Cereal Systems Initiative for South Asia

CSISA Rapid Response and Resilience-building in Nepal’s Agrifood Systems and Russia–Ukraine crisis response: Building food system resilience to global supply chain and climate shocks in Nepal

Annual Report
October 2022- September 2023
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## List of Acronyms and Abbreviations

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<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AKC</td>
<td>Agriculture Knowledge Center</td>
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<tr>
<td>CGIAR</td>
<td>formerly the Consultative Group for International Agricultural Research</td>
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<tr>
<td>CIMMYT</td>
<td>International Maize and Wheat Improvement Center</td>
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<td>CSISA</td>
<td>Cereal Systems Initiative for South Asia</td>
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<tr>
<td>FtF</td>
<td>Feed the Future</td>
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<tr>
<td>FtF-ZoI</td>
<td>Feed the Future Zone of Influence</td>
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<tr>
<td>GoN</td>
<td>Government of Nepal</td>
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<td>GWRDB</td>
<td>Groundwater Resources Development Board</td>
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<td>iDE</td>
<td>International Development Enterprises</td>
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<td>IIDS</td>
<td>Institute for Integrated Development Studies</td>
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<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>INGO</td>
<td>International non-governmental organization</td>
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<tr>
<td>IVR</td>
<td>Interactive Voice Response</td>
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<td>KISAN</td>
<td>Knowledge-Based Integrated Sustainable Agriculture in Nepal</td>
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<td>LSP</td>
<td>local service provider</td>
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<td>ML</td>
<td>machine learning</td>
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<td>MoALD</td>
<td>Ministry of Agriculture and Livestock Development</td>
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<td>MoLMAC</td>
<td>Ministry of Land Management, Agriculture and Cooperative</td>
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<td>MOT</td>
<td>Mitigation options tool</td>
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<td>MSME</td>
<td>Micro, Small and Medium Enterprises</td>
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<td>NARC</td>
<td>Nepal Agricultural Research Council</td>
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<td>NARES</td>
<td>National Agricultural Research and Extension Systems</td>
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<td>NIMB</td>
<td>Nepal Investment Mega Bank</td>
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<td>NSAE</td>
<td>Nepalese Society of Agricultural Engineers</td>
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<td>ODK</td>
<td>Open Data Kit</td>
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<td>NPR</td>
<td>Nepali rupee</td>
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<td>PMAMP</td>
<td>Prime Minister Agriculture Modernization Project</td>
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<td>PMC</td>
<td>price monitoring cell</td>
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<td>POS</td>
<td>point-of-sale</td>
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<td>PQPMC</td>
<td>Plant Quarantine and Pesticide Management Center</td>
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<td>SP</td>
<td>Service provider</td>
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</table>
SAWTEE  South Asia Watch on Trade, Economics and Environment
TOT     Training of Trainers
USAID   United States Agency for International Development
WP      Work package
ZoI     Zone of Influence
The CSISA Response and Resilience Activity was originally an 18-month (July 2020–December 2021) buy-in from the USAID/Nepal Mission to the wider CSISA program. Its aim is to rapidly and effectively respond to the threats posed by the COVID-19 crisis that undermine the recovery and sustained resilience of farmers in the FtF Zone of Nepal, with two initial Objectives:

**Objective I:** Enable rapid, targeted, and effective agricultural COVID-19 crisis response through scale-appropriate farm mechanization and rural services provision.

**Objective II:** Break the smallholder irrigation bottleneck and build rural resilience to the COVID-19 crisis.

Following the second weave of COVID-19 in Nepal during the second and third calendar quarters of 2021, a third objective was added with activities planned that will span from September of 2021 through June of 2023. This objective is as follows:

**Objective III:** Supporting rapid response and resilience-building from Nepal’s second COVID-19 wave.

Objectives I and II finalized by April 2022 and its outcomes were presented in the CSISA Response Activity Semi-Annual Report. The passages below provide updates on Objective III during the October 2022 through March 2023 reporting period.
Objective III: Supporting rapid response and building resilience to Nepal's second COVID-19 wave

From April to late September 2021, Nepal experienced its second major wave of COVID-19, followed by a third minor wave, which posed significant threats to agrifood systems and livelihoods. These challenges were driven by factors such as lockdowns, disruptions in transportation and marketing, social distancing measures that hindered farmer and value chain interactions, and increased infection rates that led to a shortage of essential farm labor, particularly among marginalized and female farmers.

Simultaneously, small and medium-scale enterprises within the FtF Zone suffered economic hardships. National food and nutrition security were compromised by rising costs of imported staples, and shortfalls in domestic production, both preceding and during the crisis. The pandemic and associated lockdowns heightened the demand for accurate and timely information on market access for inputs and outputs, crop diseases and pests, as well as insurance and credit services. It's essential to acknowledge the existing inequalities that hinder women and marginalized groups from accessing this crucial information, exacerbating their economic burdens.

In response, USAID/Nepal allocated an additional USD 3 million as part of the broader CSISA portfolio to support swift responses and ongoing resilience-building efforts within Nepal's agrifood systems. These activities encompass immediate response initiatives implemented from September 2021 to June 2023. They are designed to effectively rebuild critical components of Nepal's agrifood systems, particularly focusing on marginalized groups in the FtF zone, who have borne a disproportionate impact from the second wave of the COVID-19 crisis.

The primary areas of intervention revolve around facilitating access to finance for small- and medium-scale agricultural input and service providers, facilitating recovery and response in the post-harvest value chain, with a special emphasis on financial products benefiting businesses engaged in marketing and distributing perishable farm products. Moreover, there is an effort to expand digital banking services to support socially distanced agricultural finance transactions.

Furthermore, these interventions aim to scale out agricultural mechanization services by extending their reach to new districts not currently covered by CSISA's Objective I activities. This expansion is aligned with the overarching goals of enhancing national food security and fortifying agricultural economies, especially during times of crisis. Lastly, Objective III focuses on ensuring a comprehensive recovery from the impact of COVID-19 while concurrently building the resilience of key elements within the agrifood system, ensuring they are better prepared to withstand future shocks, including but not limited to those related to COVID-19.
WORK PACKAGE 1: ASSURING SMALL- AND MEDIUM-SCALE INPUT AND SERVICES PROVISION BUSINESS RECOVERY AND REHABILITATION THROUGH ACCESS TO FINANCE

This work package is dedicated to crafting tailored business models for financing and expediting access to response and recovery loans from financial institutions, particularly in response to the second and third waves of COVID-19. There is a strong emphasis on creating specialized financial products designed to benefit women and marginalized groups. Building upon the agreements established with banks on behalf of CSISA as part of Objective I, these partnerships are being leveraged to swiftly offer opportunities for accessing finance to various agricultural enterprises. These encompass agrovets, agricultural machinery dealers, and businesses involved in agricultural inputs or services, all of which are either owned or operated by women or members of marginalized communities that have faced losses due to lockdowns and the impact of COVID-19. Therefore, CSISA is intensifying its engagement with these financial institutions to develop customized business models geared towards addressing the specific challenges posed by COVID-19. This includes the provision of input business support loans to small- and medium-scale agricultural input suppliers, machinery dealers, and agriculturally oriented businesses owned or operated by women or marginalized communities, or those that employ individuals from these groups.

**Develop customized business models for financing and facilitate rapid access to response and recovery loans from the second wave of COVID-19, with emphasis on specialized products for women and marginalized groups**

The work package involves the process of identifying and engaging with agrovets, which are small and medium-sized agricultural input suppliers. Work encompasses the efforts to connect these agrovets with banks and financial institutions to facilitate access to finance. This involves negotiating favorable loan terms and conditions for these businesses.

By the end of the reporting year, the Activity achieved significant milestones by successfully onboarding 95 small and medium-sized agricultural input suppliers, commonly known as agrovets, and establishing valuable connections with banks and financial institutions. Notably, this effort had a meaningful impact on the local communities, with 29.5% of these agrovets being owned by women and 57.9% by marginalized communities, including Dalits, disadvantaged Janajatis, and disadvantaged Madheshi. The total loan amount disbursed amounted to USD $590,256, with an average loan size of USD $6,213.2 for each recipient.

These funds played a vital role in supporting the operations of these agrovets, enabling them to access essential agricultural inputs such as seeds, animal feed and medicine, agricultural tools and equipment, bio-fertilizers, vitamins, pesticides, and biopesticides. On the farmer's side, 17,953 farmers are benefiting from Work Package 1 MSMEs in the Activity. Notably, 77.1% of these farmers belong to marginalized communities, including Dalits, Disadvantaged Janajatis, and Disadvantaged Madheshi, while 56.7% of the beneficiaries are female.
**Above:** Work Package 1 focuses on Micro, Small, and Medium-sized Enterprises (MSMEs), specifically agrovets, within the context of the project’s objectives. This package aims to provide a comprehensive overview of the initiatives and activities undertaken to support these businesses.

**Above:** Work Package 1 MSME (Agrovets) within the Activity has successfully served a substantial number of farmers in the reporting period.
These efforts are of significant relevance to smallholder farmers and small businesses in Nepal, as it provides opportunities to access with essential financial resources aimed at augmenting their productivity, expanding their enterprises, and ameliorating their socioeconomic well-being. The facilitation of access to financial resources, with a particular focus on women and marginalized communities, serves as a pivotal mechanism for bolstering resilience and stimulating economic advancement within these demographic groups. Consequently, CSISA’s work engenders an overall fortification of agrifood systems, thereby aiming to create tangible benefits for Nepal’s overarching agricultural economy.

1.2 Expand and scale access to recovery and resilience-building loans following the second wave of COVID-19

Within CSISA, comprehensive business development support was extended to the onboarded MSMEs to enable them to expand their outreach to a larger number of farmers and enhance their resilience through sustained business operations. This support encompassed a range of critical elements during the reporting period, including:

1. **Business Management Training:** The Activity offered training in effective business management practices. This equipped the MSMEs with the knowledge and skills necessary to efficiently run their agricultural input supply businesses.

2. **Financial Management Training:** Financial management training was a key component of the support provided. This training aimed to enhance the MSMEs' financial literacy, enabling them to manage their finances effectively and make informed financial decisions.

3. **Technical Training on Crop Disease and Pest Management:** MSMEs received technical training focused on the identification and management of diseases and pests affecting crops. This knowledge empowered them to offer valuable insights and solutions to farmers dealing with these challenges.

These initiatives collectively contributed to strengthening the capacity of MSMEs, enabling them to serve more farmers and build resilience within their businesses. Details of these activities are summarized below.

**Training in Improved Agricultural Practices to Agrovets**

During the reporting period, a training program was conducted with active participation from 109 individuals, representing agrovets across all seven districts covered by the Activity. The training aimed to improve agricultural practices and covered a diverse range of topics. Participants learned about the importance of crop insurance and its role in managing agricultural risks. They also delved into the identification and management of major insect pests and diseases affecting rice, wheat, and maize crops, with a focus on effective control measures. The significance of Integrated Pest Management (IPM) techniques was emphasized, including the identification of both beneficial and harmful insects and the utilization of IPM tools. The training also highlighted the importance of Seed Acts and current regulations, underlining the need for updated seed policies.
to promote sustainable agriculture. Participants gained knowledge about harmful pests, their life cycles, and methods for analyzing damage. Discussions covered various control mechanisms to mitigate pest-related risks and explored the utilization of ICT based agricultural advisory applications as valuable tools in modern farming practices. This training program served as a platform for knowledge sharing and capacity building, equipping participants with the skills and information required to enhance agricultural practices and contribute to the growth and sustainability of the agricultural sector in the region.

Above: Participants of the Agricultural Technical Training on Disease and Pest management of Crops. Surkhet district, April 7, 2023. Photo credit: Bina Bista, Program Officer.

Training in account/book-keeping, financial management, and government compliance

The majority of the MSMEs onboarded into the above work during the reporting period were not utilizing bookkeeping practices for financial management prior to their contact with CSISA. To address this gap, CSISA organized four two-day training sessions focusing on account and bookkeeping, financial management, and compliance with the regulations set by the Government of Nepal. These training sessions were attended by a total of 77 MSMEs in four districts: Kanchanpur (March 23–24), Banke (March 25–26), Surkhet (March 27–28), and Dang (March 30–31).
The training sessions encompassed various critical topics, including receivable and working capital management, maintaining a daybook, effective bank transaction management, budget management, internal control system management, revenue, expenditure and liabilities management, equity management, cost of goods calculation, trial balance, profit and loss statement, financial position, and cash flow management.

Participants acquired comprehensive knowledge in financial management, government compliance, and regulatory matters. They also practiced simplified accounting and bookkeeping systems. This training is expected to have a positive impact on the business performance of these MSMEs, potentially leading to increased revenue and profitability. Ultimately, it will support them in repaying loans facilitated by CSISA through financial institutes in Nepal.

**Business development support**

CSISA also played a pivotal role in supporting agrovets in expanding their businesses through promotional activities during the reporting period. Efforts included practical demonstrations to showcase effective techniques in insect pest management, resource-conserving and climate-smart agricultural technologies, and other relevant agricultural practices. Informative leaflets were distributed to disseminate knowledge and guidance on various aspects of agriculture, benefiting both agrovets and their customers. Eye-catching banners and hoarding boards were used to convey key information related to insect pest management, crop calendars, and resource-smart agricultural technologies.

**Above:** Pocket diaries containing information about improved agricultural practices were prepared by CSISA during the reporting period and distributed to MSMEs. Additionally, crop calendars, which provide information to improve farming practices, were distributed. These resources aim to assist farmers in making informed decisions and optimizing their agricultural activities. March 2023 Photo credit: Om Prakash Chaudhary
Furthermore, the Activity facilitated the production of crop calendars for agrovets to distribute to their customers. These calendars provided comprehensive information on the planting seasons of early, medium, and late varieties of crops. In addition, diaries were created, featuring a cover page with details about each individual agrovet and contact information for relevant stakeholders. These diaries encouraged farmers to maintain records of their day-to-day expenses and monthly income, promoting financial awareness and better management. These activities were designed to equip agrovets with valuable tools and resources to enhance their businesses, while simultaneously providing farmers with essential information and tools for better agricultural practices and financial management.

**Interaction among agricultural input suppliers**

Throughout the reporting period, CSISA effectively organized a total of seven events aimed at facilitating interactions among agricultural input suppliers in the Activity districts. These gatherings brought together a total of 86 agricultural input suppliers. During these meetings, participants engaged in discussions centered on the challenges and opportunities encountered by small-scale agrovets. They explored strategies to enhance customer outreach and improve business operations. The meetings also served as a platform for reflecting on the valuable contributions of community business facilitators and ways to maintain their motivation. Discussions revolved around the importance of business promotion activities, customer acquisition, and awareness of government regulations. Topics such as the current Seed Act and methods for pest and disease management were also highlighted and discussed in depth.

*Above: Agrovets benefited from an interaction program held in Birendranagar, Surkhet. This program provided them with a valuable platform to share their experiences and insights about their businesses, fostering collaborative learning and knowledge exchange among participants. Birendranagar, Surkhet, May 27, 2023. Photo: Bina Bista.*
Training: business management

In August 2023, CSISA facilitated business management training sessions for agrovets across all four of its working hubs: Dhangadhi (August 21–22), Nepalgunj (August 23–24), Surkhet (August 25–26) and Dang (August 27–28). The trainings encompassed a range of topics, including the business environment, entrepreneurial traits, business purpose and operations, as well as key elements of effective business management. It also equipped participants with essential skills in operation management, stock management, record-keeping, credit management, customer service and marketing.

A total of 121 participants (32% women) representing 95 MSMEs actively participated in these training sessions. Beyond enhancing individual skills, this training initiative served as a catalyst for strengthening networking and collaboration among the agrovets, thereby nurturing a robust and interconnected business ecosystem. The training platform also facilitated cross-learning, enabling participants to exchange insights and best practices, contributing to their collective success. It is important to emphasize that the impact of these training events is anticipated to extend well beyond the day itself. The knowledge and skills acquired by participants are expected to create a ripple effect, driving local businesses towards sustainable growth.

Above: CSISA conducted business management training sessions for agrovets at Hotel Valley View in Birendranagar, Surkhet. These sessions were designed to equip agrovets with essential skills and knowledge to effectively manage and grow their agricultural input supply businesses. May 27, 2023. Photo credit: Bina Bista.


**Seeds Retailer License and Pesticide Retailer License Training**

During the Activity's interactions with agrovet MSMEs as part of Work Package I, it came clear that a significant number of them lacked the necessary licenses to legally sell seeds and pesticides. This posed a substantial compliance risk to their businesses. In response to requests from these enterprises, CSISA organized two distinct training programs, including a 'Seed Retail Sales and Management Training' (August 14–16, 2023) and a 'Pesticides Retailer License Training' (September 8–13, 2023). Both training programs were held in Birendranagar, Surkhet, with the aim of addressing this compliance gap and enabling agrovet MSMEs to conduct their businesses in accordance with the necessary regulations.

The first training program witnessed active participation from a total of 31 agrovets representing different Activity districts, all of whom lacked seed retailing licenses. This program provided a comprehensive exploration of crucial aspects related to seed production and management. Topics covered included seed regulations, quality control, and proper storage practices. Participants acquired valuable insights and knowledge during the training sessions.

Upon successfully passing the post-training assessment, participants received certificates that granted them legal authorization to produce and sell seeds. This accomplishment marks a significant milestone for agrovets seeking to enhance their business prospects in the seed sector. The training program was expertly facilitated by professionals from the Seed Quality and Control Center (SQCC) under the Ministry of Agriculture and Livestock Development (MoALD), Government of Nepal.

The second training program centred on obtaining Pesticides Retailer Licensing and attracted the participation of 28 agrovets. This comprehensive six-day training initiative covered a wide range of topics. The program commenced with a historical overview of pesticides globally and within Nepal. Participants learned about the Pesticide Act of 2076 (Nepali year) and explored the associated regulations, rules, and directives. The training encompassed various facets, including pesticide types, toxicity, the status of registered and banned pesticides in Nepal, and practical aspects such as the process of obtaining a retailer license and the formulation of pesticides.

Environmental considerations were also addressed, with discussions on the environmental impacts of indiscriminate pesticide use. Other topics covered included plant clinic operations, integrated pest management, safety measures, and proper disposal techniques for pesticides.

Following the completion of the sixth day of training, participants underwent an examination for a pesticide retailer license, and all participants successfully passed this crucial assessment. This achievement marks a significant step in formalizing and regulating pesticide-related activities among agrovets. The training was conducted in close coordination with the Plant Quarantine and Pesticide Management Center (PQPMC).
The key outcome of this training program was the successful certification of all 28 agrovets. This accomplishment enables them to legally sell and distribute pesticides, fortifying their business operations in full compliance with essential licensing requirements.

Above: Participants of the Seeds Retailers Training proudly display their certificate licenses after successfully completing the training program held on August 14–15, 2023. These certificates grant them legal authorization to engage in seed production and sales, marking a significant achievement in their business endeavors. Photo by: Bina Bista.

**Strengthen last-mile supply chain actors linking them with agrovet enterprises and demand creation for resource-smart agricultural inputs/technologies**

Within the working districts of CSISA in Nepal, the majority of agrovets are situated in market areas, creating a significant supply chain gap between these market town retailers and smallholder farmers in remote villages. CSISA has adopted a strategic approach to bridge this gap by developing and strengthening last-mile supply chain actors known as 'community business facilitators' (CBFs). These CBFs play a crucial role in connecting with farm input firms to facilitate access to agricultural inputs and credit for farmers in rural areas.

CBFs are independent contractors who operate within specific regions of rural villages. They engage in selling agricultural products and inputs, receiving a commission from input dealers for their services. The Activity plays a pivotal role in facilitating the training of these CBFs, equipping them with the necessary technical skills and sales knowledge. The training encompasses key topics such as marketing and sales concepts, the roles and responsibilities of a CBF, qualities of an effective salesperson, and various aspects of the sales process. This includes customer
engagement, identifying customer needs, offering solutions, closing sales, overcoming obstacles, and coordinating with agricultural input suppliers.

As of September 2023, a total of 198 CBFs, comprising 128 women and 70 men, have undergone training supported by CSISA. These trained CBFs are actively conducting group sales meetings within their communities. These meetings serve to raise awareness and generate demand for various agricultural inputs and improved technologies, ultimately supporting smallholders in enhancing, intensifying, and aligning their agricultural production with market-oriented approaches. The CBFs, with their technical expertise and sales skills, play a vital role in bridging the gap between remote farmers and the necessary agricultural resources.

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| TOTAL INPUT DEMANDING FARMERS | 12,135 |

Above: Group sales meetings or presentations conducted by Community Business Facilitators (CBFs) are instrumental in raising awareness and driving demand for agricultural inputs and improved technologies within rural communities.

Group sales meetings or presentations conducted by CBFs are instrumental in raising awareness and driving demand for agricultural inputs and improved technologies within rural communities. These meetings typically involve CBFs engaging with groups of smallholder farmers to:

1. **Share Information**: CBFs provide information about available agricultural inputs, technologies, and their benefits. They educate farmers about the latest practices and products that can enhance their agricultural productivity.

2. **Demonstrate Usage**: CBFs conduct practical demonstrations to show farmers how to use specific inputs or technologies effectively. This hands-on approach helps farmers understand the practical application of these solutions.
3. **Address Questions:** Farmers have the opportunity to ask questions and seek clarifications about the products and practices being presented. CBFs play a vital role in providing accurate information and addressing concerns.

4. **Facilitate Sales:** Group sales meetings are also platforms for CBFs to promote the sale of agricultural inputs and technologies. They facilitate the ordering and distribution of these products to interested farmers.

From October 2022 to September 2023, CSISA played a pivotal role in organizing a total of 3,400 group sales meetings. Through these meetings, the Activity reached 43,020 farmers, with a significant focus on promoting women’s participation, as 73.7% of the attendees were women, and 26.3% were men. Among these farmers, a 12,135 individuals were documented as having made purchases from CBFs. These purchases amounted to a total turnover of NPR 6,005,294, which is approximately equivalent to $48,040. This substantial turnover directly contributed to the business volume of agrovet MSMEs supported by CSISA, showcasing the positive economic impact of the program and its ability to empower farmers while supporting the growth of agrovet businesses.

In summary, sales volumes achieved by CBFs in these group sales meetings are a key indicator of their effectiveness and the impact of their efforts. Sales represent the quantity of agricultural inputs purchased by farmers as a result of the awareness and demand generated during presentations. Increasing sales volumes indicate the successful adoption of improved practices and technologies by farmers, contributing to enhanced agricultural productivity and income.

*Above:* Community Business Facilitator Sita BK actively engaged in selling vegetable seeds to farmers in Chhakhawa, Duduwa Rural Municipality, Banke district. Sita BK’s role is vital in facilitating access to quality agricultural inputs for farmers, contributing to improved farm production [August 2023]. Photo credit: Manisha BK.
**Periodic review of CBFs and training in digital advisory services**

During the reporting period, the Activity played a pivotal role in facilitating regular review meetings between CBFs and agrovets. These meetings had a significant impact on rejuvenating and energizing CBFs in their roles. Additionally, the meetings served as a valuable platform for CSISA staff to acknowledge and appreciate the progress made by CBFs. Furthermore, these meetings provided a forum for gaining insights into field issues and challenges faced by CBFs. This direct feedback and exchange of information helped in addressing any obstacles and ensuring the continued effectiveness of CBFs in connecting farmers with agricultural inputs and technologies.

In addition to the regular review meetings, CSISA organized annual review meetings for CBFs across all four hubs in September 2023. These meetings were attended by a total of 70 active CBFs, with 53 women and 17 men among them. The annual review meetings served as a platform for multiple objectives. They rejuvenated CBFs, instilling fresh enthusiasm and dedication to their roles. These gatherings also infused positive energy into the CBFs, essential for their outreach efforts to reach more farmers effectively. Furthermore, the meetings included training sessions focused on digital advisory services. This training equipped CBFs with the necessary skills and knowledge to proficiently utilize mobile-based applications for providing agricultural advice and support to farmers.


CBFs were also exposed to new tools in trainings, inducing “FARM BETTER”. This android-based application is designed with the objective of enhancing the efficiency of the last-mile supply chain approach in agriculture. CBFs were also equipped with essential tools and materials to support their day-to-day operations effectively. These included a backpack, booklets containing
information on improved agricultural practices, and a magnifying glass to help identify pests. These material resources are intended to assist CBFs in optimizing their activities and ensuring the smooth execution of their responsibilities within the agricultural supply chain. Collectively, these annual review meetings and training initiatives empowered CBFs, enabling them to excel in their mission of reaching a broader spectrum of farmers and delivering valuable agricultural services through the proficient use of digital tools and technology.

**WORK PACKAGE 2: SPECIALTY FINANCIAL PRODUCTS AND SERVICES TO REDUCE POST-HARVEST LOSSES IN AT-RISK PERISHABLE FARM PRODUCT VALUE CHAINS**

This Work Package is dedicated to enhancing the response to and recovery from the impact of the second wave of COVID-19 and other shocks on farmers and businesses engaged in the production, distribution, and sale of perishable and nutritious commodities. Its primary focus is on the development and implementation of specialized financial products in collaboration with banks and lending institutions. These financial products are tailored to meet the unique needs of perishable value chains.

The activities within this package are specifically designed to benefit vulnerable businesses, particularly those owned by women and members of marginalized communities, who are engaged in various sectors, including post-harvest horticulture, food drying operations, dairy processing, canneries, essential oil distillation, packaging operations, and potentially, dairy marketing cooperatives. By targeting these sectors and providing specialized financial solutions, this Work Package aims to bolster the resilience and recovery of businesses that play a crucial role in the production and distribution of healthy and perishable commodities, thereby mitigating the adverse impacts of the pandemic on both livelihoods and food security.

2.1 Increase response and recovery from the second wave of the COVID–19 crisis for farmers and businesses involved in the production, distribution and sale of perishable and healthy commodities

To assist MSMEs involved in post-harvest businesses, CSISA is actively engaged in several activities. These efforts include facilitating access to finance, assisting with the business registration process, and aiding in the preparation of comprehensive business plans. The ultimate goal is to establish connections with financial institutions and secure loans for these MSMEs, thereby enhancing their capacity to grow and succeed in the post-harvest sector.

During the reporting period, 86 post-harvest enterprises operating within perishable product value chains were successfully launches with support of CSISA. These enterprises encompass various sectors, including dairy processing (40 enterprises), pickle production (13 enterprises), spice processing (6 enterprises), vegetable processing and drying (14 enterprises), and chow mien and sauce production (13 enterprises).
The Activity played a pivotal role in establishing connections between these MSMEs and banks and cooperatives. This facilitated their access to financial resources necessary for their operations. Additionally, the Activity provided valuable support in the form of business development services and training to further enhance the capabilities of these enterprises.

Above: Types of post-harvest and food processing enterprises supported by the Activity.

Among these 86 enterprises, a noteworthy 59.31% are owned by women, while 29.07% are owned or managed by individuals from marginalized groups, including Dalit, Disadvantaged Janajatis, and Disadvantaged Madhesi communities. This emphasis on diversity and inclusion reflects the commitment to ensuring that a broad spectrum of entrepreneurs can benefit from these initiatives, thereby promoting economic growth and empowerment across different segments of the population.
Under this Work Package, a total loan amount of US$439,704 was disbursed to MSMEs by financial institutions in Nepal through CSISA’s market facilitation work. The average loan size was US$5,113. These loans have been instrumental in supporting the growth and development of these enterprises. The primary use of these loans by the MSMEs has been to invest in machinery and equipment, enabling them to expand and diversify their product range. This strategic investment has allowed these businesses to meet customer demands more effectively and enhance their competitiveness in the market. Monitoring by CSISA revealed that these MSMEs have made a significant contribution to employment generation, providing jobs to a total of 301 individuals, including 137 women and 164 men, either on a full-time or part-time basis. This employment impact highlights the positive economic and social effects of these initiatives within the communities. A noteworthy achievement is that more than 80% of dairy MSMEs supported by the Activity have successfully diversified their product range. In addition to selling raw milk, they now produce items such as butter, curd, paneer, and sweets, aligning their offerings with customer preferences and market demand, ultimately contributing to increased profitability and sustainability.

The positive impact of these post-harvest entrepreneurs extends to farmers in the Activity’s working areas. A total of 2,332 farmers have directly benefited from their engagement with the entrepreneurs onboarded under WP2. Notably, 41% of these farmers belong to marginalized communities, including Dalit, Disadvantaged Janajatis, and Disadvantaged Madhesi groups, while 37.7% are women. This underscores the inclusive nature of the initiative, as it reaches and empowers a diverse range of farmers, contributing to their economic well-being and livelihoods.
2.2 Build resilience to the second wave of the COVID–19 crisis for farmers and businesses involved in the production, distribution and sales of perishable and healthy commodities

CSISA plays a crucial role in providing backstopping support to post-harvest MSMEs to enhance their marketing and technical capacity. This support included:

1. Coordinating with the Department of Food Technology and Quality Control to facilitate essential services. These services encompass technical training and training sessions focused on the latest directives related to food safety and compliance.

2. Collaborating with both public and private sector stakeholders, including local government entities, PMAMP (Prime Minister Agricultural Management Project), and the Regional Agricultural Directorate. This collaboration aims to leverage additional services and resources to benefit the post-harvest enterprises that have been onboarded as part of the program.

In an effort to foster connections and create market opportunities, CSISA facilitated a collaboration between Buddha Batika Pickle Industry, a pickle enterprise based in Kapilvastu, and Pranshu Agri-Processing and Packaging Pvt. Ltd., a leading firm located in Kohalpur, Banke district. This partnership aimed to promote the products of both enterprises under a franchise model. During the reporting period, CSISA took proactive steps to facilitate this collaboration, including organizing an exposure visit for Buddha Batika to Pranshu. Furthermore, CSISA provided support to both firms throughout the process, aiding them in finalizing and formally signing a franchise
agreement. This initiative not only strengthens the market presence of these enterprises but also enhances opportunities for mutual growth and success.

**Business management training for post-harvest enterprises**

In March 2023, CSISA collaborated with a business consulting firm to effectively facilitate four two-day training sessions aimed at enhancing the business management skills of 102 MSMEs focused on post-harvest businesses in Nepal. These training sessions were conducted across Kanchanpur, Banke, Surkhet, and Dang districts, and were designed to equip participants with a comprehensive understanding of efficient business operations. This included topics such as financial record-keeping, credit management, and strategies for providing exceptional customer service. The goal was to empower MSMEs with the knowledge and skills needed to improve their business practices and overall performance.

Throughout the training sessions, participants not only acquired valuable knowledge about market penetration, branding, and effective marketing strategies but also gained insights into optimizing their businesses. The training equipped post-harvest enterprises with the tools to make informed investment decisions, efficiently manage critical aspects of their operations, and engage with customers more effectively. As a result of this training, participants are now better prepared to increase transaction volumes, maintain product quality standards, and successfully reach their target customer base. The training initiative culminated with a post-training evaluation.
and closing remarks, signifying the successful empowerment of entrepreneurs who have acquired essential business management skills to enhance their enterprises.

**Technical trainings for post-harvest enterprises**

During the reporting period, CSISA extended its support to onboarded post-harvest enterprises by providing technical training and capacity-building initiatives. These training sessions focused on production, labeling, branding, and packaging of post-harvest food products. As part of these efforts, a specific technical training session was organized in January 2023. This training was conducted in coordination with the Dairy Development Corporation (DDC) and involved the participation of 11 individuals from various dairy enterprises located in Banke and Bardiya districts. The objective was to enhance their technical skills and knowledge in dairy-related production processes, labeling, branding, and packaging, thereby strengthening their overall operations and market competitiveness.

CSISA also organized comprehensive technical training for six dairy entrepreneurs located in Dang district. This training, conducted from August 24 to 26, 2023, featured industry experts who provided in-depth insights into various aspects of dairy product manufacturing and related business operations. The training was designed to equip participants with a comprehensive understanding of dairy production processes and the associated business aspects, empowering them to enhance their dairy enterprises effectively.

![Above: Dairy entrepreneurs actively participated in a technical training program focused on product diversification. This training was conducted in collaboration with the Dairy Development Corporation and took place in Butwal, Dang district from August 24 to 26, 2023. Photo credit: Jyoti Rai.](image)

The three-day training program was structured to provide participants with a comprehensive understanding of various aspects of dairy production and business management. On the inaugural day, the focus was on introductions, setting objectives, and a presentation on fundamental aspects of milk. Topics covered included milk collection, quality assessment, and the issue of milk adulteration. The second day was dedicated to practical applications, where participants engaged
in hands-on activities. Activities included the production of various dairy products such as paneer, khuwa, kulfi, kurauni, pustakari (milk-based cheeses and sweets), and ice cream. The third day involved tastings of the products created during the previous day’s practical sessions. Participants also received hands-on training in making chhurpi, peda, gulab jamun (which are types of cheese and sweets), and cake. The training delved into dairy production intricacies, quality control, marketing policies, compliance with regulatory standards, and business registration. Overall, this training worked to empower the six dairy enterprises by enhancing their product offerings and operational capabilities but also to the sustainable growth and well-being of milk-producing farmers in the region.

Business ‘health checkup’ for MSMEs

In August 2023, CSISA initiated a comprehensive 'business health checkup' to evaluate performance of MSMEs associated with Work Package II. This thorough assessment was designed to provide an in-depth analysis of each MSME’s current status, with a specific focus on critical parameters such as business law compliance, business strategy and planning, sales and marketing, customer relations, business satisfaction, and financial management.

The ‘health checkup’ included a holistic evaluation of the existing business landscape, identifying potential risks and challenges while developing a nuanced understanding of the strengths, weaknesses, opportunities, and threats faced by each enterprise. This assessment aimed to ensure the sustained success and growth of post-harvest MSMEs by equipping them with valuable insights for strategic decision-making and continuous improvement.

This effort was undertaken not only to diagnose the business health of these enterprises but also to facilitate targeted follow-up services that promote progress and development. The checkup is also an important component of the Activity’s exit strategy, with the goal of empowering each enterprise through a comprehensive report containing personalized recommendations for improvement across crucial domains. These domains include legal compliance, taxation, financial practices, human resource management, business model enhancement, and sales and marketing optimization. By tailoring suggestions to the specific needs of each enterprise, CSISA is working to accelerate performance, ensuring that MSMEs are well-equipped to navigate the complexities of the business landscape.

WORK PACKAGE 3: DIGITAL BANKING SERVICES TO SUPPORT IMMEDIATE RESPONSE TO BUSINESSES AND CONSUMERS AFFECTED BY THE COVID-19 CRISIS

Leveraging CSISA's burgeoning partnership with Mega Bank, Nepal's then only woman-led banking institution, the Activity is now working to scale a "farmer credit card" product that will capitalize on the context of the existing CSISA COVID–19 Response Activity. This QR-coded, mobile digital card, linked to the buyer's mobile phone, can be used to purchase a range of products related to farming, including small machinery at pre-identified vendors, up to a total of US$2,000. The card has been designed as part of a business model to provide highly competitive interest rates and long payback periods. In addition, Nepal's Agricultural Development Bank has been working to support similar digital financial services that could be used as part of the immediate response to COVID–19 by facilitating mechanisms for socially distanced money transfer.
3.1 Rapidly increase agro-vet access to digital tools enhancing the sale and purchase of agricultural inputs and commodities in key locations suffering from the economic shock of the second wave of COVID–19 in the Feed the Future Zone

CSISA is actively advancing the Kisan Card, a digital banking tool tailored for smallholder farmers who may not have access to or experience with smartphones. The Kisan Card features a QR-based payment system that enables farmers to make purchases of agricultural inputs and farm tools from authorized vendors. In contrast to other platforms where customers typically scan a QR code for payment, in this case, it is the vendor who scans the QR code using the Kisan Card app on their smartphone.

This innovative card empowers farmers with even basic smartphones to access digital banking services, a development that can play a significant role in the digitization of the entire agricultural value chain. The Activity is actively implementing various initiatives to facilitate the adoption of this digital banking tool and to enhance smallholders’ access to finance. This access enables them to invest in and adopt improved agricultural technologies, ultimately transitioning from subsistence to commercial agriculture.

Above: An overview of vendors trained and registered compared to their target, and information on gender and ethnicity, with assistance from CSISA for the Kisan Card program. CSISA has actively engaged in training and registering vendors as part of the Kisan Card initiative, creating a network of authorized merchants to serve smallholder farmers. These vendors have undergone specialized training to efficiently operate the Kisan Card system, including the utilization of QR-based payment technology. These registered vendors play a vital role in facilitating farmers’ access to agricultural inputs and equipment through the Kisan Credit Card. They are integral to ensuring that farmers can make digital transactions securely and seamlessly, contributing to the advancement of digital banking within the agricultural sector.
Agricultural input suppliers play a crucial role in advancing the adoption of Kisan Cards, and during the reporting period, a total of 372 agricultural input suppliers were enlisted as Kisan Card vendors. Among these vendors, 21.8% are women-owned businesses, and 52% are owned by members of marginalized communities. CSISA has been actively involved in their training and providing individual coaching to enhance their proficiency in utilizing the Kisan Card app effectively.

This approach ensures that a diverse range of agricultural input suppliers, including those owned by women and marginalized groups, are well-equipped to promote and facilitate the use of Kisan Cards among smallholder farmers. By building the capacity of these vendors, CSISA contributes to the adoption and integration of digital banking services in the agricultural sector, fostering financial inclusion and supporting the growth of smallholder farmers.

During the reporting period, 2,534 farmers have obtained Kisan Cards with assistance from CSISA, with a significant majority comprising 58.7% women and 77% individuals from marginalized communities, including Dalit, Disadvantaged Janajatis, Disadvantaged Madheshi, and Muslim communities. CSISA actively engaged in equipping Kisan cardholders with business literacy
training and training in improved agricultural practices. Impressively, 278 Kisan cardholders have successfully secured loans credited to their cards. These loans adhere to the Government's agriculture sector loan programs, incorporating interest rebate schemes of 5% for women and 6% for men.

In total, the Activity has facilitated loans amounting to US$697,032 through Kisan cards, with an average loan size of US$2,420.25 per farmer. These funds empower farmers to make strategic investments in agricultural inputs, enabling them to enhance their farming operations and productivity, ultimately contributing to their economic well-being and sustainable agricultural practices. During the last quarter of the 2022-23 US fiscal year, CSISA placed emphasis on encouraging the use of the Kisan Card through various training events and interactions with farmers. As a result, there has been a notable increase in transactions made through Kisan cards. Vendors processed a total of 1,331 transactions with a combined value of US$199,580. On average, these transactions amounted to US$2,404.58 per transaction for vendors. For farmers, the average transaction value from the same pool of 1,331 transactions totaled US$287.99. These figures clearly demonstrate the growing acceptance and adoption of digital banking tools among smallholder farmers, reflecting the positive impact of CSISA’s efforts in promoting financial inclusion and technological advancement in agriculture.

Above: A farmer utilizes a digital Kisan Card to purchase seed from a registered agrovet vendor. Photo credit: Bijay Pokharel.
3.2 Scale-out access to digital tools enhancing the sale and purchase of agricultural inputs and commodities in the Feed the Future Zone

As the number of Kisan Card holders continues to grow, it is becoming increasingly crucial to prioritize the seamless and error-free execution of transactions made through the card. In addition to expanding outreach to potential vendors and farmers, the Activity has been offering training and individual coaching to those already onboarded. This training is aimed at enhancing their proficiency in using the Kisan Card app for conducting transactions smoothly and accurately.

Capacity building of vendors on the proper uses of digital banking schemes

Throughout the reporting year, CSISA actively facilitated capacity-building sessions for vendors, equipping them with the necessary skills to proficiently utilize digital banking tools. A total of 278 representatives from the Activity’s agrovets received comprehensive training on the correct usage of the Kisan Card through workshops and practical demonstrations. These sessions not only fostered knowledge acquisition but also encouraged networking and knowledge sharing among agrovets and machinery dealers in the district. Such interactions have proven mutually beneficial, enabling collaborative problem-solving and the dissemination of information about new products and technologies in the market. These orientation sessions, conducted by a technical expert from R&D Innovative Solution, were conducted district-wise in February and August 2023, resulting in participants’ increased confidence in conducting transactions using the Kisan Card.

To enhance communication and support, the Activity established a WhatsApp group comprising all Kisan Card vendors, ensuring they could easily report any issues. Representatives from R&D Innovative Solution and Nepal Investment Mega Bank (NIMB) committed to providing responses by 11 a.m. the following day after receiving posts. This proactive approach has led to prompt issue resolution, resulting in a notable decrease in field complaints since the group's inception.
Throughout the reporting year, the Activity organized multiple interaction programs with local government officials to promote the use of Kisan Cards. The primary objective was to educate stakeholders, including representatives from municipalities and rural municipalities, about the advantages of Kisan Cards and explore opportunities for collaboration to maximize the benefits for farmers. These engagements proved to be highly informative, leading to commitments from participants and municipal representatives to prioritize the integration of Kisan Cards into their future programs.

Marketing activities to facilitate enhanced use of digital banking

CSISA undertook a range of activities to raise awareness about the Kisan Card among its target audience during the reporting year. Target users of the card included smallholder farming households, marginal farmers, and potential vendors (agrovets, agriculture machinery dealers, and farm machinery service providers).

Above: An advertising banner providing information about the Kisan Card, prominently displayed at Shantuti Agrovet Center in Kailali district in August 2023. Photo credit: Surya Bahadur Khadka.

These activities are as follows:

1. **Individual Counseling and Coaching:** CSISA’s team conducted one-on-one counseling and coaching sessions with individual agricultural input suppliers, visiting agrovets and machinery dealers to provide in-depth explanations of the Kisan Card and address any questions or concerns they may have had.
2. **Brochure Distribution:** CSISA printed and distributed 5,000 copies of brochures in Nepali to potential customers and farmers. These brochures contain detailed information about the advantages of the Kisan Card and instructions on how to apply for it.

3. **Desk Stands and Banners:** The initiative produced desk stands with the message "Kisan Cards accepted here" in Nepali, along with promotional banners in Nepali explaining the benefits and usage of Kisan Cards. These materials were distributed to all vendors and prominently displayed inside their shops for customer visibility.

4. **Animated Video:** CSISA is in the process of creating an animated video that illustrates the benefits of the Kisan Card and provides step-by-step guidance on how to use it. This video will be shared on the social media platforms of Nepal Investment Mega Bank (NIMB) and R&D Innovative Solution to reach a wider audience.

These awareness raising activities are designed to ensure that both vendors and farmers are well-informed about the Kisan Card, its advantages, and the application process. By utilizing a variety of communication channels and materials, CSISA aims to maximize the reach and impact of its campaign, encouraging more individuals to adopt digital banking and benefit from the Kisan Card.

**Financial literacy training for farmers**

CSISA, in collaboration with NIMB and ADBL, offers a month-long financial literacy training program, conducted one day a week, for farmers who register for the Kisan Card. The primary goal of this training is to assist farmers in adopting sound financial management practices and instill confidence in using the Kisan Card for purchasing agricultural inputs.

*Above: farmers practicing entering transactions in the daybook as part of financial literacy training facilitated by CSISA. May 2023. Photo credit: Om Prakash Chaudhari.*

The program also helps farmers understand the importance of household budgeting, analyze their spending patterns, and create plans for savings or debt reduction. During the training, farmers
receive a record book called "Mero Khata" (meaning 'My Book') and are encouraged to use it for tracking their daily income and expenses for a year. Additionally, participants are introduced to mobile banking apps, online payment methods, and other digital tools to enhance their financial management skills and efficiency.

To date, 4,661 farmers (3,211 female and 1,450 male) have participated in this training. Many of these participants had limited knowledge of these topics, making the training a valuable opportunity to enhance their skills and understanding. This capacity-building effort is crucial to achieving the intended impact of the Activity. Without such training, the Kisan Cards distributed to farmers would have limited value, and CSISA's desired outcomes for this intervention would be less likely to materialize.

**Improved agricultural practice and technology training for farmers**

Access to finance alone is insufficient without effective utilization of capital for productive activities. Therefore, CSISA is providing training to Kisan Card farmers in improved agricultural practices and technologies. This practical training equips farmers with knowledge about resource-efficient agricultural practices and cutting-edge technologies. Topics covered include innovative crop management techniques that focus on water and nutrient management, integrated pest management, and the use of agricultural machinery for various operations from seeding to harvesting. Participants have expressed that such training motivates them to adopt new tools and technologies, and it is expected that, when combined with financial literacy training, this will lead to increased productivity among farmers. During the reporting year, CSISA organized training sessions on climate-smart agriculture and improved agriculture practices in all the Activity districts, with a total of 2,808 farmers trained, including 1,872 female and 936 male participants.

*Left: mulching during improved agriculture practices training, facilitated by CSISA for farmers. Dang, May 2023 Photo credit: Om Prakash Chaudhary.*
Interactions between NIMB Central / Branch and CSISA

On September 4, 2023, the Activity convened an interaction meeting in Nepalgunj to enhance coordination between NIMB Central / Branch bank and the CSISA team. The meeting brought together branch managers from 16 branches of NIMB Bank, Provincial Heads of their province office, and key personnel from the central office, in addition to CSISA representatives. The purpose of the meeting was to review the current status of Kisan Cards issued, onboarded vendors, and the progress of other loans disbursed under the collaboration between the bank and the Activity.

Branch managers expressed that the event had been extremely beneficial in resolving any uncertainties and establishing a well-defined action plan for the upcoming period. The meeting also addressed the implementation of a new branchless banking (BLB) arrangement and formulated an action plan for onboarding ten BLB agents from among the Kisan Card vendors. This plan encompassed various aspects such as the screening process, internal due diligence by the bank, training program, and the provision of necessary materials and support to the agents.

Above: NIMB and CSISA engaged in a group discussion during the interaction program held in Nepalgunj on September 4, 2023. Photo credit: Ashta Prajapati.
**Branchless banking**

During the reporting period, discussions between NIMB and CSISA led to an agreement to establish 10 branchless banking (BLB) agents from among the Kisan Card vendors involved in the Activity. These BLB agents will serve as intermediaries, enabling farmers in rural and semi-urban areas without easy access to banking services to conduct electronic financial transactions. The bank has conducted assessments of potential BLB agents among the Kisan Card vendors and initiated the necessary procedures to finalize their appointments. This initiative aims to provide farmers with convenient access to comprehensive banking services through these appointed agents, equipped with tablet devices or point-of-sale (POS) machines and advanced authentication methods to facilitate transactions.

**WORK PACKAGE 4: GEOGRAPHICAL EXPANSION OF SOCIALLY DISTANCED AND COVID-19-SAFE AGRICULTURAL MECHANIZATION SERVICES**

4.1 Horizontally expand agricultural mechanization services in the Feed the Future Zone

Agricultural mechanization services facilitated by CSISA help to facilitate benefits to both farmers and agricultural businesses. Farm machinery services lead to increased productivity by allowing farmers to complete tasks more efficiently and in a shorter time frame. Mechanization reduces the need for manual labor, which is especially beneficial in regions with labor shortages, of which Nepal is a prime example. It also ensures that farming operations are conducted at the right time, minimizing post-harvest losses and reducing production costs. At the same time, these services
are reliant on having a well-developed system of mechanic services to avoid machinery breakdowns.

During the reporting period, CSISA made significant efforts to develop a cadre of agricultural machinery mechanics in seven districts. A total of 70 mechanics were trained, including 15 women, through collaborations with 15 machinery suppliers who provided both training and post-training job opportunities. To encourage greater participation of women in this field, CSISA adopted two strategies.

First, the organization contributed 75% of the total cost for female participants under the traineeship plan, while machinery dealers covered the remaining 25%. Second, exclusive training sessions were organized for women who already possessed machinery at home but had not operated them. In total, 125 women were trained, with 18 benefiting from the traineeship and 107 learning the basics of machinery operation, including starting and operating the engine, and carrying out basic repair and maintenance.

While initial participation was strong, some enthusiasm waned over time. For instance, out of 74 mechanics trained in partnership with 16 machinery suppliers, 18 were female, but they dropped out of the training, and four suppliers withdrew from the partnership. An assessment revealed that 45 out of the 74 mechanics expressed confidence in working as a mechanic. CSSIA is analyzing these data and developing plans for addressing this attrition rate. The training nonetheless played a crucial role in boosting women's confidence in handling machines, with some noting that they used to rely on male family members to start engines, but by the end of the program, 90% of the women trainees were able to start a 13 hp mini tiller engine on their own.

Above: Mrs. Sangita Chaudhary skillfully operates a power tiller to plow her field following her participation in training offered by CSISA in Koili, Rajapur Municipality-8, Bardiya district on June 28, 2023. Photo credit: Santosh Tharu.
4.2 Deepen agricultural mechanization services scaling

Building inclusive local workforce on machinery repair and maintenance: As part of the Activity, CSISA has been continuously supporting the capacity enhancement of machinery service providers (MSPs). Throughout the reporting period, a total of 100 MSPs benefited from 10 training events focused on basic machinery repair and maintenance, as well as business management skills. These training sessions aimed to empower MSPs to better manage their service provision businesses. After the training, MSPs began systematically recording requests from farmers, enabling them to plan and provide services more efficiently. They also acquired new skills for financial planning and assessing the profitability of their businesses. Additionally, the Activity facilitated machinery training organized by government partner agencies, such as the Prime Minister Agricultural Modernization Project (PMAMP)/Nepal Government and Agriculture Knowledge Centers (AKCs), and provided necessary technical materials. These efforts resulted in 51 operational MSPs (10 female, 41 male) and 71 mechanics (10 female, 61 male).

During the reporting period, CSISA also conducted a rapid assessment aimed at understanding the motivations of return migrant workers who have transitioned into MSPs in the context of farm mechanization, following their return to Nepal due to the COVID-19 pandemic. The assessment involved profiling 329 return migrants who received support from CSISA. Preliminary findings indicate that various factors influenced these return migrants, now MSPs, to invest their time and economic resources in becoming successful entrepreneurs in the field of farm mechanization. While age, ethnicity, and gender played significant roles in their decision-making, other factors beyond these three categories were also raised by a substantial portion of the interviewees. Further exploration of these additional factors is ongoing and will be reported more comprehensively in the final report.
One noteworthy observation is that individuals in the 30-39 age group expressed a strong desire to become business owners, suggesting that this demographic may be particularly suitable for agri-business interventions. Additionally, risk aversion and mobility constraints, such as those related to socio-cultural norms that affect women, can influence individuals' decisions to pursue or avoid becoming MSPs.

**Knowledge sharing and learning events**

Over the past 12 months, CSISA facilitated 16 "lessons learned" sessions among machinery service providers (MSPs) and mobile mechanics operating in seven districts. The aim of these sessions was to gain insights into their experiences and challenges. Several common issues emerged from these sessions:

1. **Training Insufficiency**: It was found that training alone is insufficient to build mechanics' confidence effectively. Participants emphasized the importance of follow-up on-the-job training, particularly for women trainees. A hands-on approach to training women mechanics was considered more effective.

2. **High Demand**: MSPs reported being overwhelmed with the demand for their machinery services, which is a positive indication of the need for mechanization in agriculture.

3. **Payment Delays**: Some MSPs encountered difficulties in receiving timely payments for their services. This challenge has led some businesses to operate on credit, which can impact their cash flow.

Addressing these issues will be crucial in ensuring the sustainability and success of MSPs and mobile mechanics in the field of farm mechanization.

During a lesson learning event involving machinery suppliers and dealers who participated in the challenge fund program supported by CSISA. This challenge fund involved a call for competitive proposals that CSISA reviewed from businesses involved in mechanization before embarking on a 1:1 cost-share with new businesses to expand sales related to farm machinery. Several key insights and challenges were highlighted:

1. **Positive Impact**: Both demonstration of farm machinery and the development of mechanics had a positive impact on businesses. Increased sales and improved service delivery were observed as more mechanics became available.

2. **Trainee Attrition**: It was noted that some trainees did not pursue mechanic jobs after receiving training. Additionally, some trainees required additional training to become proficient in carrying out mechanic work independently. This required adaptive management and improvement of training programs, as well as selection of potential mechanics, for training.

3. **Enrolling Women**: Enrolling women in training programs associated with challenge fund activities experienced difficulties with mobility, ongoing household responsibilities, and the physical demands of the training. To address this, it was suggested that training for women should focus on less heavy machinery and be organized independent of trainings for men.
The timing of training should also consider women’s schedules, and suitable venues should be provided with necessary support for mobility and child-care facilities for trainees with infants and toddlers.

4. Accreditation: Competent trainees expressed a desire for CSISA’s support in obtaining accreditation from Nepal Government’s relevant institutions. This accreditation would enhance the credibility of the mechanics and contribute to the development of a skilled workforce. But rather than accredit itself, CSISA is now working to see if local business organizations can provide training certificates in future trainings.

Addressing these challenges and tailoring training programs to specific needs, including those of women, will be essential for the continued success of machinery service providers and mechanics in the farm mechanization sector.

Adoption of farm mechanization: In Surkhet district, 80 women from marginalized communities (Dalits, Disadvantaged Janajatis, Disadvantaged Madhesi, and Muslims) experienced the benefits of farm machinery first-hand. They used reapers for harvesting wheat and mini-tillers for land preparation to plant rice. CSISA supported 50% of the total cost of using the machines for first-time machine service purchasers as part of a voucher approach to encouraging trial and use of machines, with the farmers covering the remaining expenses. Additionally, CSISA connected these women with machinery service providers in their communities.

This experience was transformative for the farmers. While they were aware of farm machinery, many had never used reapers and mini-tillers before. Many farmers indicated their surprise by how these machines saved them time, effort, and money that would have otherwise been spent on manual labor and using oxen for plowing. As a result, they expressed a commitment to incorporating machinery into their farming practices. Additionally, some farmers decided to rear buffaloes instead of using oxen, recognizing the multiple benefits such as milk, manure, and meat that buffalo farming could provide. This shift reflects a growing appreciation for the efficiency and productivity gains associated with farm mechanization.

Knowledge management and communication: The Activity is in the process of creating business profiles machinery businesses, MSPs mechanics, and agribusinesses that it has supported. These profiles include essential information such as personal details, contact information, the type of business, and the name/location of the business (agrovets, agri-businesses, machinery service providers, mobile mechanics). Some of these profiles will be compiled into booklets for easier reference and distribution.

These communication materials will be widely shared with government partners, Agriculture Knowledge Centers (AKCs), the Prime Minister Agricultural Modernization Project (PMAMP), local municipality offices, provincial offices, and other development programs. The aim is to make it easier for potential customers seeking these services to contact the respective service providers, fostering greater accessibility and utilization of these services in the agricultural sector.
South Asia is home to one-quarter of the world's population, with one-fifth of its residents being youth, and a significant portion belonging to disenfranchised and marginalized groups. Despite technological advancements that have allowed the region to produce 25% of its food, South Asia faces considerable challenges in its food systems, including Nepal. These challenges encompass poor natural resource management, low fertilizer efficiency, and the impact of climate change and extreme weather events.

Nepal, in particular, is one of the poorest countries in South Asia, with a staggering one in four families living in abject poverty. Agriculture remains a predominant occupation, employing over 60% of the country’s labor force. While rural Nepali families are increasingly relying on off-farm employment and income, particularly due to the out-migration of young men, agriculture remains a vital sector. Staple foods like wheat, maize, and rice are crucial, but vegetables also play a significant role in both nutrition and income generation. Importantly, a substantial portion of these staple imports, including wheat, rice, and maize, comes from neighboring India, although the precise levels of imports remain uncertain due to informal trade facilitated by Nepal’s open border with India.

The economic shocks resulting from global events, such as the Russia-Ukraine war, have ripple effects on agrifood systems, including in Nepal. These shocks have disrupted global supply chains and led to significant increases in fuel and fertilizer prices, impacting the cost of agricultural production in many countries. Data and evidence are needed to understand the implications of these and other shocks on agricultural food systems in South Asia, and at a national and sub-national level in Nepal. Concerns raised by policymakers include the changing prices of fuel and fertilizers, increasing production costs, and economic uncertainties, all of which make it more difficult for farmers to plan and invest in their agricultural activities effectively. There is a growing need for timely data and evidence on these issues, innovative solutions, and strategies to mitigate the effects of these economic shocks on Nepal’s agrifood systems, ensuring food security and livelihood sustainability for its rural population.

This Activity responds to these complex and urgent challenges and will be implemented as part of the Cereal Systems Initiative for South Asia (CSISA) to deliver a rapid and coordinated response to the effects of global supply chain distortions and their implications for smallholder farming households and poor consumers in Nepal. The Building food system resilience to global supply chain and climate shocks in Nepal has two major development objectives.

**Objective I.** USAID/Nepal and development partners’ ability to respond to agrifood systems crises improved through data-driven insights and strategic guidance: The outputs of this Objective will provide USAID and policymakers with a solid evidence-base assessing potential agricultural productivity at a seasonal time-step, economic, and national food security consequences of the
Russian-Ukrainian conflict and ongoing price volatility on Nepal’s agricultural economy on smallholder farmers and poor consumers. Strategic use of project outputs by USAID and its partners is anticipated to enhance development activities that contribute to increased agrifood systems resilience in Nepal. This evidence base will be informed by state-of-the-art agricultural and economic forecast modeling to provide monthly agrifood systems ‘situation reports’ and insights on ‘best-bet’ development investment and policy options to mitigate the effects of global supply chain disruption on smallholder farmers and poor consumers.

**Objective II.** Smallholder farmers’ resilience to economic shocks and climate change improved through sustainable and inclusive irrigation development: Irrigation is a cornerstone for efforts to increase yields and build farmers’ resilience to climate variability and economic shocks such as those associated with the Russia-Ukraine conflict. Building on support provided by USAID/Nepal to foster irrigation development and enhance farmers’ resilience in the face of the COVID-19 crisis, this activity will continue to support the public and private sector in sustainable and inclusive irrigation development including the scaling out of a previously piloted digital groundwater monitoring system for Nepal. Activities in Objective II will develop locally targeted irrigation scaling strategies, management advisories, and gender-equitable business models, including access to finance for irrigation pumps (with a focus on but not limited to solar irrigation). By coordinating and sequencing these actions, CSISA’s efforts in irrigation development will build further resilience in Nepal’s agricultural systems to economic and climatic shocks, including recent fuel and agricultural commodity price volatility.
Objective 1: USAID/Nepal and development partners’ ability to respond to agrifood systems crises increased through data-driven insights and strategic guidance

WORK PACKAGE I: GENERATE MONTHLY SITUATION REPORTS AND FORECASTS OF THE IMPLICATIONS OF GLOBAL PRICE VOLATILITY ON POOR CONSUMERS AND SMALLHOLDER FARMERS

This Work Package involves the collection of various primary data through regular field surveys from USAID/Nepal’s Implementing Partners. It also gathers available secondary data from Government of Nepal officials, Nepal Rastra Bank, and the World Food Program on a monthly basis. The purpose is to generate monthly situation reports on the state of Nepal’s agrifood systems and assess the implications of current and future price volatility on farmers and consumers. These reports include analyses of commodity trade prices, domestic production, trade volume, remittances, and other micro and macroeconomic factors that can impact the well-being of poor consumers and smallholder farmers, both positively and negatively. As of now, the Activity has completed eleven monthly agrifood situation reports for Nepal, offering comprehensive insights into price trends and their potential effects on subsistence farmers and poor consumers in the Feed the Future (FtF) Zone of Influence (ZoI). At the time of reporting, 11 monthly agrifood systems reports have been published. Annex 3 provides the last six monthly reports published since CSISA’s 2022-23 semi-annual report.

Collaborative efforts have also been initiated with the Institute for Integrated Development Studies (IIDS), a prominent think tank based in Kathmandu, Nepal, to establish a price monitoring cell (PMC). The PMC is closely collaborating with scientists from IFPRI and CIMMYT to design data collection methodologies and analyze information regarding the prices and availability of selected agricultural products. This data will be incorporated into the monthly situation reports. The initial round of data collection has been successfully completed, involving 812 households from 10 districts representing four provinces within the Feed the Future Zone of Influence (FtF ZoI). Additionally, the market study included the marker center in the Kathmandu Valley and surveyed a total of 280 traders to gather food price information. The findings from this data will be integrated into the forthcoming monthly food situation reports, with further details provided in the upcoming quarterly report.

1.2 Agrifood systems situation dashboard

CSISA has developed an initial draft of the Agrifood Systems Situation Dashboard, which compiles data and analyses derived from the monthly situation reports. Stakeholder feedback has been sought to enhance the dashboard’s usability and effectiveness. In early January, training sessions
are expected to commence to enable users to make the most of the dashboard by querying and summarizing information, which can then inform policy and market decisions. Additionally, the dashboard offers insights into cropping calendars specific to Nepal and contains information on each of the published agrifood systems reports.

1.3 Agrifood systems policy guidance notes

Collecting suggestions for potential policy interventions in the agrifood system from USAID/Nepal and its Implementing Partners, and from the GoN, CSISA is generating short-run and medium-run policy simulations to assess the potential effectiveness of hypothetical policy interventions on the well-being of smallholder farmers and poor consumers. This includes quantitative estimates of the potential subsidy or other market interventions that may be required to mitigate the financial effects of economic shocks on poor consumers and smallholder farmers’ well-being. In doing so, the Activity is identifying and suggesting how both USAID/Nepal and GoN may need to respond to maintain and improve livelihoods and agrifood systems productivity.

The first short-run and medium-run policy simulations are currently focused on the climate and economic shocks experienced in 2023, with a specific emphasis on the ongoing El Niño year and its potential impacts on Nepal’s food systems. Variations in the El Niño – Southern Oscillation of ocean currents are associated with unusually dry weather from June to August in Nepal and other parts of South Asia. For instance, during the severe El Niño year of 1992, Nepal faced a particularly harsh drought, leading to a 17.7 percent decline in rice production compared to the expected trend. Current indications suggest the possibility of another El Niño-related drought in 2023-24 (with hotter and dryer conditions experienced into the winter season).
While reductions in rice production have been less extreme in other El Niño years, CSISA is exploring the potential consequences of various agricultural productivity shocks resulting from a possible El Niño-related drought in 2023-24 through simulation modeling. The preliminary results were presented to the USAID team, and the Activity received valuable comments and suggestions. The potential adverse effects of an El Niño-related drought in Nepal are significant, with wheat production potentially falling by 17.7% and 7.5%, respectively, relative to trend production in the last major El Niño drought year in 1992. If 2023-24 productivity losses fall within the range of those in other El Nino years, model simulations of an El Niño-related productivity shock, equivalent to the average of the last three major shocks, indicate that GDP could decline by 1.2% to 2.2%, even without world price shocks. In this scenario, poverty could rise significantly. Poor and rural households that face direct shocks from their agricultural production are especially vulnerable. An El Niño–related productivity shock could increase poverty by 0.25 to 0.57 million people, raising the headcount poverty rate 0.9 to 2.0 percentage points from the current level of 15.0% up to 15.9 to 17.0%

Taking into account the potential effects of expanded irrigation by using the average of only the 2010 and 2016 shocks, the simulated adverse effects of a 2023 drought are 16% smaller. This results in a GDP loss of -1.3 percent, compared to the previous estimate of -1.6 percent, and an average increase in poverty of 1.2 percentage points, instead of the earlier estimate of 1.4 percentage points.

The introduction of resilience-enhancing technologies, such as improved crop varieties that are more tolerant to drought, and additional irrigation capacity that was unavailable in previous severe droughts, could significantly reduce the magnitude of adverse effects on crop yields, GDP, and poverty. Additionally, safety net programs could play a crucial role in supplementing the incomes and food consumption of poor households facing lower incomes and/or higher food prices. These results will be further discussed in a report to be released by CSISA before the end of 2023.

1.4 Capacity development and improved self-reliance

The project team is working diligently with the Institute for Integrated Development Studies (IIDS) to gradually transfer the leadership role to IIDS. IIDS is fully committed to implementing the project activities, and is now taking the lead in preparing the Agrifood System Monthly Situation Report. The IIDS team conducted the field survey to compile information from various sources, including agricultural households, markets, consumers, and traders.
WORK PACKAGE II: IMPROVING POLICIES AND PROGRAMS TO MITIGATE THE IMPACTS OF PRICE SHOCKS ON SMALLHOLDER FARMERS AND POOR CONSUMERS

2.1 Evidence generation on trans-border informal trade in inputs and outputs

CSISA is assessing the scale of informal Nepal-India transborder trade and its effect on agricultural input and food commodity supply. These activities involve collating secondary datasets (where available) but also include conducting light primary surveys focused on gender- and social grouping, as well as gathering disaggregated data on farmers’ input use and observations of cross-border trade. Additionally, this work encompasses data collection and validation from key experts in Nepal and India to generate data and insights on cross-border trade.

As part of the informal cross-border agri-food trade (ICBAT) work between India and Nepal, CSISA conducted a series of key informant interviews and organized a roundtable discussion with key stakeholders in Kathmandu in April 2023 to gather insights on the dynamics and policy landscape of ICBAT. This was followed by scoping field visits to Birgunj and Raxaul (India–Nepal border). And in August 2023, CSISA, in collaboration with the South Asia Watch on Trade, Economics, and Environment (SAWTEE) team, conducted surveys in Birgunj and Bhairahawa districts and at other smaller custom points. Further surveys were conducted in September 2023 in Biratnagar, Birtamode, and Kakarbhitta.

CSISA and SAWTEE are currently conducting surveys and will release a comprehensive report based on their findings. IFPRI is also publishing a research blog highlighting the conclusions drawn from their field visits. Additionally, the team is in the process of developing an analytical framework to understand the challenges arising from domestic policies, regulatory regimes, trade and transport policies, and protocols. This framework will aid in identifying bottlenecks and devising strategies to address them.

Furthermore, CSISA is analyzing trade patterns and policies by utilizing various tariff and agricultural trade databases, with a focus on disaggregated, high-frequency, and port-level data to understand trading costs. Some key challenges and issues have been identified in this work so far:

1. The classification of data related to ICBAT into national tariff lines or HS-6-digit levels presents challenges, particularly when dealing with locally traded products. For instance, the classification of maize for feed and food purposes is complex, which is also a challenge in formal trade.

2. Identifying an appropriate basket of goods can be problematic, especially when dealing with bulk packaging, as it can complicate the recording and quantification of traded items.

3. Misguided information sharing can pose limitations to ICBAT research, and accurately identifying the origin of products in cross-border areas is often challenging.

4. Obtaining formal trade data from the Nepal customs authority, especially data that is disaggregated and of high frequency, can be difficult.
2.2 Evaluate and generate recommendations to improve social safety nets

CSISA has compiled an inventory encompassing more than 50 distinct social safety net programs in Nepal by gathering data from both published and unpublished government sources. This inventory comprehensively categorizes safety nets into three primary types: conditional cash transfer programs, workfare or employment programs, and food transfer programs. For each program, the inventory provides detailed information on budget allocations, eligibility criteria, beneficiary coverage, transfer frequency and method (cash or in-kind), required paperwork for payment collection, and any modifications in program design and implementation over recent years.

To augment this policy document-derived information, an analysis has been conducted based on data collected from three rounds of surveys involving a representative sample of households in rural and urban areas of Nepal spanning from 2016 to 2019. This survey dataset offers a granular view of the benefits received by households from various safety-net programs over a 36-month period. Preliminary findings from this analysis indicate that only a small proportion of impoverished households in Nepal have benefited from government programs. Many of Nepal's safety nets primarily focus on cash transfers directed to eligible members, unlike some other South Asian countries such as India or Bangladesh, where food transfers are more common.
Additionally, these transfers often lack sensitivity to economic shocks, meaning their value and volume do not increase in response to adverse economic conditions.

**In Focus:**

**Informal trade in agricultural commodities along the Nepal-India border**

Nepal and India share a porous open border of about 1850 km with 27 customs offices. Local citizens from either side are allowed to cross, usually without even having to produce identity papers, purchase items and return home. The economies in the border towns are highly dependent on these consumers—more so in case of Nepalese consumers patronizing Indian markets. Border officers usually allow passage when the perceived values of the goods are up to an acceptable but not precisely defined limit—that is, when convinced that the items are for home use.

However, this informal system was disrupted this year when Nepal’s Ministry of Finance introduced a new provision in its FY 2023-24 budget to charge customs duties on imports of any goods valued above NPR 100 ($0.75); the rule was implemented in an arbitrary fashion by border control officers starting in July.

The government is tightening its borders to make up for declining revenues—customs tariffs accounted for 21.7% of the government’s total revenue in FY 2021/22 and fell to 18.1% in FY 2022/23—as well as to discourage imports and boost local markets. However, given the historical interdependence of the two economies and their long land borders, these new rules have proven nearly impossible to enforce. India’s share in Nepal’s imports in formal trade was 63% as of August 2023; the shares and volumes of informal trade are only likely to be higher.

**The shape of India-Nepal informal trade**

Informal trade—like most forms of trade—takes place due to price differences between two markets. The greater the price wedge between the Nepal and India markets, the greater the spur to trade. The magnitude of price gaps varies significantly across commodities. Sizable gaps exist in prices of essentials like sugar; in September, the cross-border difference in sugar prices ranged up to NPR 40-45 per kg (with lower prices on the India side). Thus, the
motivation for trade in such essential commodities is quite pronounced, and trade barriers only accentuate the differences. In case of sugar, the Nepal government applies a customs duty of 30% and VAT of 13%.

India’s current array of agricultural trade barriers—imposed in response to supply disruptions stemming from the Russia-Ukraine war and other problems—are another factor affecting informal trade. India has been tightening its supply of rice to the international market, as well as to Nepal, in order to maintain its domestic supply. It has imposed quotas and even outright bans on exports of some staples such as paddy and rice. Trade is also affected by Nepal’s import duties; prior to India’s rice export ban, informal traders sought to avoid Nepali trade measures including an agriculture reform fee of 9% and the advanced income tax of 2.5%, leading to a total duty of 11.5% on rice imports. In its FY 2023/24 budget, the government also introduced VAT of 13% on some vegetables, including onions and potatoes.

A respondent in Madhesh Province explained how the market players were bypassing the government’s various tariffs, taxes, and fees (while still charging higher prices to consumers): “In India, the retail price for onion is INR 100 (NPR 160, or $1.20) per 5 kg and it is NPR 260 per 5 kg in Nepal. So, anybody with a cycle would go and bring it from India. Even the shopkeepers do it because of the profit margin of 100 rupees. When importing formally, the cost may come to around NPR 220–230, but informally, one can bring at NPR 160, and with an additional cost of, say about 20-40 rupees for the carrier, the total cost comes to NPR 200. So, you save 60 rupees.”

There are advantages in opting to bring in small quantities of goods informally rather than exploiting economies of scale using vans or trucks to formally import large volumes. The benefit of lower unit costs in transportation of the latter approach is easily offset by the array of taxes and fees.

Livelihoods from “carrying” goods

“Carrying” or informally transferring goods has become a full-time profession for many poor families living close to the towns along the Nepal-India border. “Carriers,” many of them women, collect the goods on the India side and bring them in via the open border, escaping the formal custom entry points—sometimes on foot, sometimes on bicycles and motorbikes, and always at their own risk. In some cases, carriers operate individually and supply bags of items, such as rice, to retail shops in border towns, keeping a small margin; in others, they are mobilized by specific traders on both sides of the border. Carrying of sacks of cereals or large-volume goods is mostly done by men in bicycles or motorbikes and women typically commute on foot, carrying smaller items, often in groups. Sightings of groups of women being interrogated by border police officers and seizing the goods they carry have become common now that the borders are being tightened.

In some cases, traders have hired groups of over 100 carriers who complete five or more rounds back and forth from the border per day. Carriers have also brought in high-value items like dried fruits and spices such as jeera (cumin seeds). A respondent in Madhesh Province said that cashews were easily imported informally to avoid the customs duty of NPR 500 ($3.75) per kg. Carriers saved the extra margin of NPR 500 as income; thus carrying 5 kg of cashews every day generated a daily income of NPR 2500 ($19).

However, carriers get lower margins with some traders; on average, carriers make anywhere between 500 to 2500 rupees per day. Such incomes are comparable to, or better than, Nepal’s 2021-22 annual per capita disposable income of $1724—roughly NPR 630 per day. Thus, informal trade has become an important livelihood in the border areas.

The scale of informal trade
Interviews suggest that while evading customs by bringing in vegetables on cycles or in small baskets may appear quite modest, the scale of such informal trade is quite high. A trader in Lumbini Province said: “Vegetables are not being brought in bulk informally, only in small quantities, and usually through the secondary custom points (choti bhansar). They [the traders] make all the necessary arrangements with the police and customs. Between 50-200 people may be involved in bringing vegetables in this area; they may be bringing 2-3 bags of vegetables each day. The police often stop them, take some bribe and then lets them go. Corruption is the grease rather than sand in the wheel that runs this system. This trend has reduced after COVID.”

Unfettered mobility, an essential requirement for informal trade, was substantially obstructed by COVID-19 lockdowns and other restrictions, and there still is inertia in the system. Informal trade in vegetables was mostly limited to local consumption and sale in the border towns, as COVID-related delays in transport time for longer-distance trade created problems particularly for perishable items.

Health and safety issues

However, informal trade raises several other concerns—particularly for food products. As such goods enter the market evading customs duties, they also bypass formal testing and certification processes, meaning there can be health and food safety risks for consumers.

But the formal inspection procedures have their own problems. While some formal traders follow due process and provide the required quarantine checked certificates from both the India and Nepal sides when procuring agrifood items, including vegetables, customs officers interviewed said that the unavailability of adequate technical human resources and lab testing infrastructure at some custom points are a common problem. One officer in one of the smaller customs offices in Lumbini Province said they were forced to “turn a blind eye” to imports of vegetables as their lab facility was out of service because technicians were unavailable, and that other customs points were understaffed and could not carry out the testing either. (One such facility in Kailali District in western Nepal closed on August 13, disrupting imports.) Such shortcomings thus raise questions on the quality of even formally-traded consumables.

Impacts of recent changes

Concurrent efforts by the governments of India and Nepal to control informal trade have met with opposition from the locals on either side of the border. In Biratnagar (Koshi Province), a respondent expressed resentment over the double standards of customs officials: “They make the common people ‘criminals’ if bringing in items for over 100 rupees, but at night the border is open for larger traders. As someone said, at night, even elephants can be brought in through customs if there were sufficiently large price differentials. In case of food items, like a sack of rice, being carried for consumption, it is not even possible to get formal customs clearance because they will need to get the sample tested in lab to import formally.”

Cereals pose far fewer concerns for food safety and health, and their informal trade is the natural outcome with large arbitrage opportunities. While informal trade through customs checkpoints appears to have declined in response to the new duties, particularly for cereals it continues via other routes.

While in the Bhairahawa customs (Lumbini Province), an official of the Custom Agents Association noted a significant decline in the flow of informal carriers: “Last Dashain [a major Hindu festival in Nepal celebrated around October], the volume of informal trade was quite high. Before the introduction of rule of charging customs duty for goods over NPR 100, the number of people bringing items informally may be 400-500, now it has come down to 100.”
Yet in Birgunj (Madhesh province), a key respondent summed up the existing loophole of the provision: “107 km of our border is open border in Birgunj area and that is where they bring in the goods informally. The recent policy to charge customs duty on items more than 100 rupees would not affect those importing informally—they just avoid the formal customs and continue their activities from other routes.” Customs stations have thus become sites of shifting ad-hoc negotiations between consumers, traders, and customs officials, at times involving persuasion, bribery, or evasion. The arbitrariness in law enforcement has created room for corruption in allowing passage of goods of questionable standards, or that evade customs duties or other levies. This informal economy has implications for the livelihoods of a large mass of people involved in the task of “carrying” items as well as the traders, both big and small, involved in such trade. Given these complexities, it is not clear whether formalization of trade is substantively feasible—or more importantly, even optimal from an economic or development perspective, unless the benefits of health and safety considerations outweigh the costs.

This ‘In Focus’ was published by Shalini Gupta is a Researcher with the Institute for Integrated Development Studies, Nepal; Devesh Roy is a Senior Research Fellow with IFPRI’s Development Strategies and Governance Unit as a blogpost available at: https://www.ifpri.org/blog/customs-and-informal-trade-agricultural-commodities-along-nepal-india-border

A short module focusing on the coverage of social safety net programs was integrated into the household survey to acquire up-to-date insights into their operation. This survey encompassed a random sample of 812 households hailing from nine FtF districts across the Madhesh, Bagmati, Lumbini, Karnali, and Sudurpaschim provinces of Nepal. In the initial survey round, respondents were queried about their receipt of government transfer payments within the preceding 12 months. Furthermore, the survey collected data concerning the total count of individuals benefiting from social security allowances within the study area and aimed to identify the methods employed for disbursing social safety benefits, whether through banking institutions or in cash, with the facilitation of local government authorities.

CSISA is currently in the process of crafting a narrative report detailing the design and implementation of Nepal’s largest social safety net programs, utilizing information gathered from policy documents, survey data, and semi-structured interviews with government officials and experts who have conducted analyses of these programs. Additionally, CSISA is conducting a review of published literature, including reports and journal articles, pertaining to social safety nets in Nepal.

IIDS will subsequently conduct three more rounds of household telephone surveys within the FtF districts. These brief surveys will serve the purpose of collecting more data on the frequency and value of transfers received by households through various social safety net programs. CSISA will then prepare a concise report on the actual functioning of these programs, drawing from this wealth of data. Conducting multiple rounds of surveys with the same set of households will facilitate an understanding of the consistency of transfers and their role in supporting rural households during periods of economic hardship.
Objective II: Building smallholder farmers’ resilience to economic shocks and climate change through sustainable and inclusive irrigation development

The ongoing conflict in Ukraine has adversely impact Nepal’s food systems, particularly by driving up food and fuel prices. Concurrently, Nepal’s agricultural production faces significant constraints due to climate change and low levels of irrigation utilization, despite available groundwater resources. The rising costs of fuel and fertilizers are limiting productivity and increasing production expenses for farmers, creating a challenging situation for struggling agriculturalists. Timely and adequate irrigation can help smallholders maximize the returns on their increasingly costly fertilizer investments. Solar pumps, more efficient diesel pumps, and irrigation services can offer productivity and resilience enhancements for smallholder farmers, especially during the dry season when vegetables, wheat, and edible oils are produced. However, effective irrigation must be coupled with good agronomic management practices. This holds true for the dry season when vegetables, wheat, and edible oils are produced, although irrigation can also boost resilience in the face of late monsoon rains or dry spells affecting rice and maize cultivation during the rainy season. Nevertheless, smallholder farm households, particularly those from marginalized groups, will likely need access to finance to afford investments in irrigation technologies. Additionally, there is a pressing need to enhance the capacity for sustainable groundwater management to ensure the conservation of critical ecosystems, such as national parks containing river dolphins, tigers, and rhinoceros populations, as irrigation use intensifies.

Building on the sustainable and inclusive irrigation commissioned by USAID and developed by CSISA to guide development investments and irrigation policy in Nepal, CSISA emphasizes the importance of adaptive water management, especially in the context of resilience-building irrigation investments. Objective II of this Activity aims to bolster resilience in Nepal's agrifood system by investing in sustainable and inclusive irrigation development, which increases domestic crop production and safeguards productivity gains against climate and economic shocks while also conserving and managing groundwater. This is accomplished by prioritizing the most promising irrigation-scaling opportunities in collaboration with public and private sector partners, along with a strong emphasis on developing irrigation business models that provide access to finance and promote solar irrigation. To ensure responsible groundwater usage within environmentally safe limits, the first Work Package of Objective II expands the coverage of the previously piloted digital groundwater monitoring system and strengthens government capacity for sustainable groundwater management. Subsequently, Work Package II concentrates on scaling sustainable and inclusive irrigation practices.
WORK PACKAGE I: COMPREHENSIVE EXPANSION OF DIGITAL GROUNDWATER MONITORING IN NEPAL TO GUIDE IRRIGATION INTENSIFICATION THAT BOOSTS RESILIENT AGRICULTURAL PRODUCTION

1.1 Scaled-out groundwater monitoring system

Irrigation serves as a crucial foundation for achieving high and resilient agricultural production in Nepal. Currently, estimates are that approximately 20% of the approximately 8 billion cubic meters of renewable groundwater resources available in Nepal's Tarai region are being utilized. This suggests substantial untapped and promising opportunities to enhance irrigation use, provided that natural resources are managed appropriately.

However, there is limited knowledge about the distribution of groundwater resources across the Tarai, and anecdotal reports indicate localized groundwater depletion in several areas. As Nepal continues to invest in intensifying irrigation to enhance resilience in the face of climate and socio-economic shocks, such as the Ukraine conflict, the risk of localized groundwater depletion may increase. This underscores the need for evidence-based and adaptive management practices.

Starting in 2021 and building on CSISA’s engagement with stakeholders and USAID, CSISA initiated a collaboration with the Groundwater Resources Development Board (GWRDB) to undertake the digitization of written records related to groundwater depth and to develop a digital system for collecting and reporting groundwater resource data in Nepal. The initial implementation of the groundwater monitoring system involved the utilization of digital data collection methods in two districts, namely Banke and Bardiya. As part of the Activity’s efforts to expand and scale up, the objective was to broaden the coverage to include districts within the Feed the Future (FtF) zone. Consequently, in close partnership with GWRDB, we incorporated a list of 19 monitoring irrigation tubewells from Kailali and 12 monitoring irrigation tubewells from Kanchanpur into the data collection form.

The digital data collection tools were further enhanced to encompass 50 irrigation tubewells in Dang and 27 irrigation tubewells in Rupandehi districts. Additionally, with the support of GWRDB and in close collaboration with GIZ, the dataset was expanded to include irrigation tubewells from the eastern part of Nepal thanks to the well list provided by GIZ. This expansion included monitoring data from various districts, including Saptari (16 irrigation tubewells), Siraha (13 irrigation tubewells), Dhanusha (26 irrigation tubewells), Mahottari (45 irrigation tubewells), Sarlahi (23 irrigation tubewells), Rautahat (20 irrigation tubewells), Bara (21 irrigation tubewells), Parsa (21 irrigation tubewells), Jhapa (20 irrigation tubewells), Morang (20 irrigation tubewells), and Sunsari (20 irrigation tubewells). It’s noteworthy that most of the data included the default measuring point of the well, which is a crucial parameter in our dataset. To enhance the efficiency of data collection, we conducted training sessions for data collectors from Dang, Rupandehi, Nawalparasi, and Kapilvastu districts in June 2023, and one data collector each in Kailali and...
Kanchanpur districts (November 2023). Additional technical support was also provided to train data collectors in Bara and Parsa districts. The dataset also contains geographic coordinates for the respective irrigation tubewells to allow enhanced visuals in the dashboard developed by the Activity. Currently, monthly data collection remains consistent for monitoring irrigation tubewells in Banke, Bardiya, Kailali, Sarlahi, and Sunsari districts.

One of the key challenges during this phase has been to ensure the continuity of data collection amid the transition within GWRDB and its absorption into new agencies within the Ministry of Energy, Water Resources and Irrigation. In parallel, CSISA has been in discussions with GWRDB to identify who will take responsibility for this work moving forward and to continue its continuation. As part of the Activity’s digital groundwater monitoring collection efforts, we are also in the final stages of developing a Digital Groundwater Monitoring Collection Manual. This manual will empower and educate data collectors on the methodology for digitally collecting groundwater data.

1.2 Groundwater monitoring system upgraded to improve features of the system/dashboard

The groundwater monitoring system dashboard developed by CSISA and the Government of Nepal is currently undergoing significant enhancements, in alignment with the Activity’s digital data collection efforts for groundwater monitoring. These comprehensive upgrades introduce several new features designed to enhance usability and functionality.
One notable feature is the ability to visualize the geographic distribution of irrigation tubewells across Nepal. Users can conveniently filter this dataset by province and district, and the resulting visualization can be exported in both image and CSV data formats. This feature greatly facilitates data analysis and reporting. Moreover, we are extending the system’s functionality to simplify the process of adding new irrigation tubewells. With this enhancement, administrators can easily upload new well data without the need for coding expertise, streamlining the data management process.

In addition to these improvements, the historical groundwater dataset developed by CSISA and the Government of Nepal, which initially only contained data from Banke, is being upgraded to accommodate data from various other districts as it becomes available. Currently, data is being shared from GIZ to GWRDB, who subsequently shares it with CSISA for seamless integration. CSISA has also introduced a feature that allows for the straightforward uploading of historical data via CSV files, enhancing data accessibility and accuracy. Finally, CSISA is upgrading the dashboard with a digital library section. This section will provide convenient access to a repository of PDF reports that have been digitized for the benefit of researchers, students, and other stakeholders. Currently, the PDF reports that have been digitized sit in a shared folder.

In summary, these enhancements are poised to make CSISA’s groundwater monitoring system dashboard even more robust and user-friendly, ensuring that it continues to meet the evolving needs of our stakeholders.

1.3 Data and evidence for natural resources management policies
Responding to stakeholder demands of farmers, cooperatives and government agencies, GWRDB and CSISA have co-developed and piloted a digital groundwater monitoring system for Nepal. Along with upgrading and scaling out groundwater monitoring system, this work package (Activity III) also aims to generate data and evidence to inform natural resources management policies towards integrated and sustainable groundwater management that utilizes data and analytics from the groundwater monitoring system to guide decision-making and planning. In this context, the Activity facilitated a stakeholder consultation workshop to elicit insights from various stakeholders on the planned irrigation development priorities in Lumbini and Sudurpaschim Province, with a particular focus on groundwater management. The event was held in Nepalganj and Dhangadi (a half-day in each location) on February 14 and 16, 2023, respectively. There were 29 participants in the Nepalganj workshop and 20 in the Dhangadi workshop. A detailed report based on workshop findings can be found here.

Discussions were held around livelihood concerns for smallholder farmers, efforts to increase irrigation for smallholder farmers, and efforts to increase information access regarding irrigation for smallholder farmers. Based on the findings and discussions from both workshops, it is evident that both provinces have similar issues regarding existing irrigation systems. The key issues identified pertain to four resources – human, information, financial, and physical resources. Stakeholders highlighted existing constraints within the local level government organizations, both in terms of technical expertise and mechanisms to deliver the required advisories to farmers. Similarly, while subsidies are in place to increase ownership and use of groundwater irrigation equipment, the actual impact of such programs needs to be regularly monitored to ensure benefits reach targeted groups. The next steps are (1) exploring perspectives of different farmer groups on current and preferred information channels, to inform and devise future advisory content and delivery mechanisms, and (2) piloting crop-specific and season-oriented irrigation advisories using other preferred information channels clarified by farmers.

**WORK PACKAGE II: ACCESS TO RESILIENCE ENHANCING AND INCLUSIVE IRRIGATION INCREASED**

2.1 Actionable and targeted irrigation partnership and scaling strategies

Stakeholders have identified the gaps in the current information mechanism, highlighting the need to develop timely and accurate irrigation advisories issued by government entities, with a focus on using digital tools to ensure wider reach and impact. To address this need, CSISA devised an approach to deliver a season-oriented irrigation advisory for both wheat and rice, in both the Nepali and English languages. Initially, irrigation advice for wheat was disseminated via agrovets (using leaflets) and miking campaigns. During the rice season, the approach shifted towards incorporating digital tools to deliver advisories at regular intervals.
One approach, interactive voice response (IVR), is currently underway in five districts of the country, in Nepali and other local dialects. IVR is a technology that allows a computer to interact with humans through the use of voice and dial tones input via a keypad on a mobile phone. In simple terms, IVR systems enable users to communicate with a company's host system via a telephone keypad or by speech recognition. They can then service their own inquiries by following the IVR dialogue.

In CSISA's work, IVR messaging is disseminated to farmers and irrigation pump owners with crop growth stage and rainfall in mind, ensuring timely and appropriate advice. To date, more than 2,500 farmers have received five rounds of IVR advisories. Additionally, traditional information mechanisms, such as leaflets and brochures containing more detailed advice, were developed in coordination with the relevant AKC and NARC offices in Kathmandu to ensure consistent messaging. The advisory has received endorsement from government entities and provides farmers with information through various channels.

During the reporting period, Cornell University and CSISA also initiated a bi-weekly survey conducted among smallholder farming households after crop establishment to gain insights into rice irrigation practices. This ongoing collaborative survey aims to observe the frequency of field irrigation by farmers. To date, four rounds of bi-weekly phone surveys have been conducted, involving approximately 250 farmers per round. Respondents are selected based on their "irrigation class," a metric determined through a machine learning model developed at Cornell. This approach offers a comprehensive understanding of irrigation practices and contributes to the development of well-informed agricultural strategies.

2.2 Consolidating management practices

2.2.A Policy briefs and adaptive irrigation management manuals

Enhancing cereal productivity hinges on timely irrigation, which is a critical factor. However, farmers encounter challenges in achieving effective irrigation due to their limited knowledge of essential crop growth stages and how these stages determine irrigation requirements. Additionally, there is a lack of awareness about water-saving technologies, and farmers often make suboptimal choices when selecting irrigation pumps. This leaves many farmers in Nepal struggling to manage water resources efficiently, particularly in the face of increasingly severe and prolonged drought events during crucial crop growth periods.

To address these issues, CSISA has developed information and educational materials about efficient irrigation management in cereal crops, guidelines on pumpset selection, and its repair and maintenance. These include (1) a poster on efficient irrigation management in rice, (2) a leaflet on efficient irrigation management in rice (click here), (3) a brochure on efficient irrigation management in wheat (click here), (4) a brochure containing pumpset selection guidelines (click
During the reporting period, the Activity collaborated closely with government partners, including agriculture knowledge centers (AKCs) situated in Kailali, Kanchanpur, Banke, Bardiya, and Kapilvastu districts. Furthermore, it engaged with the rice Super Zone offices of the Prime Minister Agriculture Modernization Project (PMAMP) located in Kanchanpur and Kapilvastu districts. These interactions aimed to gather valuable insights and feedback from these key stakeholders. In addition, the Activity established a productive partnership with the Agronomy Division of the Nepal Agriculture Research Council (NARC), based in Khumaltar, Lalitpur district. This collaboration was instrumental in enhancing the content of NARC’s communication materials, ensuring that they are not only informative but also farmer-friendly. Additionally, the irrigation extension materials developed in collaboration with PMAMP serve as valuable resources for farmers. Irrigation management leaflets and brochures empower farmers with knowledge to effectively combat drought during critical crop growth stages. These materials also provide principles towards improved irrigation efficiency and raise awareness about water-saving technologies. Finally, pump selection guidelines offer valuable insights into the selection of fuel-efficient pumps with low operational costs, thus helping farmers make informed decisions. Pump set repair and maintenance guidelines provide essential support for addressing minor pump issues, benefiting both pump owners and service providers alike. These collaborative efforts are aimed at enhancing agricultural practices and sustainability with emphasis on the terai.

During the reporting period, the Activity also printed and disseminated 2,000 brochures containing valuable information on efficient irrigation management. 1000 copies of a comprehensive irrigation pumpset repair and maintenance guideline were produced. These informative materials were distributed to farmers through various channels, including agrovets, cooperatives, and machinery dealers. It is noteworthy that the rice irrigation brochure received endorsement from Kailali’s AKC). In light of this endorsement, Kailali’s AKC is now printing and distributing the brochure in the upcoming season through their established channels.

CSISA has also forged close partnerships with other AKCs and municipal government offices to seek their endorsement for these essential advisories. This collaborative effort aims to harness government resources and support the effective dissemination of critical advisories through the Activity’s programs. Collectively, these initiatives represent a sustainable approach to enhancing awareness and delivering vital information to farmers, ultimately contributing to the betterment of agricultural practices.
Above: A poster, jointly developed by CSISA and government partners, has been created to disseminate crucial information about efficient irrigation management technologies in rice cultivation. This informative visual resource serves as a valuable tool to educate farmers and promote sustainable agricultural practices in rice production. Poster credit: Nabin Maharjan.
2.2.B Consolidate irrigation and natural resources in the ‘Modernization Rani Jamara Kulariya Irrigation Activity’ in Kailali district

During the reporting period, and at the request of government partners, the CSISA team conducted a visit to the Government Modernization of Rani Jamara Kulariya Irrigation Scheme (MRJKIS) to discuss the necessary information required for the preparation of irrigation scheduling training. CSISA conducted a comprehensive desk review to gather essential insights for the development of a report detailing the location and characteristics of the MRJK scheme. This report has been meticulously finalized and shared within the CSISA team. Furthermore, valuable input and guidance were sought from the Water User Association (WUA) of RJKIS to determine the selection criteria for Water User Committees and provide training on the utilization of sensors, including Chameleon sensors and front-end detectors, in conjunction with the irrigation schedule. The selection criteria for canal branches eligible for training were based on the following factors:

1. The branch should be at the canal tail-end.
2. Irrigation water during the dry period, although available to some extent, should be insufficient.
3. The water user committee should express interest and commitment in participating in training related to new technologies.
4. Representation on the committee of women and members of the Dalits community should be assured.

Following the established criteria, the Water User Committee was carefully selected, and IWRI’s concise report on the selection process, along with the list of the chosen members, was promptly shared with CSISA team members.

The irrigation scheduling training took place from October 2 to October 6, 2023, in Nepalgunj. The training had active participation from engineers representing MRJKIS, Babai Irrigation Project, Mahakali Irrigation Project, Banganga Irrigation Project, and CIMMYT. The primary focus of this training was on understanding the intricate interplay of soil-plant-atmosphere interaction at the farm scale. It equipped participants with skills and knowledge to implement sustainable water management practices and utilize relevant tools across diverse soil-climatic conditions and contexts. Participants also had the opportunity to enhance their understanding of agrometeorology, crop growth modeling, crop water requirements, and irrigation scheduling.

2.3 Business models for irrigation expansion and intensification co-developed with public and private sector partners

In September 2023, CSISA commenced a market assessment focused on irrigation schemes and the available financing options for smallholders interested in becoming water entrepreneurs. Field
assessments and the compilation of essential information are currently in progress, with an expected completion date by the end of October 2023. As part of this market assessment, the Activity is in the process of creating a business model specifically tailored to water entrepreneurship and related irrigation enterprises, such as well drilling and repair/maintenance services. This model will encompass details on suitable financial schemes. CSISA plans to share this model with local stakeholders for validation.

**Target group meetings:** To identify potential individuals interested in pursuing water entrepreneurship and other complementary businesses to improve Nepal’s irrigation system, the Activity organized nine target group meetings. These meetings aimed to educate individual farmers and youth about the challenges associated with irrigation and the opportunities available for individual water entrepreneurship. In total, 161 individuals participated in these meetings, comprising 86 females and 76 males. Among them, 35 individuals have shown a keen interest in pursuing this opportunity further and are currently receiving individual coaching and guidance from the CSISA team.

In summary, during the reporting period, CSISA has made substantial progress in advancing natural resources management and irrigation practices in Nepal. Through collaborative efforts with government partners and stakeholders, the Activity has advanced the digital groundwater monitoring system, yielding actionable insights into groundwater resources planning. CSISA’s dissemination of irrigation advisories has yielded tangible benefits for a substantial number of farmers, effectively raising awareness regarding efficient irrigation management techniques and water-saving technologies. The Activity has worked to empower communities and foster improvements within water user associations, resulting in improvements in water management practices and enhanced irrigation efficiency. The Activity’s steps in identifying new irrigation entrepreneurs and formulating a sustainable business model for irrigation-related enterprises lay a strong foundation for the long-term enhancement of Nepal’s irrigation-based agricultural sector.
Challenges faced during the reporting period

Challenges specific to the CSISA COVID–19 Response and Resilience activity – Objective III

The business expansion plan of MSMEs was affected by delays in approving loans and Kisan card applications. This was due to the merger of Mega Bank with Nepal Investment Bank announced in June 2022, which slowed down the approval pace. Although their joint operation started on January 11, 2023, the transition caused all loan files and Kisan card issuance to be put on hold. Furthermore, last year’s liquidity issue is still unresolved, adding to the delay. CSISA has been regularly interacting with officials of Nepal Investment Mega Bank Ltd, pushing for the approvals.

Other specific challenges and adopted mitigation measures were:

1. Many farmers encounter hurdles in securing loans from financial institutions, primarily due to these institutions’ preference for disbursing larger loan amounts. This poses a formidable obstacle for farmers seeking essential financial assistance. Moreover, liquidity constraints exacerbate their predicament. In response to these challenges, R&D Innovative Solution has entered into collaborative partnerships with banks to introduce the Kisan Card—a tailored financial product explicitly crafted to cater to the unique needs of smallholder farmers. The Kisan Card is strategically designed to facilitate simplified access to loans and an array of other financial services, effectively addressing the pressing financial requirements of farmers.

2. In Nepal, the transition to digital banking services has been gradual. It is impeded by factors including limited internet connectivity, hesitancy among customers (particularly risk averse farmers), and language barriers. Use of Kisan Cards has been a means to overcome some of these issues due to its convenience, offering a more secure alternative to cash, reducing theft risks, and curbing expenditures unrelated to agriculture. However, both cardholders and vendors need early training and assistance to bolster their confidence in utilizing this financial tool. CSISA is actively addressing the expeditious resolution of technical glitches, with a well-functioning WhatsApp group in place for promptly addressing any emerging concerns among new users.

3. The Activity’s private sector partners, which include machinery dealers and suppliers, conducted mechanics training as part of a match fund scheme implemented by the Activity known as a Challenge Fund. This training proved more effective in developing mechanics, with 50% of trainees continuing to work as mechanics after completion. This success can be attributed to trainees establishing contacts and a client network during training with suppliers.

4. After receiving support from the Activity, some returning migrants who had become mechanics and machinery service providers migrated out of Nepal again. This has led the Activity to the conclusion that CSISA’s support needs to be restructured to include additional support for on-farm and off-farm businesses, enabling them to earn a steady income.
throughout the year. Farm machinery service provision is a seasonal activity, which further highlights the need for diversified support.

5. The challenge of finding women interested to pursuing a career in mechanics has been significant. To tackle this issue, the Activity modified its approach and conducted training sessions exclusively for women, at a suitable timing given their other tasks, and venues close to women’s homes. Additionally, the Activity linked the women with machinery dealers and suppliers who could provide hands-on support and coaching.

6. One of the challenges faced by post-harvest food businesses, such as pickle-making, is sustaining their sales due to inflation and high competition in the market. To tackle this issue, CSISA has extended additional support packages for product diversification, quality enhancement, and creating brand loyalty through better quality control and targeting specific marketing sectors.

**Challenges specific to the CSISA-Ukraine Response**

In this part of the project, we encountered minimal challenges. Those which were experienced related primarily to sporadic and occasionally unreliable price data collection methods employed by some USAID Implementing Partners in Nepal. This situation impacted the acquisition of comprehensive and dependable price data across the locations that CSISA aimed to monitor for the monthly Agrifood Systems Situation Reporting. Furthermore, some Implementing Partners exhibited some reluctance in sharing anonymized beneficiary data, despite having received encouragement from USAID. Others somewhat hesitant to share information due to the perceived added time and transaction costs associated with their activities. These factors posed challenges CSISA in achieving its goal of incorporating implementing partners' data as a supplementary resource in Agrifood Systems Situation Reporting. In response, CSISA has taken proactive steps, including establishing its own data collection system and initiating collaboration with the World Food Program to access supplementary market monitoring data.
Annex 1: Publications and media produced in 2022-2023

I. Videos
Recommendations for repairing machinery, October 2022, https://www.youtube.com/watch?v=_53qtmsKO69Q

How to fit the engine start rope, October 2022, https://www.youtube.com/watch?v=Wtf5ZaHkF0E


Troubleshooting: power tiller won’t start (Nepali), December 2022, https://www.youtube.com/watch?v=dC0m3X5j0fl

Installing feeder and head of a combine harvester, December 2022, https://www.youtube.com/watch?v=FO359Am8gVw

Thresher setting adjustment of combine harvester (Nepali), January 2023, https://www.youtube.com/watch?v=tVOblpQHbEs

Checking the firing order and timing of a four-cylinder four-stroke diesel engine, January 2023, https://www.youtube.com/watch?v=wmy4z4bp7N0

Fire extinguisher operating instructions, January 2023, https://www.youtube.com/watch?v=Gz6vYaAqJSU

A returned migrant forced back to Nepal due to the COVID-19 crisis can now provide for her family, January 2022, https://www.youtube.com/watch?v=05V7f0IRb7k

Bhan Singh Dhami, Regional Manager of D-CAM- CSISA’s Contributions for Farm Mechanization, July 2023, https://www.youtube.com/watch?v=wzG8E9Pfjl!

Parvati Chaudhary explains her journey as a Community Business Facilitator, August 2023, https://www.youtube.com/watch?v=IUql8E1hwWc

Groundwater Monitoring through Robust Online Monitoring, October 2023, https://www.youtube.com/watch?v=rOLGtQrYYNc


Usages of Online Data for Various Reasons, October 2023, https://www.youtube.com/watch?v=eUKbhsBDt5k
Manoj Khatiwada, Head of Groundwater Resources Board Scientific Explanation about the work, October 2023, https://www.youtube.com/watch?v=8BToA7931YE

2. Success Stories

Facebook Groups: Reshaping the Nepali Agricultural Landscape, October 2023, https://csisa.org/facebook-groups-reshaping-the-nepali-agricultural-landscape/

Providing Service Farmers While Increasing Community Access Nutritious Food, October 2023
https://agrilinks.org/post/providing-service-farmers-while-increasing-community-access-nutritious-food


Strengthening Businesses of an Agrovet through Credit and Other Support Activities, October 2023 https://agrilinks.org/post/strengthening-businesses-agrovet-through-credit-and-other-support-activities


3. Infographics

Infographic on Rice Irrigation, September 2023, https://csisa.org/infographic-on-rice-irrigation/

Improved shallow tube well drill rig, August 2023, https://csisa.org/improved-shallow-tubewell-drill-rig/

4. Manuals


Annex 3: Monthly Situation Reports on Nepal’s agrifood systems
Situation Report on Nepal’s Agrifood Systems
April 2023 | Bulletin Number 5

Key messages

Overall assessment: Nepal’s agrifood system remained economically stable during March of 2023. The year-on-year inflation in food and beverage prices has cooled down to 5.6% compared to 7.5% in Feb/March 2022. Field reports however suggest that this downward movement in prices have not yet translated to substantial changes in the cost of consumer and agricultural market goods.

- Inflation in food and beverage prices is marginally lower than the previous year: The cost of food and beverages increased by 5.6 percent from March 2022 to March 2023. A sharp 8.8 percent decline in the price of vegetables compared to last year helped lower the inflation in food prices. Food inflation was the highest in the mid-hills and mountains (8.8 percent) and the lowest in the Kathmandu Valley (4.5 percent).

- Cereal prices remain high even after decent harvests of paddy, maize, and wheat: Annual inflation in the price of cereals and cereal-based processed foods increased from 9.6 percent in January 2023 and 12.4 percent in February 2023 to 14.4 percent in March despite a small increase in the domestic production of paddy and negligible changes in the projected outputs of wheat and maize compared to the last year. The continuing embargo on the export of broken rice and quotas and on wheat exports by India is partly responsible for the persistently high prices of cereals in Nepal.

- Agricultural laborers experienced a decline in their real wages: Wage rates of agricultural laborers increased by 4.7 percent over the 12 months leading up to March 2023, less than the 7.4 percent increase in the overall consumer price index (CPI) and the 5.6 percent increase in food prices. In effect, real wages of agricultural laborers in rural areas have declined. In many areas, the poorest Nepali families may depend on agricultural labor and spend a larger share of their household budget on cereals and cereal products whose prices have increased by 9-14 percent over the past 12 months. The recent rise in consumer prices—the highest since 2016-17—will have the largest negative effect on these households.

- Stable production despite fertilizer shortages: Favorable weather conditions and the availability of quality seeds allowed farmers to increase production of paddy and maintain wheat and maize production despite inconsistent chemical fertilizers.

- Reductions in fertilizer subsidies: In March of 2023, the Government of Nepal announced a reduction in nitrogen, phosphorous, and potassium fertilizer subsidies alongside a large increase in import of fertilizers from abroad. While farmers already tend to pay higher than subsidized prices for farmers, the dramatic reduction in subsidies could increase prices and potentially introduce further instability in fertilizer markets in the short term. This is anticipated to hurt cash-strapped smallholder farmers the most, with potential negative implications for agrovets who may have insufficiently stocked fertilizers for sale prior to the decreases in subsidy.
In the long-term, however, reduced subsidies may be an advantage as world prices for fertilizers slowly decline.

- **Little growth in agricultural GDP**: Growth in Nepal’s agricultural GDP has slowed down after COVID-19 to 2-3 percent per year—barely keeping up with the growth in its population. Even before the pandemic agricultural growth was volatile (Figure 1). The agrarian stagnation and volatility in Nepal have negative consequences for both farmers and consumers.

![Figure 1. Growth (%) in value-added in Agriculture, Forestry, and Fishing in Nepal [2010-2023]. (e) indicates ‘estimated’ and (f) indicates ‘forecasted.’ Note: The growth is measured in constant Nepali Rupees. The growth figure for the year 2022 is based on the advanced estimate and for 2023 is on a forecast by the World Bank.](image)

### Macroeconomic trends and implications for household economic welfare

- **Key message**: As with last month, consumer price index in Nepal continued above the 7 percent target put in place by the Nepal Rastriya Bank Limited (RBL) for 2022-23. High cereal prices continue to be a concern. As with the previous month, export restrictions imposed by India and high costs for fuel, which affect transportation of agricultural goods, continue to be key challenges.

- **Import restrictions and high interest rates**: Tightening of monetary policy, restrictions on imports that were in effect till January 2023, and high international prices led to a deceleration in the GDP growth in the first half of the financial year 2022-23. The sharp increase in the interest rate by 350 basis points (3.5 percentage points) in 2022 led to slower credit growth for the private sector. Higher cost of funds can discourage new investments.

- **Remittance flows**: The total remittance flow from July 2022 to February 2023 was 25.3 percent more than the total inflow between July 2021 to February 2022 in Nepali Rupees and 14.8 percent higher in US Dollars. According to a World Bank survey in 2019, one-third households in Nepal (36%) reported receiving some remittance income. Robust growth in remittance flows should help families sustain their consumption despite higher prices that have been recently observed.
Salaries & Wage Rates: On average, salaries and wage rates in Nepal have been growing faster than the consumer price index (CPI). However, this is not true for all types of workers. For example, wages for female and male agricultural laborers grew more slowly than inflation, indicating potential challenges for rural families that rely primarily on selling their labor to neighboring farmers to sustain household food security. 11.5 percent of rural households in Nepal (22.3 percent in the Terai region) rely in some way on the sale of agricultural labor for their livelihoods. These are often among the poorest households in the country, and their real income from wage labor has declined.

Current account deficit and foreign exchange reserves: Recent increase in remittance flows combined with lower imports have helped reduce Nepal’s current account deficit to 0.5 percent of its GDP—down from 12.8 percent in the financial year 2022-23. Nepal’s foreign exchange reserves of Nepal increased to 10.7 billion USD in March 2023, enough to cover nearly 9.4 months of imports.

Recent price fluctuation in food commodities and agricultural inputs

Rice and wheat

Key message: According to the World Bank’s latest Nepal Development Update, Nepal recorded an 8.6 percent increase in the production of rice compared to the previous year. This contrasts with early season concerns that variable rainfall patterns and inconsistent supply of fertilizers could have lowered production. At the time of writing, however, rice prices continue to remain high as markets have not yet adjusted for increased supply. The national average price of coarse rice was 7.6 percent higher than the previous month and it was 4.4 percent higher than the year before. Rice consumers will therefore continue to experience challenges in purchasing rice this month, with potential implications on overall household expenditure.

National prices for rice: Though a cooling down of the price of rice is usually seen in the first few months after the harvest, changes in rice price have not yet occurred in Nepal. This is counterintuitive and may be caused by speculation among rice traders that ultimately affects poor consumers. Rice prices in February 2023 were 7.6 percent higher than in the previous month and 4.4 percent higher than the year before (February 2022), despite the 8.6 percent increase in production in 2022. In February 2023, the Government of India decided against lifting the ban on exports of broken rice and lowering the 20% export tax on white rice. India’s decision to extend the curbs on exports of rice and consequent speculation among traders and industry may be a reason for the continuing high prices of rice in Nepal even in the months after the harvest.

National prices for wheat: In 2023, wheat production in Nepal is projected to be 2.2 million tons, as assessed by the by the Government of Nepal, and 2.1 million tons as assessed by the USDA. Both projections are close to the country’s 5-year average production of wheat of 2.07 million tons and indicate some degree of stagnation in wheat production. Currently, the domestic output of wheat is enough to meet the household demand for wheat flour. Nepal nonetheless relies on imports of durum wheat used to produce noodles, bread, and biscuits which contribute to high costs for consumers purchasing these goods. Export restrictions by India — Nepal’s
main source of wheat imports—continue to keep prices high throughout the country. Recently, Nepal has made an official request to India to increase the export quota by another 300 thousand tons to ensure adequate availability of wheat flour in the country, though India has not yet formally responded.

Horticultural and select fruit products

- **Key messages:** Nepal’s vegetable price index has decreased over the last month, while prices for fruits have increased.
- **Vegetables:** The index of vegetable prices in February/March 2023 was 8.8 percent below the level a year ago and 3.7 percent lower than the previous month. Sharp falls in the prices of potatoes and tomatoes contributed to the decline in the vegetable price index. The availability of cheaper vegetables may to some extent help to mitigate the impact of high and rising prices of cereals and cereal products and milk on household food budgets, although these products are not perfect substitutes and households will likely continue to place their main focus on meeting caloric needs through cereals.
- **Fruit:** Unlike vegetables, the average price of fruits increased by 2.4 percent compared to the previous month and by 7.9 percent compared to the same period in 2022. Among fruits, the price of bananas went up compared to the previous month while apples became somewhat cheaper. The price of fruits and vegetables fluctuates a lot in Nepal due to weak markets and high perishability, underscoring the need for investments in cold storage if price stabilization is a goal.

Potato

- **National prices:** As expected, the price of red potato declined 17 percent between November and December 2022 following harvests but then increased by 8 percent in January. The rebound, however, was short-lived and prices declined again in February by 13.9 percent at the national level and 15.5 percent in the western provinces in February. The instability in prices could discourage farmers from cultivating potatoes in the subsequent season. Nepal produces 3.3 million tons of potato against the annual demand of 3.7 million tons (91 percent) and imports the rest from India. A bumper harvest and a crash in the price of potatoes in the bordering states of India may have helped bring down prices in Nepal in the early part of the year.

Tomato

- **National prices:** Across Nepal, tomato prices declined 22.6 percent between January and February 2023. In western Nepal, tomato prices crashed by 24.5 percent. Because tomatoes are highly perishable and difficult to transport, their prices vary widely by season and across different parts of Nepal. As with other higher-value perishables, this also underscores the need for investments in cold chains to extend the period over which tomatoes produced by farmers in Nepal can be sold. Tomato prices in February 2023 were 25.3 percent below the level in February 2022 at the national level and 27.6 percent lower in western provinces.
- **Implications:** Without comprehensive price information and efforts to improve farm management and production planning, farmers often respond to such seasonal gluts and
crashes in the prices of vegetables like tomatoes by allocating less area to the crop in the next season. This can lead to lower output at the overall market level and a sharp increase in consumer prices. Without adjustments in cold chain transport and storage, and improved farm production and market planning – both of which may require policy level interventions – this high volatility in prices hurts both farmers and consumers.

**Banana**

- **National prices:** National average banana prices were 5.5 percent higher in February of 2023 than a year ago and 11.2 percent higher than the previous month. Among major food groups, fruits saw the biggest jump in their prices (7.9 percent) after cereals and cereal products (14.4 percent) in February 2023. Despite being crucial for improved human nutrition, fruits are, however, are a relatively small component of the Nepali diet. An average Nepali family spends only 2.1 percent of its monthly household budget and 4.7 percent of its food budget on fruits. As a result, even a sharp increase in their prices has a relatively small impact on overall inflation and inflation in food prices.

- **Price information for Western Nepal:** In Western Nepal, banana prices were 11.4 percent compared to January 2023 and nearly 20 percent higher compared to December 2022. At the end of 2022, prices were unusually low probably because of a small increase in local production. Over the previous 12 months, banana prices rose by 7.8 percent in Western Nepal. This is much higher than the food price inflation (5.6 percent) or the inflation in the price of fruits (7.9 percent), though as indicated for fruits generally, the relatively low share of banana in household consumption baskets indicates that sharp prices will not overly affect poverty levels.

**Edible oils**

- **Key messages:** There was a marginal (3.7 percent) decline in the price of edible oils and ghee (clarified butter) in Nepal in February/March compared to a year ago. Dropping world prices of edible oils has helped lower their prices in Nepal too. Nepal’s data systems report the price index of animal fat and edible oils as one group. This can obscure insights on both edible oil and animal fat markets. While edible oil is becoming cheaper, the global prices of animal fat (ghee or clarified butter) are increasing, with potential ramifications for the supply of key nutrients in household diets.

**Soybean oil**

- **National prices:** Soybean oil prices in Nepal went down by 3.6 percent in February compared to the year before. Nepal is almost entirely dependent on imports of soybean oil, and imports much larger quantities of soybean (and palm) oil than its domestic requirements. The bulk of the imported oil (80 percent) is re-exported to India after some light processing or refinement. Importantly, Nepal’s export of refined oil attracts zero import duty in India, meaning that processors and exporters can gain substantially from trade. In 2021, India lowered tariffs on the import of raw edible oils to bring domestic prices down for consumers. This change in India’s trade policy – which opened India up to imports from many different countries in addition to Nepal – led to a sharp drop in Nepal’s exports, and compromised income for oil traders,
processors, and exporters. In 2021, edible oils accounted for 53 percent of the total value of Nepal’s exports.

**Mustard oil**

- **National prices**: The price of mustard oil is down by 3.6 percent compared to the previous month and is currently 9.5 percent below the price in February 2022. As the harvest approaches, the price of mustard and rapeseed oil is expected to decrease, which is of benefit to consumers but may lower income for farmers strongly reliant on oilseed production for income.

- **Price information for Western Nepal**: From January to February, the price of mustard oil went up by 2.2 percent in the western provinces of the country. Mustard oil was 2.2 percent cheaper in this region compared to last year. The remoteness of the western provinces can sometimes slow down the price transmission of commodities imported into the region from other parts of Nepal and the rest of the world.

**Agricultural inputs and access to finance**

- **Key messages**: High increases and variation in fertilizer prices among markets in Nepal are expected in Nepal as markets react to the March 2023 announcement that the Government of Nepal will reduce fertilizer subsidy rates. This could hurt cash-strapped smallholder farmers significantly over the coming months.

- **Fertilizers**: Farmers had to pay higher prices for lower quality and informally imported fertilizers from India over the last winter season. The government of Nepal has allocated significantly more resources (NPR 49 billion compared to NPR 38.5 billion in 2022-23) for the purchase of chemical fertilizer in the coming financial year. How this will balance announcements of subsidy reductions remains unclear at this time.

- **Subsidy reduction**: As announced by government, subsidy reduction for nitrogen (urea) will go down from 80 percent to 64.5 percent of its price while the subsidy on diammonium phosphate (DAP) will be reduced 52.4 percent from 60 percent and on muriate of potash (MoP) from 59 percent to 46.1 percent. As a result of this decision, the official price of urea is expected to increase from Rs. 14 to Rs. 25 per kg. DAP’s price will rise from Rs. 43 to Rs. 50 per kg and Potash will sell at Rs. 40/kg compared to Rs. 31 per kg before the policy change. Markets are reacting quickly. Official prices of fertilizers are going up in Nepal even as prices of Urea, DAP, and MoP are showing a steady downward trend in the international market.

- **Implications of subsidy reduction**: Field reports from USAID’s Implementing Partners suggest that chemical fertilizers were already selling at higher than official prices in Nepal even before the reduction in the subsidy levels was announced. In March 2023, urea was being sold at NPR 27.5 per kg in the local markets, DAP at Rs. 57 per kg, and MoP at Rs. 44 per kg. The availability of DAP and MoP was limited even at these high prices. The government’s decision to import more fertilizers may help reduce the scarcity during June-August (the main season for paddy cultivation when the demand for chemical fertilizers is at its peak in Nepal), though the changes in subsidy are still expected to increase prices across markets more generally, with potentially significant consequences for cash-strapped farmers.
• **Agrovets and input suppliers:** There was no observed change in the price of agricultural inputs and planting materials this month except for hybrid maize seeds whose prices increased from NPR 512 per kg in February to NPR 527 per kg in March. Field observations suggest that most agrovets have sufficiently stocked seed required to operate their business normally. Wholesale agrovets supply goods to retailers only after payment and have largely stopped selling agricultural inputs to farmers on credit. Cash flow is an issue, as farmers and agrovets have experienced a decrease in their savings due to inflation and they seek loans from banks, cooperative, microfinance institutions, and individuals, despite high interest rate. The machinery suppliers and dealers have also complained about the reduction in their sales of farm machines.

• **Cooperatives:** As with previous months, most cooperatives are still struggling to repay loans as scheduled due to a decrease in their savings resulting from inflation over the past months.

• **Formal banking institutions:** Private companies still experience challenges getting loans from banks and other financial institutions. Credit growth to the private sector has slowed from 2.8 percent in July 2022 - February 2023 compared to the same period of the previous year. The credit squeeze is a direct outcome of the tighter monetary policy adopted by Nepal’s Central Bank (The Nepal Rastra Bank) to bring inflation under control. While well intentioned, this policy also squeezes parts of the economy and has added extra burden to entrepreneurs and aspiring entrepreneurs in agricultural markets.

• **Coping mechanisms of rural households:** Observations from the field continued to suggest that Most households are cutting back their purchases and increasing the consumption of home-grown products. The poorest farmers remain engaged in more off-farm employment – buttressed by recent increases in remittance flows – to help them cope with the increased cost of commodities and meet their livelihood needs.

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**Energy**

**Key messages:** The price of diesel went down from NPR 175 per liter in February 2023 to NPR 165 in March. The lower price of diesel may help cool down inflation. Petroleum products are the largest imports of Nepal and are linked to the cost of agricultural production (for land preparation, irrigation, and mechanized harvesting) and transport of agricultural goods, particularly in the Terai. Their falling prices in the world market will could help improve Nepal’s trade balance, but it may take time until agricultural markets adjust accordingly

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**Data sources**
The source for this brief includes the World Food Program WFP for food prices, globalpetrolprice.com for fuel prices, the Nepal Rastra Bank for the CPI, budget shares, remittance flows, and other macroeconomic data, the World Bank Nepal Development Update (April 2023) for trends in credit flow, USDA reports for projections of wheat production, and the World Bank Household Risk and Vulnerability Survey (HRVS) for household occupations and reliance on remittance income in addition to price information and field reports provided by USAID/Nepal's Implementing partners, notably the Nepal Seed and Fertilizer (NSAF) Project and KISAN II.

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Situation Report on Nepal’s Agrifood Systems

May 2023 | Bulletin Number 6

**Key messages**

**Overall assessment:** In April 2023, Nepal experienced high prices for both food and non-food items. The inflation rate for food and beverage prices on a year-on-year basis stood at 6.9 percent. Although this is lower than the 7.4 percent recorded in March and April 2022, it still signifies a considerable rise in the cost of food from its already elevated levels. Moreover, the consumer price index (CPI) exhibited a more substantial increase compared to the wage rate index, with a 7.8 percent rise versus 6.1 percent. As a result, informal sector employees faced a decline in their real wages.

**Cereal prices continue to be high:** Despite a satisfactory wheat harvest at the end of the winter season in March and April, there has been no significant decrease in the price of staple foods in Nepal. From March to April 2023, there was only a marginal increase of 0.11 percent in the price of cereals, which were already at high levels. Both unprocessed grain and cereal products were 13.7 percent more expensive in April 2023 compared to the same month in 2022. The persistently high prices of staple foods disproportionately affect the poorest families, as they tend to allocate a larger portion of their household budget to these items. Nepal remains partially reliant on India’s exports of rice and wheat, and the imposition of taxes and restrictions on these commodities’ exports by India may be driving up cereal prices in Nepal.

**Agricultural and industrial laborers experienced a decline in their real wages:** The average wage rates for agricultural laborers remained stagnant between February and March 2023. However, during the same period, the consumer price index (CPI) experienced a 1.1 percent increase. The wage indices for semi-skilled, unskilled industrial laborers, and construction workers also grew at a slower pace compared to the CPI. This decline in real wages has the potential to push workers in the informal sectors and their families into temporary poverty. Our analysis of data from a representative sample of households in Nepal indicates that most impoverished households lack access to safety net programs that could provide some protection against the adverse effects of rising prices and stagnant incomes.

**Vulnerability tied to El Niño – Southern Oscillation (ENSO):** Global forecasts indicate a probable strengthening of El Niño weather patterns in 2023. This has raised concerns among policymakers and traders about the impact of drier conditions on crops, particularly rice, during the monsoon season. Without appropriate and timely irrigation measures in place to address these dry conditions, Nepal could experience a reduction in sown area and crop yields. However, the extent of this impact will depend on the timing of the monsoon onset in relation to El Niño patterns.

In addition, El Niño may lead to warmer weather in the latter part of 2023, which can adversely affect both late-sown summer crops and early-sown winter season crops by causing heat stress. Even if the negative weather shocks associated with El Niño do not materialize, concerns among farmers,
traders and in some levels of government may result in policy and business actions that sustain high prices for staple foods in Nepal well into the latter half of 2023.

**Macroeconomic trends and implications for household economic welfare**

**Key messages:** The year-on-year inflation in Nepal's Consumer Price Index (CPI) increased slightly from 7.4 percent in February and March to 7.8 percent in March and April of 2023. This inflationary trend has affected a wide range of commodity prices. For instance, food prices experienced a 6.9 percent increase, while non-food prices rose by 8.4 percent. High prices of cereals, cereal products, milk, milk products, and eggs have been significant contributors to inflation. Importantly, increases in prices have not been matched with increasing wage rates, which have remained stagnant for men but have declined for women agricultural laborers (Figure 1).

![Figure 1. Percentage change in price indices and wage rates for men and women compared to the same period in the previous year in Nepal in 2022-2023.](image)

Despite the implementation of a tight monetary policy with high interest rates and a deceleration in economic growth, inflation is expected to remain high in the coming months. This is primarily due to sustained high commodity prices, partially influenced by the ongoing war in Ukraine. Furthermore, the continuation of export restrictions on coarse rice and wheat by India, along with concerns about a drier and warmer summer, may have similar effects on food prices in Nepal.

**Remittance inflows:** The total remittance inflow from July 2022 to March 2023 in Nepali Rupees increased by 24.2 percent compared to the total inflow between July 2021 and February 2022. In US Dollars, the remittance flow was 13.9 percent higher during the same period. This growth in remittance inflows coincides with a significant rise in the number of new Nepali workers seeking foreign employment or renewing their approvals. In the first nine months of 2022-23, this number reached 0.6 million, doubling the figure from the same period in 2021-22. The strong growth in remittance inflows has positive effects for Nepal's balance of payments, helping to reduce deficits.
Additionally, it provides a cushion for Nepali households, helping them mitigate the impact of a slowing economy.

**Recent price fluctuation in food commodities and agricultural inputs**

**Rice and wheat**

**Key message:** In March 2023, the national average price of coarse rice increased by 4.7 percent compared to the previous month and was 2.4 percent higher than the same month in the previous year. Specifically in Western Nepal, the price of rice rose by 2.7 percent compared to February 2023 and by 1.1 percent compared to March 2022.

**Wheat:** The price of wheat flour saw a huge jump in March 2023. Its national average price was 37.2 percent higher than the previous month and 34.9 percent higher than in March 2022. Western Nepal also witnessed a similar spike in the prices of wheat flour. Reports of crop damage due to untimely rains in wheat growing areas of India may have contributed to the increase from already high levels.

**Policy, trade and climate risks:** Due to concerns about food inflation leading up to the parliamentary elections in April-May 2024, the Government of India is unlikely to ease the restrictions on rice and wheat exports. The situation is further exacerbated by the fact that India's public procurement of wheat during the winter of 2023 fell well below the target for the second consecutive year. Additionally, Indian policymakers appear to be apprehensive about the potential strengthening of El Niño later in the year (Figure 2), which could impact the country's food production and supplies.

![Figure 2. Locations in Asia where the El Niño – Southern Oscillation could result in unusually dry weather in June through August of 2023, potentially affecting rice production across northern South Asia including Nepal. Data courtesy of the International Institute for Climate and Society.](image-url)
If the Government of India continues with its cautious export policies for rice and wheat, staple prices in Nepal are likely to remain high. These policies contribute to the sustained high prices of these commodities in Nepal.

### Horticultural and select fruit products

**Key messages:** After experiencing a significant decline in recent months, vegetable prices began to rise again in March/April. The vegetable price index witnessed an increase of nearly 10.0 percent from February/March to March/April 2023. On a year-to-year basis, there was a 1.0 percent increase. Vegetables constitute approximately 5.5 percent of the average household expenditure and 12.6 percent of the average food expenditure in Nepal. Therefore, a substantial rise in vegetable prices is likely to have an impact on the dietary quality of poor households in particular.

**Fruits:** In comparison to the previous month, the average price of fruits saw a 3.3 percent increase, and it was 11.0 percent higher compared to the same period in 2022. The price of bananas experienced a sharp rise from the previous month, and there was also a noticeable increase in the price of apples. However, in terms of average household food expenditure, fruits have a smaller share, accounting for 4.7 percent. Consequently, the impact of price increases in fruits on the family budget will be relatively smaller compared to vegetables.

### Potato

#### National prices:
The national average price of potatoes remained steady between February and March 2023, while it increased by 2.0 percent in March 2023 compared to the same period the previous year. In Western Nepal, the price of potatoes rose by 1.8 percent compared to the previous month and by 2.3 percent compared to the previous year.

### Tomato

#### National prices:
Nationally, there was a 5.5 percent decrease in tomato prices between February and March 2023. In Western Nepal, tomato prices experienced a further decline of 12.5 percent in March, following a significant drop of 24.5 percent between January and February. Tomatoes are known for being challenging to transport and store, which contributes to sharp price variations over time and across different locations. Investments in shorter value chains, effective postharvest technologies and cold storage will be needed to improve Nepal’s tomato production and marketing systems.

**Sufficient and reliable data are lacking** in addition to infrastructure and market system development as described above, investments in data systems for horticultural crops are crucial in Nepal. Currently, there is a lack of reliable public data on production and farm harvest prices of horticultural crops that are easily accessible to the public. This poses a challenge when trying to make reliable assessments regarding the impact of consumer price volatility on producers. Additionally, estimating the impact of production shocks on consumer prices is difficult without resorting to speculative approaches that may not be scientifically sound. Therefore, efforts are necessary to develop robust data and information systems specifically tailored for these overlooked commodities.
Banana

**Price changes nationally and regionally:** National average banana price continued to rise in March. Prices were 9.3 percent higher in March 2023 than the previous month and 14.3 percent higher than a year ago. In Western Nepal, banana prices were 7.9 percent higher compared to February 2023 and 6.3 percent higher than the year before. Bananas are an important source of micronutrients including potassium, vitamin C, and vitamin B6. High prices could result in decreases in the consumption of these important nutrients for households not producing bananas. This could contribute to micronutrient deficiencies within poorer households.

Edible oils

**Key messages:** Animal fat and edible oils play a crucial role in human diets. They provide essential fatty acids and fat-soluble vitamins and are important for human health and well-being. The downward trend in the price of edible oils in Nepal persisted in March. The national average price of mustard oil decreased by 7.8 percent from February to March 2023, while the price of soybean oil saw a decline of 5.0 percent. In comparison to the same period in 2022, mustard oil was 13.9 percent less costly and soybean oil was 11.0 percent cheaper in March 2023. According to public data in Nepal, the price index of animal fat and edible oils recorded an 8.1 percent decline in March/April 2022 and 2023, indicating a consistent decrease over the years. The decrease in the price index of these food items suggests that poor consumers may find them more affordable, which is likely to be beneficial, as long as edible oils are part of their balanced diets.

Agricultural inputs and access to finance

**Key messages:** Certainty regarding fertilizer prices and availability continues to be a concern for farmers and input dealers in Nepal. The rising interest rates, implemented as a measure to control inflation, have led to increased borrowing costs and a slowdown in credit flow to farmers and small businesses.

**Fertilizers:** In less than a month and if sufficient rains commence, the sowing of paddy will commence in parts of Nepal. Unfortunately, DAP and Potash fertilizers were either unavailable or only accessible in limited quantities in Western Nepal. Moreover, even Urea, which is supposed to be sold at a controlled price of NPR 14 (0.11 USD) per kg, is currently being sold at higher rates ranging from NPR 23-27 (0.17-20 USD) per kg. Despite the Government of Nepal's decision to import additional fertilizer supplies, farmers and cooperatives are still facing a scarcity of fertilizers. This situation has been reported by multiple sources, indicating a gap between the intended import measures and the actual availability of fertilizers on the ground.

**Policy changes:** The Government of Nepal has recently reversed its decision, which was made on March 13th of 2023, to reduce subsidies on Urea, DAP, and Potash fertilizers. As a result, the official retail prices of these three fertilizers will remain unchanged. While decisions are anticipated to mitigate the challenges faced by poor farmers, it is also anticipated to increase government expenditure on fertilizer subsidies and constrain foreign currency reserves, compared to the original plan.
**Energy**

**Key messages:** The price of diesel in Nepal witnessed a significant decrease from NPR 175 (USD 1.31) per liter in February 2023 to NPR 165 (USD 1.25) per liter in March and April. In May, diesel prices further dropped to NPR 155 (USD 1.17) per liter. This sharp decline in diesel prices, particularly just before the paddy season, is expected to bring relief to farmers. The reduced diesel prices may lead to a potential reduction in rental rates for machines used in land preparation and irrigation. This could alleviate some financial burden on farmers by making these services more affordable during the upcoming summer rice season.

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**Data sources**

Data sources for this brief include the World Food Program WFP for food prices, globalpetrolprice.com for fuel prices, the Nepal Rastra Bank for the CPI, budget shares, remittance flows, and other macroeconomic data, USDA reports for India’s export outlook, and the World Bank Household Risk and Vulnerability Survey (HRVS) for household occupations and reliance on remittance income in addition to price information and field reports provided by USAID/Nepal’s Implementing partners, notably the Nepal Seed and Fertilizer (NSAF) Project and KISAN II.

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**Suggested citation**


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Situation Report on Nepal’s Agrifood Systems

June 2023 | Bulletin Number 7

Key messages

Overall assessment: Data from May indicates a persistent trend of modest price increases in Nepal. Year-on-year inflation for food and beverage prices was recorded at 5.5 percent, which, though lower compared to 6.9 percent in the previous month and significantly less than in April and May 2022, still denotes an escalation in food prices from an already elevated base. While the high inflation rate impacts all consumers, it is likely to disproportionately strain the finances of the poor, potentially jeopardizing food security. Moreover, the inflation rates for non-food items and services surged to 8.9 percent. The Consumer Price Index (CPI) experienced a somewhat milder increase compared to the Wage Rate Index, registering a 7.4 percent growth as opposed to 7.6 percent.

Persistence of high prices for cereals: In April and May of 2023, Nepal did not experience a decrease in staple food prices; instead, there was a slight uptick of 0.5 percent in cereal prices, which were already elevated. In contrast, prices for other food commodities, with the exception of spices, fruits, and milk and eggs, decreased in May 2023. The sustained high prices of staple foods are concerning for the economic well-being of Nepal’s poorer households.

Agricultural and industrial laborers continued to experience a decline in their real wages: Between April and May, the average wage rates for agricultural and industrial laborers increased marginally by 0.15 percent, whereas the Consumer Price Index (CPI) rose by 1.1 percent during the same period. This indicates a slight decline in real wages. However, wage indices for industrial laborers, such as construction workers, fared better, with increases of 1.0 percent in April and 0.6 percent in May.

Consumer price indices depicted spatial variability: In May of 2023, the CPI in the Kathmandu Valley, Terai, Hill, and Mountain rose to 7.7 percent, 7.2 percent, 7.6 percent, and 7.1 percent, respectively. Inflation in these regions was 7.4 percent, 8.2 percent, 7.9 percent, and 8.2 percent during the same period of last year.

Spotlight: Nepal’s new fiscal budget and agricultural subsidies

The Government of Nepal announced a budget of NPR 58.98 billion (USD 0.45 billion) for agricultural and livestock development in the fiscal year 2080/81 BS (2023-24 AD), up from NPR 55.89 billion (USD 0.42 billion) and 5.5 percent higher compared with the previous year. Of the total, NPR 30 billion (USD 0.23 billion) and NPR 0.95 billion (USD 0.01 billion) are planned to be used for subsidy support for chemical fertilizers and insurance premiums (of up to 80 percent) for crops and livestock, respectively.

These measures are intended to bring relief for smallholder rice farmers in particular and have been allocated in part in response to input supply challenges and uncertainty poised by seasonal weather forecasts indicating potentially dryer late monsoon season conditions in Nepal.
Macroeconomic trends and implications for household economic welfare

Key messages: Year-on-year inflation in Nepal remained high, though it saw a slight dip from 7.8 percent in March and April 2023 to 7.4 percent in May 2023. This inflation impacted a broad spectrum of commodities, with food prices climbing by 5.5 percent and non-food prices by 8.9 percent. The elevated prices of cereals, cereal products, milk, milk products, eggs, and spices persistently contributed to and were affected by the inflation. Notably, the price hikes roughly paralleled changes in wage rates (Figure 1). However, as highlighted in prior reports, the growth in wage indices was not evenly distributed across various economic sectors and worker categories.

![Figure 1. Percentage change in national consumer price index (CPI) and national salary and wage rate index.](image)

Remittance inflows: Between mid-July 2022 and mid-May 2023, Nepal saw a remarkable 23.4 percent increase in remittance inflow, totaling NPR 1005.18 billion, compared to a mere 0.5 percent rise during the same period the previous year. In US dollars, the remittance inflow grew by 13.4 percent, reaching USD7.70 billion. This surge coincided with a significant increase in Nepali workers seeking foreign employment or renewing work permits as COVID-19 migration restrictions eased. During the first ten months of 2022-23, this number doubled from the previous year, reaching 0.66 million. The substantial growth in remittance inflows positively impacts Nepal's balance of payments, alleviating deficits and serving as an economic lifeline for households, cushioning them against the slowing economy.

Recent price fluctuation in food commodities and agricultural inputs

Rice and wheat

Rice: In April 2023, the national average price of coarse rice increased by 3.5 percent compared to the previous month and was 3.1 percent higher than the same month in the previous year. The price hike was even higher for the medium quality of rice (Table 1). Rice price trends showed regional variability in Nepal as the extent and direction of price movement were not uniform across provinces (Table 2).
**Wheat:** In March 2023, the price of wheat flour experienced a significant increase, which continued into April 2023. By April, the national average price of wheat flour was 6.5 percent higher compared to the previous month and exhibited a substantial 37.0 percent increase relative to April 2022. Concurrently, Western Nepal observed a comparable surge in wheat flour prices.

**Selected horticultural products**

**Key messages:** After a slight increase in March/April of 2023, vegetable prices remained stable in April/May. On a year-to-year basis, there was about 1.9 percent decline. However, price trends exhibited a significant variation across different types of vegetables (Annex 1). Vegetables constitute a crucial component of the food basket in Nepal, representing around 5.5 percent of the average household's expenditure and 12.6 percent of the expenditure on food. Consequently, fluctuations in the prices of vegetables are poised to substantially affect the dietary quality of poor households in the country.

**Fruits:** Compared to the previous month, the average price of fruits witnessed a 1.1 percent uptick. Additionally, there was a 1.5 percent increase relative to the same period in 2022. Among fruits, the price of apples surged notably by 5.5 percent from the previous month, while bananas also experienced a significant price increase of 3.1 percent. Nonetheless, since fruits account for a smaller portion of the average household's food expenditure, the impact of these price increases on the family budget is expected to be less pronounced compared to that of vegetables.

**Banana**

**Price changes nationally and regionally:** In April 2023, the national average price of bananas continued its upward trajectory. Prices were 3.0 percent higher than in the previous month and 13.5 percent higher compared to the same month in the previous year. Among the provinces, five of them, namely Koshi, Bagmati, Gandaki, Lumbini, and Sudurpaschim, experienced an increase in banana prices, while a decline was observed in the remaining two provinces, Madhesh and Karnali. Bananas are a vital source of micronutrients. The escalation in banana prices may curtail their consumption, particularly among households that do not produce bananas. This could potentially lead to micronutrient deficiencies, especially within economically disadvantaged households.

**Potato**

**National prices:** In Nepal, potatoes are a vital staple for poor households, as they are an affordable and nutritious source of energy, contributing to food security. Between March and April 2023, the national average price of potatoes remained relatively stable, with a marginal decrease of 0.4 percent in April 2023 compared to the same period in the previous year. Nonetheless, there were pronounced variations in price movements across the different provinces of Nepal (Table 2).

**Tomato**

**National prices:** Tomatoes bolster Nepal's agricultural economy by diversifying farmers' income sources and generating employment through cultivation and value-added processing. Additionally, they have the potential for export and stimulate related industries, while also contributing nutritionally.
Nationally, tomato prices experienced a slight increase of 0.1 percent between March and April 2023, while witnessing a decline of 10.2 percent in April 2023 compared to the same period in 2022. Similar to potatoes, tomato prices exhibited stark variations across different provinces in Nepal. For instance, in April 2023, tomato prices soared in Bagmati Province by 38.0 percent, followed by increases of 28.0 percent in Koshi, 19.0 percent in Sudur Paschim, and 7.0 percent in Gandaki. Conversely, other provinces registered a decline in tomato prices, with reductions of 26.0 percent, 12.0 percent, and 10.0 percent in Madhesh, Karnali, and Lumbini provinces, respectively. Consequently, some producers, frustrated by the low prices their produce fetched, were seen discarding tomatoes onto public roads in front of the Kalimati Vegetable and Fruit Market. These substantial disparities in price trends across different provinces suggest a lack of market integration in Nepal. This underscores the need for increased investment in market infrastructure, cold storage facilities, transportation, and post-harvest technologies, such as the use of plastic crates, to enhance efficiency within the tomato value chains in Nepal.

**Edible oils**

**Key messages:** Animal fats and edible oils, including mustard and soybean oil, are vital to human diet and well-being as they supply essential fatty acids and fat-soluble vitamins. In Nepal, April 2023 saw a continuation of the declining trend in edible oil prices, with the national average price of mustard and soybean oil dropping by 2.0 percent between March and April 2023, and 18.0 percent lower compared to April 2022. Furthermore, public data reveals that the price index for animal fats and edible oils fell by 14.4 percent from April/May 2022 to April/May 2023, indicating a consistent downward trend. This decrease in prices is likely to enhance the affordability of these essential food products for impoverished households, supporting a diet when oils are consumed at recommended dietary intake levels.

**Agricultural inputs and access to finance**

**Key messages:** The availability and prices of fertilizers remain a pressing issue for farmers and input dealers in Nepal. Measures to control inflation, such as the implementation of rising interest rates, have resulted in higher borrowing costs and a subsequent decline in credit flow to farmers and small businesses. As of mid-May 2023, the overall credit availability slightly dipped from NPR 4,889 billion (USD 37.16 billion) in mid-April 2023 to NPR 4,879 billion (USD 27.08 billion). However, credit allocated to agriculture and its allied sectors saw a slight uptick during the same period, rising from NPR 368 billion (USD 2.80 billion) to NPR 370 billion (USD 2.81 billion).

**Fertilizers:** Paddy sowing has commenced in various regions of Nepal. Through interactions with stakeholders in Western Nepal, particularly in the Banke district, it has been observed that Urea, DAP, and MoP fertilizers are either scarcely or only partially available, signaling a deficiency in fertilizer supplies in the area. Additionally, Urea, which is regulated to be sold at NPR 14 (USD 0.11) per kg, is currently being traded at elevated prices ranging from NPR 23-34 (USD 0.17-0.25) per kg. Although the Government of Nepal resolved to import additional fertilizer stocks, there is an apparent discrepancy between the proposed importation measures and the actual availability of fertilizers, as farmers and cooperatives in regions like the Banke district continue to grapple with a shortage.

**Policy changes:** The Government of Nepal recently rescinded its decision to cut subsidies on Urea,
DAP, and Potash fertilizers, resulting in the official retail prices of these fertilizers remaining unchanged. While this reversal is expected to alleviate the hardships faced by impoverished farmers, it is also predicted to escalate government expenditure on fertilizer subsidies and put pressure on foreign currency reserves, in contrast to the initial plan. In the new budget presented to the parliament in June 2023, the Government of Nepal unveiled measures to curb the misuse of subsidies allocated for agricultural inputs. The impact of these measures however remains to be seen, as the action plan is still in the development phase.

**Energy**

**Key messages:** The price of diesel in Nepal saw a substantial decrease, from NPR 175 (USD 1.31) per liter in February 2023 to NPR 165 (USD 1.25) per liter in March and April. In May and June, diesel prices dropped even further to NPR 155 (USD 1.17) per liter. Additionally, the price of crude oil in the international market declined by 33.5 percent to USD 74.5 per barrel in mid-May, compared to USD 112.12 per barrel a year earlier. This steep decline in diesel prices, especially during the paddy season, is likely to provide respite to farmers. The lower diesel prices could potentially result in decreased rental rates for machinery used in land preparation and irrigation, easing financial pressures on farmers and making these services more affordable for the upcoming summer rice season.

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Annexes

Annex 1: Percentage change in commodity prices in Nepal

<table>
<thead>
<tr>
<th>Commodity Name</th>
<th>% change (Apr 22-Apr 23)</th>
<th>% change (Mar 23-Apr 23)</th>
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<tbody>
<tr>
<td>Rice (coarse)</td>
<td>3.13</td>
<td>3.46</td>
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<tr>
<td>Rice (medium grain)</td>
<td>9.66</td>
<td>5.84</td>
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<tr>
<td>Wheat flour</td>
<td>36.75</td>
<td>6.29</td>
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<tr>
<td>Lentils (broken)</td>
<td>-3.61</td>
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<tr>
<td>Chickpeas</td>
<td>-22.95</td>
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<td>Beans (black)</td>
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<tr>
<td>Oil (mustard)</td>
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<td>-1.75</td>
</tr>
<tr>
<td>Oil (soybean)</td>
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<td>-2.19</td>
</tr>
<tr>
<td>Peanut</td>
<td>-10.19</td>
<td>-9.68</td>
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<tr>
<td>Apples</td>
<td>9.82</td>
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<td>Bananas</td>
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<td>3.09</td>
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<tr>
<td>Cabbage</td>
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<td>-12.13</td>
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<tr>
<td>Carrots</td>
<td>1.35</td>
<td>11.77</td>
</tr>
<tr>
<td>Oranges</td>
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<td>-10.24</td>
</tr>
<tr>
<td>Potatoes (red)</td>
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<td>-0.04</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>8.03</td>
<td>11.68</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>-10.18</td>
<td>0.12</td>
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<tr>
<td>Eggs</td>
<td>-10.47</td>
<td>-1.11</td>
</tr>
<tr>
<td>Fish</td>
<td>13.56</td>
<td>0.56</td>
</tr>
<tr>
<td>Meat (chicken)</td>
<td>-2.46</td>
<td>1.07</td>
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<tr>
<td>Milk</td>
<td>31.61</td>
<td>2.81</td>
</tr>
<tr>
<td>All</td>
<td>-1.12</td>
<td>0.45</td>
</tr>
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</table>
### Annex 2: Percentage change in commodity prices across provinces in Nepal.

<table>
<thead>
<tr>
<th>Commodity Name</th>
<th>Koshi</th>
<th>Madhesh</th>
<th>Bagmati</th>
<th>Gandaki</th>
<th>Lumbini</th>
<th>Karnali</th>
<th>Sudur Paschim</th>
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Key messages

**Overall assessment:** In June 2023, Nepal witnessed a slight increase in the prices of food and beverages by 1.3 percent as compared to the previous month. The inflation rate of non-food items and services conversely decreased marginally. This can be partially attributed to a decline in transportation costs. There was a deceleration in the year-on-year Consumer Price Index (CPI), reaching 6.8 percent this month compared to a 10.1 percent increase in the Wage Rate Index.

**Persistence of high prices for cereals:** In June 2023, the price of cereals and their products increased by 0.3 percent compared to the previous month. Additionally, the prices of other food commodities generally increased during the same time. However, there was a marginal decrease in the price of ghee/oil and fruit by 1.6 and 0.8 percent, respectively. The continued high prices of staples may have adverse implications for the poor and marginalized households’ access to key food products that provide the bulk of calories in the Nepali diet.

**Laborers continued to experience an increase in their real wage rate:** The average wage rate for agricultural labor increased by about 5.0 percent from May to June, whereas there was no change in the average wage rate for industrial labor. The wage rate for construction laborers, however, increased marginally by 0.9 percent during the same period. With increasing prices for agricultural labor, the cost of hired labor to complete manual rice transplanting is expected to increase. This could contribute to higher overall costs of production for rice farmers, potentially contributing to lower profits later in the year.

**Spotlight: Nepal’s new fiscal budget and agricultural subsidies**

An increment of 5.5 percent in the budget for the Ministry of Agriculture and Livestock Development announced by the Government of Nepal was approved by the parliament in the last month. In partial response to higher global costs for fertilizers, the budget allocation for the procurement of chemical fertilizers has doubled and now stands at NPR 30 billion (USD 0.23 billion) for the current fiscal year.

The Nepal Rastra Bank (NRB) also published its monetary policy for this fiscal year based on the current macroeconomic scenario of the country on 23rd July 2023. Implementation of the policy is aimed at reducing the interest rate. Provisions have also been made for banks to supply credit at a minimum of 15.0 percent. These policies are intended to increase credit flow to the agriculture sector and support producers in the face of higher farm production costs.
Macroeconomic trends and implications for household economic welfare

Key messages: The averages of national CPI and food price inflation stood at 7.8 and 6.6 percent, respectively in June of 2023, though with declining trends over the period of August 2022 through June 2023 (see Figure 1). As shown, the highest CPI (8.6 percent) was recorded in September 2023, whereas the lowest 6.8 percent was observed in June 2023. The highest inflation rate of 8.2 percent was also recorded in September 2022, while the lowest rate was observed at 5.5 percent in May 2023. The year-on-year food price inflation that contributed to increases in the prices of cereals, especially wheat and rice, are shown in the table in Annex 1.

Remittance inflows: Many households in Nepal rely heavily on remittances from abroad. Between mid-July 2022 and mid-June 2023, Nepal received remittances worth NPR 1112.6 billion (USD 8.49 billion). This growth in remittance inflows was associated with an increase of 46.6 percent in migrant workers going for foreign countries last first eleven months. Relaxation of COVID-19 protocols for international migration is the primary contributor to the skyrocketing of migrant workers. The sharp rise in remittance inflows has been beneficial for the Nepal’s economy. Particularly, it has eased Nepal’s deficit on the balance of payments and serves as a kind of safety net for households' finances. Studies have also shown that remittances are instrumental in reducing poverty in the country.¹

Figure 1: Percentage change in food price inflation and national consumer price index (CPI) from

August 22 to June 2023.

Recent price fluctuation in food commodities and agricultural inputs

Rice and wheat

**Key messages**: Year-on-year prices of rice and wheat rose by 19.8 percent for each in May 2023 as compared with their prices on the previous year. However, compared to April 2023, the price increase in May 2023 was modest. The surges in the respective prices of wheat flour and medium grain by 34.8 percent and 13.3 have contributed to overall food price inflation as these cereals are a major part of Nepali diets. International conflict, steep topography in the Mid-Hills and mountainous districts, crop damage, and recent restrictions on exports of wheat and rice from India may have contributed to the increase in Nepal’s cereals’ prices.

**Rice**: The national prices of medium grain and coarse rice has showed increasing trends during the year. In addition, the year-on-year prices of medium grain rice and coarse rice in May 2023 were higher by 13.3 percent and 10.9 percent, respectively, as compared to May 2022 (Annex1). Consumers are experiencing increasing price trends for coarse rice and medium grain rice prices as well, with a rise of 2.9 percent and 2.7 percent, respectively, in May 2023 compared with the price of previous month. However, prices varied across provinces. For instance, the prices for both medium and coarse rice decreased in Karnali province by 35.7 percent and 13.3 percent, respectively. Negative growth in rice prices in Karnali are the results of subsidized rice supplies from the government in Mugu and Humla districts. By province, the highest increase in price of medium grain rice was observed in Lumbini (34.0 percent) followed by Sudurpaschim (21.0 percent) for May 2023 as compared to the previous year (Annex 2).

**Wheat**: The price of wheat in Nepal continues to remain high in Nepal. At national level, the price of wheat flour increased by 34.8 percent between May 2022 and May 2023. Across provinces, the

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**Spotlight: Slow monsoon season rice crop establishment**

Information from USAID Implementing Partner Activities suggest that mid-July 2023, farmers have transplanted only approximately half of the total suitable land for *Kharif* rice cultivation, which is 12.0 percent lower than for the same period of previous year. Lumpy Skin Disease of livestock (LSD-L) has been widely reporting, with data suggesting infection of about 634,800 livestock, mainly cattle, killing a total of 48,133 as of 24th July 2023. In Sudurpaschim Province alone, LDS-L is reported to have infected and killed a total of 298,000 and 26,000 cattle, respectively. As many farmers in the Mid-hills still rely on drought animals, for land preparation, media have suggested that LSD-L may be one of the factors delaying transplanting. LSD-L has also been reported in Karnali province, though additional research is needed to confirm that LSD-L is indeed a major limitation to transplanting this as opposed to other years.

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**Wheat**: The price of wheat in Nepal continues to remain high in Nepal. At national level, the price of wheat flour increased by 34.8 percent between May 2022 and May 2023. Across provinces, the
The highest spike of 67.1 percent was observed in Lumbini province followed by 58.9 percent in Sudurpashchim province during the same period. However, wheat prices were slightly lower in May 2023 as compared with the previous month. The inflated wheat flour price is likely linked to speculation and shortages of wheat in the international market because of the international conflict and trade restrictions imposed in key wheat producing and trading countries. Reports of crop damage due to untimely rains in wheat growing areas of India and subsequent restrictions on wheat exports may have also contributed to increasing wheat flour prices compared to their already elevated levels. This situation may become worse given the recent jump in global wheat prices following Russia’s withdrawal from the Black Sea Grain Initiative on 17 July, as well as by subsequent targeting of trade vessels and routes by the military. However, on the ways in which national and sub-national markets in Nepal will respond to these changes remain to be seen as the situation matures.

**Policy, trade, and climate risks:** The Government of Nepal has raised the minimum support price for short grain and medium grain rice to NPR 3,198 (USD 24.41) and NPR 3,362 (USD 25.66) per quintal, respectively, in Nepali year 2080/81 (i.e., 2023/24) to encourage domestic production. These prices are 7.8 percent and 7.6 percent higher for short grain and medium grain, respectively, than the prices in the previous year. More importantly, this is the first time that the prices had been announced in advance of the summer monsoon the planting period; this advanced price declaration may act as an instrument of price risk mitigation for rice production.

**Selected horticultural and fruit products**

**Key messages:** The average price of fruit remained almost stable with a slight increment of 0.8 percent from May 2022 to May 2023. However, it saw a marginal decrease of 0.7 percent in May 2023 when compared with the price of the previous month. Prices of cabbage, pumpkin, potato, and tomato declined slightly from May 2022 through May 2023. Particularly, the respective prices of cabbage, pumpkin, and tomatoes decreased 8.2, 23.4 and 8.2 percent from April to May 2023 (see in Annex 2). Such declines in vegetable prices are expected to benefit poor consumers could experience improved purchasing power, enabling them to afford, buy, and consume more vegetable products than they previously could.

**Fruits**

The declining trends of the national prices generally persisted in some fruits, such as apples and bananas, during May 2022 through May 2023. This decline was observed across provinces. For instance, Bagmati and Karnali provinces saw a decline of 11.2 percent and 22.0 percent, respectively in year-on-year apple prices, in comparison to the previous year (May 2022). Despite a declining trend, some provinces experienced contrast price orientations. For example, Banana prices in Karnali province experienced a sharp decline of 44.8 percent from May 2022 to May 2023, in contrast to

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skyrocketing prices that resulted in a 39.7 percent increase in Lumbini Province during the same period.

### Potato

Year-on-year comparison of prices showed a decline of 13.2 percent from May 2022 to May 2023, while the national average price for potatoes increased by 4.6 percent between April and May 2023. The fall in national prices was further aided by the sharp drop in prices recorded in the Karnali, Koshi, Gandaki, Sudurpashchim, and Bagmati provinces when compared with the prices of the previous year.

### Tomato

Year-on-year tomato prices rose by 48.0 percent up to May 2023, while a decline of 7.0 percent was observed in May when it was compared with the price of April for the year 2023. Tomato price declines stood uniform across the provinces with the highest rate of 81.6 percent in Karnali and the lowest in of 39.3 percent in Koshi province during May 2022 through May 2023.

A bumper tomato production supplemented by import from India is likely to have influenced these changes. There was however a significant increase in tomato prices in Madhesh province, between April and May 2023 at 71.4 percent. This was the only province in Nepal that had higher tomato costs during this period. India, also experienced declining tomato prices up to May 2023. After May, however, there has been a massive surge in tomato prices in India with prices rising by a staggering 700 percent after the commencement of monsoon. This sharp increase in prices in India could present an opportunity for farmers in Nepal, especially those in bordering districts, such as Banke, Kailali and Kanchanpur, to capitalize on the price differences by exporting across the border.

### Edible oils

**Key messages:** Mustard oil and soybean oil also saw decreasing price trends in Nepal. The national mustard oil price declined from NPR 366 (USD 2.79) to NPR 286 (USD 2.18) per liter in May 2023 than that of the price in May 2022, a reduction of 21.8 percent. In the same period, soybean oil price has declined 25.8 percent. The prices of mustard oil and soybean oil dropped by 4.1 percent and 0.08 percent, respectively, in May 2023 when compared with their prices in previous month.

**Price variation:** At the province level, the highest decline in mustard oil prices was of 38.0 percent and soyabean oil by 31.9 percent, observed in the Bagmati province for a one-year period measured up to May 2023. However, monthly comparison of mustard oil prices from April to May 2023 showed an increasing trend of 8.2 percent and 9.5 percent in Koshi and Madhesh provinces, respectively. However, the prices stood constant in Lumbini and Karnali provinces for the same period. Unlike mustard oil prices, Lumbini and Karnali provinces witnessed the highest growth of 13.5 percent in soybean price from April to May 2023. The overall reduction in the price of both edible oils at national level can likely be partially attributed India’s policy of levying a 5.0 percent Krishi Kalyan Tax in import
of oils from Nepal that may have increased domestic competition and lowered prices.

**Agricultural inputs**

**Key messages:** The government has doubled the budget for the procurement of fertilizers in Nepal as compared to the previous year. Because of the cessation of the Black Sea Grain Initiative (BSGI) on 17 July, which will continue to affect fertilizer supply and distribution of out of Russia and the Ukraine, with likely international consequences, this policy move is timely and important. If Nepal is able to assure adequate distribution of fertilizers, it could alleviate high production costs and aid in increasing production of transplanted rice.

**Fertilizers:** The Government of Nepal has maintained a stock of 41533 MT of urea, 21238 MT of DAP and 1642 MT of MoP as of 16th July 2023. In addition, 21,857 MT of DAP and 1582 MT of MoP has been recently imported which is expected to be distributed coinciding with the rice cultivation in Nepal. Furthermore the Government of Nepal has allocated record high budget of NPR 30 billion (USD 0.23 billion) for chemical fertilizer subsidy supply programs. Reports from USAID Implementing Partners however suggests that there remains a risk of tedious procurement processes that could impede the efficient distribution of fertilizers during the early monsoon when basal doses can be most beneficial for transplanted rice.

**Energy**

**Key messages:** Retail petrol prices in Nepal showed a very slight decrease from NPR 175 (USD 1.34) per liter in January 2023 to NPR 170 (USD 1.30) per liter in June which further declined to NPR 164 (USD 1.25) in July. The price of petrol is even lower in the border districts such as Nepalgunj and Surkhet of Lumbini and Karnali provinces respectively, with the current prevailing prices standing at NPR 161.5 (USD 1.23) per liter and NPR 163 (USD 1.24) per liter, respectively. During the same period, diesel prices decreased from NPR 172 (USD 1.31) per liter in January 2023 to NPR 155 (USD 1.18) per liter in June to NPR 146 (USD 1.11) per liter in July. Diesel prices as of July 2023 in Nepalgunj and Surkhet districts are NPR 143.5 (USD 1.10) and NPR 145 (USD 1.11) per liter, respectively.

The decline in diesel price is important as diesel is needed for land preparation and shallow tube well irrigation during the early monsoon rice transplanting season. As per the decision made by the Government of Nepal on 17th July 2023, the Nepal Oil Corporation will adopt an automated pricing mechanism which will adjust the fuel prices as per the price set by the Indian Oil Corporation, relaxing the governmental influence in price determination.

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Informal trade in agriculture

From April 2022 to March 2023, India's shares in Nepal’s total formal imports and exports were 63.0 percent and 69.0 percent, respectively. Informal trade in agricultural and food commodities between the two countries has also been a prominent feature of the economy. The import duties charged on agricultural products by Nepal, commodity restrictions and bans, and prohibitions and quotas are eased by the porous border between the two countries. In the case of fertilizers, farmers on the Nepal side have been driven to purchase informally from India because of reported unavailability of state-supplied fertilizers in the required quantities at the right time.

Furthermore, price differences as well as variation in production costs due to uneven and untimely provision of subsidies have driven small traders as well as consumers to procure food items from across the border. Major agricultural commodities traded informally include rice (long and fine grain), wheat, vegetables, pulses, sugar, salt, fertilizers (urea in particular), pesticides, seeds including hybrid (vegetable and grain), spices (clove), ginger, as well as agricultural machinery spare parts.

Acknowledgements

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Data sources

Data sources for this brief includes the World Food Program for food prices, Nepal Oil Corporation (noc.org.np) for fuel prices, the Nepal Rastra Bank for the CPI, budget shares from Ministry of Finance, remittance flows, and other macroeconomic data. The field reports provided by USAID/Nepal’s Nepal Seed and Fertilizer (NSAF) and KISAN II Activities.

Suggested citation


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Annexes

Annex 1: Percentage change in commodities’ prices (NPR/kg) of Nepal.

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<td>8.15</td>
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<td>-4.26</td>
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<td>-3.30</td>
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<td>20.18</td>
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<td>1.79</td>
<td>24.59</td>
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<tr>
<td>Fish</td>
<td>6.11</td>
<td>4.17</td>
<td>-5.74</td>
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<tr>
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<td>11.11</td>
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<td>41.39</td>
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<tr>
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<td>14.18</td>
<td>-6.06</td>
<td>68.75</td>
<td>-15.09</td>
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Inflation continues to drive moderately high food costs: In July of 2023, Nepal’s GDP projections were adjusted downward for 2023/24 (i.e., Nepali year 2080/81). Growth moderation in GDP is attributed to tighter monetary policy, which has led to higher interest rates. In addition, import restrictions have been imposed to manage declining foreign exchange reserves. The annual inflation rate for the 12 months ending in July stood at 7.7 percent compared to 6.3 percent a year ago. Similarly, the cost of food and beverages increased by 2.5 percent compared to the previous month, while inflation for non-food items declined marginally. The increment in food cost is mainly contributed by 13.0, 42.0 and 12.8 percent rises in costs of vegetables, spices, and cereals, respectively. At the regional level, the highest inflation level of 3.4 percent in food and beverages was observed in the Terai region compared to the previous month.

Persistence of high prices for cereals: The prices of cereals and their products increased by 12.8 percent in July 2023 compared to the previous year, mainly contributed by 37.8 and 18.5 percent rise in prices of wheat flour and coarse rice. Across provinces, the highest price rises in wheat flour were observed in Sudurpashchim province with 54.4 percent followed by Karnali Province with 24.7 percent. Such rise in cereal prices could limit consumers’ access to basic food commodities, especially for the poor, resulting in food insecurity and malnutrition. The persistent high price for cereals calls for the development of more efficient marketing systems and effective social safety net programs. However, the monthly increase in cereal price was 1.0 percent when compared with the price of June 2023.

Laborers continued to experience an increase in their real wage rate: The overall year-on-year change in agricultural labor wage rate showed a growth of 6.0 percent in July 2023. The change was higher for females (6.3 percent) compared to males (5.6 percent). However, the change in wage rate in July 2023 remained constant in comparison to the rate of previous month. The higher growth in female wage rate, if sustained, can reduce the wage gap between male and female laborers.

Macroeconomic trends and implications for household economic welfare

Key messages Between June and July, consumer and food prices increased by 7.0 percent and 7.4 percent, respectively, as shown in Figure 1. The monthly increase in consumer prices was the highest this year.

Remittance inflows: The remittance contribution to GDP reached 22.9 percent during fiscal year 2022/23 (i.e., 2080/81 Nepali year), which is the highest level of the past five years. The value of the remittance inflow was NPR 1.2 trillion (USD 9.3 billion). The number of Nepali workers obtaining approvals for foreign employment reached 774,976 in 2022/23 (i.e., 2080/81 Nepali year).
Recent price fluctuation in food commodities and agricultural inputs

Rice and wheat

**Key messages:** The prices of rice grain and wheat flour in Nepal increased by 12.7 percent in June 2023 compared to the previous year.

**Rice:** The year-on-year prices of coarse and medium grain rice at the national level increased by 12.7 percent and 13.4 percent, respectively, in June 2023 compared to the previous year. However, the prices of both coarse and medium grain rice in Nepal were relatively stable in June 2023 compared to month before. Similarly, year-on-year rising trends can be observed in western provinces of Nepal with a growth of 18.5 percent and 12.7 percent for coarse and medium grain rice, respectively (Annex 1). At the provincial level, the highest rise was 27.7 percent in Lumbini Province for coarse followed by 26.9 percent in Sudurpashchim Province (Annex 2). The increase in price of both coarse and medium grain rice could be attributed to the instability in global supply and an increase in exchange rate of NPR against USD by 6.3 percent during the same period, despite a notable decline (19.3 percent) in diesel price. The rice prices could further increase in the following months given the restrictions imposed by the Government of India (GoI) on non-basmati rice exports. In contrast, the monthly price of coarse rice was relatively stable with declining trends in provinces in June 2023 compared to the previous months, and they can be attributed to the stability of supply across the nation. However, the monthly price of medium grain rice rose steeply by 25.0 percent in Gandaki Province.

**Wheat:** The year-on-year increase in national retail wheat flour price was 29.7 percent with upward trends across provinces, especially in western provinces. The highest spikes were observed in Lumbini (56.9 percent) followed in Sudurpashchim Province (54.4 percent) in June 2023 compared to the previous year. This increase in price can be attributed to continuous disruption in the global supply chain due to Ukraine-Russia war, which was further fueled by the periodic export restrictions of wheat and rice by the GoI, as suggested in international popular
The month-to-month comparison of wheat flour price indicated a declined in Nepal’s western provinces as well as at the national level. At provincial level, the price of wheat flour increased by 6.6 percent and 1.9 percent in Bagmati and Koshi provinces, respectively compared to the previous month. Trade restrictions driven by international conflict reduced wheat supply in global market which was further escalated by export restriction of wheat by India could have caused a domino effect in wheat prices.

Policy, trade, and climate risks: India imposed a ban on the export of non-basmati white rice in July 2023. Since India is one of the major suppliers of rice to Nepal with year-on-year export of 217,792 MT, the recent ban resulted in increased prices for various types of rice by more than 16.0 percent in the domestic market during the first week of August. In addition, an initially weak monsoon in Nepal and delayed rice transplanting, which could potentially affect rice supply and cause price increases. As a short-term contingency plan to fulfil national market demand, the GoN has requested GoI for 1,00,000 MT of rice supply.

Selected horticultural and fruit products

Key messages: The prices of apple and banana in Nepal and the western provinces were relatively stable in June 2023 compared to the year before, while the price of orange showed high instability. Off-season supplies oranges and apples have increased the price at national level compared to a month before. The prices of these fruits are conversely expected to decline with the seasonal increase in production with the onset of winter season. In July 2023, the year-on-year price of red potato increased in eastern provinces with the highest of 47.8 percent in Madhesh Province whereas the price declined in Sudurpashchim Province. Similarly, the price of tomatoes with a sharp decline at the national level by 41.2 percent compared to the previous month, with a high variation across provinces. Adequate cold storage facilities and value-addition process are necessary for mitigating price collapse events during bumper harvests to avoid the potential price declines that arise from their perishability.

Fruits

The prices of apple and banana in Nepal and western provinces were relatively stable in June 2023 compared to the previous year, while the price of orange increased by 17.4 percent at national level and 50.3 percent in western provinces. The year-on-year price of banana declined by about 2.0 percent in both national and western provinces in July 2023 compared to the previous year. At provincial level, the highest increase in apple prices of 31.1 percent was observed in Madhesh Pradesh while the price of apple declined slightly in Sudurpashchim Province during June 2023 compared to a year before.

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**Potato**

The national average price of red potato was 15.2 percent higher than a year ago, though it declined 7.2 percent in the Western Provinces. The year-on-year increase in price of potato at national level can be attributed to the highest increase of 47.8 percent in Madhesh Province and 25.0 percent in Koshi Province. A similar trend was observed at provincial level with the increase in price of red potato in Koshi and Madhesh provinces in contrast to the declines in prices in western provinces compared to the previous month.

**Tomato**

*Bumper crop, followed by price crash:* A bumper crop of tomatoes accompanied by import from India caused the price to drop sharply (41.2 percent) at national level, with similar price falls in the western provinces. The highest decline of 58.3 percent was recorded in Bagmati Province followed by 54.0 percent in Gandaki Province in June 2023 than a year before. During the month of June 2023, the price of tomatoes demonstrated high instability compared to the previous month.

**Spotlight: Tomato prices plunge to an average of USD 10.03 per kilogram**

A bumper production of tomato in Nepal has led a sharp decline in its price in early June of 2023. Reports indicated that farmers in some locations choose to dump their harvested tomatoes when they were unable to sell produces even at a price of NPR 4.0 (USD 0.03) per kilogram. Meanwhile, the price of tomato saw a sharp increase of INR 100 (USD 1.21) per kilogram in many parts of India. Realizing the potential for tomatoes export to India, the Government of Nepal facilitated some export of tomato to India later in the month. The Governments of Nepal and India have initiated discussions for the medium and long-term strategies for tomato trade between these two countries.

**Edible oils**

*Price variation:* Year-on-year and monthly price declines of mustard and soybean oils were recorded in Nepal in the last month. The highest decline in year-on-year national price of soybean oil was observed in June 2023 with 26.9 percent, whereas it was 24.5 percent for western provinces. Across provinces, the highest decline (39.2 percent) was reported in Gandaki Province followed by Bagmati Province (37.3 percent) in the month June 2023 in comparison to the prices a year before. Similarly, the monthly mustard and soybean oil prices also declined in general when compared with their prices in the previous month, and such declines were consistent across provinces, ranging from 1.5 percent up to 12.7 percent.

**Agricultural inputs**

*Key messages:* Along with access and availability, effective and efficient distribution of agricultural inputs, particularly inorganic fertilizers, remained to be the persistent problem in Nepal. In this regard, the Finance Committee of the House of Representatives convened a meeting on 3rd August 2023, to address the issues. The Ministry of Agriculture and Livestock Development of Nepal in collaboration with Ministry of Finance is planning to implement a comprehensive program with the goal of ensuring an adequate, reliable, and transparent distribution system of fertilizers. Furthermore, to promote investment in the fertilizer sector, the
finance committee is expected to provide necessary guidance and support to domestic and international parties to set up fertilizer industries.

**Fertilizers:** The Government of Nepal has distributed 33.7 thousand MT of subsidized inorganic fertilizers (Urea, DAP and Potash) through Agriculture Inputs Company Limited and 32.8 thousand MT of subsidized chemical fertilizers through Salt Trading Company Limited during July 2023. A total of 53 thousand MT (84.0 percent) Urea was subsidized for Nepali farmers. At the provincial level, Madhesh Province had the highest share (i.e., 288 thousand MT) and the lowest (523 MT) in Karnali Province on the subsidized fertilizers. Since Karnali Province has been recognized as champion for organic productions, the lowest fertilizers were offered to the region.

**Energy**

**Key messages:** As of 16th August 2023, the retail price of petrol and diesel per liter were NPR 178 (USD 1.34) and NPR 167 (USD 1.25), respectively. Compared to the previous month, the price of petrol and diesel increased by 2.9 percent and 9.2 percent respectively. The recent surge in the price of petroleum products in August 2023 is mainly attributed to the fluctuation in the Global Crude Oil price and increase in exchange rate of NPR against the USD. The increase in the fuel price will have consequent implications on costs associated with transportation, production and eventually commodities’ prices, resulting negative impacts on consumers’ economic conditions.

**Acknowledgements**

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**Data sources**

Data sources for this brief includes the World Food Program for food prices, Nepal Oil Corporation (noc.org.np) for fuel prices, the Nepal Rastra Bank for the CPI, budget shares from Ministry of Finance, remittance flows, and other macroeconomic data. The field reports provided by USAID/Nepal’s Nepal Seed and Fertilizer (NSAF) and KISAN II Activities.

**Suggested citation**


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Annex 1: Percentage change in commodity price (NPR/Kg) in Nepal.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Nepal</th>
<th></th>
<th>Western provinces</th>
<th>% Change</th>
<th>Nepal</th>
<th></th>
<th>Western provinces</th>
<th>% Change</th>
</tr>
</thead>
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<td>June 2022</td>
<td>June 2023</td>
<td>May 2023 to June 2023</td>
<td>June 2022 to June 2023</td>
<td>May 2023</td>
<td>June 2022</td>
<td>June 2023</td>
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<td>60.5</td>
<td>0.6</td>
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<td>65.1</td>
<td>55.3</td>
<td>65.5</td>
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<td>96.3</td>
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<td>92.7</td>
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<td>303.6</td>
<td>296.7</td>
<td>330.8</td>
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<td>150.1</td>
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<td>-2.6</td>
<td>170.2</td>
<td>177.9</td>
<td>173.6</td>
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<td>218.0</td>
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<td>17.4</td>
<td>220.0</td>
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<tr>
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<td>120.6</td>
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<td>70.9</td>
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<td>-32.2</td>
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<td>82.2</td>
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<td>281.0</td>
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<td>-23.9</td>
<td>301.3</td>
<td>373.6</td>
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<td>Soybean oil per liter</td>
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<td>336.8</td>
<td>246.3</td>
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<td>-26.9</td>
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<td>187.5</td>
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<td>6.9</td>
<td>521.4</td>
<td>491.8</td>
<td>552.9</td>
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Source: Author’s calculation with data retrieved from World Food Program^7.

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^6 Western provinces include Karnali, Sudurpashchim and Lumbini.

### Annex 2: Percentage change in commodity prices across provinces of Nepal.

<table>
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<th>Commodity</th>
<th>Koshi</th>
<th>Madhesh</th>
<th>Bagmati</th>
<th>Gandaki</th>
<th>Lumbini</th>
<th>Karnali</th>
<th>Sudurpaschim</th>
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<td></td>
<td>June 2022 - June 2023</td>
<td>May 2023 - June 2023</td>
<td>June 2022 - June 2023</td>
<td>May 2023 - June 2023</td>
<td>June 2022 - June 2023</td>
<td>May 2023 - June 2023</td>
<td>June 2022 - June 2023</td>
</tr>
<tr>
<td>Coarse rice</td>
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<td>-6.7</td>
<td>15.5</td>
<td>0.9</td>
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<tr>
<td>Medium grain rice</td>
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<td>25.0</td>
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<td>-54.0</td>
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Notes: * denotes percentage change in average price (NPR per dozen), ** denotes percentage change in average price (NPR per liter). NA denotes Not Available.
Key messages

Overall assessment: Nepal’s agrifood systems remained largely stable with moderately higher year-on-year inflation of 7.5 percent in August 2023 against the target of 6.5 percent. Year-on-year inflation in food prices (8.9 percent) and the depreciation of the Nepali currency against the USD have generally put pressure on consumers.

Cereal prices continue to remain high: Annual inflation in cereal grains and their products’ prices increased by 13.2 percent – a large jump – in August 2023. Such rises in prices may be partially attributed to speculation resulting from global paddy supply challenges followed by India’s restrictions on rice exports, worsening the issue of already declining domestic supply in 2022 compared to the previous year. The rising price of cereals will affect poor households who spend a relatively greater share of their budget on cereals.

Laborers experienced marginal decline in their real wage rate: Year-on-year growth in wages was 6.7 percent in August 2023, somewhat less than the inflation rate of 7.5 percent. A similar trend was noticed for agricultural laborers for the same period. The lower wage rate compared to inflation can directly hit the daily paid laborers to afford sufficient food.

Macroeconomic trends and implications for household economic welfare

Key messages: Year-on-year inflation remained relatively stable in August 2023, with only a slight increase (0.7 percentage points) from July. An increase in vegetable prices by 11.1 percent was a significant contributor to food price inflation in the country. However, vegetable farmers are expected to benefit from this monthly inflation trend.

Inflation: The Consumer Price Index (CPI) of Nepal was projected to be 7.5 percent for August 2023. The increase in year-on-year inflation was the highest in mountain districts with 11.5 percent, whereas the Kathmandu Valley recorded an 8.5 percent increase. In contrast, The CPIs in the mid-hills and terai districts were less than the national average. The inflation of food and beverages at the national level is higher than non-food items resulting in an increase in food basket cost for poor people.

Exchange rate: The exchange rate, which is pegged to the Indian currency, reached an all-time low of NPR 133 per US dollar during mid of September 2023 and remained in the range of 131 to 133 NPR/USD during September 2023.

Remittance inflows: Nepal received a one-month record high remittance of NPR116 billion (US dollar 879.8 million) from mid-July to mid-August 2023. The remittance inflow in NPR from mid-July to mid-August 2023 soared by 25.8 percent compared a year before. In terms of US dollars, the
remittance amount increased by 21.5 percent from mid-July to mid-August 2023 compared a year before. With the growth in remittances, Nepal maintained a surplus in current account for the first time after 3 years. As a result of this surplus, foreign currency reserve is now enough to cover 12.5 months of imports.\(^1\)

![Figure 1: Year-on-year percent change in monthly remittance inflow in NPR from August 2022 to August of 2023.](image)

### Recent price fluctuation in food commodities and agricultural inputs

#### Rice and wheat

**Key messages:** Rice and wheat are the staple food of the Nepalese people, and annual increase in rice (17.7 percent) and wheat flour (29.0 percent) heightened the already above-normal national inflation rate with implications for costs and the food security, particularly of the poor. A decline in rice production and stagnant wheat production in 2021-22 in the country aided by global conflict and climate adverse effects such as El Niño has had negative implications on the ability of poor households in Nepal to purchase cereals if they are not producers of these goods at sufficient levels for household food needs.

**Rice:** The increase in price of coarse rice in western provinces (19.4 percent) during July 2023 was higher compared to the national price increase (17.7 percent). In contrast, during the same period, the national price of medium grain rice increased marginally compared to Nepal’s western provinces. The price per kilogram of medium grain rice in the western provinces (NPR 96 or USD 0.73 per kg) during July 2023 was 10.0 percent higher than the national average price (NPR 87 or USD 0.66 per kg) (Annex 1). A global rice shortage triggered by extreme weather patterns, speculation on trade and newly enacted restrictions from India has a trickle-down effect on increasing rice prices in Nepal.

**Wheat flour:** The price of wheat flour continues to remain high in Nepal. At the national level, the price of wheat flour increased by 29.0 percent between July 2022 and July 2023, while the western

provinces showed a higher increase of 38.1 percent during the same period (see Annex 1). Russia’s withdrawal from the Black Sea Grain Initiative on 17th July, as well as subsequent targeting of trade vessels and routes by the military, put upward pressure on the wheat price globally as well as in Nepal. However, in the monthly comparison, a marginal decline in the price of wheat flour can be observed in both national as well as in the western provinces in July 2023.

**Selected horticultural and fruit products**

**Key messages:** Because storage of horticultural products is costly or impossible in much of Nepal, their prices tend to be volatile and varied across provinces. After the bumper production and price collapse of tomatoes in June 2023, the farmers that could access markets and/or store tomato for later sale benefitted from the price surge in July 2023. Further removal of tomato import restrictions by India has benefitted Nepali farmers. As expected, the price of bananas decreased in the Nepali market because of the bulk seasonal production, their perishability, and the difficulty in long-distance transport.

**Fruits:** Year-on-year average prices of apples and oranges increased significantly at the national level and western provinces during July 2023. The highest increases in the prices of apples and oranges by 13.8 and 19.4 percent were observed at national level during July 2023 compared to one year before. However, banana prices declined at both western province and national level during the same period.

**Tomato:** The price of tomato in Nepal and the western provinces increased by 17.0 percent during July 2023 compared to a year before. Tomato prices surged by 69.8 percent at national level during the month of July 2023 compared to previous month. The sharp increase in the monthly tomato price was result of the price rebound which plummeted by 41.2 percent in June 2023 at national level. In June, media reported that some farmers had allegedly destroyed over tomatoes in the Kalimati Fruits and Vegetables Market in Kathmandu as a sign of protest over not receiving fair prices.

**Spotlight: Informal trade of tomato**

In the past, Nepali vegetables did not find easy entry into Indian markets on the pretext of various sanitary and phytosanitary barriers. Nepal’s lab tests were not recognized by their Indian counterparts and difficulty in accessing the lab facilities close to Indian customs points were identified as main issues in preventing formal export from Nepal. Informal flows of tomatoes from Nepal to India have been noticed amid the shortage on the Indian side. Based on interaction with local traders, about 10-20 tomato trucks were directly exported to India at NPR 250 per kg from Rolpa, Salyan and Rukum districts (i.e., Western region) in the last month when local price was reported to be NPR 180.

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mid-July and mid-August, Nepal exported 670.5 MT of tomatoes to India worth NPR 14 million (USD 1.1 million) resulting in a shortage in domestic supply, thus pushing the price up. The average price of tomato at national level was NPR 121 (USD 0.9) per kg in July 2023 against the average price of NPR 103 (USD 0.7) per kg a year prior.

**Pumpkin:** Between June to July 2023, the average price of pumpkin increased significantly (32.3 percent). However, the price was still 5.1 percent below its level in July 2022. A similar pattern of high price increase was observed in western provinces (an increase of 59.5 percent) during July 2023 compared to the previous month.

### Edible oils

**Key messages:** The price of mustard and soybean oil at the national level dropped by 21.8 percent and 25.2 percent respectively in July 2023 compared to the same period of previous year. A similar price trend was observed in western province of Nepal during the same period. At provincial level, the highest decrease in price of mustard and soybean oil was observed in Bagmati province in July 2023 with 41.0 percent and 37.5 percent respectively. Nepal is one of the exporters of edible oils to India largely due to tariff exemption under the Singapore-Australia Free Trade Agreement (SAFTA). However, the export of edible oil dropped after India lowered its customs tariffs in response to increased international prices of edible oil in India's market. The loss of the duty differential advantage of Nepali exporters in the Indian market resulted in surplus domestic supplies of edible oil, thus causing a reduction in prices in Nepal.

### Agricultural inputs

**Key messages:** Field data from the USAID Feed the Future implementing partners indicate that chemical fertilizers are fully or partially available from cooperatives. Since cooperatives are major points of distribution of fertilizers at the local level, many cooperatives reported that there is a certain amount of chemical fertilizer allocated for their own and neighboring cooperatives. However, the allocated chemical fertilizers are not enough to meet farmers’ demand.

### Energy

**Key messages:** Nepal Oil Corporation has increased the price of petrol to NPR 183 (USD 1.4) per liter, and diesel and kerosene to NPR 173 (USD 1.3) per liter in Kathmandu (Bagmati Province), Pokhara (Gandaki Province) and Dipayal (Sudurpashchim Province) effective from mid-September 2023. Similarly, the cost of petrol and diesel in Surkhet (Karnali Province) and Dang (Lumbini Province) was just NPR 1 cheaper than in Kathmandu. The Nepal Oil Corporation determines the fuel rate under the automatic fuel price mechanism based on the tariff sent by the Indian Oil Corporation. After adoption of the automatic pricing mechanism in July 2023, the per liter price of petrol and diesel has increased from NPR 164 (USD 1.2) to NPR 182 and from NPR 146 to NPR 173 respectively. Instability in fuel price could be one of the reasons for food price inflation in the country.
Acknowledgements

This work is supported by the USAID/Nepal-funded Cereal Systems Initiative for South Asia (CSISA) ‘Building food system resilience to global supply chain and climate shocks in Nepal’ Activity and CSISA Phase III supported by USAID-Washington. CSISA’s is also aligned with the One CGIAR Regional Integrated Initiative Transforming Agrifood Systems in South Asia (TAFSSA). CSISA is led by CIMMYT and implemented jointly with IFPRI, IIDS, IRRI, and IWMI. International Development Enterprises (iDE) is another key partner of CSISA in Nepal and Bangladesh.

Data sources

Data sources for this brief includes the World Food Program for food prices, Nepal Oil Corporation (noc.org.np) for fuel prices, the Nepal Rastra Bank for the CPI, budget shares from Ministry of Finance, remittance flows, and other macroeconomic data. The field reports provided by USAID/Nepal’s Nepal Seed and Fertilizer (NSAF) and KISAN II Activities.

Suggested citation


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Annex I: Percentage change in commodity price (NPR/Kg) in Nepal.

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### Annex II: Percentage change in commodity prices across provinces of Nepal.

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Cereal Systems Initiative for South Asia

CSISA Rapid Response and Resilience-building in Nepal’s Agrifood Systems and Russia–Ukraine crisis response: Building food system resilience to global supply chain and climate shocks in Nepal