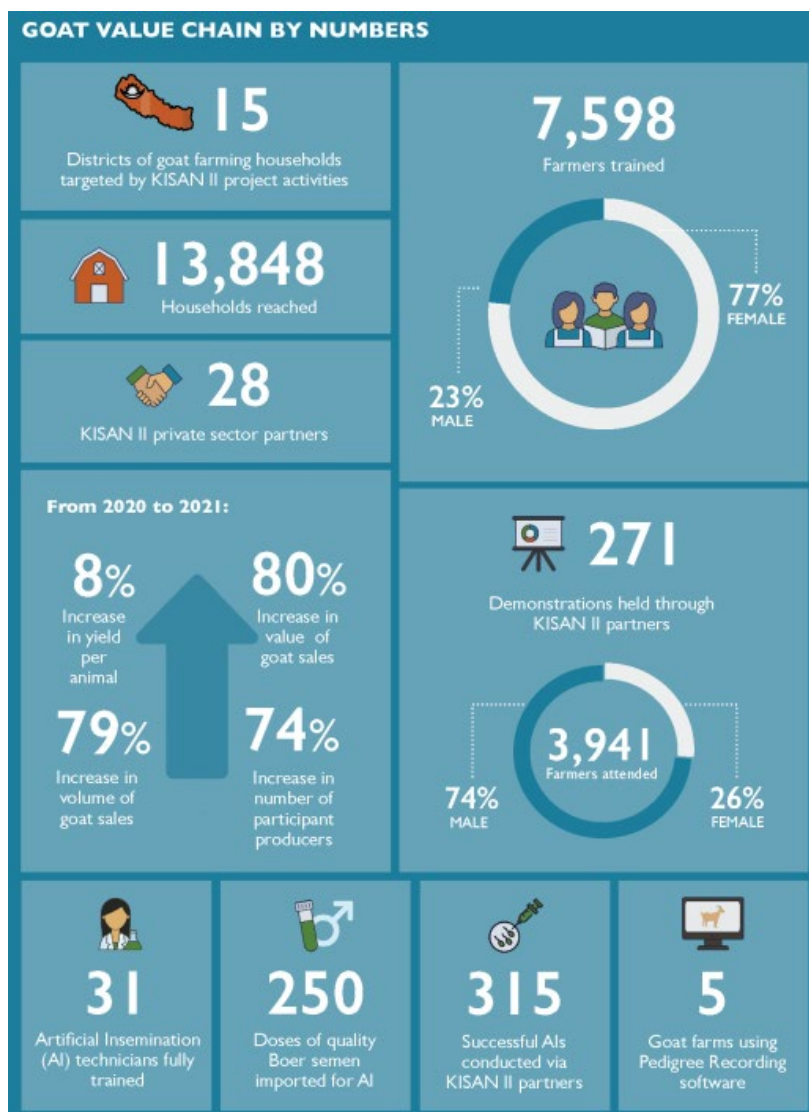
- **Improved goat breeds and breeding.** In year 4, KISAN II partnered with the GON's Department of Livestock Services (DLS) to import 250 doses of frozen Boer semen from the U.S. to introduce a new line of genetics to improve Nepal's national herd.<sup>20</sup> To promote the use of imported semen for high performing female goats, KISAN II supported BMP Infology to develop and pilot a goat pedigree performance recording system. Used at various goat farms, the system helped farmers record herd productivity data and identify the best breeding animals. To enhance the production and distribution of quality goat semen in Nepal, KISAN II supported GON's National Livestock Breeding Office (NLBO) to train staff, operationalize a unit in Gaughat (Banke district), and coordinate with the GON's Agriculture

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<sup>20</sup> Poor breeding practices and the lack of pedigree recording system in Nepal has resulted in inbreeding, which has undermined the genetic quality of Nepal's existing Boer goat herd.

Information and Training Center (AITC) to develop training manuals on goat AI and buck semen production and processing. KISAN II, in close collaboration with DLS, trained 14 NLBO staff to produce quality buck semen in Gaughat, Pokhara, and Lahan, and trained 31 junior technical assistants (JTAs) on the use of frozen buck semen for AI. To date, trained JTAs/AI technicians have successfully conducted 315 AIs. KISAN II also supported the development of a standard operating procedure (SOP) for producing frozen goat semen; this procedure has been approved by DLS and will be followed by all NLBOs.

- Strengthened goat trading and marketing.** KISAN II partnered with Chaudhary Bangur Masha Pasal and Umesh Khadhya Khudra Tatha Pasu Pankshi Bikri Farm to strengthen goat trading, marketing, and the supply of live goats and frozen meat. One firm transports live goats from rural to urban areas, while the other collects and slaughters goats and transports frozen meat to urban markets. KISAN II support enabled these partners to upgrade vehicles for transporting live goats (double decker) and frozen meat (cold chamber), upgrade a slaughterhouse, and link with buyers from urban markets. These innovations have



**Figure 7. KISAN II accomplishments in goat sector**

provided goat farmers with a secure market for their goats.

- Better feed, health, and husbandry practices.** KISAN II, through increasing the capacity of 28 private and public sector partners, reached 13,848 households in 15 districts. Each household received trainings and extension services to adopt improved goat husbandry practices, better health management, and feed formulation. The project partnered with vaccine manufacturers like Hester Nepal to increase sales and adoption of the *Peste des Petits Ruminants (PPR)* vaccine and feed supplements. To date, Hester has sold 260,375 doses of PPR vaccines in KISAN II ZOIs.
- Goat resource centers.** KISAN II supported Dhakal Goat Farm, Hill Park Agriculture and Livestock Farm, and Majuwadevi Goat Farm to transform into goat resource centers that

provide multiple services. Farmers now have access to quality breed and breeding services, fodder and forage for improved feeding, veterinary services, and access to formal markets to sell their goats. The improved linkages between farmers and goat farms has helped increase goat farmer incomes.

Figure 7 illustrates how these strategic activities have produced results in the goat value chain.

## UPDATE ON ACTIVITY IMPLEMENTATION

KISAN II reports progress by component in this section, as outlined in the approved Y5 work plan. Detailed progress against each activity is illustrated in the Detailed Implementation Plan table in Annex 4; select activities planned for year 6, trimester I (Y6T1) are listed in Annex 3.



### Collaboration with Government of Nepal

In Y5, KISAN II and its partners continued to collaborate closely with the GON at the federal, provincial, and municipal levels to align KISAN II activities with the Agriculture Development Strategy (ADS) and other GON policies and programs. The project coordinates with the GON through formal and informal meetings and joint monitoring visits. In addition, it supports the GON to implement successful KISAN II models in the GON system and contributes to MOALD efforts through the Agriculture Development Strategy–Joint Sector Review (ADS-JSR) mechanism.

#### **Activity CL.1 Disseminate and deepen understanding of the private sector-led approach**

**Collaborating with municipalities to broaden understanding of KISAN II's private sector-led approach to agriculture service delivery.** To strengthen relationships between private sector partners and municipal officials and to deepen officials' understanding of the private sector-led approach, KISAN II and its partners conducted 18 meetings and 36 joint monitoring visits with municipal officials in Y5. In municipalities where project activities were ending, KISAN II and its partners held meetings to discuss the project's exit plan, lessons learned, best practices, and the continuation of joint actions between the private sector and municipalities to provide extension services to farmers beyond the project period. Due to the prevalence of COVID-19, KISAN II could not organize in-person meetings in all areas, but project staff met with key officials and handed over appreciation letters to 68 municipalities for their collaboration and support during activity implementation where the project activities are ending. In areas where KISAN II is implementing SSOW activities, the project held meetings to discuss the private sector-led approach and the need for collaboration with municipalities and other agencies during implementation. During these meetings, KISAN II handed over an introductory letter about the project approach to 18 municipalities. Though the political leadership has changed in several municipalities after the recent local election, KISAN II has continued to update elected leaders on its approach. As a result of collaboration meetings and visits in Y5, municipalities and other provincial- and federal-level organizations leveraged NRs. 109 million (USD 923,729) for irrigation, seeds, machinery, polyhouses, and market infrastructure. KISAN II also supported the municipalities to implement GON programs focusing on the promotion of fine rice and industrial maize.

## **Activity CL.2 Coordination with the GON**

**Replicating successful KISAN II models through central-level coordination.** KISAN II coordinates with the GON at the central level through the Joint National Steering Committee (JNSC) and Technical Committee (TC) to provide updates on project performance; promote KISAN II approaches, best practices, and models to GON officials; facilitate replication in government systems; obtain strategic guidance for better results; and seek support resolving policy issues toward a better functioning market system. In Y5, because of changes in MOALD leadership and the COVID-19 situation, the JNSC and TC met only once. In this meeting, guidance was provided to relevant GON organizations and KISAN II on the following initiatives: i) approval of the Private Sector Engagement (PSE) Guidelines; ii) support for initiatives to promote fine rice and industrial maize; iii) transfer of grain milling, flour making, oil extracting, and food packing industries from service-oriented category to agriculture and forest product-based industry category under the Industrial Enterprise Act 2020; and iv) support for provincial agriculture development strategy (PADS) formulation in Lumbini and Sudurpaschim provinces. These committees also suggested improving reporting mechanisms and scaling up best practices, such as the RMM, in collaboration with relevant rice sector stakeholders. The GON views the RMM as an appropriate means to promote fine rice and invited KISAN II to present on the model in policy dialogues, workshops, conferences, meetings, and other interactions. The RMM presentation to the National Planning Commission (September 2021) will help ensure this model is replicated at a wider scale. Toward this end, KISAN II organized an experience-sharing visit on the RMM for government participants of all three tiers. The visit enabled participants to learn about the effectiveness of RMM for promoting fine rice production directly from millers, farmers, and KISAN II staff. To illustrate how public-private partnerships can support national self-sufficiency in rice, KISAN II also developed and shared a flyer, an animation video, and four television episodes. In Y5, KISAN II provided technical support to the GON through training, advice, and feedback on implementation procedures to replicate RMM widely in Province I, Madhesh Province, Lumbini Province, and Sudurpaschim Province.

Toward the end of Y5, KISAN II invited JNSC and TC members under the leadership of MOALD's Secretary to visit KISAN II sites in Banke, Bardiya, and Kailali districts. During the visit, participants were impressed by the collaborative efforts of KISAN II, private sector partners (especially rice mills), and the GON to promote fine rice, industrial maize, and spring rice and suggested these efforts be continued. The experience made participants realize that a large proportion of locally produced coarse rice is used for non-food purposes and that technical assistance and social mobilization are needed to convert these coarse-rice cultivated areas into fine rice cultivation. Participants also suggested that trials be held for submergence-tolerant rice varieties in flood-prone areas of Kailali district. Following this suggestion, KISAN II and partners established trials using seedlings of appropriate varieties from the National Rice Research Program.

**Promoting collaboration with the private sector at the provincial level.** Keeping ministries at the center of provincial coordination, KISAN II engages with other provincial government organizations and the Prime Minister Agriculture Modernization Project's (PMAMP) provincial coordination units (PCUs) and project implementation units (PIUs). In Y5, KISAN II held eight provincial-level coordination meetings. This included meetings with Sudurpaschim, Karnali, Lumbini, and Bagmati provinces to discuss project performance and exit plans and additional meetings in Lumbini, Karnali, and Sudurpaschim provinces on mutual collaboration to promote fine rice, spring rice, and industrial maize. KISAN II organized one provincial-level joint monitoring visit each in

Sudurpaschim, Lumbini, and Bagmati provinces with beneficiary farmers, KISAN II partners, and government officials. These visits motivated GON officials to leverage resources to enable private sector partners to increase technical support for farmers. KISAN II also held 34 meetings with agriculture knowledge centers (AKCs), veterinary hospital and livestock services expert centers, and PMAMP PCUs and PIUs to discuss the technical aspects of current and planned field activities and reinforce the need for continued collaboration with the private sector after KISAN II ends.

**Strengthening district level linkages and coordination.** KISAN II reported on project progress at progress review workshops organized by district coordination committees in six districts. To reinforce linkages between the GON and the private sector, KISAN II organized district close-out meetings in seven districts where project activities ended in Y5.

**Strengthening local capacity through municipal-level coordination.** Local-level coordination helps strengthen the capacity of municipalities to improve agriculture service delivery to farmers and agro-entrepreneurs. This year, KISAN II completed an assessment on COVID-19's effects on agriculture service delivery at the municipal level, which provided recommendations on planning for crises and on executing recovery programs. The study helps municipalities integrate activities into their annual programs and budgets to ensure extension service delivery to farmers during any crisis and to help farmers recoup losses incurred from unexpected shocks, like COVID-19. Per requests by municipalities, KISAN II shared an electronic version of a resource book for agriculture program planning, monitoring, and evaluation, which includes the step-by-step process for municipal-level agriculture program planning, monitoring, and reporting.

### **Activity CL 3 Building stronger collaboration through joint sector reviews.**

To improve coordination and collaboration between the GON and development partners in the agriculture sector, KISAN II has supported MOALD with JSR initiatives since September 2018. As decided in the second annual national JSR meeting in 2021, MOALD and provincial agriculture ministries (PAMs), with support from KISAN II and other development partners, organized sub-national consultations in all provinces to collect feedback on the National Agriculture Policy, Nepal Agriculture Extension Strategy, Crop and Livestock Insurance Directives, and Subsidized Fertilizer Distribution Management Directives. Inputs from these consultations will feed into revisions aligned with the federalized context and to monitor the status of production and processing of fine rice, industrial maize, tea, and cardamom. Following recommendations of the third agriculture sector review, the tenth TC meeting, held in March 2022, identified three key agenda items for the third annual national JSR meeting: i) increasing production and processing of fine rice, industrial maize, tea, and cardamom; ii) promoting agriculture mechanization, digitization, and ICT-based M&E systems; and iii) implementing key milestone actions of ADS. Due to COVID-19, the third annual JSR meeting was conducted on a small scale combined with the national ADS Implementation Committee. Identified agenda items were transformed into actions and incorporated into the annual program of MOALD and the PAMs for fiscal year 2022/23. KISAN II supports the development of JSR implementation procedures as part of a roadmap for institutionalizing JSR in the MOALD system, and discussions are ongoing to incorporate the procedures into MOALD's Three Tier Interrelations Management Directives. Other steps for institutionalizing JSR and ensuring it continues after KISAN II ends include incorporating JSR in the new National Agriculture Policy (NAP) and the upcoming Agribusiness Promotion Bill.



## Component 2: Strengthen the Competitiveness, Resilience, and Inclusiveness of Selected Agriculture Market Systems

As the GON eased COVID-19 restrictions, KISAN II reactivated in-person capacity development activities for its partners and resumed efforts to strengthen the overall market system by developing networks, enhancing linkages, and facilitating coordination among stakeholders. Most partners resumed field visits and group meetings to provide technical service to farmers. Some partners continued to provide digital technical services via phone, SMS, and social media, while cooperatives started providing mobile banking services. With KISAN II support, some traders and wholesalers invested in storage technology and infrastructure (e.g., cold chambers and silos) to better manage inventory during supply chain disruptions. KISAN II trained partner cooperatives on liquidity management and supported them to acquire wholesale loans to help partners better adapt to the lingering effects of COVID-19.

### Activity 2.1 Strengthen the organization and coordination of selected market systems

**Scaling of the RMM by the GON.** In Y5, 18 rice mills (8 under the SSOW) continued to build the capacity of farmers through training, demonstrations, and on-site coaching. As indicated in Box 3, the RMM involves rice mills working directly with farmers to source domestic raw materials by providing technical assistance, credit, and market guarantees. After witnessing the RMM's effectiveness, the GON incorporated this model into its annual work plan through PAMs. For example, reflecting the priority of fine rice, AKC-Banke implemented a "Fine and Aromatic Rice Promotion Program" in collaboration with KISAN II millers, who support farmers with agri-inputs. In Bardiya, the Integrated Agriculture and Livestock Development Office (IALDO) and municipalities have budgeted for fine rice promotion activities in annual programs. This year, IALDO-Bardiya worked closely to align their fine rice promotion program with activities by partners Radha Krishna Rice Mill and Saurav Rice Mill, and to implement this program on 60 ha. To date, IALDO-Bardiya has supported farmers with seeds, irrigation pumps, and machinery worth NRs. 3.5 million (USD 29,661). In Kanchanpur, KISAN II coordinated with the AKC to leverage 12 MT of fine rice seeds at a 50 percent subsidy and distribute these to farmers through partner Laxmi Khadya Udyog.

#### Box 3. Upgrading processing plant and linking with farmers boosts miller and farmer incomes

Before partnering with KISAN II, Sahu Rice Mill used its rice milling facility to process and supply coarse rice. Local Banke farmers grew only medium and fine rice for household consumption as there was no facility to process and market fine rice. In 2018, Sahu Rice Mill partnered with KISAN II and began providing 2,400 farmers with technical assistance to grow and market fine rice varieties. A cost-share agreement with KISAN II enabled the mill to install modern rice processing equipment in 2019. The mill created its own fine rice brand, Teli, which gained popularity within a year and a half and is now in high demand from dealers from major markets in nearby districts. Processing and marketing fine rice helped Sahu Rice Mill realize an additional NRs. 3,000 – 5,000 (USD 25 – 42) per MT. The mill also increased its volume and bolstered earnings, which grew from NRs. 40 million (USD 338,983) in 2018 to NRs. 100 million (USD 847,458) in 2021. Farmers saved time and transportation costs by selling their rice at the mill's nearby depot. As a result, they increased their incomes by NRs. 2,000 – 4,000 (USD 17 - 34) per MT compared to what they earned previously from intermediary buyers.

**Improving Nepal's goat breeding system.** In year 5, 250 doses of frozen Boer semen was successfully imported from the U.S. into Nepal. KISAN II, in close collaboration with the DLS,

trained 14 NLBO staff to produce quality buck semen and 31 JTAs to use frozen buck semen for AI. To date, trained technicians have conducted 315 AIs. KISAN II also supported development of SOPs for frozen goat semen production. KISAN II also supported NLBO to operationalize and develop goat-related training manuals. (See goat value chain section in Page 20 for details).

**Transforming goat sector by capacitating farmers and upgrading transportation services.** This year, KISAN II trained 13,063 farmers (9,004 female, 7,347 from disadvantaged groups [DAG]) on improved goat breeds, feed/fodder management, balanced goat diets, marketing, and good husbandry practices. By upgrading vehicles to transport live goats and strengthening market linkages, Umesh Khadhya Khudra Tatha Pasu Pankshi Bikri Farm in Surkhet sold 2,600 goats worth NRs. 48.6 million (USD 411,864) since April 2021 compared to just 900 goats valued at NRs. 15.7 million (USD 133,051) in 2020. The partner also installed an electric weighing scale at three collection centers, which helps farmers receive fair market prices based on actual live goat weights. Similarly, Chaudhary Bangur Mashu Pasal fabricated a double-decker truck to ensure safe transportation of live goats and installed additional racks in the cooling chamber of frozen meat transportation trucks, improving the transportation of processed frozen meat to urban markets. Chaudhary Bangur increased its average monthly collection of live goats by 79 percent, from 70 live goats in October 2021 to 125 live goats in January 2022 and increased the supply of processed frozen goat meat from 1,137 kg to 2,031 kg.

**Supporting goat collection point boosts business.** Jeevanjyoti Mahila Bikash Bahuudeshiya Sahakari Sanstha, a cooperative partner in Kailali, helped strengthen a nearby goat collection point to assure better market opportunities for goat farmers and traders. KISAN II helped the cooperative establish a shaded area for collecting live goats and a scale for weighing them. The collection point doubled monthly collection and goat sales: before the improvements about 100 to 150 goats were collected each month, while 250-300 goats are now collected.

**Expanding goat services by KISAN II goat farm partner.** To improve the genetics of local goat breeds, KISAN II partner Hillpark Agriculture and Livestock Farm, in Banke, provides Boer goat breeding services to more than 800 farmers at affordable prices. To date, Hillpark has provided breeding services to 230 does. The farm also started producing silage and currently produces 2 MT per day, selling it at NRs. 13,000 (USD 110) per MT to commercial livestock farms in Banke, Bardiya, Dang, and Surkhet districts.

**Designing interventions with new partners to increase industrial maize production and utilization.** In Y5, KISAN II designed interventions for the maize sector, focusing on a service-delivery model. New partnerships with the Nepal Warehouse Company Public Limited and Annapurna Suppliers (Bardiya) in Y5T3 focus on providing aggregation, storage, and marketing services to farmers. Another partnership with National Vision Agro Private Limited (Dang) will work with commercial farmers to produce livestock feed and partner Himalayan General Insurance will pilot maize insurance activities. In Y5, the project conducted a rapid assessment to identify systemic constraints faced by the private sector (feed mills and processors) and to identify ways to strengthen the supply chain by working with maize producers. The rising demand in Nepal for maize and maize products from the maize processing industry in Nepal indicates that imports can be minimized through focused interventions that maximize the use of maize produced in Nepal. Such interventions include reducing post-harvest losses and improving maize quality through the widespread adoption of proper aggregation, drying, and storage practices; facilitating production of maize for livestock

feed in the form of silage and pellet feed; and using highly productive seeds to maximize production. Toward these ends, KISAN II partnered with Nepal Warehouse Company Public Limited (NWCL) to improve the operation and management of silo storage for maize, and with National Vision Agro Private Limited for the production of livestock feed (total mixed ration). KISAN II has also identified to pilot the use of GrainPro's 5 MT cocoon bags for maize aggregation and storage.

**Attracting multi-stakeholder interest and investments in the maize sector.** KISAN II and Nepal Seed and Fertilizer (NSAF) coordinated with the AKC-Banke and IALDO-Bardiya to facilitate an alliance between maize entrepreneurs in the two districts. Members of the alliance include lead farmers, agrovets, seed companies, aggregators, processors, the Seed Entrepreneurs' Association of Nepal, and agri-machinery suppliers. The alliance is responding to a request from the AKC and PMAMP to develop maize pocket and block growing areas. IALDO-Bardiya linked farmers to the alliance to help them access high-yielding varieties and markets for their produce, and to develop maize-growing pocket areas on approximately 120 ha in Bardiya. The alliance also plans to involve seed companies to improve the timely supply of quality seeds to farmers, and to bring more processors into the alliance. KISAN II has suggested that the alliance be legally registered so it can access government resources.

**Installing modern machinery to improve lentil quality.** KISAN II partner Sana Kisan Krishi Sahakari, in Kailali, installed a lentil scanner and a polisher machine, upgrading the cooperative's processing capacity to 2 MT per hour. This equipment will help remove lentil seed coats, producing good quality pulses. and preventing about 12 percent post-harvest losses during processing.

**Using COVID-19 adaptations to help partners and farmers.** In Y5, KISAN II continued to use efficient and cost-effective adaptation strategies to deal with COVID-19 constraints. Realizing the effectiveness of SMS, partners continued to use it to notify farmers of technical information. To promote ICT-based agri-extension services to farmers, KISAN II partners Shree Hatemalo Agri Market Cooperative, in Bardiya, and Sana Kisan Krishi Sahakari Sanstha, in Dang, partnered with GeoKrishi, a digital agriculture platform, to pilot mobile-based digital agriculture extension platforms to farmers. GeoKrishi trained extension workers from the two cooperatives, who then oriented associated farmers on how to use the application. The application enables farmers to send photos of diseased crops to technical experts and receive a diagnosis within 24 hours.



*Bhupendra Khatri, a member of KISAN II cooperative partner, Sana Kisan Krishi Sahakari Sanstha Limited in Dang, uses the GeoKrishi agriculture app to calculate fertilizer requirements for his crops, which he learned about during a training. In January 2022, Bhupendra bought 40 kg of fertilizer for his maize crop from the cooperative, based on estimates from this app. Photo credit: Sudha Mishra for USAID*

## **Activity 2.2 Strengthen partner firms, cooperatives, and other small and medium enterprises to support selected market systems**



**Building resilience of partners to maximize business potential.** In Y5, KISAN II continued to conduct capacity building activities for partners. KISAN II conducted training of trainers (TOT) for 88 extension staff (46 female) of processors, agrovets, and cooperatives. To build partners' adaptive management skills to cope and respond to COVID-19's impacts, KISAN II hired Sukalpa Private Limited to develop a business capacity building module for partner agri-businesses. Sukalpa provided virtual trainings to 43 select businesses on tools and techniques for using customer profiling to enhance business. Following the trainings, KISAN II supported 23 agri-businesses to develop and implement business plans in Y5. KISAN II conducted a virtual leadership development training for 36 board of director members from 17 cooperative partners on how cooperatives can operate as efficient, for-profit businesses. The project also trained 42 representatives (16 female, 16 from DAGs) of 21 cooperative partners on business diversification and financial management to enable them to analyze and select profit centers for enhanced financial stability and sustainability. The cooperatives developed business plans to create linkages with business development service providers. In August 2021, KISAN II conducted a packhouse management training in Makawanpur to aid Palung Bahuudessiya Sahakari Sanstha Limited and Sana Kisan Krishi Sahakari Sanstha Limited in operating and managing packhouse and cold chamber storage facilities.

### **Activity 2.3 Enhance financial services markets that serve selected market systems**

**Improving access to subsidized agriculture loans.** To help smallholder farmers easily access interest subsidized agriculture loans, KISAN II partnered with R&D Innovative Solutions Private Limited in Y5. In Y6, the company will orient 1,500 farmers on how to access interest subsidized agriculture loans and support 600 farmers to apply for such loans. The project also oriented partners on how to access subsidized agriculture and livestock loans. With KISAN II's support, three rice mills (Sunil Rice Mill, Sri Radha Krishna Rice Mill, and Saurav Rice Mill) registered under the Office of the Company Registrar and obtained individual subsidized loans of NRs. 50 million (USD 423,729) to improve the overall efficiency and capacity of their mills. A fourth partner, Sahu Rice Mill, is currently in the process of obtaining a subsidized loan.

**Providing liquidity for cooperatives and customers in rural areas.** COVID-19 created a liquidity crisis for cooperatives when members were unable to repay loans and deposit savings, even as requests for loans increased. To meet the growing demand for loans, KISAN II helped interested cooperatives access wholesale loans from wholesale lending organizations. In Y5, Siddheshwor Agriculture Cooperative and Bageshwori Agriculture Cooperative, in Banke, accessed wholesale loans worth NRs. 5.8 million (USD 49,153) and NRs. 0.5 million (USD 4,237) respectively. Similarly, Pulchok Agriculture Cooperative obtained a wholesale loan worth NRs. 20 million (USD 169,492) from Rural Self-Reliance Development Center Microfinance, and Bihani Madhyavarti Multipurpose Cooperative and Hatemalo Agri-market Cooperative have been linked with the National Cooperative Bank to apply for wholesale loans of NRs. 10 million (USD 84,746). In Bardiya, KISAN II supported a partner cooperative to offer remittance services that enabled customers to access monies sent by overseas family members (see Box 4).

#### **Box 4. Remittance services boost sales and help farmers access finance during COVID-19**

Many farmers associated with KISAN II partner Bihani Madhyavarti Multipurpose Cooperative, in Bardiya, struggled to access remittances sent by overseas family members during the COVID-19-induced lockdown. KISAN II coordinated with IME Remit Limited to enable the cooperative to provide remittance services, alongside its savings, credit, and other agricultural services. With KISAN II's facilitation, IME

Remit Limited conducted training for Bihani Madhyavarti Multipurpose Cooperative, and the project supported the cooperative in submitting the documentation needed to become an official IME Remit Limited agent in April 2021. Within one year of establishing remittance services, the cooperative has served 650 customers and earned an additional NRs. 133,425 (USD 1,131) in sales generated from remittance service fees.

**Digitizing services to boost cooperatives' efficiency.** The COVID-19 pandemic led many partner cooperatives to digitize services so they could efficiently serve members. In Y5, Srijanshil Bachat Thaha Rin Sahakari Santha, in Kanchanpur, Jeevanjyoti Mahila Bikas Bahuudesiya Sahakari Sanstha, in Kailali, Silsila Multipurpose Cooperative, in Arghakhachi, and Pulchok Agriculture Cooperative, in Kapilvastu, adopted E-banker software and started digital cooperative management systems. Similarly, Bihani Madhyavarti Multipurpose Cooperative, in Bardiya, installed a digital advance accounting software, and Gangamala Saving and Credit Cooperative, in Surkhet, upgraded its digital financial system at its four branches and started providing services, such as SMS alerts, balance transfers, utility payments, and mobile and TV recharge to more than 365 active members. Kasturi Cooperative, in Jajarkot, installed advanced accounting software and started providing SMS banking, tablet banking, and mobile banking services to its members.

**Increasing farmers' resilience through micro-insurance.** KISAN II helps provide farmers with better access to crop and livestock insurance services by facilitating cooperative partners to become official agents of select insurance companies. This allows the partners to offer micro-insurance products directly to member farmers. In Y5, KISAN II linked Everest Insurance Company, Himalayan General Insurance, and Sanima Insurance with partner cooperatives. Bihani Madhyavarti Multipurpose Cooperative, in Bardiya, obtained a license from Everest Insurance Company and started providing agriculture insurance services. To date, the cooperative has issued agriculture insurance policies to 240 farmers in Bardiya, 210 of which were for crop insurance and 30 for livestock. Similarly, Sindhu Krishi Sudhar Cooperative sold more than 100 insurance policies for cattle and goat coverage to its members. KISAN II also coordinated with Nepal Insurance Company to organize agriculture insurance agent training for partners in Kanchanpur. Six participants (four cooperatives and two agrovets) successfully completed the training and the insurance company is in the process of issuing agent codes to the participants.

#### **Activity 2.4 Enhance market infrastructure and other services to support selected market systems**

**Supporting partners to strengthen packhouse and cold storage systems enhances vegetable aggregation and marketing.** This year, KISAN II developed and disseminated a packhouse manual to relevant partners, such as cooperatives and traders. A packhouse expert visited and reviewed the packhouses and cold storage facilities of seven KISAN II partners from three districts and guided them on optimal use. The expert also conducted trainings for KISAN II partners Palung Bahuudessiya Sahakari Sanstha Limited and Sana Kisan Krishi Sahakari Sanstha Limited on the importance of collaboration between farmers and packhouses to ensure quality of stored produce. These partners are now establishing linkages for their packhouses with various markets around Kathmandu and Pokhara.

**Fostering linkages between market actors and partners to improve cold rooms.** In Y5, KISAN II made multiple visits to cold rooms established by partners in Bagmati Province (Jagaruk Cooperative, Namuna Cooperative, Gurmukhi Cooperative, Aatmanirbhar Cooperative, and Palung

Cooperative) to guide them on the efficient operation of cold rooms. During these visits, KISAN II identified the need to install humidifiers and/or dehumidifiers and ethylene scrubbers<sup>21</sup> to increase shelf life and help maintain the quality of stored produce. KISAN II facilitated a visit by Saptakrishi Scientific Private Limited, a manufacturer of cold room products, to educate partners on the importance of this equipment and to advise the cooperatives about suitable products. Partner Kritidewal Cooperative, in Dailekh, initiated a new vegetable collection center in February 2022 and within few days of operation, daily vegetable collection and sales increased to around 0.4 MT. Kritidewal Cooperative also purchased a pick-up vehicle to transport vegetables to and from its collection center. KISAN II is now guiding the cooperative to install a 10 MT cold chamber.

**Promoting goat pedigree recording system increases marketing opportunities.** KISAN II partnered with the GON's Department of Livestock Services (DLS) and imported 250 import frozen Boer semen from the U.S. to introduce a new line of genetics to improve Nepal's national herd. Furthermore, to promote record-keeping for effective farm management, software producer BMP Infology helped install a goat pedigree application at five partner goat farms. After observing the usefulness of the system, two additional farms (not supported by KISAN II) also installed the software. To further support farms using the application, BMP Infology identified needs and problems faced by the farms and customized the application based on these needs. The app enables commercial goat farmers to keep track of their herds, identify optimal animals for breeding, and certify that the breeding animals they offer for sale have quality pedigrees. As a result, DLS can select quality breeding bucks for semen production and distribution throughout Nepal.

**Offering easy access to agriculture advisory services for Nepali farmers through new ICT platform.** In Y5, KISAN II partner ICT for Agriculture digitized and integrated KISAN II's agriculture training manual into the Krishi Guru application and Facebook chat bot platforms and started creating marketing niches and promoting content digitally. Activities included: i) boosting Facebook content to reach more farmers/users, ii) promoting the application by using Google Ads to increase application downloads, iii) creating awareness generating content, and iv) customizing audiences to target women, migrant workers, and youth. Within two months, the new application was downloaded 19,800 times. Similarly, there were 19,280 new page likes on Krishi Guru's Facebook page. A total of 39,080 new agriculture stakeholders are now connected to a digital agriculture platform as a result of KISAN II's support of ICT for Agriculture.



## Component I: Improve the Productivity of Selected Agriculture Market Systems

This year, KISAN II continued to help farmers increase crop production through partners' extension services; facilitating connections with input suppliers; leveraging subsidized resources from municipalities, AKCs, IALDOs, and the PMAMP; and strengthening linkages with other market actors. Y5 witnessed a surge of COVID-19 infections that lasted until mid-year. Although district administration offices initially barred mass gatherings, bans were later lifted, allowing partners to

<sup>21</sup> Ethylene scrubbers release ethylene gas to ripen vegetables and fruits, while also increasing shelf life.

resume planned field activities. Input suppliers, traders, and processors began to operate businesses normally while adhering to COVID-19 safety measures. However, most agri-input suppliers had difficulty maintaining stocks of seeds, insecticides, pesticides, and farm tools. Some partners were able to supply essential agri-inputs to retailers; for example, Siddhartha Agri Center, in Dang, was able to supply its affiliates in Dang, Rolpa, Rukum, and Pyuthan districts.

### **Activity 1.1 Strengthen the capacity of input supply systems to deliver timely and affordable productivity-enhancing technologies**

**Facilitating linkages with input suppliers helps farmers access timely agri-inputs.** KISAN II and its partners organized a series of meetings among value chain actors, including wholesale and retail agrovet, seed companies, machinery suppliers, cooperatives, and millers, to facilitate smooth agri-input supply. To help partners manage the supply chain of high-yielding and popular fine rice and industrial maize varieties, KISAN II mapped out potential suppliers and farmers' preferences and facilitated mutual business relationships with partner input suppliers (wholesalers, retailers, and cooperatives) with other businesses, including rice millers. KISAN II helped Bihani Madhyavarti Multipurpose Cooperative's manager obtain agrovet license training from AKC-Bardiya, enabling the cooperative to establish a new agrovet in Bardiya and link with wholesale partner, Acharya Agro-firm Trader to obtain agri-inputs. The project also linked Acharya Agro-firm trader with the GON's research farms (National Grain Legume Research Program and Directorate of Agriculture Research, Khajura) and with GATE Nepal to source lentil seeds and improved hybrid maize. Likewise, Tharu Agrovet in Bardiya was linked with Sashi Agrovet to procure vegetable seeds and IPM tools. KISAN II helped build business relationships of partner rice mills with municipalities to implement a fine rice promotion program under the Center for Crop Development and Agro-biodiversity Conservation's (CCDABC's) conditional grant to nine municipalities. The municipalities provided subsidized rates for 85.4 MT of fine rice and 28 MT of yellow maize seeds to 6,325 and 6,255 farmers.

**Promoting IPM practices and tools encourages adoption of safe, effective practices.** KISAN II promotes IPM to discourage the overuse of agro-chemicals, which can negatively impact human health, the environment, and non-targeted (beneficial) species. In Y5, KISAN II conducted a virtual IPM refresher training for 55 partners' extension workers (37 female), who then trained 9,130 farmers (7,112 female, 4,182 from DAGs). This year, KISAN II facilitated 172 IPM demonstrations engaging 3,186 farmers (2,369 female, 2,032 from DAGs) and 12 plant health clinics involving 403 farmers (240 female, 218 from DAGs), which encouraged farmers to adopt IPM technologies to increase their production and helped increase agrovet's sales of IPM products, such as traps, lures, and biopesticides. Partners conducted 45 demonstrations engaging 900 farmers (630 female, 360 from DAGs) on Yellow Stem Borer in Kapilvastu, in collaboration with the Plant Quarantine and Pesticide Management Center and the Feed the Future Nepal Integrated Pest Management (FTFNIPM) activity. The project also developed an IPM brochure on rice and maize pests and diseases, which was distributed to partners and farmers.

**Joining hands with partners and GON helped combat fall armyworm.** In Y5, FAW was observed in maize crops during winter, spring, and summer seasons across all KISAN II districts, but no significant damage was noted. KISAN II coordinated with NSAF and FTFNIPM projects to monitor and manage fall armyworm (FAW) in KISAN II districts. KISAN II also regularly attended FAW task force meetings organized by FTFNIPM and AKCs/IALDOs, at which the project shared the FAW status and adopted management practices in project areas. Altogether, KISAN II partners

conducted 108 demonstrations of FAW lures engaging 1,769 farmers (1,257 female, 751 from DAGs) this year. The installation of lures in maize fields helped extension workers monitor FAW and advise farmers on protective measures based on the stages of FAW larvae. KISAN II also sent an SMS message to 40,576 farmers to help them identify and manage FAW. The project printed FAW-related training materials and distributed them to farmers through partners. A PSA to build FAW awareness was developed in local languages and aired through local FM stations this year. KISAN II conducted a community-level campaign, in coordination with AKC and FTFNIPM, to help people identify and manage FAW in KISAN II districts. As a result, municipalities, AKCs, PMAMP leveraged more than NRS. 1.3 million (USD 11,017) to provide recommended agro-chemicals and sprayers to farmers at a subsidized cost to help them manage FAW.

### **Activity 1.2 Increasing adoption of profitable, productivity-enhancing, and climate-smart technologies by all groups, including youth, women, and disadvantaged groups**

**Developing and disseminating training and outreach materials to farmers.** To date, KISAN II developed more than 20 farmer-friendly outreach materials on improved agriculture technologies and management practices and distributed them to more than 100,000 farmers through partners and BLP trainings. In response to farmer demand, KISAN II developed and printed outreach materials on IPM and productivity-enhancing technologies for rice and maize diseases and partners distributed these to farmers. Similarly, the project distributed food safety booklets to partners and lead farmers involved in commercial vegetable production and marketing.

**Disseminating key technical messages through local FM radio and SMS.** To improve lentil production, KISAN II developed and aired a radio PSA in three local languages (Nepali, Tharu, and Awadhi) through six local FM stations in Kailali, Kanchanpur, Banke, Bardiya, Dang, and Kapilvastu districts. The PSA covered improved lentil varieties, optimum-sowing dates based on land type, and details of local input suppliers. Similar PSAs were developed and aired for fine rice promotion. In addition, KISAN II disseminated three messages via SMS to farmers to promote the production of fresh vegetables, fine rice, and yellow maize production.

**Agricultural technologies promoted through video-based extension approach.** In Y5, KISAN II continued to use a video-based extension approach to support partners to disseminate knowledge on improved farming practices and innovative technologies among smallholders. Due to COVID-19 safety precautions, BLP video dissemination continued in small groups during Y5. Over 34,200 farmers (80 percent female) viewed four videos via pico-projectors in BLP classes and through social media platforms (Facebook, Viber, and WhatsApp). KISAN II developed two new videos focused on a general introduction to Nepal agriculture, agriculture marketing, and goat management practices. A mini survey engaged 104 farming households to assess changes in the adoption of improved technologies and to measure the clarity of video messaging. The results showed that more than 65 percent of farmers who watched a video adopted at least one technology covered by the video, and that most farmers had no major issues understanding video messages.

**Promoting improved technologies and management practices through demonstrations and field days.** As COVID-19 prohibitory orders eased, KISAN II partners increased field-level activities. In Y5, partners held 304 demonstrations engaging 5,648 farmers (4,199 female, 3,603 from DAGs) on technologies, including maize production, the use of corn shellers, off- and main-season vegetable cultivation, plastic mulching, IPM tools, and the safe use of pesticides. These

demonstrations promoted the replication of proven technologies and helped partners create demand for agri-inputs (see Box 5). Partners also held 28 field days engaging 954 farmers (737 female, 584 from DAGs). Neighboring farmers and municipal representatives attended these events to observe innovative, improved technologies and management practices promoted by partners and applied by lead farmers. Participants interacted with lead farmers to understand the benefits of the technologies and improved seed varieties, and to observe differences between their existing practices and the demonstrated approaches.

**Box 5. Demonstrations of improved technologies increases agrovet’s sales of agri-inputs**

In Y5, Acharya Agrovet from Arghakhanchi district demonstrated the use of tray nurseries, plastic mulching, and staking nets on farmers’ fields. Seeing the benefits of these technologies prompted farmers to purchase more agri-inputs from the agrovet so they could replicate the practices on their own fields. According to Mr. Pradip Acharya, proprietor of Acharya Agrovet,

*“Such high demand of this technology is possible due to the demonstrations. I was able to sell around 150 sets of 200 plastic tray pieces, around 500 sets of IPM kits with different lures and traps, more than 500 rolls of plastic mulching, and more than 300 pieces of sprinkler irrigation equipment during April to June 2022. My sales increased by 25 percent.”*

By adopting these newly learned technologies, farmers are raising healthy seedlings in plastic trays and have reduced pesticide use by using lures.



**Component 3: Strengthen the Enabling Environment of Selected Agriculture Market Systems**

In Y5, KISAN II continued to promote and support the GON’s agriculture-related policies, laws, regulations, guidelines, and operating procedures. The ongoing COVID-19 pandemic and restrictions on travel and group gatherings delayed implementation of some planned activities this year; these will be carried forward to Y6.

**Activity 3.1 Build capacity to streamline, harmonize, and coordinate GON policies and regulations**

**Fostering an enabling environment for agribusiness and agriculture livelihoods by supporting MOALD’s policy agenda.** In Y5, KISAN II continued to support the GON in the following key policy agendas: i) PSE guidelines, ii) National Agriculture Policy (NAP), iii) agricultural sector policy think tank, iv) PADS for Lumbini and Sudurpaschim provinces, v) technical operating procedures for grain warehouses, and vi) rapid assessment on the use of COVID-19 relief and post-COVID-19 recovery measures. This policy agenda, once in place, will strengthen the enabling environment for agri-businesses and agricultural livelihoods.

**Supporting MOALD to develop PSE guidelines to attract private investment in agriculture.** In support of MOALD’s efforts to promote PSE policies and legal frameworks, KISAN II developed PSE guidelines through consultations with the private sector, GON, and related stakeholders. In Y4, KISAN II incorporated feedback from stakeholders and submitted the revised version to MOALD. At request of MOALD, KISAN II submitted a review report on the ADS (2014), NAP (2004), and Agribusiness Promotion Policy (2006) to understand and highlight how these policy documents address PSE in agriculture. MOALD organized several meetings and informal discussions with KISAN II on the guidelines, and recently suggested the guidelines be attached to the

Agribusiness Promotion Bill, which is under formulation. At the seventh JNSC meeting held in February 2022, participants decided to move forward by requesting the federal Cabinet to approve the PSE guidelines. KISAN II will continue to support MOALD on the approval process in Y6.

**Supporting MOALD to formulate a new National Agriculture Policy.** The NAP (2004) is the current umbrella policy document for agriculture sector development in Nepal. Over the past 18 years, however, new opportunities and challenges have emerged that can transform this sector from a socio-economic perspective. To address challenges such as reducing hunger, improving food and nutrition security, poverty alleviation, climate change mitigation and adaptation, and inclusive agriculture, MOALD is preparing a new policy document as a roadmap towards a more competitive, inclusive, resilient, and sustainable agriculture sector. The second ADS-JSR annual meeting held in February 2021 requested USAID's support to formulate the new NAP. MOALD, in collaboration with PAMs and development partners (including KISAN II), conducted sub-national consultations in seven provinces and obtained feedback on the draft NAP. In Y5 KISAN II, in collaboration with MOALD, started to incorporate feedback from sub-national consultations, private sector partners, and experts. KISAN II will continue to support MOALD to finalize the NAP in Y6.

**Supporting MOALD's policy think tank to strengthen the agricultural policy process.** In Y4, KISAN II supported MOALD to establish an Agricultural Sector Policy Think Tank, a key platform to bring people together to support the GON in analyzing policies and addressing emerging agricultural policy issues in a balanced manner. In Y5, MOALD held one advisory committee and two task force committee meetings. The advisory committee meeting in July 2021 defined the parameters of the think tank and concluded with a decision to develop a list of experts working in seven thematic areas, including farmers' rights and gender and social inclusion. In March 2022, the first task force meeting finalized the roster of experts; in April 2022, the second meeting finalized activities to be carried out by MOALD and KISAN II in Y6 to strengthen the policy process through the think tank platform.

**Supporting PADS formulation for Sudurpaschim and Lumbini provinces.** In response to a request from MOALD, KISAN II began supporting Sudurpaschim and Lumbini provinces to formulate PADS in Y4. In Y5, KISAN II, with support from the Sustainable Research and Development Center, incorporated feedback from the PADS Steering Committee meeting, the Ministry of Land Management, Agriculture and Cooperatives (MOLMAC), MOALD, private sector stakeholders, and agriculture experts. The finalized PADS for Sudurpaschim Province, submitted to MOLMAC for approval in March 2022, is now under consultation with concerned provincial ministries and the provincial planning commission. The final step will be approval by the provincial cabinet. In the Policy and Program Speech 2079/80 (2022/23) given by the Governor of Sudurpaschim Province, the PADS was presented a reference material, focused on providing: i) farmer access to improved seeds, seedlings, breeds, fertilizer, irrigation, credit and insurance facility, and subsidized import tax; ii) increased import substitution and export promotion, and an improved food and nutrition security program; iii) enhanced area and production of fine rice, aromatic rice, and spring rice through the RMM along with the adoption of modern drying technology, construction of warehouses, and effective implementation of minimum support price; iv) seed self-sufficiency for rice, maize, and wheat, and establishment of agriculture and livestock resource centers with private sector leadership; and v) high priority to commercial production of vegetables, fruits, fish, and dairy through promoting the private sector. Similarly, KISAN II is supporting the Ministry of Agriculture, Food Technology and Land Management (MOAFTLM) in Lumbini Province to formulate its PADS with

help from the Centre for Natural Resources Management, Analysis, Training and Policy Research. The PADS has been revised based on inputs from the PADS Steering Committee, MOAFTLM, MOALD, and other experts. KISAN II will submit the final PADS draft (both Nepali and English versions) to MOAFTLM for approval in Y6.

**Supporting development of technical operating procedures for grain warehousing.** To improve food security and food sovereignty in Nepal, all three tiers of government have prioritized establishing warehouse facilities to help stabilize grain price fluctuations, minimize post-harvest losses, and reduce imports. In Y5, KISAN II began developing technical operating procedures for grain warehouses for use by the public and private sectors, and by cooperatives. In Y5, KISAN II organized a meeting with partner NWCL to explore collaborative efforts to develop this procedure. Participants agreed that NWCL will provide inputs and technical support to prepare the operating procedure, while KISAN II, in collaboration with MOALD, PAMs, and NWCL, will finalize the document in Y6.

**Assessing farmers' and agro-entrepreneurs' use of government COVID-19 relief and recovery measures.** In Y5, KISAN II conducted a rapid assessment on the use of relief and post-COVID-19 recovery measures under the GON and Nepal Rastra Bank (NRB)'s Monetary Policy 2020/21. The assessment focused on overall use of available COVID-19 relief packages by farmers and agro-entrepreneurs (including KISAN II partners and beneficiaries, particularly women and those from DAGs), constraints encountered, and measures for effective implementation of the policy. The findings revealed limited use of these facilities by farmers and agro-entrepreneurs due to an overall lack of awareness, complicated procedures, and inadequate business management skills, which obstructed the process of loan disbursement to agriculture enterprises. In March 2022, KISAN II met with the NRB to discuss the findings. KISAN II suggested better information dissemination, simplified procedures, and training programs for agriculture entrepreneurs to improve the effective implementation of COVID-19 relief and recovery provisions and facilities. NRB expressed its commitment to include these suggestions in the upcoming monetary policy 2022/23.

### **Activity 3.2 Improve investments, management, and governance of infrastructure**

**Disseminating grain storage technology menu for farmers and traders.** In collaboration with the CCDABC, the Center for Agricultural Infrastructure Development and Mechanization Promotion under MOALD, and the Nepal Agriculture Machinery Entrepreneurs Association (NAMEA), KISAN II developed a detailed menu (and informational flyer) on grain storage technologies, including technologies adopted successfully in Asia and worldwide. KISAN II published a brief storage technology menu translated into Nepali. The publication has been distributed to private sector actors, farmers, entrepreneurs and other users through government agencies, private sector groups (NAMEA), and KISAN II's field team to increase awareness of and investment in proven post-harvest storage technologies. In Y6, NAMEA will continue to disseminate information about grain storage technologies.

**Assessing major issues and policy recommendations to improve rice sub-sector.** In Y4, KISAN II, in collaboration with the Association of Nepalese Rice, Oil, and Pulses Industry, completed a study titled Landscape Analysis of Rice Milling Industries in Nepal. The study recommended: i) upgrading the infrastructure and processing capacity of rice mills, and ii) increasing fine rice varieties to reduce fine rice import and increase export. In Y5, KISAN II built on these recommendations by



starting an assessment of major issues faced by private sector actors in the rice value chain, especially fine rice. Key focal areas include import taxes (for paddy, rice, equipment, and spare parts), input supplies, rice production, and warehouse/storage, drying, and milling. The assessment, to be completed in Y6, will help the GON formulate a National Rice Policy to serve as a road map for Nepal's rice sub-sector, making it more competitive and commercial to reduce imports.

### **Activity 3.3 Improve systems to increase the quality of selected commodities**

**Promoting food safety through agricultural front-line workers.** In Y4, KISAN II, in collaboration with MOALD's AITC (Agriculture Information and Training Center) and USAID's implementing partners, published a food safety booklet that focused on farm and harvest hygiene, water supply quality and irrigation systems, the proper use of chemicals during vegetable production and post-harvest management, and processing, transportation, and storage. In Y5, front-line workers under KISAN II, Suaahara II, and AITC raised awareness of farm-level food safety considerations during production, post-harvest handling, and the processing, transportation, and storage of vegetables.

### **Activity 3.4 Support local government agencies to improve and rationalize spending related to market systems development**

**Supporting Melamchi Municipality with agricultural market feasibility studies.** In Y5, KISAN II finalized an assessment that indicated the Bahunepati area in Melamchi Municipality is suitable for establishing a 15-stall market collection center with potential capacity for 50 MT of cold storage. In December 2021, KISAN II handed over the assessment report to the municipality. Based on the report, the municipality has committed to an increased budget for vegetable production and for establishing a market collection center in the next fiscal year's municipal annual program.



## **Component 4: Increase Vulnerable Communities Ability to Act on Business Opportunities within Selected Markets Systems**

Through the Business Literacy Program, KISAN II and partners train vulnerable households with the potential to adopt high-value commercial farming, enabling them to improve farming practices and integrate into existing market systems. In Y5, COVID-19 continued to conduct BLP through classroom, virtual, or a mix of virtual and in-person training, as per participants' needs. In Y5, KISAN II graduated 9,397 participants from the BLP short course and achieved its life of project target of graduating 62,000 participants. As of the end of Y5, KISAN II has completed BLP activities and engaged BLP graduates and local government representatives in community-level closing events.

### **Activity 4.1 Enhance literacy and business skills**

**Updating and adapting business literacy training materials for virtual delivery.** KISAN II regularly adapts its training modules and materials based on learnings and evolving needs. In Y5, KISAN II addressed continued COVID-19 challenges by modifying the short course training package for virtual delivery. This included the development of a digital participant guide and the use of virtual platforms (i.e., Viber and Facebook Messenger) supplemented by PowerPoint presentations, audio/video content, and virtual engagement between participants and trainers. The short course

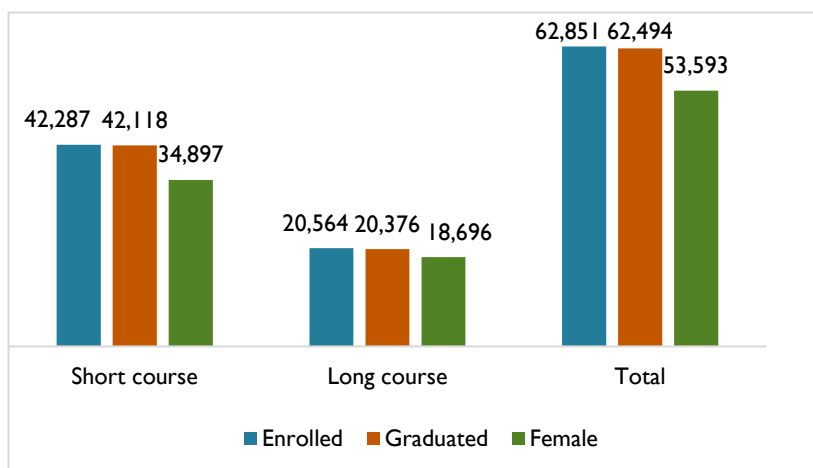
was supplemented by four new audio recordings and three new videos. During BLP classes in Y5, KISAN II disseminated 31 agri-technology related videos developed by partners to 9,397 participants (81 percent female, 60 percent from DAGs) via smartphones. KISAN II also uploaded audio dramas and videos onto memory cards and distributed these to 2,521 participants (2,018 female, 1,696 from DAGs) and 134 community trainers (119 female). A project video, What a Commercial Farmer Should Know, integrated key learnings from BLP modules to encourage farmers to take up commercial farming (see Box 6 for some key lessons learned by seven BLP graduates).

**Box 6. Business literacy participants work in joint venture for commercial farming**

Joining Tinghare Farmers’ Group, formed by KISAN II partner, Pratistha Cooperative, gave seven farmers in Kavrepalanchowk the confidence to venture into commercial farming. After they participated in BLP long course trainings, they realized there is huge potential for commercial vegetable cultivation in their area. Yet, they were hesitant to start commercial farming independently, given the competitive market. After completing training in July 2019, they came together to run a joint commercial farming venture to boost their chances of success. They rented 0.1 ha of land and planted 1,200 tomato saplings with an investment of NRs. 35,000 (USD 297). They produced and sold 1,000 kg of tomatoes, earning them NRs. 45,000 (USD 381). With this encouraging return, they decided to orient their cropping pattern to market demand. As a result, they increased their annual income to NRs. 100,000 (USD 847) in the second season and to NRs. 400,000 (USD 3,390) in the following two years. Thrilled with the success of their joint venture, farmer Kalpana Humagain said, "We learned two key lessons from the BLP training. Firstly, the use of agri-technologies is required for commercial farming, and secondly, market study is essential before production planning. Our venture was established based on these two foundations."

**Building capacity of BLP trainers to conduct community trainings.** In Y5, KISAN II mobilized 28 existing master trainers and 548 new community trainers (85 percent female) to conduct virtual and in-person short course community-level trainings. To refresh their knowledge, KISAN II provided virtual TOT to 456 trainers (376 female). The project also organized an in-person orientation that covered COVID-19 safety measures, reviewed short course topics, and built ICT skills, such as how to create Google meetings, and how to use Viber and Facebook Messenger to engage participants, manage online participants, and deliver virtual content. The trainers subsequently presented short courses at 767 locations. KISAN II reviews with these trainers to assess the effectiveness of virtual training delivery indicated that many participants still preferred in-person training, although youth participants are more interested in virtual learning.

**Training business literacy participants.** In Y5, KISAN II coordinated with partners to identify potential sites and participants for BLP trainings, interacted with participants at 518 sites, and enrolled 9,397 participants (81 percent female) from 13 districts in the short course. About 85 percent of participants consistently attended classes, despite network and internet



**Figure 8. Business Literacy Program Participants as of Y5**

constraints at some sites. Graduates included 5,464 virtual participants and 3,933 in-person participants, bringing the Y5 total graduates to 9,397 (7,622 female, 5,649 from DAGs). To date, the project graduated 42,118 participants (34,897 female, 23,965 from DAGs) from the BLP short course. Overall, KISAN II's successful adaptive training delivery approach enabled 62,494 participants (86 percent female, 59 percent from DAGs) to graduate from BLP courses (see Figure 8).

In Y5, KISAN II and partners continued to assist community trainers to address agri-technical issues, such as improved production technology, IPM, post-harvest management, and agri-mechanization. To supplement learnings from trainings, KISAN II conducted practical demonstrations on agri-technologies, such as nursery preparation, mulching, plastic tunnels, drip irrigation, and safe handling of pesticides. The project also used videos and audio dramas to supplement in-person classes, which were disseminated to trainees with smartphones.

### **Linking BLP graduates with local governments and other service providers.**

Many BLP trainees have limited access to local government, agri-business, and financial institution services and provisions. To bridge this gap, KISAN II invited municipal officials and private sector representatives to attend final training sessions, encouraging trainees to interact with these visitors. Some local governments and other agencies committed to support BLP graduates through their respective programs. As a result, BLP graduates will have subsidized support to help them adopt commercial agricultural technologies.



*BLP graduates in Sindhupalchowk receive machinery support from AKC-Dhulikhel. Photo credit: Prakash*



## **Component 5: Apply Collaboration, Learning and Adaptation to Market Systems Development**

In Y5, KISAN II gathered evidence to answer learning questions, built the capacity of private sector organizations and staff to use adaptive management approaches, and supported the use of collaboration, learning and adaptation (CLA) to build competitive, inclusive, and resilient agriculture market systems.

**KISAN II's learning questions examined partners' and farmers' competitiveness, inclusiveness, and resilience.** KISAN II examined four learning questions in Y5, two in T2 and two in T3. Learning questions 4 is discussed below<sup>22</sup>:

***Learning Question 4. What lessons were learned during KISAN II's implementation of activities to strengthen the market systems for vegetables, goats, and lentils?***

<sup>22</sup> Learning questions 1 and 2 are presented in KISAN II's Y5T2 report. KISAN II is assessing learning question 3, results of which will be included in Y6T1 report.

Key lessons drawn from implementing activities to strengthen the market systems in KISAN II's three closing value chains—vegetables, goats, and lentils—are summarized below:

### **Vegetables**

- Farmers' perceptions about the value of private sector actors are critical to establishing long-term business relationships with them. For example, most farmers feel they receive low prices from aggregators/traders and that aggregators and traders have inordinately high profit margins. However, they are not aware of high post-harvest losses (sometimes up to 40 percent) faced by aggregators and traders, which they try to cover with higher margins. Trust is key to better relationships between farmers and private sector actors.
- Limited emphasis and investment in proper post-harvest management of vegetables leads to the entire supply chain suffering from high post-harvest losses. It creates a huge gap between the farmgate and retail prices since the collectors, traders, wholesalers, and retailers are forced to add the cost of post-harvest losses and this burden is ultimately transferred to consumers. To address this challenge, both private and public sectors should invest in the establishment and efficient operation and management of cold storage facilities is key, along with building the capacity of all supply chain actors (including farmers) on proper post-harvest management technologies and practices.

### **Lentils**

- Lentils are generally easy to grow and do not require irrigation, using residual moisture left over from previous crops. Despite the high domestic demand for lentils as well as their great economic value, export potential, and benefits for soil and humans, lentils are a high-risk and weather sensitive crop. Warmer temperatures and wetter weather connected with climate change damages crops, causing lower yields and a resurgence of pests and diseases, like *stemphylium* blight—a fungal disease that spreads in high humidity.
- Climate-related issues are compounded by productivity constraints. Cheap import prices have reduced domestic sales and resulted in farmers replacing their lentil fields with higher value commercial vegetables and wheat crops. Due to lower volumes, mills are reluctant to invest in lentil processing and prefer to ramp up rice and other grain production.
- Climate issues can be addressed by the ongoing breeding and introduction of weather- and disease-resistant seed varieties.
- Lentils, like other legumes, fix nitrogen in the soil, and will continue to serve as an important part of a diversified cropping strategy. The ongoing fertilizer crisis provides an opportunity for the private sector and farmers to increase lentil production, but the sector needs a strong push from the GON.
- Building on new promotional skills gained from KISAN II trainings, processors and other market actors can promote the benefits and uniqueness of Nepali lentils. Already cherished both nationally and internationally for their distinct taste, if given the right branding, a niche market for Nepali lentils can be established easily, especially if supported by trade and competitiveness initiatives.

### **Goat**

- When designing project strategy for goat sector, it is important to consider the implication of long gestation period and life-cycle of goats. Longer gestation period has direct implication on the time taken by the project and private sector interventions to mature and yield quantifiable results that will contribute to number of households benefitted.

- KISAN II sector analysis identified the need to improve goat breed and breeding practices to bring about systemic change in goat sector. To address this constraint, KISAN II focused on partnering with buck service providers to provide improved breeding service to farmers, which has yielded good results. However, working with buck service providers alone limited the impact of the interventions since KISAN II was not able to extensively work with breeder farms to improve the quality of buck provided to buck service providers. Working with breeder farms to improve breed quality takes considerable time due to the gestation period of goat, which may make quantifiable results available only after the project period.

**Pause and Reflect workshop learnings feed into Y6 work planning.** In Y5, KISAN II conducted a series of pause and reflect workshops to analyze KISAN II's operating context, including the implications of COVID-19 and climate change impacts (like the unseasonal October 2021 flooding). Learnings from the workshops were analyzed and used to inform Y6 SSOW activities.



## Monitoring, Evaluation, and Learning

**WIKISAN 2.0 offers staff new features.** The WIKISAN 2.0 system tracks organizations, activities, trainings, and participant data on a real-time basis. In Y5, Pathway Technologies and Services Private Limited modified WIKISAN 2.0 features to include three dashboards: i) results for years 1-5, ii) results for years 6-7 and, iii) combined results for years 1-7. KISAN II's monitoring, evaluation, and learning (MEL) team continued to provide telephone and in-person support to field staff to help them address issues with data entry and report features, such as summary reports, detailed implementation plan reports, and the review of targets versus achievements.

**Training enables data entry field staff to solve emerging issues.** In Y5, with the easing of COVID-19 travel restrictions, KISAN II resumed field-based trainings and on-the-spot data checks. In January 2022, the MEL team trained 59 extension workers of grantee partners (35 female, 22 from DAGs) under the SSOW on exporting target and achievement data. During the training, KISAN II identified and helped resolve issues, such as keeping standard group names, managing new and continued participants, identifying participants without telephone numbers, and capturing data on migrant returnees.

**KISAN II undertakes 2022 annual farm survey.** KISAN II's 2022 annual farm survey universe included 202,242 farming households, of which 980 samples were selected following the Feed the Future sampling guide (2018).<sup>23</sup> Building on KISAN II's experience in 2019 and international and Nepal-specific experience carrying out in-person interviews, Full Bright Consultancy<sup>24</sup> contextualized World Bank Survey Solution software into a computer-assisted in-person interview format. Altogether, the team collected values for 22 farm-level performance indicators related to targeted commodities. The 2022 annual farm survey used a two-stage cluster sampling design with a systematic random selection of representative farm households, for which two separate clusters were required: wards and households. In the first stage, wards (the primary sampling unit) were selected from production areas (wards and municipalities) of KISAN II's private firms. In the second

<sup>23</sup> <https://www.agrilinks.org/post/participant-based-survey-sampling-guide-feed-future-annual-monitoring-indicators>

<sup>24</sup> Full Bright Consultancy Private Limited. was established in 1986 under Private Company Act of Nepal to provide consulting services to the public and private sectors in the areas of engineering, management, planning, and development of infrastructure projects. <http://www.fbc.com.np/>

stage, 20 representative farm households were selected from the selected wards, resulting in a total number of samples. The sample size was determined following a two-stage cluster design sampling approach and the Feed the Future Sampling Guide for Beneficiary-based Survey.<sup>25</sup>

**KISAN II assesses partners' performance via annual organizational census survey.** KISAN II completed an annual organizational census survey of 208 firms to assess partners' effectiveness, reach, and performance in Y5. Prior to data collection, KISAN II finalized the questionnaire and provided refresher training to KISAN II area coordinators.

**USAID approves updated MEL plan.** In January 2022, KISAN II submitted a revised MEL plan to USAID that included two additional SSOW indicators, as well as decisions from USAID and Feed the Future on project-specific indicators, data collection, and reporting. USAID approved the MEL plan in March 2022.

**KISAN II submits project data to USAID.** After incorporating USAID's feedback on the Performance Indicators Tracking Table, KISAN II updated the table in October 2021 with targets for Y5, including SSOW indicators (See Annex 5 for this updated table).

**USAID commissions KISAN II's end-line evaluation.** In Y5, a USAID-appointed evaluation team conducted an end-line project evaluation study engaging partners and farmer beneficiaries in Baitadi, Kailali, Surkhet, Banke, and Nuwakot districts. The team examined how USAID's efforts to strengthen key market actors' roles in select agriculture value chains have helped improve service delivery to farmers and how the project contributed to creating an enabling environment for private sector engagement in the agriculture sector. Study recommendations were shared with staff during an annual planning workshop in May 2022. Recommendations for the project included enhancing the focus on commercial production of rice and maize by expanding private sector engagement models; expanding linkages with seed multipliers, wholesale fertilizer and input suppliers, and wholesale suppliers of veterinary supplies; closer collaboration with AKCs; leveraging engagement with MOALD and ADS; and connecting women and DAGs to local GON agencies. KISAN II discussed these recommendations and incorporated them into the Y6 annual work plan.

**Environmental compliance reinforces safety and protection.** All project and grantee technical staff were oriented on KISAN II's Environmental Management and Monitoring Plan (EMMP) and Pesticides Evaluation Report and Safe Use Action Plan (PERSUAP). In Y5, 71 grantee staff (30 female, 24 from DAGs) under the SSOW were trained on the EMMP and PERSUAP. KISAN II reinforced the importance of safe environmental practices and safe pesticide use in all activities, in accordance with these approved documents.



## Grants under Contract

Through its grants program, KISAN II buys down the risk for private sector partners to promote and adopt new technologies, innovations, and/or improved practices that facilitate commercial agriculture—with an emphasis on engaging women, youth, and disadvantaged groups as target

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<sup>25</sup> <https://agrilinks.org/library/sampling-guide-beneficiary-based-surveys-select-feed-future-agricultural-annual-monitoring>

participants. To date, KISAN II has signed agreements with 177 partners,<sup>26</sup> who are expected to reach a combined 239,930 farming households by the end of their performance periods. The grants are valued at USD 4.6 million,<sup>27</sup> with partners' cost-share contributions totaling USD 4.9 million (48:52 cost-sharing ratio). In Y5, KISAN II made in-person visits to monitor the implementation of 94 partners and supported another 67 partners virtually to ensure timely reporting of grant activities.



## Operational and Communications Activities

In Y5, KISAN II operated in accordance with its adjusted USAID-approved Post-Lockdown Risk Mitigation Plan. With the increase in COVID-19 cases, KISAN II closed its Kathmandu office in early January 2022, and then reopened it on February 21, 2022, following a reduction in cases. Regional and cluster offices have been fully operational since July 2021.

**Obligations increased to Y5 subcontractors.** During Y5, KISAN II increased obligated funds to subcontracts for CEAPRED, DEPROSC, and Pathway Technologies to carry out Y5 activities. KISAN II also obtained USAID approval to increase the life of project estimated expenditures for CEAPRED, OSC and Pathway Technologies. By the end of Y5, KISAN II closed out subcontracts for DEPROSC, Digital Green, OSC, and Siddhartha Inc.

**Fixed-price subcontracts issued.** Thirteen fixed price subcontracts were operational in Y5. Nine were completed in Y5, three will continue through Y6, and one will continue throughout the life of the project (see Annex 6 for details).

**Fixed-price purchase order for services issued.** KISAN II continued services from seven service providers for activities such as the development of an animated video on RMM, outreach materials, and a financial analysis to objectively measure economic feasibility of the RMM (see Annex 7 for details).

**Staffing update and staff trained.** In the last months of Y5, KISAN II completed the recruitment process for the vacant position of Business and Market Systems Director. At the end of Y5, KISAN II had a total of 43 professional-level staff and 25 non-professional staff. In May 2022, the project trained all staff on the Code of Conduct during the Y6 work planning workshop.

**Short-term technical assistance engaged.** During Y5, no-cost extensions were provided to short-term technical assistance consultants for assignments related to vegetable packhouse activities, a feasibility assessment of a vegetable market in Melamchi Municipality, and development of a technology menu for paddy and maize storage. The project acquired consulting services to conduct a rapid assessment on Nepal's maize processing sector, provide customer profiling training, draft standard operating protocols for goat buck semen production, and provide photography services.

**Interns recruited.** Eight interns successfully completed their tenure on KISAN II in Y4 and Y5.

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<sup>26</sup> The 177 partnerships include 171 grantee and six MOU partners. This total includes 148 grants awarded under the original SOW, 23 grants under SSOW, and six households contributing MOU agreements. Partnerships with 152 organizations have ended and 25 grants are active.

<sup>27</sup> The grants are valued more than the grants under contract budget (i.e., USD 4.5 million) due to exchange rate gain.

**KISAN II procurement plan approved.** KISAN II submitted a procurement plan for accounting software and its customization operation in October 2021. USAID approved the plan in February 2022.

**Updated SOP circulated to KISAN II staff.** KISAN II's employee handbook was updated and circulated to all staff this year. The updated handbook was effective from March 2022.

**Updated emergency management preparedness documents.** KISAN II's operations staff continued to update project staff fortnightly about the status of COVID-19 cases and will provide monthly updates in Y6. The project offices are operating in accordance with safety health protocols and continue to comply with regulations and guidance from the GON and USAID.

**Key deliverables submitted to USAID.** During Y5, KISAN II submitted five key deliverables to USAID, all of which were approved: the Y4 Annual Report, the Y5T1 and Y5T2 reports, the Y6 Annual Work Plan, and a Revised M&E Plan.

**Ensuring compliance with branding and marking.** KISAN II continued to reinforce compliance with USAID Feed the Future branding and marketing guidelines to all staff and to obtain USAID clearance for all KISAN II materials before printing and/or disseminating them to external audiences.

**Bi-weekly updates and social media content submitted to USAID.** KISAN II submitted 24 bi-weekly updates to USAID this year and two batches of social media content. See Annex I for recent success stories.

**Feed the Future features KISAN II story in newsletter.** KISAN II submitted three project photos and captions for the 2022 Feed the Future Photo Contest and collaborated with the Feed the Future team to develop a women's empowerment story on Janata Agrovet. The story was featured in Feed the Future's March 2022 newsletter.



**Using multi-media to promote RMM successes.** To amplify the success of RMM, KISAN II, in collaboration with a media agency, developed and aired three episodes of a TV program featuring speakers from diverse fields. The speakers included GON representatives, economists, private sector actors, farmers, and KISAN II staff. The project also developed a two-page information sheet and an animation video on the RMM to support the GON in promoting this model for replication.

**KISAN II disseminates four informative SMS alerts to farmers.** In Y5, KISAN II disseminated four SMS alerts to more than 95,000 farmers. These included messages related to codes of conduct and technical messages about vegetables, rice, and lentils.

**Developing knowledge products on closing value chains.** As activities wind down in three target value chains, KISAN II collaborated with OSC and developed interactive technical briefs on



goat, vegetable, and lentil value chains that summarizes KISAN II's approaches and key results. These will be disseminated in Y6.

**Creating KISAN II digital library.** During Y5, KISAN II created a Google Drive digital library that includes all USAID-cleared project materials. The library enables the project to share its extensive knowledge products with relevant stakeholders, such as GON and private sector partners.

## **PARTNERSHIPS, COLLABORATION, AND KNOWLEDGE SHARING**

To continuously improve project implementation, KISAN II coordinates with a wide range of stakeholders, including USAID and other development partners, private sector representatives, GON agencies and projects, and civil society representatives and organizations. Highlights from key collaboration activities in Y5 are provided below.

**Sharing KISAN II knowledge on scaling up the lentil value chain.** KISAN II shared its approaches and learnings on scaling up the lentil value chain in an interactive workshop in June 2022. The event was organized by the CCDABC, in coordination with National Grain Legume Research Program, the Khajura AKC and IALDO, and seed companies. Inputs from participants will contribute to the development of a national-level strategy engaging the private sector to promote legumes.

**Participating in a workshop on maize commercialization model.** KISAN II participated in a workshop on maize commercialization organized by NSAF in June 2022. The workshop engaged maize value chain actors to overcome systemic constraints in the maize sub-sector. The group discussed how to expand spring maize production and ensure product marketing by creating linkages with aggregators and feed processors for enhanced maize production.

**Training extension staff on the role of GESI in promoting technologies.** In March 2022, KISAN II, in collaboration with the FTFIPM project, trained 71 project staff (31 female) and partner extension workers on how GESI can enhance the promotion and adoption of IPM technologies. These extension workers will disseminate the knowledge they gained among farmers' groups to promote IPM technologies.

**Collaborating with NSAF to train partners and farmers on use of grain drying machines.** In May 2022, NSAF organized a demonstration of a mobile grain dryer for KISAN II staff and partners, including Annapurna Supplier, to sensitize farmers on the use of drying machines to dry harvested winter/spring maize. In addition to reducing farmers' labor for drying using traditional practices, the dryer will help farmers meet the quality of harvested grains demanded by feed mills.

**Joining hands with development partners to safeguard maize from FAW.** KISAN II participated in USAID FAW task force committee meeting, updating the group on the status of FAW and adopting management practices to combat FAW in KISAN II's project areas. The task force includes members from FTFNIPM, KISAN II, NSAF, and Farmer to Farmer projects.

**Sharing KISAN II experiences to promote fine rice.** In June 2022, KISAN II at a conference on strengthening linkages among agriculture research, extension, and education organized by NARC and other extension agencies. The overall objective of the conference was to discuss contemporary issues and challenges in the extension service delivery system and to identify gaps and

recommendations to improve extension service delivery in Nepal. KISAN II presented on using private sector-led extension to promote fine rice in Nepal.



## RESPONDING TO COVID-19 PANDEMIC IN NEPAL: FACILITATING SYSTEMIC CHANGE AND TRANSFORMATIONAL GROWTH IN THE RICE AND MAIZE SUB- SECTORS AND CREATING AGRI-EMPLOYMENT

KISAN II's supplemental scope of work (SSOW) enables the project to respond to COVID-19 in Nepal, promote transformational change in the rice and maize sub-sectors, and create agri-employment opportunities in eight districts in the SSOW ZOI.<sup>28</sup> Three SSOW objectives focus on creating transformational change in the rice and maize sub-sectors to meet market demand and connecting migrant returnees and others heavily affected by COVID-19 to agriculture-related opportunities.

### ACTIVITIES TO ACHIEVE SSOW OBJECTIVES 1 AND 2

- *Enable market actors to upgrade their management and technical capacity and infrastructure to meet domestic market demand for improved rice and maize products.*
- *Facilitate the adoption of inclusive business practices that expand market actors' resource and customer base and deliver benefits to a range of actors in the system, including smallholder farmers, women, youth, and marginalized groups.*

KISAN II began implementing SSOW activities in the field in Y5. These activities included developing a service-based model for the industrial maize sector, using a layered approach through which actors carry out activities that are central to their businesses to resolve constraints. For instance, agrovets provide extension services to farmers on production of yellow industrial maize for poultry feed, while traders/aggregators provide drying, transport, and aggregation services.

### SOW Activity I Design and streamline interventions in rice and maize sectors

#### **SOW Activity I.1 Assessing and streamlining current rice and maize sector interventions**

**Developing new service delivery business models to strengthen maize sector and scale-up rice mill model for the fine rice sector.** KISAN II held a brainstorming and planning meeting in Y5 to design new and innovative activities to strengthen the maize sector in the ZOI. Participants developed a series of service delivery business models aimed at providing targeted services to existing commercial maize and fine rice farming households, such as mechanization, agri-input provision, marketing, aggregation, grain drying, financing, and insurance. KISAN II then published a request for applications (RFA) to support maize market actors (feed mills, processors, traders, wholesalers, and insurance companies) to establish stronger linkages with maize producers and carry out additional functions, specifically aggregation, drying, insurance, and finance. KISAN II also conducted a rapid assessment of the maize processing industry, which identified systemic constraints faced by feed mills and processors and offered recommendations on how the private sector can strengthen supply chains by working with Nepalese maize producers. Maize import substitution will be a long-term process, considering the rising demand for maize and other maize products. The report highlights a need to improve Nepali maize quality and reduce post-harvest losses in the immediate term through widespread adoption of aggregation, drying and storage technologies and

<sup>28</sup> Kapilvastu, Palpa, Dang, Banke, Bardiya, Surkhet, Kailali, and Kanchanpur districts.

practices; freezing technologies to preserve fresh maize; increased production for livestock feed (silage and pellet feed); and the use of highly productive seeds.

For fine rice, KISAN II continued to scale up and expand the RMM in the eight SSOW districts and to actively participate in a series of multi-stakeholder meetings and industry-wide events. These included a conference on strengthening linkages among agriculture research, extension, and education for effective service delivery in Nepal during which KISAN II presented on private sector-led extension to promote fine rice in Nepal. The aim was to help government agencies realize the importance of the private sector in agriculture extension services in a federal governance context.

## **SOW Activity 2 Strengthen the capacity of rice and maize value chain actors (e.g., millers, traders, transporters, input suppliers, warehouse management companies)**

### ***SOW Activity 2.1 Identifying market actors and potential partners***

**Engaging new partners to help transform maize and rice sectors.** This year, KISAN II mapped 39 market actors in the SSOW ZOI to identify market constraints and potential partners for SSOW interventions. KISAN II established 25 new partnerships (9 rice mills, 8 traders, 3 cooperatives, 3 agrovets, an insurance company and an agriculture learning platform partner), targeting an additional 39,500 farming households. In the Kapilvastu cluster, KISAN II partnered with 6 partners (2 each in Kapilvastu, Dang, and Palpa) to serve 15,200 farming households and signed a partnership with National Vision Agro Industries Private Limited in Dang to serve 2,000 maize farming households to produce livestock feed. Similarly, in the Banke cluster, KISAN II signed 11 new partnerships (4 each in Bardiya and Surkhet and 3 in Banke) to work with 14,906 rice and maize farming households. In the Kalilali cluster, KISAN II partnered with 4 firms (3 in Kanchanpur and 1 in Kailali) to work with 5,100 households. KISAN II also signed partnerships with Nepal Warehouse Company Public Limited and Himalayan General Insurance (HGI) to work with existing KISAN II maize and rice farmers to promote proper grain storage and maize insurance, respectively.

### ***SOW Activity 2.2 Investing in increasing technical capacity of rice and maize actors***

#### **Demonstrating the value of business development services to boost rice sector growth.**

KISAN II hired Biruwa Advisors Private Limited to coach rice mill owners/managers on how to scale up their services and sourcing networks. The overall aim was to demonstrate the economic value of business development services and build the capacity of medium-sized rice processors to efficiently operate and compete in the market. In Y5, Biruwa mentored five rice mills (Jalpa Rice Mill, Marutinandan Agri Industries, Nain Rice Oil and Flour Mill, Bina Food Product and Udhyog, and Swadista Rice Mill) on marketing, operations, and finance. Similarly in the maize sector, KISAN II is in the process of hiring a business development consultant to help Buddhanagar Agro Farm (SSOW partner working with maize producers) with business planning and strategy development, development of SOPs, and customization of supply chain management software.

### ***SOW Activity 2.3 Strengthening financial linkages***

#### **Seeking opportunities to expand access to finance and insurance among rice and maize farmers.**

The GON has mandated that all insurance companies to provide crop and livestock insurance to farmers and has offered an 80 percent subsidy on premiums, yet the adoption of agricultural insurance remains very low in Nepal. Key reasons for low adoption rates include the following: i) most crop insurance is based on production costs despite a provision for insurance coverage based on the yields; ii) insurance agencies are located mainly in cities, making it difficult for

farmers to obtain services; and iii) farmers are not well acquainted with the cumbersome and time sensitive claim processes (see Box 7). KISAN II is partnering with HGI to help simplify the claim process, make insurance services more accessible, and develop a policy to cover maize based on yields. HGI will also develop an online portal and application where farmers and agents can process claims virtually and HGI can monitor insurance services virtually. Through the platform, farmers will receive notifications on the crop management practices that they need to adopt for optimal production. HGI will also establish 75 new agricultural agents, train them to sell insurance policies, and monitor farmers virtually.

**Box 7. Crop loss evaluator training helps partner educate farmers on agriculture insurance**

Agriculture is subject to risks like natural disasters and extreme weather, which can impact farmers' incomes and livelihoods. Agriculture insurance minimizes such risks and aids in the recovery from crop losses, but its adoption by farmers is low in Nepal, largely because many farmers are unaware of it. Those farmers who have agriculture insurance are often unclear on claims procedures, such as whom to contact for help at insurance companies. To address this issue, KISAN II, in coordination with IALDO and Everest Insurance Company, conducted a training titled Crop and Livestock Insurance Destruction Evaluator Licensing in November 2021. The 38 participants, including 13 extension workers from KISAN II partners, were trained to educate farmers on the importance of crop insurance and on claim procedures to assist farmers in filing timely claims for reimbursement. KISAN II and Everest Insurance Company plan to expand farmers' knowledge of crop insurance services in KISAN II's working districts.

In Kanchanpur, SSOW partner Rana Agrovet is scaling up its branchless banking counter. To date, it has enrolled and provides financial services to 450 clients residing in remote Laljhadi Rural Municipality. These services include agriculture loans to five clients worth NR. 5.6 million (USD 47,458) and other loans in process.

**SOW Activity 2.4 Empowering women, DAGs, and vulnerable households**

**Building capacity of partners to use GESI lens for target marketing.** This year, KISAN II hired a consultant to build the capacity of interested partners in using a GESI lens for customer profiling and strategic marketing. In March 2022, the consultant developed a training module and trained 15 agrovet partners. The consultant also provided strategic marketing consultations and support to five partners to implement customer profiling plan and strategies.

**SOW Activity 3 Support partners to strengthen the capacity of rice and maize farmers**

**SOW Activity 3.1 Facilitating intensification and diversification of male and female farmers and socially excluded groups into higher-value commodities**

**Forming inclusive farmers' groups.** In Y5, KISAN II partnered with 25 firms to implement SOW activities in the fine rice and industrial maize sub-sectors and oriented 71 partner staff (31 female) on their grant agreements. Partners hired extension workers who received KISAN II-led TOT on operational guidelines and technical issues. KISAN II helped new partners ensure inclusivity by encouraging women to participate in farmers' groups and by helping them develop as commercial and semi-commercial producers. Drawing on this support, in Y5, SSOW partners formed 1,272 inclusive farmers' groups involving 32,071 households (20,444 female-headed, 24,662 from DAGs).

**SOW Activity 3.2 Strengthening the capacity of input supply systems to deliver timely and affordable productivity-enhancing technologies**

**Building capacity of new partners' extension workers.** In Y5, KISAN II conducted TOT for 71 extension staff (32 female) of 19 partners to orient them on KISAN II's private sector-led approach, with a focus on SSOW activities and the technical aspects of fine rice and industrial maize production. KISAN II also conducted a series of meetings with seed companies, agrovets, PMAMP, and local governments to ease the supply of preferred fine rice and industrial maize seeds and encouraged agrovets to stock up on seeds of popular varieties. In coordination with SSOW partners, KISAN II developed a fine rice promotion poster and launched a fine rice promotional campaign to raise awareness about fine rice varieties and the availability of suitable varieties in Terai districts. By helping farmers understand market demand, this campaign encouraged them to purchase fine rice varieties. To mitigate impacts from the current chemical fertilizer shortage, KISAN II met regularly with the Agricultural Input Corporation and Salt Trading Company, facilitating linkages to enable cooperatives to access fertilizers from these suppliers. As an alternative to fertilizers, KISAN II also promoted the use of green manure at rice cultivation demonstrations.

**Updating and disseminating productivity-enhancing training materials to farmers.**

KISAN II has updated existing training and communication materials to include specific information on fine rice and industrial maize production. This year, KISAN II reprinted 20,000 copies of productivity-enhancing training materials related to fine rice and industrial maize production, which partners are distributing to farmers

**SOW Activity 3.3 Expanding the development, dissemination, and adoption of IPM**

**Promoting the use of IPM practices for fine rice and industrial maize cultivation.**

To minimize the use of agrochemicals, KISAN II continues to promote IPM practices for fine rice and industrial maize production in Y5. KISAN II coordinates with national, provincial, and district-level governments and non-governmental counterparts to monitor and manage FAW. Collaboration with counterparts helped provide early warnings on FAW through proactive field monitoring, while demonstrations on FAW lures and traps helped farmers monitor FAW infestations in their fields and apply pesticides in a timely manner. SSOW partners are now adopting IPM practices to identify and monitor FAW in maize crops (see Box 8). KISAN II has developed communication materials on fine rice and industrial maize IPM practices based on the GON's IPM program and project learnings. These materials were printed and distributed to farmers through partners.

**Box 8. Joint field campaigns in Banke and Bardiya districts result in 30 percent drop in fall armyworm infestations on spring maize**

In April 2022, FAW infested 355 hectares of spring maize in Banke and 120 hectares in Bardiya, resulting in around 40 percent of reported damage to crops in some locations. To minimize crop loss, KISAN II coordinated with government agencies, including AKCs, IALDOs, local municipalities, district maize alliances, and with other USAID projects such as FTFNIPM and NSAF, to jointly organize an FAW field awareness campaign. The campaign included technical orientation sessions on spring maize cultivation, maize field inspections, and pesticide distribution to increase the capacity of over 500 farmers in FAW identification and management. The AKC in Banke organized a plant clinic in Raptisonari Municipality that enabled the GON plant protection laboratory to recommend appropriate pesticides to about 260 farmers. As part of the campaign, IALDO and local municipalities in Bardiya provided pesticides to 270 farmers and developed radio jingles in Nepali, Tharu, and Awadhi languages to spread information on FAW identification and management through seven local FM stations. The campaign was highly successful: the IALDO-Bardiya and the AKC-Banke reported reductions in FAW infestation from 40 percent to 10 percent.

### **SOW 3.5 Conducting training, demonstrations, field days, and exposure visits**

**Training farmers on productivity-enhancing technology.** In Y5, partners conducted 712 demonstrations on lead farmers' fields, engaging 12,051 farmers (8,264 women, 8,533 from DAGs) on improved and hybrid seed varieties of fine rice and yellow maize, jab planters for maize planting, rice transplanters, corn shellers, IPM technology, green manuring, and improved crop production and management practices. These demonstrations helped agrovets generate demand for agri-inputs and machinery.<sup>29</sup> In Y5, partners held 10 farmers' field days at a successful demonstration site, engaging 337 farmers (224 female, 310 from DAGs) to showcase technologies and encourage their adoption. During the events, neighboring farmers and municipal representatives participated, observing innovative, improved technologies and management practices promoted by partners and applied by lead farmers. Participants interacted with lead farmers to understand the benefits of the technologies and improved seed varieties, and to observe differences between their existing practices and the demonstrated approaches. Similarly, KISAN II collaborated with PMAMP and AKC for the promotion of spring rice through demonstrations of new seed varieties (see Box 9).

#### **Box 9. Partner joins hands with PMAMP's rice super zone program to expand spring rice production area**

With support from KISAN II, SSOW partner Bihani Madyavarti Multipurpose Cooperative, in Bardiya, is working in close coordination with PMAMP's rice super zone program to expand spring rice production. The cooperative has officially registered 38 potential farmers groups under PMAMP's rice super zone program, enabling them to qualify for subsidies offered by the PMAMP to support spring rice production. The cooperative also leveraged 6 MT of seeds worth of NRs. 216,000 (USD 1,831) from PMAMP at a 50 percent subsidy and distributed the seeds to farmers. By leveraging resources and mobilizing extension workers to deliver technical advice, the cooperative expanded the spring rice production area to 1,500 ha of land in Y5—a 40 percent increase from the Y4 spring rice area. The increased area allows farmers to grow and sell rice twice a year, increasing their incomes and food security, and providing local raw materials for the millers.

### **SOW Activity 4 Strengthen the supply chain and promote diversified grain sourcing**

#### **SOW Activity 4.2 Promoting post-harvest services in rice and maize sectors**

**Promoting aggregation.** Aggregation of maize from farmers is a major supply chain constraint in Nepal's maize sector. Limited aggregation and storage capacity restricts many local aggregators and traders, many of whom can procure only limited volumes of maize from farmers when the market is flooded with maize. To increase the capacity of local aggregators and traders, KISAN II promotes the use of GrainPro cocoon bags (5 MT and above). These bags enable aggregators and traders to collect and store maize during the main season without compromising quality. In Y5, Dhananjaya Trading and Annapura Suppliers were identified as potential grantees to pilot these bags.

**Piloting on-farm cereal drying technology.** In coordination with the PMAMP's rice super zone program in Bardiya, Bihani Madhyabarti Multipurpose Cooperative (BMMC) leveraged NRs. 3,918,400 (USD 33,207) at a 50 percent subsidy for seeds, machineries, multi-crop dryers, and warehouses to facilitate aggregation and marketing of farmers' produce. To help BMMC diversify, KISAN II supported the cooperative in preparing operational guidelines for a multi-crop dryer installed on its premises. The guidelines will help operationalize the dryer, enabling the cooperative to increase its income. KISAN II also facilitated the revision of BMMC's existing policy to conform to the new Cooperative Act.

<sup>29</sup> Sales resulting from demonstrations will be evaluated in the next season (March–June 2023).

## **SOW Activity 5 Strengthen coordination with GON and industry associations**

### **SOW Activity 5.1 Collaborating with GON and industry associations**

**Collaborating with the GON.** Throughout the project lifetime, KISAN II has worked in partnership with the GON, as demonstrated by the successful implementation of the Joint Rice Implementation Program with GON agencies at the district and local government level. In Y5, SSOW partners in Dang conducted three program sharing meetings in Tulsipur, Shantinagar, and Tulsipur Sub-metropolitan city. In all meetings, partners presented on the SSOW program, and KISAN II presented on the project's private sector approach, especially to promote fine rice and industrial maize. During the meetings, the chief administrative officers and branch heads of the municipalities committed to continued collaboration with KISAN II. The newly elected officials at the local level were also briefed on KISAN II's private sector-led approach.

### **SOW Activity 5.2 Mapping warehouse investments (public and private)**

**Mapping of grain storage facilities completed.** During Y5, KISAN II assessed 85 warehouse and storage facilities across the SSOW ZOI to determine constraints and issues faced by operators of these facilities. KISAN II developed a digital application for managing warehouse information and entered data from 61 warehouses into the system. The grain storage facility assessment found that the total capacity of mapped storage infrastructures is 52,156 MT, 42,441 MT of which is from 49 warehouses, 9,615 MT from 20 traditional structures, and 100 MT from one silo. KISAN II will update this data regularly and help identify gaps in production areas and storage infrastructure. This will enable decisionmakers, such as AKCs, PMAMP, and municipal and provincial agriculture ministries, to make informed decisions about where to support grain warehouses and storage units.

## **ACTIVITIES TO ACHIEVE SSOW OBJECTIVE 3**

- *Assess the needs of migrant returnees and other populations heavily affected by the COVID-19 crisis and connect them to agriculture-related employment opportunities.*

**Assessing agriculture labor markets and needs and aspirations of migrant returnees and other populations heavily affected by COVID-19.** In Y5, KISAN II hired Local Initiatives for Biodiversity, Research and Development (LIBIRD) Consulting Private Limited to assess agriculture labor markets for KISAN II's targeted value chains in the current COVID-19 context. The assessment, which LIBIRD submitted in March 2022, also helped to identify the needs and aspirations of migrant returnees and other populations heavily affected by COVID-19. Findings indicate that the greatest agricultural employment opportunities are in commercial vegetable farming, followed by goat farming, and the operation, repair, and maintenance of agri-machinery. The employment sectors most preferred by target populations are vegetable production, followed by goat farming, and vegetable trading. In response to a request for proposals, KISAN II selected a firm to conduct training and capacity building activities for the target populations in high-opportunity sectors, including apprenticeships or on-the-job training, beginning in Y6. The firm will build the capacity of more than 300 targeted participants on off-farm occupations, off-season vegetable production, and improved goat rearing.

## **ADDITIONAL MEL AND CLA ACTIVITIES PERTAINING TO THE SSOW**

The following supplementary SOW activities were embedded into Component 5 MEL/CLA activities, described above.

**Applying learnings from KISAN II's mid-year review.** As a part of its mid-year review workshop in February 2022, KISAN II organized virtual learning sessions on fine rice and industrial maize related to SSOW activities. During the workshop, the group discussed challenges on data collection and indicators for fine rice and maize and made recommendations for years 6 and 7.

**Integrating SSOW indicators in 2022 annual farmers' survey and annual organizational census survey.** KISAN II integrated SSOW requirements into the 2022 annual farmers' survey and annual organizational census survey. These included organizational indicators related to fine rice and industrial maize, such as the adoption of firm-level technologies; sales; and millers' fine rice collection, processing, and storage capacity. Qualitative information on fine rice and industrial maize for feed contributed to KISAN II's analysis of import substitution. KISAN II collected secondary information for this analysis from AKCs and related agricultural offices at the district, provincial, and national levels.

### **ADDITIONAL GRANTS UNDER CONTRACT ACTIVITIES FOR THE SSOW**

Through SSOW activities, KISAN II aims to reach an additional of 33,000 rice and maize farming households, using high-impact partnerships with larger market actors who can catalyze downstream supply chain changes and support transformative change. Under the SSOW, 60 grant applications were received and evaluated in years 4 and 5, and subaward agreements were signed with the selected organizations. To date, USAID approved 23 new grants under the SSOW (8 rice mills, 8 traders, 3 cooperatives, 3 agrovets, and 1 insurance company). Similarly, KISAN II executed a cost modification for a rice mill partner signed under the original SOW to work on SSOW activities. A learning and training partner will develop and host an online learning platform using knowledge products developed by KISAN II to help scale up the use of the online learning platform. These 25 partners<sup>30</sup> are targeting an additional 35,900 fine rice and industrial maize farming households, 8 of which represent DAGs (refer to Annex 2 for details).

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<sup>30</sup> Of 25 active partnerships, 4 are women-owned and 21 are male-owned. Five partner proprietors are from ethnic groups (three Tharu and two Newar) and three proprietors are from the Madhesi group.



## **ANNEXES**

### **ANNEX I. SUCCESS STORIES**

*Submitted as separate attachments.*

## ANNEX 2. SUMMARY OF SIGNED GRANTS IN Y5

No.	Name of Grantee	Firm Type	No. of Targeted Households
1.	<b>Shree Kisan Innovation Hub</b> will develop and host an online learning platform using agricultural knowledge materials developed by KISAN II to help scale up the use of the online learning platform. The platform will provide users with access to farming skills on different topics, such as maize, rice, goats, vegetables, dairy, fish, poultry, meat and fish processing, and agri-entrepreneurship.	Learning and training partner	NA
2	<b>Rana Agrovvet</b> will promote hybrid/improved maize varieties, provide extension services, and link farmers with traders and feed mills.	Agrovvet	800
3.	<b>Bihani Madhyavarti Multipurpose Cooperative (BMMC)</b> will provide agri-extension and direct marketing services to farmers and will conduct 352 fine rice production and industrial maize post-harvest trainings and 66 demonstrations on rice and maize. BMMC will also establish collection depots, initiate digital banking services, and procure machines for a custom hire center to expand its machinery services.	Cooperative	1,200
4.	<b>Saurav Rice and Oil Mill Private Limited</b> will build an agri-extension program, provide direct marketing services, and provide 300 trainings on fine rice production to farmers. Additionally, the mill will conduct 120 trainings on maize production and post-harvest management and 20 demonstrations on seed varieties, fertilizers, insecticides, and the use of FAW lures to maize farmers.	Rice mill	2,500
5	<b>Laxmi Khadya Udhog</b> will conduct 136 training-cum-demonstrations on fine rice cultivation and post-harvest practices, 120 trainings on main season rice production, and 16 trainings on spring rice production. It will also provide 136 add-on trainings on disease, pest, and weed management, and 106 post-harvest handling trainings on fine rice. The miller will also support KISAN II to install four shallow tube wells in selected areas.	Rice mill	1,500
6.	<b>Bandali Khadya Udhog</b> will develop an agri-extension program to boost the production of local varieties of fine rice and industrial maize. It will conduct 180 trainings on local varieties of fine rice and industrial maize production, along with 90 varietal and technology demonstrations. KISAN II will support the mill to purchase and install machinery and equipment to process high volumes of quality rice and maize products.	Rice mill	1,000
7	<b>Sahu Rice Mill</b> will provide extension services and a buy-back guarantee to farmers, strengthen the fine rice and industrial maize collection networks, and adopt proactive marketing strategies to increase sales. It will conduct 288 trainings, 30 demonstrations targeting fine rice farmers, and 30 demonstrations targeting industrial maize farmers.	Rice mill	1,800
8	<b>Dhananjaya Trading</b> will promote the production of summer industrial maize, train farmers on proper agronomical and IPM practices, and promote the use of ICT platforms and applications. Through this partnership, 2,000 households will increase their production of quality industrial maize, which will then be purchased by Dhananjaya Trading and supplied to processors.	Trader	2,600

No.	Name of Grantee	Firm Type	No. of Targeted Households
9	<b>Nishcal Agrovet Center</b> will support farmers to increase the production of industrial maize and fine rice by providing technical trainings and services and increasing farmers' access to agri-inputs. It will encourage farmers to produce fine rice and quality industrial maize, enabling <i>gallawalas</i> to supply quality grain to the processing industry.	Agrovet	2,000
10	<b>Suraj Suppliers</b> will strengthen linkages between rice farmers and the output market through improved production of fine rice and aggregation support. This partnership will focus on market-led production, as Suraj Suppliers will educate farmers on improved and hybrid fine rice varieties (as demanded by rice mills) and will provide farmers with technical knowledge.	Trader	600
11	<b>Laxmi Agrovet</b> will provide extension and marketing services to farming households in Gurvakot, Lekhbesi, and Simta municipalities, which are high potential areas for industrial maize production. It will formulate marketing strategies to link farmers with feed mills and collectors and to ensure a supply of quality seeds and inputs.	Agrovet	1,000
12	<b>Buddhanagar Agro Farm</b> will develop an agri-extension program for farmers in Kapilvastu and Palpa districts, orient and support them on maize production and processing, and support an increased production of quality industrial maize.	Trader	2,000
13	<b>Laxmi Foods Packaging Udhog</b> will develop an agri-extension program to increase production of industrial maize, educate farmers on high-value and high-yielding maize varieties, and provide them with a buy-back guarantee.	Trader	1,000
14	<b>Thakur Agro Industries</b> will build farmers' capacity for fine rice production, improve management practices and technologies, and improve post-harvest practices.	Rice mill	2,200
15	<b>Pramod Rice Mill</b> will expand its operations, provide technical advice on fine rice production and collection services, offer a buy-back guarantee to farmers, and adopt proactive marketing strategies to expand sales.	Rice mill	2,200
16	<b>Paicho Pasal</b> will support farmers in Palpa district to increase the production of quality maize to meet food industry requirements. It will organize maize farmers' groups into blocks for easier collection and will provide transportation for this block-based aggregation. It will also establish outlets in major viable production pockets.	Trader	3,200
17	<b>Jansewa Swablamban Bikas Bachat Tatha Rin Sahakari Sanstha Limited</b> will promote maize commercialization through technical services to farmers and aggregation of industrial maize in Palpa district. The cooperative will build its organizational capacity to impart technical know-how and aggregation services to farmers.	Cooperative	800
18	<b>Om Shreeram Khadhya Udhog Private Limited</b> will promote the production of fine rice, strengthen its supply chain, and adopt proactive marketing strategies to increase sales. The mill will conduct 864 demonstration-based trainings and provide technical assistance and collection services to farmers.	Rice mill	4,600
19	<b>Sunil Rice Mill</b> will contribute to the import substitution of fine rice and industrial maize in Banke district by	Rice mill	2,000

No.	Name of Grantee	Firm Type	No. of Targeted Households
	increasing production and productivity. To improve rice aggregation and sales to feed processors, the mill will offer market assurance to farmers through two <i>gallawalas</i> who will serve as collection depots.		
20	<b>Samridhhi Krishi Sahakari Sanstha Limited</b> will provide extension services to farmers and will encourage them to produce industrial maize. The cooperative will formulate marketing strategies to link farmers directly to partner feed mills and collectors. The cooperative's experience with seed production and agrovet operations will enable farmers to access quality inputs required to produce industrial maize.	Cooperative	1,000
21	<b>Annapurna Suppliers</b> will motivate 3,000 farmers to grow yellow industrial maize as demanded by feed mills and will hire six collectors to collect maize from farmers. It will also provide market assurance to farmers through six collection points to ease aggregation logistics.	Trader	*
22	<b>National Vision Agro Private Limited</b> will install a commercial maize dryer and produce total mixed ration and <i>pr</i> (animal feed) during the off-season. This will ensure a year-round supply of locally produced cattle feed and reduce reliance on imported maize grains for feed.	Trader	*
23	<b>Nepal Warehousing Company Public Limited (NWCL)</b> will provide grain storage facility to farmers, traders, and feed processors that will contribute to a sustainable, transformational change in Nepal's industrial maize sector.	Trader	900**
24	<b>Himalayan General Insurance Company Limited (HGI)</b> will develop an online portal where farmers/agents can process insurance claims online and monitor insured fields, and HGI can virtually monitor insurance services.	Insurance company	*
25	<b>Shree Radha Krishna Rice Mill</b> will provide extension services to farmers and will package and sell fine rice by adopting targeted marketing strategies.	Rice mill	1,000

\* These partners (*Annapurna Suppliers and National Vision Agro Private Limited*) will serve existing *KISAN II* farmer beneficiaries.

\*\* NWCL will serve 1,800 households, of which 900 are new.

## **ANNEX 3. SELECT ACTIVITIES FOR Y6T1**

### **Ensuring Enabling Environment for Agribusiness**

- Conduct five municipal-level meetings and two municipal-level joint monitoring meetings.
- Conduct one technical committee (TC) meeting, one steering committee meeting, and three provincial level meetings.
- Conduct five meetings with agriculture knowledge centers, veterinary hospital and livestock service expert centers and the Prime Minister Agriculture Modernization Project.
- Conduct five meetings with district coordination committees and district chambers of commerce and industry.
- Participate in district-level annual review meetings.
- Conduct one joint sector review TC meeting.
- Support GON for ICT-based M&E system.
- Support drafting of National Agriculture Policy.
- Conduct three Agricultural Sector Policy Think Tank meetings.
- Provide technical and coordination support to the GON for policy agenda (private sector engagement guidelines, food safety regulations and provincial agriculture development strategies in Sudurpaschim and Lumbini Provinces).
- Finalize policy brief report on major issues and policy recommendation in the rice sub-sector.
- Develop technical operating procedure for grain warehouses.

### **Objectives 1 and 2**

- Conduct training of trainers for KISAN staff on business management.
- Train partners on finance, sales, and operations.
- Ensure business development service provider/s develop and market short courses related to marketing, finance, administration, and sales.
- Train 500 farmers' groups on digital platforms.
- Orient partners on digital software to help them optimize their businesses.
- Link 2,000 farmers with maize grain aggregators.
- Collaborate with Nepal Banking Association to promote business plan format to farmers.
- Link five partner firms and their associated farmers with commercial banks for interest subsidized loans.
- Launch KISAN card.
- Prepare cost-benefit analysis on Rice Mill Model.
- Print and disseminate integrated pest management (IPM) training materials and train 8,000 farmers on IPM. Distribute 20,000 copies of training materials on fine rice and industrial maize.

### **Objective 3**

- Conduct capacity strengthening activities for 150 migrant returnees and other populations heavily affected by COVID-19.
- Orient 150 target population individuals on access to financial services and business plan requirements.

### **Grants Under Contract**

- Approve five cost modifications, and coach and monitor at least 20 grantee partners.

### **Operations and Communications**

- Develop and disseminate KISAN II biweekly updates, outreach materials, and learning pieces.

## ANNEX 4. DETAILED IMPLEMENTATION PLAN TABLE

**Note:** Only the output indicators, collected by trimester, are tracked in this table.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
<b>Collaboration with GON - CL 1 &amp; 2</b>						
<b>CL.1</b>	<b>Disseminate and deepen understanding of the private sector led approach</b>					
CL.1.1	Conduct municipal briefings on KISAN II exit plan and continuation of private sector led approach/activities in the GON system	Event	10	9	90	Because of the prevalence of COVID-19, the KISAN II exit plan could not be discussed with municipalities as envisaged. However, KISAN II field staff met key officials in 68 municipalities and handed over appreciation letters for their support and collaboration in KISAN II activities.
CL.1.2	Joint monitoring visits with municipal officials (1-day) - By project	Event	5	5	100	Visits were conducted as planned.
CL.1.3	Municipality level briefings/discussions on approach and underlying activities (By partners)	Event		9	N/A	Conducted by partners.
CL.1.4	Joint monitoring visits with municipal officials (1-day) — By partners	Event		31	N/A	Conducted by partners.
<b>CL.2</b>	<b>Coordination with the Government of Nepal</b>					
<b>CL.2.1</b>	<b>Central level coordination</b>					
CL.2.1.1	Conduct JNSC meetings	Event	2	1	50	Due to the rise in COVID-19 cases in the beginning of Y5 and changes in MOALD leadership, JNSC meeting could not be organized in T1.
CL.2.1.2	Conduct TC meetings	Event	4	1	25	Due to COVID-19, the meeting could not be organized in T1 and T2. In T3, a meeting with TC members was held to discuss on draft AWP and other relevant issues.
CL.2.1.3	Joint monitoring visits with JNSC and TC members (3 days)	Event	1	1	100	The organization of this visit strengthened collaboration among the GON, KISAN II, and private sector in promoting fine rice and industrial maize.
<b>CL.2.2</b>	<b>Provincial level coordination</b>					
CL.2.2.1	Conduct meeting with provincial-level officers	Event	4	8	200	One round of virtual meetings was conducted with all four provinces during district close out time and another round of meetings was conducted later.
CL.2.2.2	Joint monitoring visits with officials working at the provincial agricultural ministry (2 days)	Event	3	3	100	Joint monitoring visits were organized in Bagmati, Lumbini, and Sudurpaschim provinces.
CL.2.2.3	Meeting with AKCs, VHLSEC, and PMAMP	Event	15	34	227	Due to COVID-19, meetings were organized separately with individual offices; thus, the number of meetings was increased.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
<b>CL.2.3</b>	<b>District-level coordination</b>					
CL.2.3.1	Participate in district level review meeting	Event		6	N/A	
CL.2.3.2	Conduct district level meetings to reinforce GON-private sector linkages in agriculture service delivery after KISAN II	Event	10	7	70	Due to COVID-19, KISAN II conducted virtual close-out meetings for districts in Sudurpaschim, Karnali, and Lumbini provinces and handed over appreciation letter to 37 different organizations in 10 districts for their ongoing collaboration with former partners.
<b>CL.2.4</b>	<b>Municipal level coordination</b>					
CL.2.4.1	Complete COVID impact assessment in municipalities and recommend for planning.	Report	1	1	100	Completed and the report was shared with municipalities in T2.
<b>CL.3</b>	<b>Support for Joint Sector Reviews (JSR)</b>					
CL.3.1	Annual national ADS-JSR committee meeting	Event	1	1	100	Completed; however, it was delayed and conducted on a small scale (in conjunction with National ADS Implementation Committee meeting) due to COVID-19 followed by local elections.
CL.3.2	ADS-JSR technical committee meeting for review and planning	Event	2	2	100	Completed.
CL.3.3	Prepare, print, and distribute third annual progress report	Copies	300	300	100	Completed. Further, JSR brochure (in English and Nepali) was updated, printed, and distributed.
CL.3.4	Prepare JSR operating procedure	Report	1	1	100	Preliminary draft prepared. Discussions are ongoing whether it should be finalized as a stand-alone document or integrated into MOALD's coordination directives under preparation.
CL.3.5	Support sub-national level policy consultations in Bagmati, Lumbini, Karnal, and Sudurpaschim provinces	Event	8	8	100	KISAN II supported sub-national consultations in Sudurpaschim and Lumbini provinces. However, European Union resource was mobilized in conducting sub-national consultations in Karnali and Bagmati provinces.
<b>Component 2: Strengthen the Competitiveness, Resilience, and Inclusiveness of Selected Agricultural Market Systems</b>						
<b>2.0</b>	<b>Conduct and update opportunity mapping exercise</b>	No.			N/A	
<b>2.1</b>	<b>Sub-objective 2.1: Strengthen the organization and coordination of selected market systems</b>					
2.1.1	Conduct cost benefit analysis of Rice Mill Model	Report	1	1	100	Draft report has been submitted to KISAN II and will be finalized by mid-August 2022
2.1.2	Establish new ICT partnership	No.	1	1	100	Signing of partnership agreement with R&D Innovative Solutions in process Activities will be continued in Y6.
2.1.3	Train farmers	HH	39000	39183	100	Completed.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
<b>2.2</b>	<b>Sub-objective 2.2: Strengthen partner firms, cooperatives, and other SMEs to support selected market systems</b>					
2.2.1	Revise and disseminate COVID-19 relief instructional materials	Copies	500	500	100	Completed.
2.2.2	Coach BOD and relevant staff of coops (60 coops)	Person	120	282	235	More participants as this was done virtually.
2.2.3	Conduct refresher TOT to grantee extension staff (3 days)	Person	55	88	160	Provided additional light touch support to phase-out partners who have retained extension workers.
<b>2.3</b>	<b>Enhance financial services markets that serve selected market systems</b>					
2.3.1	Ensure wholesale loans to expand access to wholesale credit	No.	3	4	133	4 cooperative partners in Banke accessed wholesale loans. Meanwhile, Bihani Madhyawarti Multipurpose Cooperative and Hatemalo Agri-market Cooperative have both been linked with National Cooperative Bank and have applied to access wholesale loans.
2.3.2	Enable cooperatives to use digital payment platforms or digital finance	No.	3	7	233	4 cooperative partners adopted E-banker software and started digital management of cooperative system by replacing manual entry system. Moreover, BMMC of Bardiya installed Digital Advance Accounting Software, and Gangamala Savings and Credit Cooperative of Surkhet upgraded its digital financial system. Kasturi Cooperative of Jajarkot has also installed an advanced accounting software and has started providing digital services.
2.3.3	Facilitate coop licensing for micro-insurance	No.	6	7	117	6 KISAN II partner firms received insurance agent training and are in process of receiving agent license. BMMC in Bardiya obtained license from Everest Insurance Company.
<b>2.4</b>	<b>Enhance market infrastructure and other services to support selected market systems (Sub-objective 2.4)</b>					
2.4.1	Develop and disseminate warehousing SOP and guidelines	No.	1	0	0	Report was received but was found to be plagiarized from a document developed by the Government of Bhutan. Techsol Pvt. Ltd. did not respond to any formal communication on the matter. Contract was terminated.
2.4.2	Support cooperatives in operation of cold storage or packhouse	No.	4	5	125	Palung Bahuudessiya Sahakari Sanstha Limited and Sana Kisan Krishi Sahakari Sanstha Limited received training from post-harvest consultant. Aatmanirvar Bahuudeshiya Sahakari Sanstha Limited, Suryamukhi Sana Kisan Krishi Sahakari Sanstha Limited, and Namuna Krishak Sahakari Sanstha Limited received consultation from Saptkrishi Pvt. Ltd. on cold store operation and management.



Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
2.4.3	Equip and launch custom hire operator	No.	1	1	100	Completed.
2.4.4	Conduct study on effectiveness of social media marketing	Report	1	1	100	Completed.
2.4.5	Strengthen and launch ICT platform to increase access to market information	No.	1	1	100	Partnership with Shree Kisan Innovation Hub has been extended till November 2022 to complete the deliverables.
2.4.6	Organize virtual orientation to link partners with mass SMS service providers to increase access to market information	Event	1	1	100	Conducted in April 2022.
2.4.7	Facilitate adoption of record keeping for breeding in goat farms	No.	5	5	100	Two partner farms in Nuwakot and 3 GON farms (Kailali, Kaski and Tanahun).
2.4.8	Facilitate importing of frozen Boer buck semen from USA	Event	1	1	100	Completed.
2.4.9	Coach firm through BDS procurement and assessment process	No.	5	5	100	Jalpa Rice Mill, Marutinandan Agri Industries, Nain Rice Oil and Flour Mill, Bina Food Product and Udhog, Swadista Rice Mill received 6-month mentorship from Biruwa Advisors.
2.4.10	Conduct meeting with National Goat Working Group (NGWG)	Event	1	1	100	Completed.
<b>Component 1: Improve Productivity of Selected Agricultural Marketing System.</b>						
<b>1.1</b>	<b>Strengthen the capacity of input supply systems to deliver timely and affordable productivity-enhancing technologies</b>					
1.1.1	Conduct refresher TOT to grantees' extension workers (3 days)	No.	55	88	160	Provided additional light touch support to phase-out partners who have retained extension workers.
1.1.2	Disseminate technical message through mobile SMSs	No.	2	3	150	Sent SMSs related to rice, lentils, and vegetables.
1.1.3	Train extension workers on IPM (2 days)	No.	55	55	100	Completed.
1.1.4	Print and disseminate IPM training materials	Copies	10000	10,000	100	IPM on fine rice and industrial maize.
1.1.5	Disseminate technical message on IPM through mobile SMSs	No.	2	2	100	Completed.
<b>1.2</b>	<b>Increase adoption of profitable, productivity-enhancing, and climate-smart technologies by all groups, including youth, women, and disadvantaged groups</b>					
1.2.1	Print and disseminate productivity enhancing training materials	Copies	20000	20,000	100	Materials on fine rice and industrial maize.
1.2.2	Share video via mobile technology to participating households	Person	10000	34,200	342	Provided technical support during lockdown by sharing videos via mobile phones.
1.2.3	Conduct in-house assessment on the impact of video-based extension approach among farmers and the technology adoption rate.	No.	1	1	100	Report completed and shared with MEL team.
1.2.4	Conduct refresher training on video production (3-days)	Event	1	0	0	In-person training was not possible due to COVID-19 lockdown; thus the training was canceled.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
1.2.5	Conduct demonstration	No.	300	304	101	Completed.
1.2.6	Conduct field days	No.	21	28	133	Partners conducted more field days as activity is useful to showcase partners' activities and to leverage resources from municipalities.
<b>Component 3: Strengthen the Enabling Environment of Selected Agricultural Market Systems</b>						
<b>3.1</b>	<b>Sub-objective 3.1: Build capacity for streamlining, harmonizing, &amp; coordinating GON policies &amp; regulations</b>					
3.1.1	Technical support to MOALD for PSE guideline approval process	Report	1	0	0	Seventh JNSC meeting held in February 2022 resulted in decision to request federal cabinet approval of these guidelines. MOALD is planning to attach the guidelines with Agribusiness Promotion Bill, which is under process of formulation.
3.1.2	Technical support to MOALD for Food Safety Regulations (licensing and registration of food business, and import-export inspection and certification) approval process	Event	2	0	0	Food safety regulations have submitted to MOALD's DFTQC in Y4 for approval. These regulations will go into the process as soon as the Food Safety and Standard Bill is approved.
3.1.3	Support MOALD to formulate National Agriculture Policy (NAP) and validation workshop	Report	1	0	0	MOALD conducted sub-national consultations in seven provinces and obtained feedback on the draft NAP. KISAN II started formulating NAP based on feedback from sub-national consultations and will finalize in Y6.
3.1.4	Support for Agricultural Sector Policy Think Tank to strengthen policy analysis capacity building for GON senior officials	Event	3	3	100	MOALD held one advisory committee and two task force committee meetings.
3.1.5	Support to formulate provincial agriculture development strategies (PADS) for Lumbini and Sudurpaschim provinces	No.	2	2	100	KISAN II finalized and submitted PADS-SP to MOLMAC-Sudurpaschim province in Y5 and finalized PADS-LP in Y5 for submission to MOAFTLM in Y6.
3.1.6	Prepare Agriculture Warehouse Act/Operating Procedure	Report	1	0	0	KISAN II initiated preparing "Technical Procedure for Grains Warehouse" in Y5 and will finalize in Y6.
3.1.7	Complete assessment of the utilization of COVID-19 relief and post-recovery measures under Monetary Policy	Event	1	1	100	Completed this assessment in Y5T1.
3.1.8	Conduct PPD to finalize assessment of the utilization of COVID-19 relief and post-recovery measures under Monetary Policy	Event	1	1	100	KISAN II met with Nepal Rastra Bank (NRB) to discuss the findings of the assessment and suggested to improve the effective implementation of COVID-19 relief and recovery provisions and facilities.
<b>3.2</b>	<b>Sub-objective 3.2: Improve investments, management, and governance (e.g. standardization) of infrastructure</b>					
3.2.1	Finalize grain storage technology menu	Report	1	1	100	Completed.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
3.2.2	Print grain storage technology menu for distribution	Copy	500	3000	600	KISAN II published a brief storage technology menu, translated into Nepali, and distributed to farmers and traders through GON, private sector and KISAN II.
3.2.3	Assess taxes and other issues on paddy and rice	Report	1	0	0	KISAN II initiated assessment on major issues and policy recommendations to improve rice sub-sector in Y5 and will finalize in Y6.
<b>3.3</b>	<b>Sub-objective 3.3: Improve systems to increase the quality of selected commodities</b>					
3.3.1	Distribute food safety booklet to farmers, traders, and consumers.	Copies	1000	2000	200	KISAN II published food safety booklet and distributed to vegetable farmers through KISAN II, Suaahara II, and GON agencies.
<b>3.4</b>	<b>Sub-objective 3.4: Support local government agencies to improve and rationalize spending in support of market systems development</b>					
3.4.1	Complete case study with municipalities for infrastructure investment	Report	1	1	100	KISAN II finalized agricultural market feasibility study and submitted to Melamchi Municipality.
<b>Component 4: Increase vulnerable communities' ability to act on business opportunities within selected market systems (Business Literacy and Development)</b>						
<b>4.1</b>	<b>Develop and adapt business literacy training materials</b>					
4.1.1	Prepare Module 6 (Business Development) contents for virtual delivery including community TOT package	Module	1	1	100	Completed and used during virtual training.
4.1.2	Disseminate compressed community videos to participants through mobile devices	Person	9000	8,243	92	Some in-person participants did not have smartphones.
4.1.3	Prepare a video on "What farmers need to learn for commercial agriculture"	No.	1	1	100	Completed.
<b>4.2</b>	<b>Recruit and train trainers</b>					
4.2.1	Recruit community trainers for short course	Person	340	548	161	Due to COVID-19, more trainers were recruited to conduct in-person trainings in 767 locations for smaller group of participants.
4.2.2	Conduct master TOT for master trainers for short course (5 days)	Person	19	19	100	Organized TOT for 19 master trainers.
4.2.3	Conduct TOT for community trainers for short course (5 days)	Person	340	333	98	Organized community trainer TOT events.
4.2.4	District level reviews and orientations for community trainers	No.	340	333	98	Organized during middle of the short course.
<b>4.3</b>	<b>Deliver business literacy training to poor, marginalized communities</b>					
4.3.1	Graduate 9,000 participants through regular short business literacy course	Event	900	767	85	767 events were found to be sufficient to graduate targeted 9,000 participants as in-person trainings could accommodate more participants. A total of 9,397 participants graduated in Year 5.
4.3.2	Prepare component close-out assessment	Report	1	0	0	Preparation of a final report is in process.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
4.3.3	Link graduates with municipalities, financial institutions, and other service providers	Event	900	767	85	Merged some events to make interactions more effective.
<b>Component 5: Collaborate, Learn and Adapt (Objective: Apply CLA to Market Systems Development)</b>						
<b>5</b>	<b>Learning Questions</b>					
<b>5.0.1</b>	<b>Implement a learning agenda to strengthen partner and beneficiary competitiveness, inclusiveness, and resilience</b>					
5.0.1.1	How did community video affect adoption of recommended management practices and technologies among BLP and non BLP participants?	Report	1	1	100	Completed.
5.0.1.2	How have training materials and program delivery under BLP contributed for agri-entrepreneurship development of participants, particularly of female and marginalized participants?	Report	1	1	100	Completed.
5.0.1.3	Have services provided by private sector partners such as training, demonstrations, exposure visits, field visits, improved input quality and supply, and other extension services helped KISAN II farmers overcome barriers in the market system?	Report	1	1	100	Completed.
5.0.1.4	What lessons were learned during KISAN's implementation of activities to strengthen the market systems for vegetables, goats, and lentils?	Report	3	3	100	Completed.
5.0.1.5	Prepare value chain specific case studies and/or infographics.	Report	1	1	100	Completed.
<b>5.1</b>	<b>CLA Activities</b>					
5.1.1	Conduct virtual mid-year reflection (pause and reflect workshop)	Event	1	1	100	Completed.
5.1.2	Conduct cluster-level review and learn sessions	Event	2	2	100	Completed.
5.1.3	Conduct central level pause and reflect workshop		1	1	100	Completed.
5.1.4	Conduct MEL data-sharing workshop	Event	1	1	100	Completed.
<b>MONITORING AND EVALUATION (M&amp;E)</b>						
<b>5.2</b>	<b>Sub-objective 5.5: Apply CLA to Monitoring and Evaluation</b>					
5.2.1	Update and submit MEL plan to USAID/Nepal	Report	1	1	100	Completed.
5.2.2	Upgrade and operationalize WIKISAN 2.0 (as needed)	Event	1	1	100	Completed.
5.2.3	Train data entry field staff on data collection and regular checks	Person	20	24	120	Additional staff were trained for data entry.
5.2.4	Conduct spot checks and internal DQA (as needed)	Event	1	1	100	Completed.
5.2.5	Design and conduct annual farmers' survey to measure outcomes	Event	1	1	100	Completed.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
5.2.6	Design and conduct annual organizational census survey to measure outcomes	Event	1	1	100	Completed.
5.2.7	Submit project data to USAID and GON (as needed)	Report	1	1	100	Completed.
5.2.8	Train KISAN II and grantees' staff on EMMP and PERSUAP (as needed)	person	80	71	89	
<b>GRANTS UNDER CONTRACT (GUC)</b>						
GUC.1	Close grants/MOU	No.	89	89	100	Completed.
GUC.2	Conduct exit interview of grantees	No.	80	79	99	
<b>OPERATIONAL AND COMMUNICATION ACTIVITIES (OP)</b>						
OP.1	Modify agreements with consortium subcontractors	Report	6	4	67	Modified 4 subcontracts.
OP.9	Develop and disseminate KISAN II bi-weekly updates, outreach materials and learning pieces	Report	24	24	100	Completed.
OP.11	Develop value chain close-out products	Report				Developed 3 interactive technical briefs for 3 closing value chains (goats, lentils, and vegetables). To be finalized in early Y6.
OP.12	Develop KISAN II digital library	Event				Developed a KISAN II digital library that includes all USAID-cleared project materials.
OP.14	Conduct annual review and planning meeting for supplemental SOW	Event	1	1	100	Completed.
<b>DETAILED ACTIVITIES PLANNED FOR SSOW</b>						
<b>Obj. 1 &amp; 2</b>	<b>Obj. 1: Enable market actors to upgrade their management and technical capacity and infrastructure to meet domestic market demand for improved rice and maize products. Obj. 2: Facilitate the adoption of inclusive business practices that expand market actors' resources and customer base and deliver benefits to a range of actors in the system, including smallholders' farmers involved in the production of rice and maize.</b>					
<b>SOW 1</b>	<b>Design and streamline interventions in rice and maize sectors</b>					
SOW 1.1	Updated implementation strategy and associated activities	No.	1	1	100	Completed.
<b>SOW 2</b>	<b>Strengthen the capacity of rice and maize value chain actors (millers, traders, transporters, input suppliers, warehouse management companies, etc.)</b>					
<b>SOW 2.1</b>	<b>Identify market actors and potential partners in ZOI</b>					
SOW 2.1.1	Establish partnership with private firms	No.	24		0	Grants.
<b>SOW 2.2</b>	<b>Invest in increasing the technical capacity of rice &amp; maize actors</b>					
SOW 2.2.1	Conduct management trainings to rice and maize actors	Event	3	1	33	BDS service provider hired to provide management and business training to Buddhanagar Agro. The material developed (SOPs) will be used to support other private sector entities in Y6.
<b>SOW 2.3</b>	<b>Strengthen financial linkages</b>					
SOW 2.3.1	Facilitate for interest-subsidized loans	No.	2	2	100	Completed.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
SOW 2.3.2	Conduct linkage meetings	Event	2	2	100	Completed.
SOW 2.3.3	Expand digital payment system to partners	Event	3	3	100	Completed.
<b>SOW 2.4</b>	<b>Empower women, DAGs and vulnerable households</b>					
SOW 2.4.1	Conduct training on customer profiling and targeted marketing to include GESI/DAG households.	Event	1	1	100	Completed.
<b>SOW 3</b>	<b>Support partners to strengthen the capacity of rice and maize farmers</b>					
<b>SOW 3.1</b>	<b>Facilitate intensification and diversification of male and female farmers and socially excluded groups into higher-value commodities</b>					
SOW 3.1.1	Form farmer groups involving 32,000 farmers	Group	1,280	1,272	99	Ongoing
<b>SOW 3.2</b>	<b>Strengthen the capacity of input supply systems to deliver timely and affordable productivity-enhancing technologies</b>					
SOW 3.2.1	Conduct TOT to private sector extension workers	Person	80	71	89	Partners delayed in hiring extension staff.
SOW 3.2.2	Print and disseminate existing productivity enhancing training materials for rice and maize	Copies	20000	20,000	100	Completed.
<b>SOW 3.3</b>	<b>Expand development, dissemination, and adoption of integrated pest management</b>					
SOW 3.3.1	Conduct TOT to private sector extension workers on IPM	Person	80	71	89	Partners delayed in hiring extension staff.
SOW 3.3.2	Print and disseminate existing IPM training materials for rice and maize	Copies	10000	10,000	100	Completed.
SOW 3.3.3	Train farmers on IPM	Person	10000	9130	91	Ongoing.
SOW 3.3.4	Disseminate technical message through mobile SMSs	Person	2	2	100	Promotion of fine rice and maize.
<b>SOW 3.4</b>	<b>Combat fall armyworm</b>					
SOW 3.4.1	Train extension workers on FAW identification and management	Person	30	30	100	Completed.
SOW 3.4.2	Train farmers on FAW management	Person	5000	5000	100	Completed.
SOW 3.4.3	Print and disseminate existing FAW training materials for rice and maize	Copies	5000	5000	100	Completed.
SOW 3.4.4	Develop FAW awareness message in local languages and aired by FM radio	No.	8	8	100	Aired in Nepali, Awadhi and Tharu language.
<b>SOW 3.5</b>	<b>Conduct training, demonstrations, field days, and exposure visits</b>					
SOW 3.5.1	Train farmers on productivity enhancing technology	Person	32000	32,071	100	Completed.
SOW 3.5.2	Conduct demonstrations	No.	700	712	102	Completed
SOW 3.5.3	Conduct cost benefit analysis of hybrid maize production in hill.	Report	1	1	100	Completed.
<b>SOW 3.6</b>	<b>Improve post-harvest management and sales</b>					
SOW 3.6.1	Promotion of new production and post-harvest technologies	No.	3	0	0	Delayed; will be completed in Y6.
<b>SOW 3.7</b>	<b>Encourage savings and promote insurance</b>					
SOW 3.7.1	Conduct meeting with financial institutions	Event	8	8	100	Completed.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
SOW 3.7.2	Conduct insurance promotion activities	Event	8	8	100	Completed.
SOW 3.7.3	Conduct liaison meetings between financial institutions (commercial banks, development banks, cooperatives) and private companies to facilitate warehouse receipts	Event	2	2	100	Completed.
<b>SOW 4</b>	<b>Strengthen supply chain and promote diversified grain sourcing</b>					
<b>SOW 4.1</b>	<b>Facilitate business negotiations and planning with input suppliers</b>					
SOW 4.1.1	Conduct linkage meetings	Event	8	8	100	Completed.
<b>SOW 4.2</b>	<b>Promote aggregation in rice and maize sectors</b>					
SOW 4.2.1	Promote new technology for aggregation.	No.	3	0	0	Due to global supply chain issues and high price volatility, could not be conducted in Y5. Project's partnership and innovation fund advisory committee has approved piloting of cocoon bags with new grantee partners in Y6-Y7.
SOW 4.2.2	Establish partnerships with Nepal Warehousing Company and trader	No.	3	3	100	Completed.
SOW 4.2.3	Pilot maize drying technology in two districts	Event	2	2	100	Completed.
<b>SOW 5</b>	<b>Strengthen coordination with GON and industry associations</b>					
<b>SOW 5.1</b>	<b>Collaborate with GON and industry associations</b>					
SOW 5.1.1	Conduct collaboration meeting with GON and industry associations	Event	3	3	100	Meeting conducted with Nepal Feed Association, Nepal Bankers Association and Participated in workshop organized by Department of Agriculture and Nepal Agriculture Extension Association.
<b>SOW 5.2</b>	<b>Map warehouse investments (public and private)</b>					
SOW 5.2.1	Map warehouse investments (both public and private)	No.	8	8	100	Completed.
<b>SOW 5.3</b>	<b>Collaborate with other actors</b>					
SOW 5.1.1	Conduct collaboration meeting with other stakeholders	Event	3	3	100	Completed.
SOW 5.1.2	Conduct linkage meeting with ICT providers/companies	Event	1	1	100	Completed.
<b>Obj. 3</b>	<b>Assess the needs of migrant returnees and other populations heavily affected by the COVID-19 crisis and connect them to agriculture-related employment opportunities</b>					
<b>SOW 6</b>	<b>Continue review of returnee migrant workers and other groups heavily impacted by the COVID-19 and of relevant GON and non-governmental resources</b>					
SOW 6.1	Assessment on needs and preferences of target population (returnee migrants and COVID-19 affected population) completed	Report	1	1	100	Finalized in March 2022.

Activity No.	Component, Sub-objective, Activity	Unit	Y5 Target	Y5 Achievement	% Achievement	Remarks
<b>SOW 7</b>	<b>Build capacity of migrant returnees and other populations heavily affected by the COVID-19 crisis</b>					
SOW 7.1	Select subcontractors	Person	4	0	0	KISAN II decided to conduct training and capacity building activities to 314 target population through one subcontractor. Firm has been selected and onboarding of this firm will be completed early Y6T1.
SOW 7.2	Conduct vocational training to migrant returnees.	Person	300	0	0	Delay in finalizing subcontract.
SOW 7.3	Conduct short-term training to targeted participants.	Person	150	0	0	Delay in finalizing subcontract.
SOW 7.4	Train participants and support them for NSTB skill test and facilitate 15 in-kind grants.	Person	50	0	0	Delayed in finalizing subcontract.
SOW 7.5	Engage participants for OJT or apprenticeship	Person	30	0	0	Delay in finalizing subcontract.
SOW 7.6	Train participants on Business Management	Person	100	0	0	Delay in finalizing subcontract.
SOW 7.7	Train participants on Business Development	Person	400	0	0	Delay in finalizing subcontract.
<b>SOW 8</b>	<b>Facilitate access to credit for migrant returnees and other populations heavily affected by the COVID-19 crisis through advocacy and coordination with financial institutions</b>					
SOW 8.1	Orient target populations on access to financial services and business plan requirements.	Person	1030		0	Delay in finalizing subcontract.
<b>SOW 9</b>	<b>CLA and MEL Activities</b>					
SOW 9.1	Conduct MEL learning workshop on maize and fine rice (in conjunction with Activity 5.1)	Report	1	1	100	Completed.
SOW 9.2	Design and conduct an annual farmers' survey to measure outcomes (in conjunction with Activity 5.2)	Event	1	1	100	All districts.
SOW 9.3	Design and conduct an annual organizational census survey to measure outcome (in conjunction with Activity 5.2)	Event	1	1	100	208 grant partners/affiliates surveyed.
SOW 9.4	Submit SOW performance data to USAID and GON (As needed) (in conjunction with Activity 5.2)		1	1	100	Included in annual progress report 2022.
SOW 9.5	Update the KISAN II Environmental Management and Monitoring Plan (EMMP) for Year 6 (in conjunction with Activity 5.2)	Report	1	1	100	Completed.
SOW 9.6	Train grantees' staff on EMMP and PERSUAP	Person	80	71	89	Partner delay in hiring extension staff.
<b>SOW 10</b>	<b>Grants under Contract (GUC) Activities</b>					
SOW 10.1	Issue an Annual Program Statement and/or RFA targeting rice and maize sector actors (if needed)	No.	1	2	200	An additional RFA was published targeting maize aggregators, processors, and other maize value chain actors.
SOW 10.2	Award grants	No.	24	24	100	The total number of active partners is 25.



## ANNEX 5. PERFORMANCE INDICATOR TRACKING TABLE

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
K1	EG. 3-1 (Nepal 2.1.1-4)	Number of households benefiting directly from USG assistance under Feed the Future	NA	233,000	235,789	101	
K2	EG.3-2	Number of individuals participating in USG food security programs [IM-level]	NA	237,800	258,808	109	
K3	EG.3.2-1 (Nepal 2.1.1-3)	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training [IM-level]	NA	81,800	85,223	104	
K4	EG.3.2-24	Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance [IM-level]	122,854	203,316	197,084	97	
K5	Custom 1 (EG.3.2-306_CUST)	Average number of improved management practices or technologies applied per household with USG assistance.	4	5.4	4.88	90	
		Type of Commodities: Rice	5	7	6		
		Type of Commodities: Maize	3	6	4		
		Type of Commodities: Lentil	3	5	3		
		Type of Commodities: Vegetables	6	7	5		
		Type of Commodities: Goats	2	2	4		
K6	GNDR-2	Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources (assets, credit, income, or employment)		80%	84%	105	
K7	YOUTH-3	Percentage of participants in USG-assisted programs designed to increase access to productive economic resources who are youth (15-29) [IM-level]		15%	10%	69	
K8	EG.3.2-25	Number of hectares under improved management practices or technologies with USG assistance [IM-level]	39,685	74,075	53,321	72	Reduced number of individuals cultivating in a lesser area (28%) resulted in a lower number of hectares.
K9	Reporting 1 (EG. 3.2.-307-CUST)	Total farm-level volumes (MT) produced of targeted agricultural commodities with USG assistance (rice, maize, lentil, vegetables, goats)	180,218	837,705	495,018	59	Due to COVID-19 constraints and October 2021 heavy rain, as well as supply chain constraints resulted in less cultivated area and low production.
		Commodities: Rice	101,894	260,995	226,666		
		Commodities: Maize	22,885	50,600	31,514		
		Commodities: Lentil	2,753	5,877	4,565		

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
		Commodities: Vegetables	48,448	519,770	231,156		
		Commodities: Goats	4,239	464	1,117		
K10a	EG.3-10	Yield of targeted agricultural commodities among program participants with USG assistance per hectare [IM-level]		313	286	92	
		Crops: Rice	3.49	5.28	5.21	99	
		# of HH		82,000	81,597		
		# of male	39,872		35,395		
		# of female	21,262		46,202		
		Total Production (MT)	101,894	260,995	226,666		
		Unit of Production (Ha)	29,173	49,460	43,488		
		Crops: Maize	2	4	3.54	88	The shortfall is primarily due to unavailability of quality seeds. supply chain distortions, and lower technologies adopted.
		# of HH		50,000	48,978		
		# of male	34,479		22,468		
		# of female	23,472		26,510		
		Total Production (MT)	22,885	50,600	31,514		
		Unit of Production (Ha)	11,687	12,650	8,907		
		Crops: Lentil	1	1.03	0.94	91	
		# of HH		24,500	33,654		
		# of male	17,770		13,088		
		# of female	8,841		20,566		
		Total Production (MT)	2,753	5,877	4,565		
		Unit of Production (Ha)	5,001	5,713	4,879		
		Crops: Tomato	14	42.4	34.41	81	Reduction in cultivated area by 30%, led to a decrease in production per household by 35% and yield by 19%. This reduction mainly is due to hill farmers (75%) experiencing lower yield (32.80 MT/ha) than farmers in Terai (55.67 MT/ha).
		# of HH		71,964	47,856		
		# of male	10,123		20,780		
		# of female	6,144		27,076		
		Total Production (MT)	9,459	101,754	43,660		
		Unit of Production (Ha)	658	2,400	1,269		
		Crops: Cauliflower	12	23.83	24.48	103	
		# of HH		109,193	73,883		
		# of male	11,891		5,877		
		# of female	7,868		68,006		
		Total Production (MT)	10,834	99,598	42,509		
		Unit of Production (Ha)	935	4,180	1,736		
		Crops: Cabbage	14	33.22	29.54	89	The reduction in yield was mainly due to October 2021 rain, which washed seedlings from nursery beds. Thus, farmers were left
		# of HH		79,445	71,574		
		# of male	9,946		2,519		

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
		# of female	7,691		69,056		no choice but to use damaged or poor-quality seedlings.
		Total Production (MT)	7,740	93,878	39,866		
		Unit of Production (Ha)	537	2,826	1,350		
		Crops: Cucumber	12	32.42	31.06	96	
		# of HH		51,479	49,325		
		# of male	4,951		2,729		
		# of female	5,083		46,597		
		Total Production (MT)	4,011	60,437	22,794		
		Unit of Production (Ha)	343	1,864	734		
		Crops: Bitter gourd	13	28.52	25.1	88	Unexpected October 2021 rain flooded the farmers' field and therefore farmers planted bitter gourd on 67% less area than planned. Due to COVID-19 supply chain distortion, better varieties like Pali were not readily available and yield fell by 12%.
		# of HH		47,560	35,053		
		# of male	4,111		1,469		
		# of female	3,846		33,583		
		Total Production (MT)	1,811	36,621	10,024		
		Unit of Production (Ha)	141	1,284	399		
		Crops: Bottle gourd	15	31.92	26.63	83	With reduced area due to October 2021 rain and delayed planting time, yield was reduced (farmers chose a less productive and cheaper variety as per availability in market).
		# of HH		27,432	26,657		
		# of male	2,741		1,259		
		# of female	4,553		25,397		
		Total Production (MT)	905	22,855	6,758		
		Unit of Production (Ha)	59	716	254		
		Crops: Eggplant	15	28.17	28.18	100	
		# of HH		7,838	9,235		
		# of male	1,680				
		# of female	1,415		9,235		
		Total Production (MT)	629	4,732	3,465		
		Unit of Production (Ha)	42	168	123		
		Crops: Chili pepper	2	18.69	20.72	111	The rate of decrease in production (31%) is lower than the decrease rate in cultivated area (42%). Despite of lower overall production yields of chili pepper increased by 11% due to the use of hybrid varieties.
		# of HH		39,545	30,435		
		# of male	4,288		1,049		
		# of female	2,475		29,385		
		Total Production (MT)	1,784	23,103	11,390		
		Unit of Production (Ha)	864	1,236	550		
		Crops: Onion	5	22.78	18.17	80	Farmers' transplanted area was reduced and, with the use of the remaining inferior seedlings, yield also decreased by 24%.
		# of HH		28,501	35,682		
		# of male	4,862		3,148		
		# of female	5,393		32,534		
		Total Production (MT)	856	14,943	5,834		

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
		Unit of Production (Ha)	157	656	321		
		Crops: Green bean (French Bean)	5	14.2	14.57	103	
		# of HH		15,497	24,978		
		# of male	2,431		1,889		
		# of female	3,271		23,088		
		Total Production (MT)	868	7,127	3,789		
		Unit of Production (Ha)	165	502	260		
		Crops: Other vegs		20.19	17.69	88	
		# of HH		67,689	96,132		
		# of male			34,633		
		# of female			61,499		
		Total Production (MT)		54,722	41,067		
		Unit of Production (Ha)		2,711	2,321		
K10b	EG.3-11	Yield of targeted agricultural commodities among program participants with USG assistance per animal [IM-level]	6	6.22	6.18	99	
		Product system: Small-holder mixed livestock-crop		5,860	13,063		
		Live animals kg: Total	1,977,616	463,669	1,116,630		
		Unit of Production: Maximum number of herds	316,496	74,491	180,783		
K11	EG.3.2-26 disaggregate	Value of annual sales of input suppliers receiving USG assistance (IM-Level)	816,118	10,935,942	14,696,702.64	134	
		Firm: Microenterprise	816,118	8,099,244	11,600,750	143	
		Firm: Small and medium enterprise		2,836,698	3,095,953	109	
K12	EG.3.2-28	Number of hectares under improved management practices or technologies that promote improved climate risk reduction and/or natural resources management with USG assistance [IM-level]	22,670	39,961	31,900	80	Fewer individuals applying lower number of improved management practices and technologies (K4) caused 20% reduction in number of ha under improved management practices and technologies that promote improved climate risk reduction and/or natural resources management (K12) by 20%.
K13	Custom 2 (EG. 3.2-308-CUST)	Average number of climate-smart technologies or practices applied per household with USG assistance.	2	1	1	100	
K14	(EG.3.2-4)	Number of for-profit private enterprises, producer organizations, water user associations, women's groups, trade and business associations,	NA	260	272	105	

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
		and community-based organizations (CBOs) receiving USG food security related organizational development assistance					
K15	CBLD-9	Percent of USG-assisted organizations with increased performance improvement [IM-level]	NA	90%	99%	110	
		Numerator = number of organizations of this type with improved performance		199	206		
		Denominator = number of USG-assisted organizations of this type receiving organizational capacity development support		221	208		
K16	EG.3.2-20 Nepal 2.1.2-2	Number of for-profit private enterprises, producer's organizations, water user associations, women's groups, trade and business associations and community-based organizations (CBOs) that applied improved organization-level management practices or technologies with USG assistance [8] (RAA) (WOG)	NA	210	208	99	
K17	EG.3.2-26	Value of annual sales of producers and firms receiving USG assistance	39,324,926	214,832,454	144,763,280	67	
		Producer: Smallholder	28,361,517	172,850,974	85,403,228	49	A single contributing factor to farm level sales was optimistic target-setting based on the assumption that the COVID-19 situation will be normalized in Y5, enabling KISAN II partners to work at full capacity from March 2022 onwards.
		Agriculture commodities: Rice					The main reason for lower sales was the untimely post-monsoon rain and floods in October 2021, which caused enormous loss of ready-to-harvest and newly harvested paddy across KISAN II ZOI.
		Rice: Value of sales (\$ USD)	6,789,764	26,240,488	15,755,631	60	
		Volume of sales (MT)	26,872	117,750	77,254		
		Number of participants producers	61,134	82,000	81,597		
		Agriculture commodities: Maize	11.99				Contributing factors include lower maize yield (11% reduction in maize yield) and maize area reduction by 30%. In addition, only 50% of producers sold maize versus the anticipated Y5 target of 76%.
		Maize: Value of sales (\$ USD)	769,592	6,325,000	3,323,944	53	
		Volume of sales (MT)	3,340	25,300	12,044		
		Number of participants producers	57,951	50,000	48,978		
		Agriculture commodities: Lentil	1.43				

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
		Lentil: Value of sales (\$ USD)	590,976	2,466,102	1,958,159	79	Key reasons include farmers planting lentils in 15% less area cultivated than targeted, lower lentil yields (9% below target), and lower production (38% less than targeted). Farmers could not plant lentils in lowland areas due to excessive soil moisture after the October 2021 untimely rain. Although lentil prices were 27% higher than the target, farmers only sold 80% of the targeted annual sales.
		Volume of sales (MT)	1,119	3,639	2,269		
		Number of participants producers	26,611	24,500	33,654		
		Agriculture commodities: Vegetables	0.67				
		Vegetables: Value of sales (\$ USD)	11,901,397	135,827,574	58,430,439	43	The untimely October 2021 rain, which washed away 100% of farmers' nurseries, left only a small quantity of inferior quality seedlings that were not adequate to cover the targeted planting area. As a result, overall production and sales of vegetables were low.
		Volume of sales (MT)	39,343	461,276	196,987		
		Number of participants producers	58,968	158,000	158,261		
		Agriculture commodities: Goats	21.8				Annual goat sector sales were 198% above the target due to the use of artificial insemination and partners' intensive support for goat raisers, which contributed to the increases in meat sales.
		Goat: Value of sales (\$ USD)	8,309,787	1,991,809	5,935,056	298	
		Volume of sales (MT)	1,969	503	1,117		
		Number of participants producers	58,968	5,860	13,063		
		Producer: Non-smallholder					
		Firm: Microenterprise	1,285,299	16,107,333	23,487,838	146	
		Firm: Small and medium enterprise	9,678,110	25,874,147	35,872,214	139	
K18	Reporting 2 (EG.3.2-2-CUST)	Volume of annual sales (MT) of farms receiving USG assistance (rice, maize, lentil, vegetables, goats)	70,675	608,469	289,671	48	Untimely rain, COVID-19 effects, and supply chain disturbance reduced production of the targeted commodities and sales volume.
K19	EG.3.2-24 disaggregate) Nepal 2.1.1-2	Number of Individuals who have applied improved management practices or technologies with USG assistance – related to marketing and distribution	32,094	133,214	164,270	123	

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
K20	Custom 3 (EG.3.2-309-CUST)	Percentage of USG-assisted-Household accessing information on improved technologies and practices through improved ICT channels or content	0	63%	81%	129	
		Numerator		127,649	163,651		
		Denominator		203,095	202,242		
K21	Reporting 3 (EG.3.2-310-CUST)	Percentage change in the number of municipalities (palikas) in the ZOI that have access to markets	NA	43%	42%	98	
K22	EG.4.2-2	Number of financial intermediaries serving poor households and microenterprises supported by USG assistance	NA	69	74	107	
K23	EG.3.2-27	Value of agriculture-related financing accessed as a result of USG assistance [IM-level]	NA	59,344,896	76,017,944	128	
		Size of recipient: Small Holders		31,645,065	48,630,689		
		Size of recipient: Individuals/microenterprises		4,919,644	5,963,975		
		Size of recipient: small and medium enterprises		22,780,187	21,423,280		
K24	EG.4.2-7	Number of individuals participating in USG-assisted group-based savings, micro-finance, or lending programs [IM-level]	63,521	150,176	121,139	81	Access to finance by individuals participating in group-based savings reduced by COVID-19 movement restrictions.
K25	Reporting 4 (EG.3.2-311-CUST)	Value of household savings deposits of USG-assisted smallholders	NA	6,773,719	8,529,707	126	Even though the number of participating individuals was reduced, per person deposits increased by 26% above the target as coping mechanism.
K26	Reporting 5 (EG.3.2-312-CUST)	Value of the outstanding balance on agriculture loans of USG-assisted households	NA	23,811,860	37,236,400	156	Farmers are taking more loans (increased by 28% (K23) and outstanding loans also increased by 56%.
K27	EG.3.1-14	Value of new USG commitments and private sector investment leveraged by the USG to support food security and nutrition [IM-level]	NA	1,513,614	1,807,195	119	Increase in total commitment is due to increased private sector leveraged amount.
		USG commitment amount		1,230,000	1,123,582		
		Private sector partner leveraged amount		283,614	683,613		
K28	DR.2.1-301 - CUST and EG.3.1-12 Nepal 1.4-1	Number of agricultural and nutritional enabling environment policies analyzed, consulted on, drafted, or revised, approved, and implemented with USG assistance [IM-level]	NA	4	6	150	Addressed government's requests.

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
K29	Nepal 2.1.2-2 EG.3.2-20 Disaggregate	Number of for-profit firms and organizations that applied improved organization level technologies or management practices with USG assistance – for effective management and governance of infrastructure (market, storage, and agro-processing)	NA	71	73	103	
K30	EG.3.2-1 (Nepal 2.1.1-3) disaggregate	Number of individuals who have received short-term training – on food grading or safety	NA	20,325	21,109	104	
K31	K31 (EG.3.2-24 disaggregate)	Number of farmers and others who applied improved technologies or management practices – on food grading or safety	NA	18,718	19,983	107	
K32	Nepal 2.1.2-1 EG.3.2-4 disaggregate	Number of for-profit firms and organizations receiving USG organizational assistance – related to food grading or safety	NA	48	50	104	
K33	Nepal 2.1.2-2 EG.3.2-20 Disaggregates	Number of for-profit firms and organizations that applied improved organization level technologies or management practices with USG assistance – related to food grading or safety	NA	38	40	104	
K34	Custom 4 EG.3.2-313- CUST	Number of investment feasibility studies, exposure tours, and/or guidance documents produced that promote evidence-based local investment in market systems	NA	4	9	225	Addressed government's requests.
K35	K35 (EG.3.2-1 (Nepal 2.1.1-3) disaggregate	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training – related to appropriate public and private sector roles and support for market systems development	NA	112	119	106	
K36	K36 (4.5.2 - Z15) EG.3.2- 305-CUST	Number of people trained in entrepreneurial skills through USG supported programs	NA	9,000	9,397	104	
K37	Nepal 2.2.1-2 (4.5 ZOI) EG.3.2-301- CUST	Number of people trained in life skills through USG supported programs	NA	-			
K38	Nepal 2.2.2-2 (4.5.2- ZO3) EG.3.2-303- CUST	Number of people trained in access to financial services through USG supported programs	NA	-			



KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
K39	Custom 4 EG.3.2-314-CUST	Percentage of business literacy trainees that pass a competency test	NA	90%	89%	99	
K40	Nepal 2.2.3-1 (4.5.2-ZOI) EG.3.2-302-CUST	Percentage of entrepreneurial literacy trainees who initiate or expand sales of good and services	NA	90%	83%	93	
K41	Custom 5 EG.3.3-11	Quantity of nutrient-rich value chain commodities produced by direct beneficiaries with USG assistance that is set aside for home consumption (MT)	2,066	21,487	27,667	129	Increased due to higher consumption as farmers were not able to sell quantity produced.
K42	EG.3.2-1 (Nepal 2.1.1-3) disaggregate	Number of individuals who have received short-term training on adaptive management	NA	8,648	8,693	101	
K43	EG.3.2-4 Disaggregates	Number of for-profit firms and organizations receiving USG organizational assistance related to CLA or monitoring shocks and stressors	NA	21	21	100	
K44	Nepal 2.1.2-2 EG.3.2-20 Disaggregates	Number of for-profit firms and organizations that have applied CLA or have a mechanism in place for monitoring shocks and stressors	NA	12	13	106	
K45	EG.3.2-1 EG. 11-1 (Nepal 2.1.1-3) disaggregate	Number of people trained in climate change adaptation supported by USG assistance	NA	20,325	21,732	107	
K46	EG.11-6 EG.3.2-24 disaggregate	Number of people using climate information or implementing risk-reducing actions to improve resilience to climate change as supported by USG assistance	NA	24,708	26,570	108	
K47	STIR - 10	Number of innovations supported through USG assistance	NA	5	5	100	
K48	STIR - 11	Number of innovations supported through USG assistance with demonstrated uptake by the public and/or private sector	NA	2	2	100	
K49	NEP PI 1.3.2-1 DR.4.3-304-CUST	Percent of leadership positions in USG-supported Business entities that are filled by a woman or member of a vulnerable group	1	53%	48%	90	
K50	EG.5-3 EG.3.2-4 disaggregate	Number of microenterprises supported by USG assistance on agriculture and food security related development	NA	242	259	107	

KISAN II Code No.	Code No. in M&E Plan	Indicator (With all disaggregated information as mentioned in PIRS)	Baseline	Y5		% of Target	Deviation Notes
				Target	Actual		
K51	Youth-1	Number of youth trained in soft skills/life skills through USG assisted programs (K51)	NA	2,700	3,593	133	
K52	EG.5-1	USD sales of firms receiving USG funded assistance		41,981,480	59,360,052	141	Sales increased as farmers had to pay more for inputs like seeds, fertilizers, and agri-inputs.
K53	EG. 5.2-1	Number of firms receiving USG funded technical assistance for improving business performance (EG.5.2-1)		199	206	104	
K54	Custom 1	Percentage change in sales of firms after receiving USG assistance		9%	35%	383	Percentage increased due to increased sales of firms.
K55	Custom 2	Number of private sector enterprises with increased access to finance due to USG assistance		113	106	94	
K56	Custom 3	Number of migrant workers and other population engaged in agribusinesses		3,000	3,356	111	KISAN II identified and engaged 3,356 migrant returnees and COVID-19 affected population in agribusiness based on demand.
K57	Custom 4	Value of sales per returnees and other priority populations (USD)		1,200	NA	NA	Will be reported in Year 6 after having obtained income from the agribusiness.
K58	Custom 5	Area expanded under fine rice with USG assistance in 2 districts of Sudurpaschim and 4 districts of Lumbini province	3,132	5,241	11,706	223	Due to increasing demand of fine rice in the market.
K59	Custom 6	Area expanded under maize for feed and other industrial uses with USG assistance in 2 districts of Sudurpaschim Province and 4 districts of Lumbini, Palpa and Surkhet districts.	3,530	4,720	1,739	37	Farmers reduced the area under maize as they could not sell all maize due to COVID-19 market distortions last year. In year 5, only 50% of producers could sell maize compared with target of 76%.

## ANNEX 6. SUMMARY OF FIXED-PRICE SUBCONTRACTS

No.	Name of Firm	Assignment Details	Remarks
1	Pathway Technologies	Maintain and host KISAN II's WIKISAN2 M&E system and provide web hosting, operations, and management support to KISAN II.	Awarded in April 2018. Will continue through life of project.
2	Full Bright Consultancy Private Limited	Conduct Y4 and Y5 farmer surveys.	Awarded in April 2022. Y4 survey completed. Y5 preliminary data submitted.
3	Sustainable Research and Development Center	Support in formulating Provincial Agriculture Development Strategy (PADS) in Sudurpaschim Province.	Awarded in July 2021. Assignment completed with no-cost extension.
4	NARMA Consultancy	Support in formulating PADS in Lumbini Province.	Awarded in July 2021. Assignment completed with no-cost extension.
5	Local Initiatives for Biodiversity, Research and Development	Conduct Agriculture Sector Labor Assessment and Assessment of Employment Aspiration of Migrant Returnees and Other Population Heavily Affected by COVID-19 for Increased Employment in Agricultural Sector.	Awarded in November 2021. Assignment completed with no-cost extension.
6	Nepal Integrated Development Initiatives	Assessment of disruptions in agricultural operations at the field level due ongoing COVID-19.	Awarded in March 2021. Completed with no-cost extension.
7	Biruwa Advisors Private Limited	Provide business development services to KISAN II rice and feed mills.	Awarded in December 2020. Completed with no-cost extension.
8	Sukalpa International Private Limited	Develop capacity-building modules for agrovets, traders, and goat farms.	Assignment completed.
9	Aria Solutions Private Limited	Conduct a pilot assessment on current state of access to finance, and to understand how farmers and agri-businesses impacted by COVID-19 are benefiting from the Nepal Rastra Bank support measures implemented by banks and financial institutions.	Awarded in January 2021. Completed with no-cost extension.
10	ICT for Agri Private Limited	Digitize KISAN II's existing agriculture training manual that comprehensively outlines production process for goats, vegetables, maize, lentils, and rice.	Awarded in April 2021. Assignment ongoing.
11	BMP Infology	Support five Boer goat farms to improve and use cloud-based software for record keeping and pedigree.	Awarded in June 2021. Completed with no-cost extension.

## **ANNEX 7. SUMMARY OF FIXED-PRICE PURCHASE ORDERS**

Fixed-price purchase orders were issued in Year 5 for the following services:

- Develop and air TV program.
- Develop an animated video on the RMM, and other outreach materials.
- Develop flyer on technology menu for grain storage.
- Conduct financial analysis to measure economic feasibility of the RMM.
- Develop and broadcast six radio public service announcements from Communication Corner (via Ujyaalo Network).
- Update branding and marking of KISAN II materials.
- Design country-specific safeguarding guidelines, develop informative materials, conduct interviews/surveys with staff and partners, and provide recommendations for further capacity development of KISAN II.
- Develop business plan formats and guidelines in coordination with Nepal Bankers Association; pilot the format and guidelines, gather feedback from loanees and banks on viability, and update guidelines as needed.