

## **Request for Proposal (RFP)**

### **For the Proof-of-Concept Pilot to Introduce a Digital Market Linkage Solution for Vegetables and Fruits in Himachal Pradesh and Uttarakhand**

October 23, 2023

Japan International Cooperation Agency

#### **1. Background**

##### **(1) Problem statement**

- Situated amidst the Himalayas, Himachal Pradesh possesses an exceptional blend of fertile land and favorable climatic conditions, positioning itself as a promising leader in the horticulture industry. The state's temperate climate, characterized by lower temperatures, allows for year-round cultivation of key vegetables such as peas, tomatoes, and cauliflower, contributing significantly to its agricultural output. Furthermore, the region is known for its nutrient-rich high quality crop varieties with higher shelf life which command premium prices in the market.
- The state excels not only in vegetable production, with a total value exceeding INR 3,000 crores and a staggering 18 lakh+ tonnes of vegetables, but also in fruit production, exceeding 10 lakh+ tonnes. Furthermore, Himachal Pradesh has invested significantly in building an impressive agricultural infrastructure, including 35+ collection centers, 70+ market yards, 90+ nurseries, 60,000+ tonnes of cold storage capacity, and over 3,000 polyhouses, all of which bolster its agricultural prowess. Additionally, it is worth noting that over 40% of farmers in the state engage in natural farming practices, further enhancing its agricultural diversity and sustainability.
- Uttarakhand, located in the same northern region, also showcases immense promise in vegetables and fruits. The state boasts favorable climatic conditions, commitment to organic farming, and the cultivation of premium crop varieties. Its horticultural sector contributes significantly to the state's economy, with vegetables alone accounting for over INR 1.5k crores and annual vegetable production exceeding 10 lakh tonnes. Fruit production, including apples, pears, apricots, and kiwis, also exceeds 6 lakh tonnes annually.
- Despite its abundant potential and impressive agricultural resources, Himachal Pradesh faces significant challenges that hinder the growth and prosperity of its farming community. The primary issue is the lack of efficient market access, which results in lower price realization for farmers. Many farmers in the state continue to rely on intermediaries for the sale of their agriculture and horticulture produce. This dependence on middlemen, coupled with a lack of price visibility, often leads to farmers receiving prices that are 10-15% lower than market rates.
- Additionally, substantial margins are lost to commission agents for the transportation of produce to distant markets. A staggering 30% of the final value of vegetables and fruits is lost in supply chain costs, which include transportation expenses and commissions, further diminishing the income of farmers. With the average production per farmer in Himachal Pradesh hovering around 3 tonnes per annum and single truck load capacities ranging from 5-10 tonnes; high transportation costs impose a heavy financial burden on farmers. The hilly terrain of Himachal Pradesh and the distance of many farms from Agricultural Produce Market Committee (APMC) Mandis make first-mile logistics particularly challenging for farmers. This geographical disadvantage leads to increased transportation costs and delays. The state grapples with post-harvest losses ranging from 15-20%, primarily driven by the lack of storage facilities in close proximity to farms, resulting in spoilage when sales or transportation cannot be promptly executed. Refrigerated vans

and cold storage facilities, especially crucial for preserving perishable crops like tomatoes and leafy vegetables, are not easily accessible to the majority of farmers.

- Similarly, Uttarakhand faces a challenge akin to Himachal Pradesh - the need for an efficient market access solution. Despite its agricultural potential, Uttarakhand grapples with issues such as low productivity, uninformed cropping and marketing decisions, low irrigation levels, and frequent wildlife attacks. Farmers often face limited access to real-time market information that hampers the farmers' ability to maximize their income. Low irrigation levels and wildlife attacks further compound these issues. In essence, Uttarakhand, like Himachal Pradesh, needs a comprehensive market access solution to fully realize its agricultural potential.
- In Himachal Pradesh, collaborative efforts between the government and the Japan International Cooperation Agency (JICA) have yielded substantial results. These efforts encompass the establishment and expansion of Farmer Producer Organizations (FPOs), including the collaboration with HAVI, a Farmer Producer Company, for one of the projects. These innovations have greatly improved market transparency and streamlined supply chains, benefiting both farmers and consumers. The state boasts a robust infrastructure with 56 cold storage and 57 Controlled Atmosphere (CA) storage facilities, alongside 51 ordinary storage facilities, with ongoing endeavors focused on optimizing their utilization. Krishak Vikas Associations (KVAs) have been forged to ensure the sustainable management of rural infrastructure within JICA subprojects. Additionally, the Electronic National Agricultural Market (e-NAM) initiative aims to create a unified marketplace by connecting existing Agricultural Produce Market Committees (APMCs), although challenges still persist.
- In Uttarakhand, government initiatives have made commendable strides. FPOs have enhanced farmers' competitiveness, while agricultural clusters in Nainital promote best practices and agricultural produce aggregation. The state has established growth centers and deployed extension officers, alongside 319 Horticulture Mobile Teams for efficient farm input dissemination. Challenges, however, persist in both states, emphasizing the ongoing commitment to improving agricultural sustainability and income enhancement.

## **(2) Importance of Innovation**

- Digital interventions in market linkage hold immense potential for uplifting farmers and boosting their income levels. By leveraging technology, farmers could gain access to wider market networks and valuable information, enabling them to make informed decisions regarding vegetable and fruit crop selection, pricing, and market timing. These digital platforms can connect farmers directly with buyers, eliminating middlemen and ensuring fair prices for their produce. Agritech startups have been at the forefront of developing and implementing such solutions, aligning with the JICA's and Himachal Pradesh/Uttarakhand government's goal to transform agricultural landscape. These startups are not only facilitating market access but also offering training and support services to empower farmers in adopting efficient farming practices and increasing their agricultural productivity. Through this collaboration, we envision a future where Himachal Pradesh and Uttarakhand farming community experiences improved livelihoods and economic growth.
- The Proof of Concept (PoC) initiative is designed to reinforce ongoing efforts aimed at improving farmers' income levels and achieving the overarching goal of enhancing their financial well-being. Recognizing the pivotal role of digital solutions in the agricultural value chain, this PoC addresses various stages, including market information services, collection center/storage with integrated cold storage and real-time monitoring, quality assessment, traceability, digital tracking

and transparency, marketplace platforms for direct farmer-consumer connections, logistics solutions for transport services, and a feedback mechanism. Notably, the primary focus is on prioritizing market linkages and visibility for the vegetables and fruits. Therefore, the chosen digital partner is expected to provide a robust market linkage solution, while enhancements in other value chain aspects are considered supplementary. This holistic approach seeks to empower farmers and drive their economic progress through innovative digital solutions.

- This PoC aims to introduce a digital solution of market access for farmers in both the states, Himachal Pradesh encompassing at least 2000 farmers, and Uttarakhand covering at least 1000 farmers.

### **(3) Announcing Bodies**

- JICA, an implementing agency for Japan's Official Development Assistance (ODA), believes that cooperation with developing countries in the digital age needs to change fundamentally. As such, JICA has launched the JICA DXLab, an open-source mechanism to facilitate co-creation with Digital Partners to transform ODA projects with digital technology and innovation. In March 2021, JICA committed a loan of over \$100million (Yen loan ODA) to Govt. of India to finance Himachal Pradesh and Uttarakhand projects to uplift the livelihoods of farmers. In Himachal Pradesh, this loan is supporting the Phase-II of Crop Diversification Promotion Project, the objective of which is to promote agricultural productivity, sustainable crop diversification to high value crops and improvement of farmer's income by development of production infrastructures such as irrigation facilities and access farm roads, farmers support and institutional development as well as strengthening farmer's sales force with marketing development, thereby contributing to economic and social development in all districts of Himachal Pradesh.
- The Department of Agriculture, Government of Himachal Pradesh and The Department of Horticulture and Food Processing, Government of Uttarakhand, serve as the primary agencies for this project in both the states. They function as an intermediary between the Executive Committee and the Project Management Unit (PMU), handling all necessary communication, correspondence, and related matters regarding the project. This includes the exchange of communication, notes, reports, and other relevant documents between the PMU and external parties.
- The State PMU office, located in Hamirpur, Himachal Pradesh, and the State PMU which will be established at Dehradun in Uttarakhand, will serve as the central hubs for the PMUs. They will handle the responsibility for the overall management of the Himachal Pradesh Crop Diversification Project (HPCDP) and Uttarakhand Integrated Horticulture Development Project (UKIHDP).
- This request for proposal (RFP) represents a joint initiative by JICA DX Lab, the Government of Himachal Pradesh and Uttarakhand. It aims to identify a technology solution provider (Digital Partner) for a Proof of Concept (PoC) designed to offer market linkage solutions to farmers in Himachal Pradesh and Uttarakhand. The PoC is scheduled to commence in December 2023, and if it proves successful, JICA and the Himachal Pradesh/Uttarakhand Governments may consider collaborating further with the chosen Digital Partner to enhance these solutions and expand their implementation to wider geographic regions as part of the HPCDP and UKIHDP respectively.

## **2. Objectives of the PoC**

### **(1) Primary Objective**

- To validate the effectiveness of a digital/technology solution in increasing the income of farmers by facilitating direct access to agricultural markets for vegetables and fruits, eliminating intermediaries, and improving price realization.
- To examine the feasibility of scaled deployment upon successful completion of the PoC

## **(2) Secondary Objective**

- Increase price realization: Enable access to various markets and provide real-time visibility of the market prices in different mandis.
- Decrease transportation costs: Facilitate transportation of aggregated produce, ensure readily available transport solutions at the farm gate, enable access to crucial markets.
- Minimize post-harvest losses: Simplify access to bulk transportation and storage solutions (including cold storage)

## **3. Duration and Timeline (Tentative)**

### **(1) Contract Duration**

- The duration of the project, which can extend from 9 to 12 months beginning in December 2023, is subject to the proposal by the Digital Partner, which should include a suitable timeframe along with appropriate justification for the PoC.
  - While the completion time of the project is flexible, the start date should be set tentatively for December 2023 for onboarding and setup and January 2024 for implementation.

Note:

- While the PoC duration is planned for 9-12 months from December 2023, it should be noted that this duration could be revised through discussions and alignment between JICA, State Governments, and Digital Partner in case of any natural calamities or unforeseen circumstances.
- JICA acknowledges that the duration indicated might be limited. However, both JICA and the Governments of Himachal Pradesh and Uttarakhand are committed to offer support to execute the PoC smoothly in a timely manner, from pre-PoC stakeholder management and cluster identification to foster community engagement.
- In the meantime, it should also be noted that while JICA strives to optimize the duration and effectiveness of the PoC, this does not mean JICA undermines the time it takes to produce meaningful and lasting outcomes. The duration of the PoC can be negotiable depending on the status and progress of the PoC.
- In addition, as briefly mentioned in “1. Background”, JICA has extended substantial ODA loans to the Himachal Pradesh and Uttarakhand states and upon successful completion of this PoC, there is a possibility of deploying Digital Partner’s solution as part of the overall project.

### **(2) Selection Timeline (Tentative)**

- Opening of the RFP: October 23, 2023
- Closing date of submission: November 5, 2023
- Selection: November 6 – 24, 2023
  - November 6 – 7: Screening and shortlisting of candidates
  - November 8 – 10: Interview and deep-dive discussion with the shortlisted candidates
  - November 20 – 24: Finalization of the Digital Partner
- Award notice: In the week of November 27, 2023
- Signature of Contract: By the Week of December 4, 2023

## **4. Eligibility**

### **(1) Organization Capacity**

- The Digital Partner must possess significant expertise in delivering market linkage solutions to diverse farming communities across different regions of the country.
- The management of the Digital Partner does not include individuals with a history of corruption, arrest records, or affiliations with criminal organizations.

### **(2) Proposed solutions**

- Mandatory requirements for proposed solutions from the Digital Partner:
  - Proposed solution must facilitate market connections for farmers to sell their vegetables and fruits produce. These solutions must create an ecosystem that supports the entire selling process. This market facilitation may involve either supporting the sale of raw produce or offering processing services to enhance sales opportunities.
  - Solutions pertaining to market access must provide but not limited to information on market service data encompassing market prices, demand trends, and crop-specific information to empower farmers to make an informed decision related to crop production.
- Preferred, but not mandatory, solutions that can be proposed by the Digital Partner:
  - May be tailored to the targeted region, taking into consideration the local dialect, and providing suitable communication channels to engage with farmers effectively.
  - May also facilitate the process of aggregating produce at collection centers or managing its storage, while also providing real-time information on stock levels and quality parameters.
  - May offer quality assessment services such as sorting, grading, and packaging to enhance the farmers' ability to achieve better prices for their produce.
  - May also facilitate logistics and transportation of the farmers' produce across the value-chain. This will help in minimizing post-harvest losses and enhancing the overall efficiency of the supply chain.
  - May provide a payment mechanism that guarantees timely disbursements of final payments to the farmers.
  - May also enable a feedback mechanism based on product quality, providing information to farmers about demand based on customer reviews.

## **5. Target Crops and Regions**

### **(1) Target Location-Specific Outreach**

- Himachal Pradesh:
  - a. At least 2 districts must be selected from the state for the implementation of the digital solution, with a focus on involving at least 2000 farmers (subject to discussion).
  - b. Digital Partner must choose 1 district from Mandi, Kangra, Una, Bilaspur, Hamirpur, ensuring coverage of at least 1000 farmers (subject to discussion).
- Uttarakhand:
  - c. At least 1 district from Nainital, Tehri Garhwal, Uttarkashi, and Pithoragarh must be considered for implementation, with a target of involving at least 1000 farmers (subject to discussion).

### **(2) Target Crops**

- Vegetables: Peas, tomatoes, potatoes, leafy vegetables like cabbage, cauliflower, exotic vegetables like broccoli, etc.
- Fruits: apples, temperate fruits like peach, pear, plum, apricot, etc.
  - The selection of these crops for prioritization during the PoC period is based on their production volumes and seasonality. However, the digital partner retains the flexibility to choose a different crop for the project if there is substantial market linkage potential that aligns with the project's overarching objectives.

## **6. Related Parties**

### **(1) Primary Users**

- PMU Team of Department of Agriculture, Himachal Pradesh State government
- PMU Team of Department of Horticulture and Food Processing, Uttarakhand State government
- JICA Team

### **(2) Secondary Users (Targets)**

- Farmers, Lead farmers/extension officers, local partners if any

### **(3) Operator**

- Company engaged by JICA to operate JICA DXLab. Operator will be the contracting counterparty to the Digital Partner.

## **7. Scope of Work**

Scope of work may be negotiated after award notice to accommodate the selected solution/proposal. The Digital Partner will provide solutions to facilitate market linkages within both states.

### **(1) PoC Setup (4 weeks)**

The setup phase will focus on furthering the understanding of the local requirements and developing a comprehensive plan for the PoC. This phase will include the following tasks:

- Reviewing data and JICA reports: Conduct an in-depth review of available fruit and vegetable produce data in the states and reports representing JICA's findings to better understand the nature and scope of market issues faced by the farmers in Himachal Pradesh and Uttarakhand.
- Conducting field visits and on-ground study in target clusters to gain an understanding of the agricultural landscape, farmer landholdings/ land fragmentation, first-mile logistics, key issues faced by farmers to be able to propose a more real and implementable solution.
- Detailed action plan: Based on the baseline study, develop a comprehensive plan of action along with JICA and BCG to establish alignment on prioritized crops and regions for the PoC.
- Success metrics: The plan should include the selection of appropriate key performance indicators (KPIs) aligned after the baseline study with all the stakeholders that can measure the impact of the PoC. Some of the examples may include but not limited to number of farmers onboarded, increase in farmers income before and during PoC, number of transactions completed on the platform, etc.
- Identify potential local partners: If needed, the digital partner may consider identifying potential local partners such as lead farmers, Farmer Producer Organizations (FPOs), cooperatives, or any other relevant entities for on-ground deployment.

### **(2) PoC Implementation (9-12 months)**

The implementation phase will focus on implementing the roll-out strategy. This phase will include the following tasks:

- Roll-out of the solution: Roll out the digital solution to farmers in the selected target locations in Himachal Pradesh and Uttarakhand. This process should encompass the activities outlined in the proposed solutions as mentioned in Section 4(2).
- Onboarding and capacity building: Setup the onboarding process for farmers or local partners, if needed, onto the digital platform. This process should also include the deployment of training modules designed to ensure that the farmers are familiar with the solution and can use it effectively.
- On-field force deployment: As per the solution requirement, deploy the on-field team to provide hands-on support to farmers in the adoption of the digital solution.
- Adaptation and localization: Adapt and localize solutions based on the local requirements.

### **(3) Monitoring and Evaluation**

- Monitoring and evaluation: Monitor and evaluate the effectiveness of the solution in providing market access to the farmers. The evaluation will be based on the KPIs developed during the setup phase and will be used to assess the impact of the PoC.
- Ongoing support and maintenance: Provide ongoing support and maintenance for the solutions during the implementation phase.
- Reporting: Report on the project progress and insights on the effectiveness of the solution to related parties, including Himachal Pradesh State PMU, Uttarakhand State PMU, JICA, and the Operator.
  - Develop a post-PoC deployment plan
  - Organize / participate in the following reporting sessions:
    - Regular check-ups (once or twice a week) with JICA and the Operator
    - Weekly meetings with the Users, JICA and the Operator
    - A quarterly review session with extended members of the Users and the Operator after the PoC launch (expected in Mar, June (and Sept) 2024)
    - A final reporting session with extended members of the Users and the Operator at the completion of the PoC (expected around the end of Sept or Dec 2024)
- Draft the Deliverables, obtain feedback from the Operator and the Primary and Secondary Users, and finalize them.

## **8. Deliverables**

### **(1) Deliverables (in English)**

- Project progress reports with higher-level analysis and findings from the data/impact captured by the solution. These reports should be submitted three times, specifically at the project's inception (mid-Dec 2023), quarterly report (Mar, June (and Sept) 2024), and the final report (end-Sept 2024 or end-Dec 2024).
- One final report, including but not limited to: (a) an outline of the result of the PoC; (b) details of the PoC activities; (c) quantitative and qualitative evaluation of the PoC based on a set of predetermined KPIs; (d) technical, operational, and strategic recommendations to State PMU teams of Himachal Pradesh and Uttarakhand, JICA and the Operator; and (e) a preliminary scaled deployment strategy recommendations for more geographical coverage and crop varieties.

### **(2) Time of delivery (Tentative)**

- Oct 15, 2024, or Jan 15, 2025 (Based on the PoC timeline)

### **(3) Method of submission**

- Electronic data

### **9. Budget**

- The maximum budget for the services is USD 150,000, inclusive of all taxes and expenses. Nevertheless, this amount remains subject to discussion based on the final PoC plan and associated costs.

### **10. IP and Other Considerations**

- The intellectual property rights of the Deliverables set out in “8. Deliverables” created by the Digital Partner for this PoC shall be assigned to JICA (or party designated by JICA) upon completion of the inspection.
  - The consideration for the assignment of rights set forth in the preceding paragraph shall be included in the commission fee.
- The Digital Partner’s solution that existed before the start of this work will be considered the Digital Partner’s pre-existing intellectual property rights.
- Similarly, the intellectual property rights of the regarding the custom development of the digital solutions co-developed by the Digital Partner, Contractor and JICA during the PoC for the unique purpose of PoC under this agreement, will be subject to discussion between the Digital Partner, Contractor and JICA.
- The handling of personal information and other data obtained with necessary consent and approval for use during the PoC shall be conducted in accordance with all applicable local and international laws, rules, and guidelines.
- In case the Digital Partner’s solution requires data provided by PMU Teams (Department of Agriculture, Himachal Pradesh and Department of Horticulture and Food Processing, Uttarakhand) for implementation (e.g., crop production data), PMU teams will retain the ownership of data and grant the use of the data for pre-agreed purposes. The Digital Partner shall be responsible for obtaining the necessary permits or authorizations and they are strictly limited to using the data for the pre-agreed purpose. Details of the terms will be negotiated between PMU Teams (Department of Agriculture, Himachal Pradesh and Department of Horticulture and Food Processing, Uttarakhand), and the Digital Partner after partner selection.
- The utilization of collected data after the PoC, comprising both qualitative and quantitative metrics, will be contingent upon the discussions between JICA, the State teams, and the Digital Partner.
- After the selection of a Digital Partner, JICA plans to publish the selection on their website with the Digital Partner's consent. Additionally, JICA also aims to develop content to disseminate information about the ongoing project and its impact, both during and after the PoC, and they would highly value the collaboration and support of the Digital Partner in this endeavor.

### **11. Proposal Format**

Electronic submission must be received at JICADXLab@bcg.com by the latest 23:59 Japan Standard Time on Nov 5, 2023. The email subject needs to be changed to "RFP-HP&UK Market Linkage-PoC", followed by your organization name (for instance, RFP- HP&UK Market Linkage-PoC-Name). The submission shall consist of the two separate files, Overview of General Information and Proposal Pitch Deck, both in the form of PDF/Word/PPT. Note that all submission materials need to be prepared in English.



The Digital Partners may make inquiries/information requests by email to JICADXLab@bcg.com. For any inquiry, the email subject must be changed to "Inquiry- HP&UK Market Linkage-PoC", followed by your organization name (e.g., "Inquiry- HP&UK Market Linkage-PoC-Name"). The deadline for receipt of inquiry is 23:59 Japan Standard Time on Oct 30, 2023.

**(1) Overview of General Information (PDF/Word/PPT format)**

- Provide all the information by filling out the form as per Attachment 1.

**(2) Proposal Pitch Deck (PDF/Word/PPT format)**

- Your proposal should include the following information:
  - Description of the proposed digital solution (to explain how the Digital Partner will deploy their solution/product offering in the targeted regions of the PoC).
  - Outline the project approach/implementation plan for the deployment of the digital solution, highlighting:
    - Preferred regions and crops (vegetables and fruits) in HP and Uttarakhand.
    - The process of procurement, aggregation, logistics, quality assessment, and final payment to farmers.
    - Involvement of local partners if necessary, such as extension officers.
  - Planned impact including the number of farmers to be covered and the impact envisaged per farmer in both the states.
  - Value proposition for farmers and other stakeholders of the ecosystem, in qualitative and quantitative terms.
  - If available, impact materials or case studies conducted by the company or any third party for past projects.
  - Provide a total expected cost (after tax) and a detailed breakdown of the costs.
  - Any other details relevant to achieve the objective of this PoC.

**12. Evaluation Criteria**

**(1) Initial Shortlisting**

- The selection of Digital Partners for interviews will be based on the submitted proposals on or before Nov 5, 2023. Initial shortlisting will prioritize the solution's applicability and potential impact on farmer income upliftment.

**(2) Interview & Detailed Discussion**

- Shortlisted potential partners would be invited for interviews in the presence of JICA and State Governments where the following key aspects will be discussed in detail:
  - Relevance of the proposed digital solution to Himachal Pradesh and Uttarakhand state context
  - Potential impact that can be delivered in the PoC, considering the number of farmers impacted and their income improvement
  - Track record of conducting similar projects in the past in India or similar regions
  - Scalability and adaptability of the solution from practical and financial standpoints in the context of Himachal Pradesh and Uttarakhand

(END)

Attachment 1: Form for the Overview of General Information

Attachment 2: Himachal Pradesh Horticulture Context

Attachment 3: Uttarakhand Horticulture Context

## Attachment 1: Form for the Overview of General Information

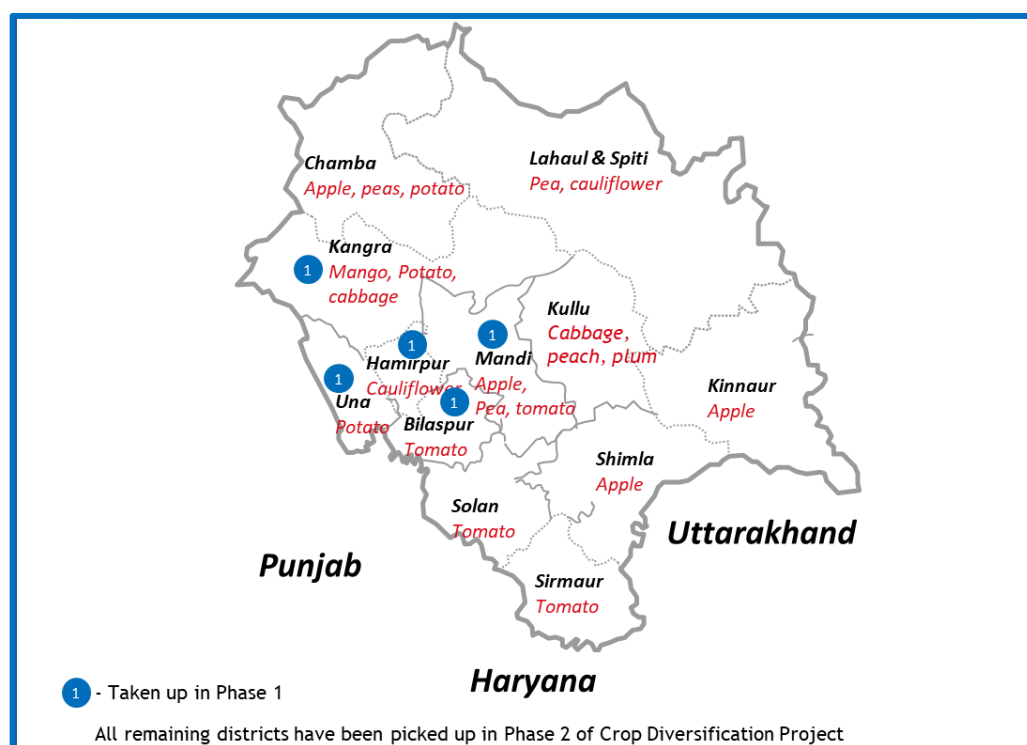
Electronic submission must be received at JICADXLab@bcg.com by the latest 23:59 Japan Standard Time on Nov 5, 2023. The email subject needs to be changed to "RFP- HP&UK Market Linkage-PoC", followed by your organization name (for instance, RFP- HP&UK Market Linkage-PoC-Name). The submission shall consist of two separate files, Overview of General Information and Proposal Pitch Deck, both in the form of PDF/Word/PPT. In order to be considered for funding, submission documents must be prepared in English and fulfil each of the following items.

Fill out this form and include it as a cover page of the Overview of General Information.

<b>1. Contact Information</b>	
Organization Name	
Contact person name and title	
Address	
Phone Number	
Email Address	
<b>Organization description (Max 150 words)</b>	
<b>Ownership structure and ultimate beneficiary owners, if relevant</b>	

<b>2. Documentations (a copy to be included in the PDF file)</b>	<b>Check/attached</b>
Company/Organization registration certificate or equivalent	
At least 2 years of audited financial statements	
Tax certificate *If your organizations are exempted from filing tax, please submit a tax exemption certificate	

## Attachment 2: Himachal Pradesh Horticulture Context



**Table 1: District-wise annual production (in MT) of vegetables - Himachal Pradesh**

District	Potato	Peas	Tomato	Cauliflower	Cabbage	Garlic	Beans	Okra	Onion	Capsicum
Bilaspur	196	3,145	32,870	4,386	2,310	2,945	1,734	5,868	6,615	2,990
Chamba	10,412	23,642	11,410	1,539	5,386	1,872	4,490	1,703	2,190	475
Hamirpur	195	1,160	2,061	6,688	708	1,805	931	5,830	3,650	201
Kangra	14,030	9,992	9,544	9,738	14,412	5,295	3,590	14,666	22,450	1,495
Kinnaur	9,100	27,738	3,425	1,472	3,840	156	3,285	185	284	540
Kullu	11,520	29,201	31,995	13,960	33,390	20,200	1,200	1,313	936	1,063
Lahaul-Spiti	9,750	36,189	78	20,880	1,373	-	132	-	10	28
Mandi	18,090	55,190	24,848	21,898	30,756	12,150	10,169	6,300	10,458	4,806
Shimla	74,500	72,776	24,095	38,469	63,560	744	8,320	1,015	1,723	4,467
Sirmaur	19,500	22,284	113,420	4,376	10,874	30,939	5,830	3,053	3,028	6,588
Solan	900	15,145	244,380	5,111	3,197	4,226	10,073	2,029	1,544	36,624
Una	18,610	298	4,296	1,060	527	120	162	4,598	3,715	242
<b>State</b>	<b>186,801</b>	<b>296,760</b>	<b>502,422</b>	<b>129,577</b>	<b>170,333</b>	<b>80,452</b>	<b>49,915</b>	<b>46,560</b>	<b>56,603</b>	<b>59,516</b>

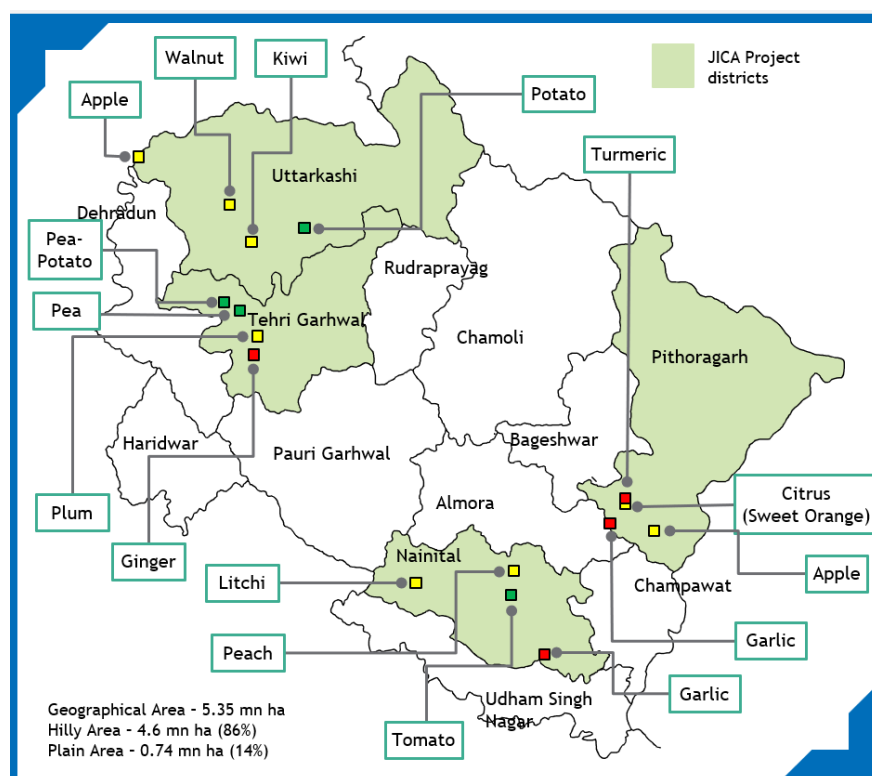
Source: Department of Agriculture, Government of Himachal Pradesh; The Preparatory Survey on Himachal Pradesh Crop Diversification Promotion Project Phase-II (March 2021)

**Table 2: District-wise annual production (in MT) of fruits – Himachal Pradesh**

District	Apple	Other Temperate fruit	Mango	Nuts & others
Bilaspur	-	253	3,595	624
Chamba	7,564	495	77	1,821
Hamirpur	-	323	941	1,136
Kangra	710	3,809	46,215	34,853
Kinnaur	38,066	557	-	395
Kullu	141,844	33,645	-	136
Lahaul-Spiti	209	25	-	4
Mandi	20,131	2,557	610	976
Shimla	318,449	3,763	44	639
Sirmaur	560	7,063	3,144	1,979
Solan	68	6,036	1,161	1,024
Una	-	1,016	3,952	1,542
<b>State</b>	<b>527,601</b>	<b>59,542</b>	<b>59,739</b>	<b>45,129</b>

*Source: Department of Agriculture, Government of Himachal Pradesh; The Preparatory Survey on Himachal Pradesh Crop Diversification Promotion Project Phase-II (March 2021)*

### Attachment 3: Uttarakhand Horticulture Context



**Table 3: District-wise annual production (in MT) of vegetables – Uttarakhand**

Districts	Potato	Pea	Tomato	Cauliflower	Cabbage	Onion	Total
Dehradun	15,604	10,226	7,073	16,705	3,533	2,963	90,001
Pauri	15,780	2,531	5,724	1,911	3,396	7,157	62,530
Tehri	49,210	21,319	3,755	564	6,924	7,390	113,345
Chamoli	6,162	1,120	399	377	1,316	831	18,495
Rudraprayag	9,360	271	177	76	604	233	12,703
Uttarkashi	30,144	5,102	12,343	1,624	3,440	2,068	75,446
Haridwar	35,355	9,300	16,771	10,143	13,540	6,094	126,682
Nainital	26,596	9,553	21,670	2,028	12,335	5,315	87,089
Udham Singh Nagar	62,604	30,648	20,180	5,712	7,531	4,952	160,410
Almora	54,421	3,612	5,089	2,367	3,702	1,617	99,525
Bageshwar	5,648	801	479	576	1,452	1,290	13,516
Pithoragarh	46,063	2,020	10,474	877	9,332	4,961	121,557
Champawat	11,695	1,341	6,250	334	2,131	599	32,981
<b>Total</b>	<b>368,641</b>	<b>97,845</b>	<b>110,382</b>	<b>43,293</b>	<b>69,234</b>	<b>45,469</b>	<b>1,014,279</b>

Source: Department of Horticulture and Food Processing, Government of Uttarakhand; The Preparatory Survey on Uttarakhand Integrated Horticulture Development Project (March 2022)

**Table 4: District-wise annual production (in MT) of fruits – Uttarakhand**

Districts	Apple	Pear	Peach	Plum	Apricot	Mango	Litchi	Total
Dehradun	7,808	2,157	805	1,483	1,757	10,287	6,602	42,560
Pauri	2,981	2,820	990	1,467	1,291	8,162	341	35,738
Tehri	1,984	4,937	927	2,688	1,214	10,265	12	28,909
Chamoli	2,892	1,367	1,169	313	394	485	8	12,831
Rudraprayag	215	230	179	142	77	238	9	2,550
Uttarkashi	20,192	4,170	1,609	1,063	1,161	443	9	34,484
Haridwar	-	1,354	705	-	-	26,278	4,698	104,136
Nainital	8,550	9,142	26,430	6,295	2,926	32,759	9,275	109,107
Udham Singh Nagar	-	568	-	-	-	35,203	2,313	54,173
Almora	14,080	35,794	20,568	20,564	17,902	23,826	94	176,847
Bageshwar	14	1,172	548	153	72	3,757	26	12,744
Pithoragarh	3,043	12,577	3,932	1,662	1,150	2,788	714	49,592
Champawat	331	1,828	940	618	377	2,302	539	13,698
<b>Total</b>	<b>62,090</b>	<b>78,115</b>	<b>58,802</b>	<b>36,447</b>	<b>28,320</b>	<b>156,793</b>	<b>24,640</b>	<b>677,370</b>

*Source: Department of Horticulture and Food Processing, Government of Uttarakhand; The Preparatory Survey on Uttarakhand Integrated Horticulture Development Project (March 2022)*