

## TERMS OF REFERENCE

### *Procurement of Logistics System and Strategy Development Consultancy Services for the state of Himachal Pradesh under Himachal Pradesh State Roads Transformation Project*

#### **1. Introduction and Background:**

Himachal Pradesh is a small state with a population of around 6.86million (Census, 2011) of which 89.9% resides in rural areas. Of its total area of 55,673 sq. kms, 36,700 sq. kms are inhabited by 17449 villages, which are scattered over steep slopes and narrow valleys. The state is largely a mountainous region except a few pockets bordering the states of Punjab and Haryana. Nearly two thirds of its geographical area is classified as forests, which is a major reason for low population density in the state. About 80 percent of the State is mountainous of which 30 percent is covered with forest.

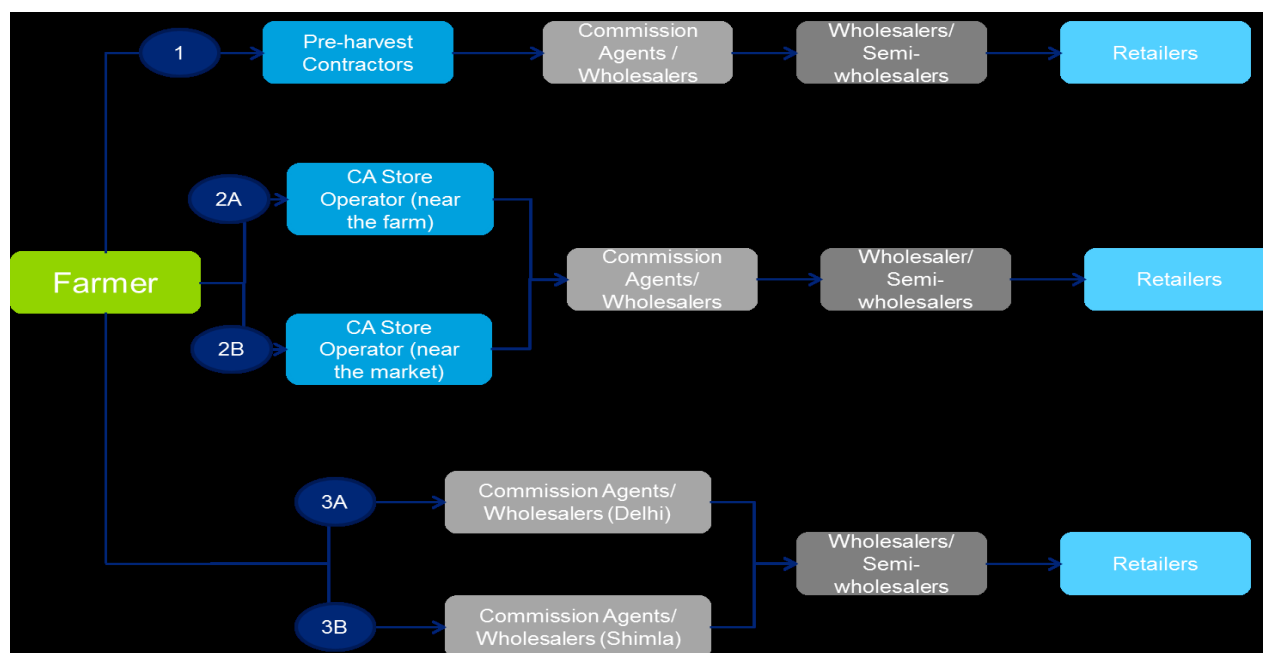
HP is endowed with abundant natural tourism potential, fruit belts and hydropower, which would help the State lead in green growth, if the transport infrastructure and logistics services are well developed. The economic growth of the state is mainly attributed to agriculture/ horticulture and related activities as they provide employment to about 62%of the total workers in the state. Based on data form Department of Statistics, the share of Agriculture and Allied sector in the State's GSVAs was 12.64% in 2018-19. The main cereals grown in the state are wheat, maize, rice and barley. The state is also one of the largest producers of off-season vegetables and exotic fruits. HP is endowed with variety of value chains, including citrus fruits, cherries, plums, grapes, walnuts, mango and ginger. There are huge tracts of land suitable only for growing fruits across the state. In addition, the state is second largest producer of apples and is known as the "*Apple State of India*". Fruit cultivation in the state generates over INR 3 billion annually and its employment potential is more than the conventional farming. Presence of good food processing infrastructure has attracted major companies to invest in the state. The State is undertaking horticulture development project, with the support of the World Bank, which is expected to quadruple the production of apple and increase the market share of apple to about US\$1 billion.

The Himalayan mountains and valleys in the state, record (SoER, HP) 3,295 species of plants and 5,721 species of fauna, are the State's tourism base. Tourism is growing fast and accounts for seven percent of the State GDP. The number of tourists increased from 7 million in 2005 to 13 million in 2010 and 18 million in 2016. The State has high potential to develop natural, cultural and local products-based tourism, but the safety and standard of the road infrastructure and services are becoming impediment.

More recently there has been a shift from agriculture sector to industries and services. As noted earlier, the share of agriculture as a percentage contribution to state's GSVAs was 12.64% in 2018-19 (first revised estimates) and the share of industry was 44.03% and services sector was at 44.33%. Pharmaceutical, cement plants, small steel mills and wool factories form the industrial base of the State. Himachal's hydropower plants generate 7,000-Megawatt electricity. HP is home for major hydropower plants, whose reservoirs and the river basins could be good potential for fishery. However, safety, timely delivery and transport cost challenges are critical impediments for enhancing the green growth potential and lowering the cost of doing business in HP.

The existing logistics system of agricultural marketing is inefficient, as commodities are exchanged at multiple centers/chains by intermediaries without significant value addition. The backward and forward linkage between small-holding farmers and MSMEs is deficient and inhibits development of downstream value chains. Such systemic inefficiencies are wiping the efficiency gains accrued by the small-holding farmers from the productivity increase and transportation cost reduction, as all the benefits are captured by intermediaries. For example, as illustrated, in Figure 1, in the apple supply chain analysis in the state of Himachal Pradesh, apple is exchanged at up to five markets/chains by intermediaries with varying degrees of value addition before delivery to the terminal market/retailers. The analysis shows that in the logistic chain where farmers lose control of produce at early stage, their share is around 21 percent of the retail price while the rest is taken by intermediaries. In the logistics chain where the farmers sell products to wholesalers in Delhi the farmers realize over half of the retail price. In return, for realizing the higher price the farmers bear both the production risk and the demand risk. Essentially, the farmers earn their returns through eliminating a few intermediaries from the chain. The introduction of an additional intermediary reduces the farmers share of the final price from over 50 percent to just over 40 percent. Handling and transport costs share for apple ranges from about Indian Rupee (INR) 123 (52.7 percent) to INR 143 (61.3 percent) of the production cost (INR233 per 20 kg box). Wastage during handling and transportation is in the range of 8 to 16 percent, in quantity. This report indicates that the level of processing as low as 2 percent for apple.

Figure 1. Apple Supply Chain, Himachal Pradesh, India



Source: Pilot Project for the Establishment of Cold Chain Infrastructure Under PPP Arrangement for CONCORD/FHEL, Final Prefeasibility Study Report, World Bank, Deloitte Touche Tohmatsu India Pvt Ltd, October 2014

Post-harvest losses. The primary markets/aggregation platforms are located within 20 to

50kmdistance from farms. In areas where the primary markets are far from farms, local communities establish collection points. Transportation of products from small-holding farms to the aggregation platforms is often carried by pack animal, head loading, two wheelers, three wheelers pickups and small four-wheel pickups, as available. The logistics system between the primary markets/production clusters and SME clusters and wholesale markets is also characterized by substandard poor access road, a network of transport operators serving intermediaries and underdeveloped packaging and handling services at all levels of markets. A large portion of agro-products do not reach markets because of lack of access road and post-harvest handling services. Hence, inaccessibility, poor packaging and handling, lack of appropriate means of transportation and lack of storage facility contribute to huge post-harvest losses (PHL). Improving the access from the small holding farms to the primary markets/aggregation platforms and wholesale/secondary markets and providing efficient logistics services (post-harvest handling and transportation services) reduce PHL.

Moreover, wastage of perishable products is high. Supplying perishable products to processing facilities and markets is a challenge due to absence of appropriate handling (collecting, bundling and transporting post-harvest using crates/containers, pallets, access road and appropriate means of transportation). A report sponsored by the Ministry of Food Processing Industries, India illustrates how high is the PHL of major crops, inter alia: (a) harvest and post-harvest losses of vegetables varied from 4.58 to 12.44 percent. Harvesting and sorting were the important farm operation contributing towards losses. Transportation loss, however decreased to some extent indicating the improvement in logistics; (b) a survey conducted in Karnataka (Srinivas et al (1997)) to assess post-harvest losses of Totapuri (Bangalora) and Alphonso(Badami) mangoes showed a total PHL of 17.9 percent (3.5% orchard/field, 4.9% transportation, 4.1% storage and 5.4% retail level) and 14.4 percent (1.9% orchard/field), 3.7% transportation, 3.5% storage and 5.3% retail level); and (c) PHL for selected fruits in Himachal Pradesh, India for apple (Singh, 2002), mango, peach and Kinnow (Prasher and Negi, 2000) were 14.48%, 24.85%, 18.31% and 24.5%, respectively. The losses were more at wholesale/retail markets level, in all the selected fruits, except for apple. The loss due to poor handling at commodity exchange centers (loading - unloading, repeated loading - unloading, packaging and storage) and lack of cold chain logistics services is expected to be major contributor to the PHL.

Bottlenecks in agro logistics are major contributors towards agrarian distress and rural poverty. The success of agricultural commodities trade depends on the efficiency of the related logistics systems and the ability to connect effectively and reliably to remunerative markets. Logistics bottlenecks make up a large part of the barriers for small holder farmers to access remunerative markets and sell their produce at market prices or to access storage facilities. This is especially critical in horticulture products or value chains relating to perishable farm products. The remedy of logistical bottlenecks is essential to positively impact the livelihoods and prosperity of rural communities.

The logistics environment includes a combination of multi-modal infrastructure (roads/rail/waterways & air), equipment, transport service providers, services on quality assurance, post-harvest handling, Just-in-Time (JIT) delivery to MSMEs and consumers, etc. The performance of these activities is impacted by the existing regulations. In many cases the infrastructure may indeed be in place, however it is not being effectively deployed due to absence of an enabling legal/regulatory framework. Addressing gaps and challenges in the SME and agro-logistics system and legal and regulatory frameworks around post-harvest handling can greatly improve the quality and quantity of agricultural outputs traded at each point of the supply chain - from harvest to markets-, minimizing post-harvest

losses, as well as enhancing forward and backward linkages between farmers and agro-processing and trading MSMEs. A policy and regulatory environment that is transparent and predictable balances the needs of the private sector, farmers' organizations, whilst good governance will also lead to greater efficiency and trading at scale. As such, dovetailing good practices in logistics help small holding farmers deliver produce to remunerative markets (wholesale markets and processing facilities), whilst stimulating value addition could help to address the emerging challenges.

In addition, the state has dedicated institutions for the development of effective road network for ensuring adequate logistical support to harness the full potential of the agricultural/horticulture produce. The State Government has established Himachal Pradesh Road and Infrastructure Corporation Limited (HPRIDC) for ensuring dedicated focus on development and maintenance of core road network in the state. The core road network act as the primary mode for effective movement of the agricultural and horticulture produce across the state. These roads also connect the producers with the consumers across the state.

Further, the State Government appointed Himachal Pradesh State Industrial Development Corporation Limited (HPSIDC) as the Principal State Agency to ensure accelerated growth and provide impetus to the process of Industrial development in the State. Also, Himachal Pradesh Horticultural Produce Marketing and Processing Corporation Ltd. (HPMC) was established for improving the marketing of local agricultural produce and processing of surplus fruits.

Despite State Government's consistent attempts for improving the transport and logistics sector in the state, some major impediments that limits state's primary and secondary sector from achieving their true potential are mentioned below

**a. Inadequate Logistics Infrastructure**

Himachal Pradesh, with a strong perishable product base, depends on other states to address its logistics needs in terms of air cargo and intermodal facilities. With limited rail and air connectivity, the state is dependent on its road network for the freight movement. Hence, there is a need for significant improvements in the provision of adequate and quality transportation and logistics infrastructure and quality service delivery at competitive prices with better visibility of cargo in the state.

**b. Uncertain climatic condition affecting connectivity in the state**

Being a mountainous state, Himachal Pradesh is exposed to frequent landslides and flash floods that affect its road connectivity. Cloud bursts, extreme river flows and flooding cause landslides and erosion of embankments and loss of roads or bridges. Due to which, transportation of passenger as well as goods is either terminated or delivered at a high cost.

**c. Lack of adequate transport and logistics hubs across the state**

The transport and logistics hub development in the state is concentrated only in few areas along the borders of Punjab and Haryana states owing to the easy availability of raw materials and cheaper transport facilities. The major transport and logistics hub of the state include Baddi, Parvanoo, and Solan. This results in underdevelopment of remaining parts of the state. Hence, greater attention is required in a balanced manner to develop the other areas of state by development of adequate transport and logistics infrastructure.

In order to resolve the aforementioned challenges, the World Bank, under its Himachal Pradesh State

Road Transformation Project (HPSRTP), aims at developing a well-performing transport and logistics infrastructure that helps in creating an efficient logistics system, which will go a long way in delivery of products just-in-time to wholesale and terminal markets at a lower cost, thereby leading to overall economic growth of the state.

## **2. Objectives of this assignment:**

The principal objective of this assignment is to develop efficient logistics system and strategy stimulating horticultural, tourism, green industries sector and economic growth in HP. Himachal Pradesh has the potential to produce high-value horticultural products. However, to leap frog to the next level of competitiveness in the global value chain, the state needs to focus on improving its logistics services. This project supports the Government of Himachal Pradesh's aim to provide greater opportunity to small

farmers to access domestic and international markets, attract investments to enhance value chains and increase jobs and farmers' incomes.

The specific objectives of this assignment include

- a. Provide strategy and roadmap for augmentation of road transport logistics efficiency to facilitate growth of all three sectors – primary, secondary and tertiary; to meet the socio-economic development needs of the state and to eradicate poverty.
- b. Improve market accessibility to promote integration with value chains of large markets with a specific focus of reducing transport and logistic time and costs.
- c. To improve understanding on the current situation of local/regional logistics and to explore ways to enhance engagement and competitiveness of local/ regional logistics providers in the state.
- d. Develop a robust Freight Transport Strategy (FTS) for the state of Himachal Pradesh. The Freight Transport Strategy shall aim to provide cost-effective and seamless freight services in response to demand.
- e. Identify potential location(s) for development of inter-modal transport facilities including warehouses, cold storage, container depots and dry ports/MMLPs.
- f. Strengthening the regulatory framework and the operating environment through creating enabling environment for trade and logistics promotion.
- g. Develop detailed value chain specific recommendations to facilitate the process to upgrade the selected value chains and maximize productivity, price realization, value creation and employment and social well being of participants.

### **Scope of Work**

The core activities include, collecting and analyzing current good practices, gaps and identifying innovative solutions for the provision of reliable transport infrastructure and digital connectivity, freight logistics and institutional and policy frameworks, and document the good practices under the four smart logistics pillars, namely: (i) appropriate and integrated multimodal transport infrastructure development; (ii) innovations in logistics solutions; (iii) policy reform and institutional coordination; and (iv) leapfrogging the introduction of digital platforms and disruptive technologies. In all the pillars green logistics comes as cross-cutting theme and make freight logistics climate risk responsive and reduce GHG emission. The policy reforms and institutional coordination analysis will form the basis for the development of HP's logistics strategy. The system will comprise innovative logistics, multimodal transport and digital technology solution stimulating the supply chain.

The detail scope includes the following, but not limited to:

### **DEVELOPING THE LOGISTICS SYSTEM FOR HP**

#### **Task A: Agricultural and MSMEs Supply Chain Analysis and Transportation Services for Pharmaceuticals, Tourism, Specialized Services, and Economic Activities in HP.**

*Task A.1. Agricultural/ horticultural Supply Chain Analysis.* This subtask will:

- (i) identify the strategic agricultural/horticultural commodities for all the agro-climatic zones in HP and map the supply chain clusters for the selected commodities. In consultation with the Departments of Agriculture, Fishery, and Animal Husbandry, and/or research institutions carrying

out value chain analysis the consultant shall estimate the volume of production (surplus production for market) for the selected commodities and identify the post-harvest activities and the downstream value chain production/processing conducted at: (i) farm/cluster of farms/primary production area; (ii) aggregation platforms/primary markets/mandis (aggregation and primary processing area); and (iii) processing platforms (secondary processing and marketing/wholesale area). For the selected commodity assess the activities taking place at Regional Trade Hubs (RTH)/ Special Economic Zones (SEZ)/ Export processing zones (EPZ). The commodities could be grouped broadly into four categories, namely: cereals; perishables/horticulture (fruits, vegetable and spices); dairy; and animal protein (fishery, etc.). To create synergy with the horticultural development project the supply chain analysis shall include apple, which is also the main horticultural product of HP. Further, the analysis would include the investments being made via World Bank funded project on Source Sustainability and Climate Resilient rain-fed agriculture in HP

- (ii) map the geographic area of the supply chain for the selected commodities by identifying the locations of the : (a) aggregation platform where freight terminals interconnected with primary markets, warehouses (Farmer Producer Organization (FPO) and/or private), cold storage facilities and primary processing facilities (e.g. facilities grading and packing table variety horticultural products are shipped to retailers and export) are established; (b) processing platforms where multimodal freight terminals interconnected with secondary production/processing, wholesale markets, cold storage facilities and warehouses are established; and (c) RTH (often digital platforms, if not attached to . SEZs and EPZs) serving as commodity exchange centers with organized retailers, export agents and multinationals.
- (iii) evaluate economic, social, environmental and biological factors impacting the supply chain clustering, including: (i) economic analysis including the optimal geographic area for the supply chain, in terms of carrying out processing and marketing activities all year round. This involves evaluating the rationale for establishing secondary processing platform and wholesale market at a district level or widening the area for clustering to cover two or more districts or if there is a need to have more than one production cluster in some of the large districts. The economic analysis will also evaluate profitability, transaction costs and marketing aspects of the supply chain clusters; (ii) the social analysis will assess how the role of the intermediaries and traditional traders at the primary markets (Mandis) and secondary markets (wholesale markets) will be enhanced and be engaged in the value addition process. The social analysis, includes networking of the small holding farmers and establishment of socially inclusive Farmers Producers Organization (FPOs), as well as creating effective partnership of farmers and the traditional traders; (iii) the environmental analysis will evaluate the impacts of the post-harvest supply chain activities, including the aggregation platforms and processing platforms and impacts of the environmental regulations on the supply chain process; and (iv) the biological analysis will evaluate the impact of the supply chain clustering focused on few selected commodities on bio diversity.

***Task A.2. Micro, Small and Medium Scale Enterprises (MSMEs) and industrial scale manufacturing supply chain analysis, and transportation services for urbanized settlements/habitations and specialized services*** (tourism, medical, education, etc.). This sub-task will:

- (i) identify the supply chain for key commodities processed and manufactured in HP and analyze

the backward and forward linkage to determine the scale and nature of the inbound and outbound logistics. For the key commodities identify the logistics needs for supplying inputs and shipping consumer grade downstream value chains. For example, for apple value chain consumer grade downstream value chain include, apple vinegar, apple cyder, fresh table variety, etc. that meets the quality, hygiene and packaging requirements of retailers. The analysis will also evaluate the supply chain for products under the recently announced policy of Ministry of Food Processing and Industries - "One District one Product" as it applies to Himachal Pradesh.

- (ii) assess the geographic spread of MSMEs clusters (existing and potential clusters) and locations of industrial scale processing/manufacturing plants and evaluate the potential for agglomeration with the agricultural marketing platforms, in order to synchronize the logistics for the agricultural and processing/manufacturing supply chain.

**Task A.3. Transportation Services for Tourism and Specialized Services.** This subtask will collect and review relevant study reports and conduct assessment of the eco and cultural tourism potential in HP. Identify tourism circuits in HP and assess the logistics and tourist transportation services demand. The tourism circuits may transcend multiple states and the service providers may operate at national and/or international levels. The information collection should be conducted by interviewing travel agents and specialized transportation service providers and in consultation with the Departments of Industry, Trade, and Tourism.

**Task A.4. Transportation Services for key service sectors.** The sub task will also review the current practice, location and potential for specialized services (IT, education, medical, etc.) and assess logistics and passenger transportation demand of such services.

**Task A.4. Transportation Services for Economic Activities and Social Services Delivery.** This sub-task will assess the logistics need for the supply of merchandize, social services delivery and economic activities (retail stores, hotels, etc.) for the rural community, settlements/habitations and towns hosting the agricultural supply chain platforms and MSME clusters. The logistics facilities and services cater for the inbound logistics for the agricultural supply chain (farm level, as well as aggregation and processing platforms), MSME clusters and general economic activities and social services for the rural and urban communities. The inbound logistics should be synchronized with outbound logistics to reduce empty backhaul.

**Task B: Assessment of logistics practice and transport facilities/ infrastructure** This task requires collecting and collating data and information from small-holding farmers, MSMEs of traders and processors, specialized services providers, retailers at the terminal markets, traders of export goods ( export agents and multinationals), Controlled Atmosphere Operators (cold storage), warehouses, freight terminals operators (freight terminals with truck parking lots, container bays, handling services (packaging, bundling, containerization, loading-unloading, etc.)transport operators, freight forwarders, digital logistics platform operators etc., as available.

**Task B. 1. Diagnostics of the existing transport logistics system.** This sub-task will conduct diagnostics of the existing logistic system, both imbedded in the markets or standalone, and identify challenges and gaps. The subtask will evaluate the efficiency and performance levels of the logistics sub-systems, including: (i) consolidation and bundling of freight; (ii) extended gates; (iii) logistics clusters; (iv) freight villages; (v) packaging/bundling and handling; (vi)



transportation services and freight forwarding; (vii) transport infrastructure; and (viii) institutional capabilities; tariffs and taxation; and communication and contractual arrangement between producers/service providers, transport operators, freight forwarders, intermediaries, and wholesalers. This sub-task will review the capability of local logistics service providers and availability of skilled and affordable labor for logistics roles, industrial real-estate availability and costs, overlap of distribution areas, changing trends of regional location preferences, and favorability of the business and tax environments.

***Task B. 2. Transport services, handling and logistics services providers for agricultural supply chain - first-mile connectivity and collector roads.*** This subtask will:

- (i) review the current practice for the provision of transportation services on the first-mile roads connecting farm clusters to aggregation platforms/primary markets and propose how the services could be reorganized to provide transportation services competitively.
- (ii) review transportation services reliability, cost, entry into the transport market, and propose regulatory measures to enhance efficiency.
- (iii) evaluate the existence of efficient platform (digital and/or traditional network) or contractual arrangement between small-holding farmers and transport operators.
- (iv) review the characteristics and constraints of the existing trucking industry operating on the collector corridor connecting aggregation platforms to processing platform (secondary processing and wholesale platforms) and MSME clusters and propose regulatory measures and incentive schemes to create competitive trucking market.
- (v) review the availability cold-chain transport operators and evaluate the opportunity to attract private investment for the provision of cold-chain transportation services.
- (vi) review the current handling practices at the four platforms and propose how handling services could be provided efficiently by handling companies, cooperatives, etc.; how post-harvest losses could be reduced/eliminated, how the use of standard collection and transportation containers (bins, crates, etc.) by farmers, storage facilities and transport operators could be synchronized, and how empty backhauling could be reduced.
- (vii) review the capability of the forwarding companies, as well as operational capability of the railways logistics companies and propose regulatory measures and incentive schemes to attract door to door logistics service providers
- (viii) review interoperability and the use of multi-modal transport (road, inland water and rail transport) for the transportation of the strategic commodities to long distance terminal markets and seaports and propose regulatory measures and incentive schemes to promote interoperability, like the Kisan rail incentive scheme.

***Task B.3. Transportation services and logistics for tourism and specialized services.*** This subtask will:

- (i) review the current practice for transporting tourists and customers of the specialized services and identify gaps.
- (ii) to address the gaps and deliver safe and convenient transportation services, as well as delivering supplies, the consultant shall propose incentives to promote the provision of organized and scheduled transportation services including tourist buses, wheelchair accessible shuttles, ambulances, medicine supply drones, secure taxi services, etc.
- (iii) assess the need, location and facilities/transfer terminals for transferring tourists and customers/patients of the specialized medical centers from airports, public transport terminals, and railway stations.
- (iv) collect data for both passenger and supplies transportation cost for the tourism and specialized services and compare the tariff using national and international tariff rates as benchmark and propose measures to provide competitive world class services.

***Task B.4. Transport logistics facilities.*** The subtask will:

- (i) review the availability of a geo referenced corridor economic information map that shows all transport logistics facilities and essential services close to collector roads and the national transport grid interconnecting the wholesale/secondary markets.
- (ii) evaluate the capacity of cold storage facilities, warehouses, container bays, handling services, parking and depots for trucks, offices for freight forwarders, petrol stations, electric charging points, battery swiping facilities, passenger terminals, rest stops, and physical and digital freight terminal, commodity exchange centers, fiber optics network for broadband internet services.
- (iii) review the availability of geo referenced maps showing markets, airports and hospitals, as well as the availability of geo referenced land use and value chain maps. The subtask will assess whether such information is incorporated in the economic corridor information module of the Road Asset Management Systems (RAMS) of the states and used for planning and budgeting transport and logistics infrastructure and services development. The review should check whether, the custodian of the RAMS makes the digital economic corridor information publicly available to be used by transport operators, freight management platform operators, travelers, traders, producers, service providers, etc.
- (iv) to bridge the information, gap the consultant shall prepare digital map showing the location of the above-mentioned logistics facilities within the influence area of the national highways in HP.

***Task B.5. Assessment of Logistic Providers'***

In order to improve the logistics services of the state, it would be imperative to understand the overall status of the logistics sector in the State. The key activities

under this subtask would include:

- i. Assessment of the logistics sector (handling and transportation services, and logistics services) of the state to understand its development in terms of organizations considered as logistics providers in the State (type and size of company), coverage across the State, assessment of policy and regulatory constraints, schemes and interventions that forms the basis for operations, etc.
- ii. Assessment of institutional support available to the sector from government
- iii. Assessment of infrastructure facilities available to these logistic providers
- iv. Competitive review and analysis of logistic providers with key states competing with Himachal Pradesh and identify key interventions required for improving transport and logistic efficiency

***Task B.6. Assessment of Road and Transport Infrastructure in Himachal Pradesh for freight movement***

The consultant shall undertake as-is assessment of the socio-economic environment in the State in consultation with key stakeholder departments for transport and logistics, and the private sector. The detailed activities under this subtask include the following:

- i. Identification of key production (primary production, primary and secondary processing, and MSME clusters) and consumption centers for identified commodities of the State.
- ii. A district level analysis would be done to assess the market size of the production centers and their commodity flows. Relevant time cost dimensions of these product flows would be assessed.
- iii. Broadly assess the market size of each production center (in tonnage) and Conduct “*Volumex Price analysis*” (incorporating terrain related constraints)

justifying the means of transport being used.

- iv. Interact with local producers, farmers, transporters, freight forwarders, exporters and other facilitators in the value chain to validate commodity flows, parcel size, time & cost, etc. of movement.
- v. Undertake logistics cost analysis for production centers in key districts, building up on the freight flow activity, covering the costs of transportation and handling loading/ unloading activities. Both backward and forward transport and warehousing linkages would be required to be seen along with value chain enhancements.
- vi. Study the modal complementarity ,as applicable, on freight transport system in the State.
- vii. Assess the infrastructure facilities, terrain and capacity related constraints experienced while accessing the existing markets. An assessment is to be made to compare the transportation cost paid by the producers across various modes.

**Task C. Innovative logistics solutions for agricultural supply chain, and MSME clusters.** This task will:

- (i) Develop modular logistics solutions, to be customized depending on the volume of transaction for: (a) post-harvest logistics activities at primary production/ farm level to facilitate the delivery of clean and graded products with appropriate packaging at a farm gate for onward shipment; (b) aggregation platforms; (c) processing platform (secondary processing and wholesale platforms-*remunerative markets*-); and (d) RTHs. The model shall be developed for four commodities (one each from the cereal, perishable/horticulture, dairy and animal protein category) and conflated/superimposed to synchronize and use the logistics facilities and services for all or combination of commodities. The modular logistics solutions shall also be customized depending on the volume of transaction and supply chain pattern of the commodity. Based on the supply chain analysis, the modular logistics solutions for all the four platforms shall setup the contour and performance standards for, inter alia:
  - activities/functions/purpose;
  - business model;
  - standardization of packaging and bundling;
  - logistics facilities and services (handling, storage and transportation services) organized at digitally enabled *freight terminals* interconnected with cold storage facilities, warehouses, processing facilities and MSME clusters;
  - inbound logistics;
  - location and transport infrastructure, and
  - digital enablement of the platforms and freight terminals.

**Task D. Promoting green logistics.** This task will review the current practices and initiatives to promote green logistics solutions that could reduce Green House Gas (GHG) emission. The consultant will evaluate the status and progress in promoting green logistics in HP by benchmarking international best practices and making recommendations that will help bridge the gap and leapfrog in green logistics. The consultant will document the current practices and initiatives, as well as the benchmarking and recommendations in respect of, but not limited to:

É limiting travel distance by road (use road transportation to reach rail and water transport terminals/stations);

É promoting resource efficiency through freight consolidation and using high capacity vehicles, as well as seamless connectivity to rail and water transport;

É shifting to solar and electrical means of transportation, as well as fuel efficient and emission reducing vehicle technology, including the promotion of the use of solar three-wheeler pickup, solar buses, etc.;

É applying let the polluter pay policy - pollution charges-;

É enhancing green construction and maintenance technology; and

É Promoting national and sub-national programs for the development of safe and environment friendly basic access roads (collector and feeder roads/ secondary and tertiary roads network).

Explore models of circular economy and reverse logistics as it relates to key product groups for HP.

### **Task E: Supply Chain Connectivity/Transport Infrastructure**

The transport infrastructure in the context of supply chain connectivity will link small-holding farms to remunerative markets (wholesale markets, processing and trading SMEs, export agents networked with multinationals) where small-holding farmers could get market price for agricultural products. Enhanced supply chain connectivity will enable small-holding farmers play greater role in the commodity exchange markets and processing. Enhancing supply chain connectivity calls for in-tandem improvements of the first mile connectivity and collector roads, as well as creating seamless interoperability with railways and waterways.

***Task E.1. Supply chain connectivity analysis:*** This subtask will review the state of the transport infrastructure in HP and analyze the planning and budgeting framework for in-tandem improvement of the first-mile and collector roads or waterway, as well as the standard and level of accessibility. Vertical integration óin tandem- improvement of the first-mile roads and collector roads enables the supply chain platforms function as a cluster. This approach will shift the practice from promoting standalone rural road programs or state highway programs to implementing integrated supply chain connectivity program. In line with this, the subtask will:

#### **Sub-Task E.1.1 Planning and asset management framework**

- i. review the supply chain connectivity planning and budgeting framework for improving and maintaining the two segments (rural roads and collector roads) of the food supply chain and providing reliable transport infrastructure connecting small-holding farmers to remunerative markets. Supply chain connectivity planning is carried out in two stages, namely network screening- stage 1 (identifying the all links interconnecting the entire supply chain) and prioritization ó stage 2 (prioritize the screened paired segments based the economic viability results evaluated using HDM4/RED).
- ii. take stock of the state of the transport network in HP, categorized by mode (road, rail and water transport, as well as air cargo services) and road functional classification (Village/Community

Roads; Feeder Roads/Rural Roads/Tertiary Roads; Collector Roads/Secondary Roads-District Roads/Major District Roads (MDRS) and State Highways/Provincial Roads-); Trunk/Primary/Arterial Roads).

- iii. review the level of accessibility of the processing platforms (secondary processing platforms and wholesale markets) and MSME clusters by national highways, railway and waterways.
- iv. review whether the ongoing transport infrastructure improvement interventions, including the PMGSY, District and Major Districts Roads; and State Highways (state core roads network) are aligned with the objective of interconnecting small holding farmers to remunerative markets.
- v. Mainstream the planning and budgeting process for development and maintenance of the tertiary and secondary roads (rural and collector roads) in the proposed/new unified transport planning forum. Evaluate the mandate of PWD and HPRIDC for the implementation of the development/improvement and maintenance of the integrated supply chain connectivity plan.
- vi. evaluate the Road Asset Management System (RAMS) and identify areas of improvement in respect of the adequacy of the database, application as a planning tool (generating maintenance investment plans) and effectiveness of the system administration arrangement. Evaluate the adequacy of the RAMS to be data repository for the entire supply chain connectivity (rural and collector roads, as well as waterways and ropeways). Evaluate whether the RAMS is interfaced with HDM4/RED model and applied to generate integrated supply chain connectivity development and maintenance plan.

**Sub-Task E.1.2. Farm to aggregation platform - first mile - connectivity**

- i. **Accessibility level.** evaluate accessibility level using accessibility measurement parameters, including: (a) Rural Accessibility Index (RAI) of HP; (b) the proportion (percentage) of the habitation/villages and small-holding farms (cluster of farms) connected by rural accessibility improvement initiatives (rural roads and district roads upgrading programs, such as PMGSY), (c) the proportion (percentage) of small-holding farms connected by village/community roads, and (d) the proportion of the small-holding farms connected by inland water transportation (IWT). This subtask will review first-mile connectivity improvement programs and evaluate the trend and opportunity for providing equitable access to all.
- ii. **Service level.** This sub task will review the service level/accessibility standard of the rural roads and village roads networks, as well as waterways and ropeways. This subtask will also assess the performance of the road infrastructure (road condition/roughness; safety features and connectivity disruption due to flooding and landslide). This subtask will review the roughness index of the rural/feeder roads as this will have impact on increasing post-harvest losses of perishable products due to excessive vibration. The review extends to assessing the risk of connectivity disruption due to flooding and landslide and accidents due to lack of adequate protection measures and safety features.
- iii. **Sustainability and ownership.** This sub task will review the maintenance arrangement for the rural roads and village roads, as well as waterways and ropeways. This will include the review of the sources of maintenance financing, asset management plans, and maintenance contracting arrangements, including the role of women self-help groups and community contracting. This sub task will also review the ownership of the rural roads and village roads networks, as well as waterways and ropeways. This sub task will review the practice and the role of the sub national governments in the development and maintenance of village roads, waterways and ropeways.

### **Sub-Task E.1.3. Aggregation and processing platform connectivity- collector roads**

- i. review the state of the collector roads connecting aggregation platforms(nodes (origin) for consolidated freight) to processing platforms (connecting the traditional primary markets and wholesale/secondary markets), trading and processing/manufacturing MSME clusters, Industrial scale production plants and major rural settlements/habitations. Review the level of collector roads coverage to rural settlements/habitations not overlapping with the aggregation and production platforms.
- ii. **Service level.** evaluate the adequacy of the standard (safety and engineering standard) of the collector roads for operating cold chain trucks and large trucks. The road infrastructure is expected to be two lane paved road with shoulders or intermediate lane (5.5meter carriageway and 1meter shoulder on both sides). Evaluate the performance standard/service level of the collector roads and propose measure to maintain collector roads in good condition.
- iii. **Freight terminals at processing platform.** Assess the availability of freight terminals interconnected with wholesale markets, processing facilities, cold storage facilities, warehouses and MSME clusters. Evaluate the connection of the collector roads and waterways to freight terminals serving processing platforms. Assess the connectivity of the freight terminals with railways, where available and high capacity highways/expressways Assess the practice to use multimodal stations as the freight terminals to ship consumer grade products of secondary processing facilities and wholesalers to seaports or domestic terminal markets.
- iv. **Last mile connectivity to tourism and specialized services.** in areas where the strategic value chains are tourism and specialized services the subtask will review the practice of improving the last-mile connectivity between the transfer terminals for tourists and customers of the specialized services and the tourist destinations and customer reception of the specialized services.
- v. **Sustainability.** This sub task will review the maintenance arrangement for the collector roads, as well as waterways and ropeways. This will include the review of the sources of maintenance financing, asset management plans, and maintenance contracting arrangements, including the role of women self-help groups and community contracting for preserving bioengineering solutions and off-carriageway maintenance. Review the administrative arrangement and financing of improvement/upgrading and maintenance of collector roads and roads serving tourism clusters and specialized services.
- vi. **Integrated supply chain connectivity development.** Review collector roads improvement programs and evaluate the integration of the collector roads development with rural roads network improvement programs.

**Task E.2.RegionalTrade Hubs Connectivity and Modal Interoperability.** This sub task will review:

- i. the location of the RTHs for the strategic commodities produced in HP. The review extends to evaluating the role of the RTHs to reduce market fragmentation and how the logistics facilities and services are organized. This subtask will review interoperability between modes and identify policy implications. For HP the critical challenge is the absence of railways connecting the agricultural supply chain processing platforms and MSME clusters. The subtask will review plans to interconnect such platforms to the Chandigarh Eastern Dedicated Freight Line multimodal station by expressways.

- ii. the availability of logistics companies to provide multimodal cold-chain transportation. Review the practice to use standardized cold-chain containers (refrigerated containers) for road and rail transportation.

#### **Task F. Digital Platforms and Disruptive Technologies**

This task will collect data and information on the current practice in providing digitally enabled logistics services at the production and trading platforms; and existence of digital freight management systems, as well as leapfrogging in adapting digital and disruptive technology.

**Task F.1. Digital enablement of the supply chain** (physical and digital (phyigital) logistics platforms, digital logistics platforms, and transportation services). This sub-task will review the existing broadband internet network capacity at the supply chain platforms and along the transport corridors. The subtask will assess the level of adaption of common apps and/or custom-made application for improving the efficiency of the logistics services at the platforms, transaction and payment management, information exchange among the key role players, and transaction and services contracts management. Based on the review of the logistics facilities and services, as well as the logistics process (logistics services flowchart) this subtask will assess the existing practices (deployment/usage of application) and identify gaps to digitally enable the platforms and transport service. In line with aforementioned, this subtask will:

- (i) assess the use of common apps or custom-made applications at farm level focusing on eliminating the disadvantage sustained by farmers due to market information asymmetry. In areas where internet penetration rate is high and farmers use smart phones the digital platform(s) (common app(s)) could enable farmers to carry out transactions and payment receipts, access commodity specifications, access platforms used by wholesalers, processors, retail giants, export agents and multinationals, monitor market price and contractual transparency, schedule delivery and solicit handling and transportation services just-in-time and at a competitive price. In areas where the broadband internet connectivity and the use of common apps is not well-developed farmers could access market price information, conduct transactions and payment receipt, and solicit handling and transportation services at kiosks (digital platform operators) established to serve group/cluster of farmers and/or FPOs. In the absence of a common app, this sub-task will also design the architecture for a digital platform interconnecting farms, cluster of farms/FPOs, traders and processors at aggregation and processing platforms, retail giants, export agents and multinationals.
- (ii) assess the practice of digitally enabling the activities, services and processes at the aggregation platforms, including the use of digital platforms supporting information flow of processing, trading, storage, logistics services; planning, execution and feedback; market prices; contractual transparency, etc. This extends to assessing the existence of a digital platform to interconnect aggregation level freight terminals with cluster of cold storages and warehouses, and markets within the influence area of the aggregation platform, and function as an integral part of the freight terminal. Such digital platform enables industrial scale processors, retail giants, export agents and multinationals to conduct transaction with traders and processors at the aggregation platforms and directly shipping to the final destination. Assess connectivity to 4G/5G broadband network. The review will also identify gaps to digitally enable the activities, services and processes at the aggregation platforms. In the absence of a common app, this sub-task will also design the architecture for a digital platform interconnecting freight terminal, cluster of warehouses and markets within the influence area of the aggregation



platform.

(iii) assess the practice of digitally enabling the activities, services and processes at the processing platforms, including the use of digital platforms supporting information flow of processing, trading, storage, logistics services; planning, execution and feedback; market prices; contractual transparency, etc. This extends to assessing the existence of a digital platform to interconnect processing platform level freight terminals with cluster of cold storages and warehouses, and markets within the influence area of the processing platform, and function as an integral part of the freight terminal. Such digital platform enables industrial scale processors, retail giants, export agents and multinationals to conduct transaction with traders and processors at the processing platforms and directly shipping to the final destination. Assess connectivity to 4G/5G broadband network. The review will also identify gaps to digitally enable the activities, services and processes at the processing platforms. In the absence of a common app, this sub-task will also design the architecture for a digital platform interconnecting freight terminal(s), cluster of warehouses and markets within the influence area of the processing platform.

(iv) assess the existence of phyigital logistics platforms (integrated digital platforms/e Commerce platforms and digitally enabled physical logistics platforms) and digital logistics platforms (control tower principle) at Regional Trade Hubs (RTH)/Special Economic Zones (SEZs). The review includes: (a) digital logistics platforms/ e Commerce platforms for the RTHs located at multimodal transport corridors where handling services, transshipment services and storage facilities will be provided by railways operators(freight terminals/stations), water transport freight terminals, warehouse operators around the RTH and warehouses at the processing platforms. For this case, the review will identify the practice to use new/custom-made or common apps developed by multinational trading and/or logistics companies, and IT Giants); and (b) phyigital logistics platform option for RTHs and extended gates, including dry ports and inland container terminals located along national highways/ expressway where there is no connectivity to railways and IWT freight terminals.

(v) assess the use of digital platforms/applications (custom made and/or common apps developed by multinational trading and/or logistics companies, and IT giants) for swift delivery of cargo to port (sea and/or air) warehouses and container terminals, as well as transshipment.

(vi) assess the use of freight consolidation platforms (control tower principle) for traffic nodes without supply chain platforms that have well developed warehousing services and truck call points, where truckers pick consignments from cluster of warehouses, whereby freight consolidation is organized by a freight management system.

(vii) digital platforms for passenger terminals. The passenger terminals constitute public intercity transportation for MSME clusters. The digital platform is expected to support bus departure and arrival schedules via Passenger Information Systems Smartphone Applications, Variable Messaging Systems (VMS), electronic payment options including mobile payment, contactless payment, and smart ticketing, etc.

(viii) 4G/5G fiber optic provisioning along the supply chain network for operating freight management systems, freight tracking and tracing applications, and tariff and marketing information platforms, as well as introducing Intelligent Transportation System (ITS) on expressways. Review the existing broadband internet network at the aggregation and processing platforms, RTHs and passenger transportation terminals. Evaluate the gaps in the provision of broadband high speed internet connectivity for activities, services and process at the supply chain platforms and passenger

transportation terminals.

**Task F.2. Reviewing and adapting appropriate digital platforms/systems** improving the performance of the transportation infrastructure and logistics services, including:

(i) Digital freight management platforms. This sub-task will review the availability of freight management service providers that have developed platforms or applications for truckers operating on first-mile, collector and national transport networks. This extends to reviewing the status of digital platforms for door to door, multimodal logistics services, which creates a network of truckers (cold and dry chain) operating on the first mile, collector and national transport network, transloading service providers, and rail and/or IWT operators. The subtask will review the interface and integration of the digital freight management platform with commodity exchange networks, which will link small holding farmers/cooperatives/ production clusters and SMEs with truckers, rail and IWT operators, freight forwarders, wholesale and terminal markets, and fosters competitive and bulk transportation services. The subtask will review whether the digital freight management platforms for the strategic value chains are supported by a block chain that will serve as a trading platform connecting production clusters, wholesale markets, SME clusters, Special Economic Zones (SEZs), and terminal markets. The digital freight management platforms will enhance competitiveness, reduce empty backhaul and interoperability (road, rail and IWT). The door to door platform is crucial for hauling commodities and passengers to long distance destinations.

(ii) Tracing/tracking. This sub-task will evaluate the tracing/tracking modules deployed by local, regional and the multinational providers (by the affiliates or direct). The evaluation could use as benchmark the experience of the multinationals, like Amazon, Alibaba, etc. and opensource applications. This subtask will review whether the freight management platforms have tracing/tracking module to provide reliable and secured delivery services from origin to destination. The subtask will also evaluate whether the freight management system and tracing module are integrated or there is seamless interface to monitor security during shipment and complete transactions. The review will benchmark the level of service with a secured and interactive tracing module with interface to inventory management modules with a network of producers, traders, forwarding agents, transport operators, warehouses, bankers and insurances.

(iii) Tariff and marketing information platforms. This sub-task will review the accessibility of information on transport tariff, as well as agricultural and industrial commodities price at farm gate, production clusters, trading and processing SME traders and terminal markets. The subtask will review whether such information is collected and collated on a digital platform by the Department of Agriculture, Department of food processing industries/industry and trade, Transportations Department of Transportations of the case states/provinces and Trucking Associations. The subtask will review whether the freight management systems, if any, make such information accessible to users or network with the custodians of the different set of information.

**Task F.3. Disruptive technology.** This sub-task will review the use of disruptive technology for the transportation of high value commodities and essential goods. Though not in a large-scale, horticulture produce from some part of the rugged Himalayan mountains and valleys not accessible by road are transported by drones to wholesale markets. Specialized services like tourism destinations may require essential goods delivered by drones, while hospitals may transport urgently needed supplies by drone. The subtask will review plans and opportunities for using disruptive technologies for SME and agro-

logistics. The sub-task should also present a good-practices note of approaches, tools being used in 2-3 countries that have a similar terrain and economic focus (tourism, horticulture, service sector and presence of non-polluting industries, etc.)

***Task F.4. Mainstreaming gender in digital platform development and operation.*** This sub-task will review the role of female professionals in the digital platform development and operation. The Consultant is expected to assess the availability of female IT professionals engaged with the academia, public services and provision of IT services as programmers and operating digital platforms at the agricultural wholesale markets. The sub-task will review the logistics processes/logistics information at the supply chain platforms (aggregation platform, Processing platform and Regional Trade Hubs) and freight management systems and propose measures to enhance the engagement of female professionals through automation of the services. Moreover, the Consultant shall assess how female entrepreneurs leverage the digital platforms and engage as owners and operators of the services to be provided at the freight logistics platforms and passenger transportation terminals.

***Task F.5. Options for governance and operation of digital platforms and use of disruptive technology.*** The subtask will review the governance of the digital platforms, in terms of entry into such market, licensing and other regulatory aspects. The subtask will review the regulations for entry into the development and operation of digital platforms for freight consolidation by smaller scale platform operators and by some multinational or national corporations. The subtask will review the capability of the service providers to connect the platforms at the production clusters and, trading and processing SME clusters to 4G/5G or fiber optics network. The subtask will review the availability of IT professionals and entrepreneurs for developing and operating freight management systems and applications. The subtask is also expected to assess governance and regulatory constraints for deploying disruptive technology. The subtask will review the capabilities of the national or province/state Department of Transportations of the case states/provinces for developing and operating or cause the development and operation of scheduling bus transportation services to tourism destinations and for the specialized services, as well as scheduling freight and public transportation by the rail and water transport operators. Information and Data Security (i.e. Cyber security) concerns of national and local authorities for the use of disruptive technology will also be reviewed.

## **DEVELOPING LOGISTICS STRATEGY FOR HP**

***Task G. Policy, Regulatory and Institutional Strategic Framework*** This task will analyze the causes for the poor performance of the logistics sector and propose strategies to enhance the role of small-holding farmers in post-harvest logics services and identify policy , regulatory and institutional measures that could enable the private sector engage in the development of logistics infrastructure and provision of efficient logistics services.

***TaskG.1.Diagnostic and Comparative Analysis.*** This subtask will focus on:

- i. Based on the activities performed in Tasks A-F, the consultant will identify the challenges to provide efficient logistics solutions for agriculture, rural MSMEs and specialized services.

- ii. Based on the activities performed in Tasks A-F, the consultant will identify the gaps in post-harvest first-mile logistics, as well as the logistics infrastructure and services at aggregation platforms (pack house for fresh horticultural products distribution), secondary processing facilities and wholesale markets.
- iii. The consultant will identify the main causes for the high post-harvest losses for horticultural products
- iv. The consultant shall identify the underlining causes for the stagnation and reduction of income for small-holding farmers despite the improvement of rural infrastructure.
- v. The diagnostics should address transport infrastructure, services, digital integration, green logistics, and development of logistics human resources capability in the state.
- vi. The consultant should reflect on the analysis/diagnostics done in Task A-F (not including Task E) and assessment of demand (forecasted) for each of the economic areas in Task A & B.
- vii. Identify market route-wise key road transport & logistics interventions required to enhance supply chain connectivity. This would include identification of adequate locations for development of warehousing centers, assessment of need for a digitally enabled aggregation platform (freight terminal, handling and transportation services, cold chain storage facilities, ware houses, processing facilities, markets), creation of district wise commodity exchange and distribution centers (wholesale markets and secondary processing facilities), need for multimodal logistics parks (MMLPs), identify additional road infrastructure required to improve first & last mile connectivity, logistic infrastructure need for key business hubs and MSME clusters, etc.
- viii. Creating frameworks to assess prioritization of interventions based on factors like impact of time & cost, improvement in market scalability, increase in transport reliability, increased participation of women, terrain conditions, etc.
- ix. Qualitative assessment of the cumulative impact of these interventions on socio-economic development in the State.
- x. Review of international best practices in the development of the logistic sector, list out key contours and recommend how it could be applied for logistic sector in Himachal Pradesh on both improving logistics services and the transport infrastructure.
- xi. Review the national logistics policy and mainstream in HP's logistics strategy.
- xii. Review logistics strategies adopted by sub-national governments in India, as well as sub national and national governments in other parts of the world and draw lessons and adapt successful strategies that have enhanced logistics performance.

**Task G.2. – Policy, legal and regulatory framework:** This subtask will assess the effectiveness and sustainability of existing policies intended to enable small-holding farms gain the market value for agricultural products, enhancing the traditional traders in processing and logistics services provision, and attracting the private sector in the supply chain development and operation. The policy and regulatory framework will review:

- i. the national logistics policy (under preparation by the National Department of Trade) and mainstream in the logistics strategy for HP.
- ii. policy initiatives to reform the agricultural marketing structure to enable small-holding farmers enhance their role in processing and trading agricultural products. Review policy initiatives enabling small-holding farmers to manage collectively and/or in partnership with the intermediaries and traditional traders, the transaction risks and benefit from clustering production activities, and engaging in trading and processing downstream value chain at a scale, quality and deliver to remunerative markets. Review the interest of the traditional traders to transform the primary and secondary markets into physical and digital, SME and agro-logistics platforms enabling processing and trading SMEs add value to agricultural products and exchange consumer grade produce. Assess the existence of policy initiative to promote inclusive development by enabling the intermediaries and traditional traders operate in partnership with the small-holding farmers and/or engage as logistics facilities and services providers.
- iii. policy initiatives to enable farmers producer organizations/cooperatives operate based on commercial principle or with initial nominal subsidy for farmers to establish/lease trading and processing facilities, like the interest subvention support provided by the India Infrastructure Fund. The analytics will review the existence and sustainability of subsidies intended to encourage farmers to use rail or water transportation services, like the provision of 50 percent government subsidy for the transportation of fruits and vegetables by the Indian Kisan rail.
- iv. financing schemes, like the India infrastructure fund and assess the practice for using such schemes as an enabler to enhance the efficiency of the supply chain and organization.
- v. the existence of policy initiatives and infrastructure development schemes to attract private investment for establishing freight terminals and operation. This may involve reviewing land acquisition laws and provision of power and other basic public goods, like access to high speed internet and roads linking warehouses and processing plants to freight terminals. The enabling policy environment for the establishment and clustering of nonagricultural MSMEs, food processing industries and trading commodities at scale at the remunerative markets and export.
- vi. the regulatory framework for the provision of freight handling services, logistics facilities and services, and transportation services. Liberalization and provision of competitive trucking services for the supply chain and promotion of door to door multimodal logistics services. The existence of the enabling environment for the provision of efficient transportation services for tourism and specialized services (medical IT, education, Ready Made Garmenting, etc.)
- vii. the environmental regulation framework provided by government to reduce the negative environmental impact of the supply chain development.
- viii. the planning and budgeting process for enhancing supply chain connectivity by preparing supply chain connectivity programs enabling the in-tandem development of first-mile connectivity and collector roads. Enhancing interoperability to improve the provision of efficient transportation services. Review the practice to integrate the establishment of freight terminals as part of supply chain connectivity programs, drawing lesson how the establishment of bus terminals facilitated the provision of efficient public transportation services. Reviewing the existing legal and regulatory framework to ascertain any weaknesses,

gaps and necessary changes to facilitate efficient and effective freight movement.

- ix. policy and regulatory constraints and initiatives to expand the use of digital platforms and disruptive technology for MSME and agro-logistics.

**Task G.3 - Sector institutions and coordination:** This subtask will identify key public and private stakeholders involved in the supply chain development and provision of the transport and logistics infrastructure and services. This will involve reviewing:

- i. the role of the government in providing technical assistance/ support to research, extension and training on clustering, producing quality products for the market, trading with wholesalers, retail giants, export agents and multinationals. The support from government in establishing processing and trading SMEs, etc. and enhancing the role of small-holding farmers in processing and trading.
- ii. Inter sectoral coordination between entities responsible for agriculture, food processing, trade, industry, transport and logistics in clustering the supply chains and jointly developing supply chain connectivity and logistics enhancement programs for agriculture and MSMEs.
- iii. the role of the private sector in the establishment of freight terminals and provision of logistics services. Review the practice to competitively solicit handling and transportation services, as well as the existence of contractual agreement to use logistics and storage facilities.
- iv. collaboration among the public and private sector stakeholders, including logistics councils, transport operators' associations, Transportation Department, local administration to enhance.
- v. the framework for organization and management of the supply chain platforms and the existing marketing structure, financing and current levels of cost recovery

**Task G.4 –Enhancing private sector participation.** This will evaluate:

- i. Place-based policies to attract and enable the private sector, inter-alia:
  - É clustering aggregation and processing, as well as economic activities around transport nodes and/or clustering production and export processing at special economic zones (SEZs) located closer to transport corridors/economic corridors.
  - É developing infrastructure, including interconnecting the freight terminals, warehouses, cold-storage facilities, processing facilities and markets, provision of high speed internet, power, water supply and sewerage, etc.
  - É skills development for the operation and maintenance of the logistics facilities and services

É the policy environment to attract private investment and the role of the public sector to forge partnership with the private sector to develop the logistics infrastructure

- ii. ownership and the role of the public sector in the establishment, operation and maintenance of the freight terminal, aggregation, processing and distribution platforms.
- iii. interest, capital requirement and reformed role of the existing traders at the primary markets and wholesale/secondary markets in transforming the markets to processing and trading SME clusters, as well as provision of post-harvest handling and transportation services.
- iv. constraints for the engagement of the private sector for the establishment and operation of the platforms, including land acquisition for upgrading and/or establishing the physical and digital platforms

## **DESIGNING DEMONSTRATION/PILOT LOGISTICS SOLUTION**

***Task H. Design demonstration/pilot logistics solution.*** The consultant will:

- a. ***Design logistics facilities and services for pilot supply chains.*** The consultant will identify the post-harvest handling and transportation services at farm/farm clusters level, and transport and logistics infrastructure and services at all aggregation platforms, the proposed processing platform(s) and RTH. The proposed solution should reflect the four pillars of smart logistics. Human resource development with focus on gender should be an essential part of the design. Based on preliminary design provide cost estimate for the proposed transport and logistics infrastructure and incentive scheme for the provision of the logistics services. The consult will also evaluate the option for the engagement of the private sector. Based on the system developed under Task B.2. (i) the consultant shall setup the contour and performance standards for the entire supply chain. In line with this the consultant will design the logistics solutions for:
  - i. apple and vegetable supply chain for the Shimla (processed through the Shimla apple and vegetable wholesale markets) and MSME cluster to emerge at the Shimla Special Economic Zone.
  - ii. logistics solutions for the strategic commodities traded and processed at various supply chains Infrastructure & Agriculture Wholesale Markets , clusters, Agribusiness Promotion Fund Unit, Market Yards etc. in the state, tentative details of which is attached as Annexure 6A
  - iii. logistics solutions for the industrial town/ MSME clusters in Barotiwala.
  - iv. logistics solutions for the cement production plants.
  - v. Logistics solutions for tourism development ó identify one buys tourism circuit and develop a solution for it

- vi. Logistics solutions for pharmaceuticals industry in the state
- b. ***Developing phyigital platforms for the delivery of efficient logistics services***, including:
- i. connecting to the 4G/5G fiber optic network and access to digital platforms. The consultant will determine the investment requirement to connect the freight terminals, cold storage facilities, warehouses, processing facilities, MSME clusters to the 4G/5G fiber optic network.
  - ii. digitally enabling the logistics facilities and services. This task targets introducing and adapting digital platforms: (a) enabling farmers/cluster of farms to eliminate market information asymmetry, enhance access to farm technology and credit, conduct transaction with remunerative markets, solicit handling and transportation services at a competitive price, and network with FPOs and cold storage and warehouse operators. In areas where internet access is well developed farmers could use common apps, whilst in remote areas kiosks for digital platform operators could be established for farm clusters or aggregation platform level freight terminals; (b) enabling operators (farmers cooperatives/FPOs, cold storage and warehouse operators, processing facilities and handling and transportation services providers) at the aggregation use shared digital platform/ applications supporting activity planning, transactions and payment receipts, monitor market prices and contractual transparency, freight management and tracing, as well as networking with handling service providers and transport operators; and (c) digital enablement of processing platforms supporting processing, trading, storage and logistics activities information flow between cold storage and warehouse operators, processing facilities, handling and transportation service providers (multimodal), and freight terminals. The digital platform will support activity planning, transactions and payment receipts, monitor market prices and contractual transparency, freight management and tracing, as well as networking handling service providers and transport operators with end to end logistics service providers (multimodal) and/or multinational/export agents and retail giants. Regional Trade Hubs, if not established as special economic zones/export processing zones are digital platforms often adapting applications developed by multinationals and/or export agents.
- c. ***Economic and financial viability evaluation and social impact assessment***. The consultant will conduct economic and financial viability of the logistics facilities and services. The consultant will also conduct social assessment to determine the negative impacts of the logistics facilities and services. This includes addressing the impact on the traditional traders and mitigating the impact by enhancing their role in the value addition process and provision of post-harvest handling and transportation services.
- d. ***Supply chain connectivity***. The consultant shall determine the level of interventions and investment required to:
- i. connect primary production areas to remunerative markets;
  - ii. connectivity of cold storage facilities, warehouses, processing facilities, MSME clusters to freight terminals, as well as access to off highway freight terminals; and
  - iii. secondary production MSMEs and wholesalers to multimodal stations/railways



## **ACTION/IMPLEMENTATION PLAN - INVESTMENT PROGRAMS**

### **Task I Prioritized Investment Programs**

The primary objective of developing an efficient supply chain is to enable small-holding farmers access remunerative markets and get market value for agricultural produce. Enhancing supply chain enables to reduce post-harvest losses and increase trade volume, as well as reduce travel time and transportation cost. The supply chain analysis will show the logistics landscape for the four categories of agricultural commodities, namely horticultural and spices, cereals/grains, animal protein, and dairy. Short supply chain is the common characteristics of the landscape for the four categories of commodities constituted of: first: cluster of small-holding farmers require collection points within 2km radius (800 to 1,000 hectares) to access motorized transport all season. In hilly areas the collection points could be provided within one km radius to reduce the non-motorize downhill travel. constructing the roads from the orchards to the collection point. Second, the commodities from the collection points are aggregated at locations where primary processing facilities, drying facilities, packhouses for fresh horticultural produce, wholesale/distribution takes place. In supply chains dominated by small-holding farmers and selling fresh table variety horticultural, animal protein and dairy products, aggregation platforms (the traditional wholesale markets/secondary markets) serve as commodity exchange centers for fresh consumer quality grade horticultural produce, whilst the traditional primary markets (Mandis) serve as aggregation platform for grains and cereal, produced in bulk and consumed locally. Third, for downstream produces requiring significant volume of fresh inputs a secondary processing facility is provided for group of aggregation platforms. Fourth, digital regional trade hubs for multinationals and retail giants digitally consolidate and ship to seaports or the domestic terminal markets.

The location for processing and wholesale markets is dependent on the volume of primary production (farming). Hence, it is essential to analyze the existing logistics landscape, which is commensurate with the current level of primary production and prepare a short-term investment program to improve/upgrade the supply chain connectivity and the logistics infrastructure (physical and digital), as well as the handling and transportation services. For the long- term investment program, the Department of Agriculture has to provide what has been envisaged to increase the level of the primary production and determine the locations of the aggregation and wholesale markets, and secondary processing facilities. The logistics infrastructure could be developed in stages starting with the improvement/upgrading of the existing system, whilst decarbonizing the food supply chain and expanding the logistics infrastructure and services when the primary production will be scaled-up.

For example, the Himachal Pradesh Horticulture Development Project that envisages to quadruple the production of apple has laid the logistics landscape. Collection points for a cluster of small-holding apple growers within about 2km radius (800 to 1,000 hectare) will be established. The Horticulture Project considers constructing the roads from the orchards to the collection point. The Projects plans the delivery of apple from the clusters to the wholesale markets and packhouses located close to district centers/economic centers of districts. The Horticulture Project also plans to construct two additional wholesale market in areas where the districts are large, and the primary production is high. The State Government is promoting place-based policy by upgrading the roads connecting the collection points (cluster of orchards) to the wholesale markets and upgrading the existing truck stops or establishing new freight terminals interconnected to warehouses, packhouses and processing facilities. On the other hand the State Government is facilitating the establishment of Special Economic Zones (SEZs) for downstream value chain production/secondary production, whilst encouraging the private sector to provide end - to -end

(post-harvest to terminal markets) handling services, storage facilities, cold chain transportation, and promoting green logistics (deploying solar battery run three-wheeler pickups, small trucks, enhancing interoperability, freight consolidation at freight terminals, promoting freight digital platforms, etc.). The wholesale markets are connected by national highways, though substandard. Due to the terrain rail transport is not an option, until the appl reach the multimodal logistics parks at the regional trade hubs (Chandigarh and Delhi). Hence, the national highways connecting the wholesale markets and multimodal logistics parks are upgraded to high capacity highways, whilst the SEZs are connected by expressways.

Based on the findings of the supply chain analysis and logistics solutions recommended in Task A-H, the consultant will prepare prioritized investment program. The program will enhance the agricultural/horticultural and tourism supply chain in Himachal Pradesh, including standardization of packaging and bundling, logistics facilities and services (handling and transportation services, and storage facilities), connectivity (platforms/freight terminal location and transport infrastructure), tourism transportation, and digital enablement requirements as follows:

- a. **Supply chain connectivity:** The supply chain connectivity will target linking the collection points serving cluster of small-holding farmers within about 2km radius (800 to 1,000 hectare) to the district centers or the aggregation and wholesale markets, as well as the processing facilities (remunerative markets). For example, the horticultural project orchards for clusters of apple growers will be catchment area for the spike and spoke rural roads (tertiary roads network) feeding the traffic from the collection points to the district centers. The secondary roads network(district roads, MDRs and state highways) will collect the traffic from the rural roads and connect to the district centers (district level freight terminals serving aggregation and wholesale markets, as well as the processing facilities) and /or national highways/rail or waterways. The access/village roads connecting the individual farms and/or orchards to the collection point are often developed and maintained by the local community and/or local administration. Hence, the investment program for the supply chain will be constituted of a three-year rolling plan for the improvement/upgrading and maintenance of the rural, district, MDR and state highways connecting collection points to district centers and/or multimodal logistics parks. The HP Public Works Department supported by HPRIDC will be responsible the planning and implementation of the action plan. The Supply chain connectivity action plan/investment program should be mainstreamed in the Transport Sector Strategic Plan. The Road Asset Mangement System (RAMS) will take inventory of the first-mile roads (rural, district, MDR and/or state highways) on the supply chain and will prepare investment and maintenance plan. The RAMS as a living road network data repository and planning tool will integrate the investment programs.
- b. **Physical and digital logistics Infrastructure:** This includes investment program for establishing/upgrading of:
  - i. Freight consolidation centers (freight terminals):Freight terminals physically and digitally interconnected with ambient condition warehouses/cold storage/packhouses, processing facilities and markets, which requires rehabilitating/upgrading existing link roads and laying broadband internet fiber optics. The freight terminals will be connected to 4G/5G network and all logistics activities will be digitally enabled. The freight terminals will have truck parking lots, loading-unloading ramps/bays, container bays, information kiosk, rest and refreshment facilities, temporary storage facilities, offices, vehicle battery stores, electric charging spots, etc. The size of the facilities and ideal locations depend on the volume of the agricultural produce in the specific district and the terminal should cater for the planned primary

production increase envisaged by the Department of Agriculture. The facilities at the freight terminals could be operated by the private sector and women entrepreneurs. Shades would be provided for perishables at the freight collection points serving cluster of small-holding farmers within 2km radius (800 to 1,000 hectares). Digital kiosks and parking lanes will be provided at the collection points.

- ii. Digital enablement of logistics infrastructure and transport services, including digital enablement of aggregation, processing wholesale/distribution platforms across the range of products to support the information flow of the processing, trading, transaction, storage, logistics activities between farmers cooperatives/FPOs, cold storage and ambient condition warehouse operators/packhouses, processing facilities, handling and transportation service providers, as well as retailers, export agents and multinationals. In the absence of integrated platform, the alternative solution could be enhancing interoperability of digital platforms for commodity exchange and freight transportation digital platforms networking shippers/handling companies and carriers (single or fleet of truck owners, three-wheeler pickups, etc.). Expansion of the 4G/5G fiber optics connectivity as part of the road improvement program. In areas where internet penetration rate is low establish information kiosks at freight collection points serving cluster of small-holding farmers within 2 km radius.
  - iii. Enhancing storage and processing capability by upgrading/establishing cold storage facilities/packhouses, ambient warehouses, and processing facilities at the dedicated economic centers. Horticultural produce and spices to be stored for a longer period should be kept in cold storage facilities. Cold storage facilities are provided for abattoirs, meat processing and dairy processing facilities. Cold storage and ambient condition warehouses will rely on solar power. HP could partner with IFC and explore options for engaging with the private sector for modernizing warehouse management services linking to inventory credit systems.
  - iv. Cross border logistics infrastructure for the Integrated Check Posts (ICPs), Land Custom Stations (LCPs) and Haats (border markets), if applicable: The investment program should include expenditures to upgrade the existing infrastructure and digital platforms for processing border crossing formalities.
- c. **Logistics services and green transportation:** This includes incentive packages for leveraging private investment for: -
- i. End-to-end handling services - Supporting handling service providers to offer end-to-end logistics services and deliver commodities to exporters and domestic retailers. Handling companies could provide farm level post-harvest handling services, which reduces post-harvest losses by applying from threshing bin to transportation and/or from plucking to crate technology, as well as using appropriate standardized packaging/bundling and containerization for the entire supply chain. Handling facilities and services provided/operated by handling companies at freight terminals, include loading-unloading, containerization and/or pelleting, shipping formalities processing, tracing, etc. As such end-to-end handling services are provided by the private sector, entrepreneurs, and/or farmers' cooperative/artisan collectives in partnership with the private sector, including the intermediaries and traditional traders. HP could partner with IFC to strengthen/establish handling companies.
  - ii. Transportation services: The handling companies could network with cold-chain transportation service providers or farmer cooperatives may solicit such services through competitive annual or biannual tendering. Cold chain trucks should be used to transport perishables, like

horticultural produce, spices, meat, and milk from the district centers to seaports for export and domestic terminal markets/retailers. HP could partner with IFC to provide loan through local intermediary banks for cold-chain transport operators.

- iii. **Tourism Transportation:** The investment program could propose incentive packages for attracting tourist bus providers, operating in HP. HP could partner with IFC to provide loan through local intermediary banks to tourist bus and taxi services.
- iv. **Promoting clean transportation and logistics facilities:** Deploying electric and solar battery run three-wheeler pickups, four-wheeler pickups, and small trucks on the first-mile connectivity. Promoting the use of low emission trucks fitted with catalyser convertors. Where possible, the plan should also include use of multimodal infrastructure linking freight terminal, waterways, rail head, etc. In areas where the rail network is well developed the aggregation and wholesale markets, processing facilities, packhouses could be established close to train stations or freight terminals of waterways. Investment in services such as passenger terminals, border markets, etc. should be designed with environment sustainability as a key criterion. HP could partner with IFC to provide loan through local intermediary banks for electric and solar battery run three-wheeler pickups, small trucks, electric bus operators, and logistics facility operators.

d. **Policy & institutional frameworks:** Investment program that enhances Policy & institutional frameworks that will promote delivery of efficient logistics and transportation services. Diagnostics done under the supply chain analysis and other tasks, should be used to inform this sub-task.

- i. Supporting policy initiatives and financing schemes to decarbonize transportation services and to be used as an enabler to enhance the efficiency of the supply chain and organization.
- ii. Strengthening sector institutions and coordination, by supporting institutional development activities of the lead and associate entities, inter alia: (a) strengthening logistics infrastructure and services development lead institutions at state and district levels and (b) Department of Transportation (DOT), Public Works Department (PWD), HPRIDC, Department of Agriculture (DOA) and Department of Trade and Industry (DTI), Village Employment Councils [VECs], Community and Rural Development Department (C&RD), Urban Affairs Department (UAD) and private investment mobilization institutions (State level Infrastructure Development Finance Corporations), etc. The core institutional development and coordination tasks include:
  - a. Mainstreaming logistics infrastructure and services development planning and monitoring in transport and agriculture institutions, as core functions, by supporting logistics policies, regulations, and systems development, as well as training.
  - b. Enhancing the role of the government in providing technical assistance/ support to research, extension, and training on clustering, producing quality products for the market, trading with wholesalers, retail giants, export agents and multinationals, whilst providing environmental regulation framework to reduce the negative environmental impacts of supply chain development.
  - c. Strengthening intersectoral coordination between entities responsible for agriculture, food processing, trade, industry, transport, and logistics by creating a joint platform for developing and monitoring regulations, strategies and programs enhancing supply chain connectivity and logistics.
- iii. Promoting the provision of freight handling services, logistics facilities and door-to-door

- multimodal transportation services, whilst strengthening logistics councils.
- iv. Enhancing private sector participation by promoting place-based policies to attract and enable the private sector, including clustering economic activities (e.g. establishing special economic zones (SEZs)), around transport nodes/transport corridors, developing infrastructure and skills, as well as enhancing the policy environment. The policy framework should be designed such that it supports creation of a competitive environment where producers and producer collectives can access handling, storage, and transportation services from the private sector. Strengthening logistics and infrastructure development regulatory bodies.

### 3. Deliverables, timelines

Total duration of the consultancy assignment shall be *12 (twelve) months*. The schedule of deliverables is provided below:

S. No.	Deliverable	Timeline for submission
D-1	Inception Report	T + 15 days
D-2	Interim Report Covering Preliminary Findings and Data Collection for Developing the Logistics System and Strategy	T + 3 months
D-2	Draft Logistics System and Strategy	T + 5 months
D-3	Draft Demonstration Logistics Solution Design Report	T + 8 months
D-4	Stakeholders' consultation on the reports submitted	T + 9 months
D-5	Draft Final Logistics System and Strategy, and Demonstration Logistics Solution Design Report	T + 11
D-5	Final Logistics System and Strategy, and Demonstration Logistics Solution Design Report	T + 12 months

### 4. Consultant's Team Requirements

The Consultant shall have sufficient qualified personnel and resources to accomplish all the works described herein within the stipulated time. The Consultant shall be capable of providing all

necessary professional, technical and expert services as required to complete all the elements of the scope of the work. Task wise separate experts shall be provided under a Team Leader for timely completion of the Consultancy Service.

The Consultant's team should consist of the following minimum experts. The Consultant may include additional experts in the team as considered appropriate:

S. No.	Position	No. of Expert	Required Educational Qualification	Required Experience
1	Team Leader	1	Bachelor of Engineering, Technology/ Planning/ Economics/ Management or related discipline with MBA/ PGDM/ Masters in Transportation /Highways/Economics or related discipline	Team leader should have at least 20 years of overall experience out of which at least 5 years in transport planning and/or logistics, transport infrastructure. He should have experience in developing transport master plans, comprehensive mobility plans and other area-based plans as a means of economic and social development. He should demonstrate experience and understanding of transit oriented development, traffic management, land use and transport integration. He should have experience and understanding of logistics planning and should have led at least two roads and logistics infrastructure projects. International experience shall be added advantage. He should have demonstrable project leadership experience on similar assignments, such as for the development of transport or logistics, master plans. Experience in working in projects of donor agencies such as World Bank, ADB etc.
2	Transportation Expert	1	B.E./B.Tech in Civil Engineering or preference will be given to Masters in Transportation Engineering and/or Environmental Science or related discipline	The specialist will have at least 15 years of overall experience out of which at least 5 years in transport strategy and planning. Experience in transport services, and/or urban transport, multimodal transport planning, inter-city transport , or transport logistics. .Experience in working in hilly terrain shall be added advantage. Experience in green logistics solutions shall be added advantage. Should have relevant experience in at least two similar projects.

3	Senior Logistics Specialist	1	Bachelor's degree or higher in a logistics or transport related field ,Preference given to MBA in Logistics, transport Planning or related discipline	The Senior Logistics Specialist should have at least 12 years of overall experience out of which at least 5 years in logistics planning and supply chain analysis. Experience in understanding of multimodal transport integration, supply chain optimization and logistics planning is required. The logistics specialist should have demonstrated experience in developing logistics plans, goods flow maps, demand analysis and forecasts and in working with multiple transport ,logistics and industry stakeholders to optimize supply chains and urban and rural logistics infrastructure layouts. Experience in working with innovative logistics systems and technology is advantageous. Experience in value chain analysis is an added advantage. Should have relevant experience in at least two similar projects.
4	Market Assessment Expert	1	MBA/ PGDM in Finance or Master in Economics/bachelor's degree or higher in a logistics or urban planning-related field or equivalent	The specialist should have at least 10 years of overall experience out of which at least 5 years in land use planning for logistics parks. Experience in assessing the location and potential for clustering of markets /industries and land use planning of the logistics parks. Experience in developing logistics strategy spatial planning, clustering. Experience in market study, demand and supply assessment. Experience in value chain analysis is an added advantage.



5	Financial Expert	1	MBA/ PGDM in Finance or Preference will be given to degree or higher in a transport economics related field or equivalent	The specialist should have at least 10 years of overall experience out of which at least 5 years in industry and regional economy. Experience in collecting and analyzing freight data, capacity and throughput of existing and planned facilities .Experience in contributing to identifying and assessing hub locations and in contributing to developing the urban logistics strategy with a focus on inter-city linkages, location, and potential for clustering Experience in financial feasibility and analysis of transport sector (preferably road and logistics)projects. Experience in developing PPPs and/or strategy development for attracting private investment is an added advantage.
6	Digital Technology Expert	1	Bachelor's degree or higher in Computer Science	The Digital Technology expert should have at least 10 years of overall experience of which 5 years should be in working with digital supply chain solutions, logistics and/or freight management solutions, interoperability dimensions, data governance issues and policy, or related .
7	Tourism sector specialist	1	Bachelor's degree or higher degree in arts/social science or related discipline	The Tourism Sector Specialist should have at least 15 years of overall experience of which at least 5 years should be at tourism sector level activities and/or private sector.

**Note:**

- Age of the key expert proposed should not be more than 65 (sixty-five) years on the last day of submission of the proposal.
- The Authority reserves the right to ask for details regarding the proof of age, qualification, experience and association of the key experts
- The key experts proposed by the Consultant should be available for presentations/ discussions/ meetings with the client

Following is the suggested time input of key experts. However, the Consultant may modify the time input in accordance with its proposed methodology.

Sl. No.	Position
1	Team Leader
2	Transportation Expert
3	Senior Logistics Specialist
4	Market Assessment Expert
5	Financial Expert
6	Digital Technology Expert
7	Tourism Sector Expert
	Total estimated Man-months = 54

**5. Consultant's Experience**

1. List only previous similar assignments in the last [10]years.
2. List only those assignments for which the Consultant was legally contracted by the Client as a company or was one of the joint venture partners. Assignments completed by the Consultant's individual experts working privately or through other consulting firms cannot be claimed as the relevant experience of the Consultant, or that of the Consultant's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Consultant should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by the Client.
3. Past experience of externally funded engagements in the roads and transport sector in Himachal Pradesh will have an added advantage.
4. Experience in diagnostic study in the logistics sector in Indian state will have additional weightage.

## 6. Review of Reports

A review committee comprising following officers of the Government of HP:

1.	Engineer-in-Chief (Projects), HPPWD, Nirman Bhawan, Nigam Vihar, Shimla-171002	Chairman
2.	Chief Engineer-cum-Project Director, State Roads Project Transformation Project, HPRIDC, Nirman Bhawan, Nigam Vihar, Shimla-171002	Member
3.	Superintending Engineer (Planning & Design) State Roads Project Transformation Project, HPRIDC, Nirman Bhawan, Nigam Vihar, Shimla-171002	Member
4.	Executive Engineer, State Roads Project Transformation Project, HPRIDC, Nirman Bhawan, Nigam Vihar, Shimla-171002	Member
5.	Joint Controller, HPRIDC, Nirman Bhawan, Nigam Vihar, Shimla-171002	Member
6.	Nodal Office from the concerned department /wing	Member

Will review all report of consultants and suggest any modifications/ changes considered necessary within 30 days of receipt.

## Infrastructure Facilities under HP-Horticulture Development Project (World Bank Funded)

Project Implementation Units	Facility	Shimla	Mandi	Kullu	Chamba	Sirmaur	Kinnaur	Solan	Kangra	Hamirpur												
<b>Component -A Horticulture Production and Diversification</b>																						
<b>List of Clusters formed under project for Temperate fruit Crops, is attached at Annexure-I</b>																						
PIU-State Department of Horticulture	Demonstration Orchards, Budwood Banks, Nurseries for Temperate fruits	Duttanagar	Janjheli	Bajaura	Nehla	Kwagdhar	Pooh	Patta Mehlog	Jacch	Badiyana												
		Sarahan	Pangana	Chowai	Dharwas	Bagthan	Kilba	Darlaghat	Indpur	Bhumpal												
		Anu, Jubbal	Nalhas	Sagot	Rajpura	Norhadhar	Ribba	Gaura	Gummer													
		Chopal	Kigas		Tipari	Jubbal Chadresh			Palampur													
		Dhaalli, Kotkhai	Jhamar			Rajgarh																
		Khadrala	Samrahan			Timbi																
		Baragaon				WDS Norhadhar																
		Bamta				Andheri																
		Gopalpur				Charna																
		Shilaroo																				
<b>Component-B -Value Addition and Agri-enterprise Development</b>																						
B.1 Product Aggregation and Sale through Producer Associations PIU-DoH	Farmer's Producer Company	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres	Location	Name of Farmer Producer Company	Tentative Location for Common Service Centres
		Theog	Faguv alley Agro Fresh F P C Ltd.	Fagu, Cheog	Karsog	Karsog Valley F P C Ltd.	karsog, sarkol	Naggar	Gramsarijan F P C Ltd.	Nashala, Naggar	Banjraru	Churah United F P C Ltd.	Beragara, Bhanjraru	Narag	Narag Farms F P C Ltd.	Chauri, Narag	Kalpa	Kinnaur Kailash Agro Fresh Producer Company Ltd.	Reongpeo, Ralli			
		Nerwa	Shalvi F P C Limited	Nerwa	Jhanjheli	Janjheli F P C Ltd.	Jhanjheli	Banjar	Inner Saraj F P C Ltd.	Manglore, phali	Salooni	Triundi Valley F P C Ltd.	Guwadi,	Haripurhar	Haripurhar F P C Ltd.	Kandakoti, Charma	Nichar	Kinnaur Mountainfresh Producer Company Ltd.	Babhanagar, Luthuksa			
		Chopal	Chopal Valley Progressive F P C	Chopal, Maraog	Thunag	Thunag Snow Valley F P C Ltd.	Thunag Forest rest house road	Anni	Anni Valley F P C Ltd.	kandaghai, thaboli, sarali, jaon ladhagi	Kuther	Marour Valley F P C Ltd.	Piura, Kuther, Chattridi	Nohradhar	Nohradhar F P C Ltd.	Nohradhar, Thathamara						
		Narkanda	Narkanda Agro Fresh Producer Company Ltd.	Narkanda	Gohar	Jyuni Valley F P C Ltd.	Dhithi				Bharmour	Bharmar Mata F P C Ltd.	Deyoki, Khani	Chandol	Shillabagh F P C Ltd.	Shillabagh						

		Rohru	Rohru F P C Ltd.	Seema, Samarkot	Panarsa	Snore valley F P C Ltd.	Bhatwar i				Sandhi	Chamba Organic F P C Ltd.	Paloohi n	Rajgarh	Peachvall ey Rajgarh F P C Ltd.	Rajgrah, Hanoli pul								
		Chirgaon	Chanshal F P C Ltd.	Badiyara	Kathyari	Jalpamata F P C Ltd.	Ukkaldhar, Kathyari				Sunara	Sunara Green Valley F P C Ltd.	Sunara	Shillai	Shillai United F P C Ltd.	Nayanpanjor, Gangtoli								
		Rampur	Bushar Green Valley Producer Company Ltd.	Gaura, Nogli,																				
<b>B.2 Supply Chain Infrastructure Support</b> <b>PIU-HP Horticulture Produce Marketing &amp; Processing Corporation (HPMC)</b>	<b>Pack houses/ CA (Existing)</b>	Gumma						Patlikuhai																
		Jarol Tikkar																						
		Odi-Kumarsain																						
		Rohru																						
		Tutupani																						
	<b>Pack houses/ CA (New)</b>					Katlog, Chachyot		Bhuntar			<b>Chamba (site changed from Rajpura to Banjaradu)</b>						Recong Peo (CA)							
																	Giabong (PH)							
	<b>Fruit processing Unit (Existing)</b>					Jarol																Parwanoo		
<b>Fruit processing Unit (New)</b>	Parala																				Jabli - Parwanoo (Sale outlet)			
<b>B.3 Agri-Business Promotion Facility (ABPF) PCU</b>	<b>Agri-business units (MSME sector)</b>	<b>In 1st Phase 59 Agri-business Units have been approved and MOU are being signed. The list of 59 units being promoted under the project is attached at Annexure-II Applications for 2nd Phase are being invited</b>																						
<b>Component C: Market Development</b>																								
<b>C.1 Up-gradation and Modernization of Select Agricultural Wholesale Markets HP State Agriculture Marketing Board (HPSAMB)</b>	<b>Existing Marketing Yard</b>	Parala			Kangani			Shaat						Ponta Sahib							Parwanoo	Palampur		
	<b>New Marketing Yard</b>	Mendheli, Rohru						Bandhrol																
		Shillaroo																						

Details of Clusters formed under HP Horticulture Development project for Temperate fruit crops			
District	Block	Cluster	Name of Panchayat
CHAMBA   चंबा	Bharmaur	Bharmour	Bharmour
		Deol	Diyol
		Hilling	Kuwarasi
		Ullansa	Ulansa
CHAMBA   चंबा	Chamba	Chaloonj New	Jhulada
		Jakharuyin	Tikri
		Khajrar	Jhulada
		Palhuyin	
CHAMBA   चंबा	Mehla	Banjai	Kiri
		Brehi	Brehi
		Kiri	Kiri
		Lagga	Kiri
		Lagga	Sarahan
		Mortan	Gehra
		Sunara	Sunara
CHAMBA   चंबा	Pangi	Sahli	
CHAMBA   चंबा	Saluni	Bhadoga	Dand
		Dand	Kihar
		Guwari	Kharal
		Kasni	Mauda
		Kundhal	Dand
		Langoie	Kihar
		Moolkihar	Dand
		Nirohi	Salooni
		Salwan	Salwan
		Sarog	
CHAMBA   चंबा	Tisa	Banjai D.Kothi	Devi Kothi
		Bhanjraru One	Bhanjraru
		Bhanjraru Two	Bhanjraru
		Bonderi	Bonderi
		Buin	Tissa-I
		Dhiyas	Junas
		Dhiyas	Satyas
		Dudra	Padhar
		Dugali	Choli
		Galuwa	Ghulei

		Ganed Chinwas	Tissa-li
		Guwadi	Guwadi
		Jassaurgarh	Jassorgarh
		kalhel	Charodi
		Khushnagri	Khushnagri
<b>KINNAUR   कॢनौर</b>	<b>Kalpa</b>	Barang	Barang
		Batseri	
		Kamru	
		Kilba	
		Powari	Powari
		Purbani	
		Rang Dakho Shudarang	Shudarang
		Sangla	
<b>KINNAUR   कॢनौर</b>	<b>Nichar</b>	Shillani	Taranda
		Sungra One	Sungra
		Sungra Two Baro	Sungra
<b>KINNAUR   कॢनौर</b>	<b>Pooh</b>	Kutang	
		Pooh One	Pooh
		Pooh Two	Pooh
		Ribba One Kurpo	Ribba
		Ribba Two Renang	Ribba
		Sunam	Sunnam
<b>KULLU   कुलू</b>	<b>Anni</b>	Anni	Anni
		Anni	Namhong
		Barvi	Anni
		Bhisladhar	Bhisladhar
		Bhisladhar	Muhan
		Buchher	Buchher
		Chowai	Chowai
		Jaban	Jaban
		Jaon	Buchher
		Karana	Karana
		Karana	Kungash
		Kohila	Kohila
		Ladhagi one	Buchher
		Namhong	Namhong
		Ramohi and Kandagai	Biungal
		Ropa	Mundal
		Ropa	Ropa
		Sarali	Kamand

		Tarala	Buchher
		Tharog	Namhong
<b>KULLU   कुल्लू</b>	<b>Banjar</b>	Banogi One	Banogi
		Banogi One	Suchehan
		Banogi Two	Dhaugi
		Banogi Two	Dushahar
		Chaeni	chehni
		Chakurtha	Chakurtha
		Chanon	Manglore
		Chanon One	Chanoun
		Chanon One	Deutha
		Chanon Two	Manglore
		Gopalpur	Gopalpur
		Gopalpur	Thatibeed
		Kalwari One	Kalwari
		Kalwari One	Palhach
		Kalwari Two	Kalwari
		Kanon	Kanon
		Kharagar one	Khadagad
		Kharagar Two	Khadagad
		Manglore	Manglore
		Mohini	Bahu
		Mohini	Khabal
		Mohini	Mohini
		Nohanda	Nohanda
		Nohanda	Tung
		Raila	Raila
		Sansor	Shainsher
		Sarchi One	Sarachi
		Sarchi Two	Sarachi
		Shangan	Shanghar
<b>KULLU   कुल्लू</b>	<b>Kullu</b>	Balh One	Balh
		Balh One	Mohal
		Balh Three	Jarad Bhutti Colony
		Balh Two	Hat
		Balh Two	Khokhan
		Bashing	Bashing
		Bhalyani Four	Dughilag
		Bhalyani One	Bhalyani
		Bhalyani One	Brahman



		Bhalyani Three	Brahman
		Bhalyani Two	Bhumteer
		Cheorh One	Cheorh
		Cheorh Two	Cheorh
		Gadsa	Bhallan - I
		Gadsa	Gadsa
		Gadsa	Hurla
		Gadyada	Majhat
		Gahar	Gahar
		Jindour One	Jindore
		Jindour Three	Bastori
		Jindour Two	Bandrol
		Kadaun	Choparsa
		Kais One	Kais
		Kais Three	Kais
		Kais Two	Kais
		Mangarh	Mangarh
		Neoli One	Neoli
		Neoli One	Puid
		Neoli Three	Chansari
		Neoli Two	Neoli
		Pachahali	Balh
		Patadhi one	Bradha
		Patadhi Two	Jallugran
		Patadhi Two	Jari
		Patadhi Two	Punthal
		raugi	Kararsu
		Shallang	Dunkhrigahar
		Talogi One	Jiya
		Talogi Three	Puid
		Talogi Three	Seogi
		Talogi Three	Talogi
		Talogi Two	Buhin
<b>KULLU   कुल्लू</b>	<b>Naggar</b>	Bada Gran	Baragran
		DohluNala	Devgarh
		DohluNala	Mandalgarh
		Fozal	Hurang
		Hallan one	Hallan-1
		Hallan two	Hallan II
		Karjan	Karjan

		Katrain One	Katrain
		Katrain Three	Katrain
		Katrain Two	Katrain
		Naggar One	Naggar
		Naggar Two	Naggar
		Nathan	Nathan
		Nathan three	Nathan
		Nathan two	Nathan
		Raison One	Raison
		Raison Three	Raison
		Raison Two	Benchi
		Raison Two	Raison
		Shirar	Shirar
		Soyal One	Soyal
		Soyal Two	Soyal
<b>KULLU   कुल्लू</b>	<b>Nirmand</b>	Bada	Bari
		Buini	Kot
		Chamarala	Deem
		Dohranala	Sarahan
		Ishwa	Nore
		Joagi	Deem
		Kasholi	Bari
		Kedas	Bhalsi
		Kedas	Twar
		Noor	Nore
		Pajenda	Nore
		Prantla	Bari
<b>MANDI   मंडी</b>	<b>Drang</b>	Badi bijgaon	Dhamchayan (Drg
		Dhamchyan	Dhamchayan (Drg
		Graman	Dhamchayan (Drg
<b>MANDI   मंडी</b>	<b>Gohar</b>	Badhu	Shilhanu (Ghr)
		Bassi	Bassi (Ghr)
		Bhundal	Masogal
		Devdhar	Majhothi (Ghr)
		Jachh One	Kandi Kamrunag
		Jachh Two	Dhishti (Ghr)
		Mashog	Masogal
		Mashogal	Masogal
<b>MANDI   मंडी</b>	<b>Karsog</b>	Badhon	Chouri Dhar (Ks
		Bagsalna	Mamel (Ksg)

		Banthal Sani	Bado Rohada
		Biunal	Bagaila (Ksg)
		Drahal Kelodhar	Kelodhar
		Godan	Pangna (Ksg)
		Haribagh	Kutehar (Ksg)
		Kalehani	Matehal
		Kandal	Richni
		Karol	Debrot (Ksg)
		Lalag	Lower Karsog
		Lower Karsog	Lower Karsog
		Marothi	Kalashan (Ksg)
		Masog	Meshog (Ksg)
		Palog Bakhrot	Bakrout (Ksg)
		sarkol	Dachchain
		sarkol	Sanarli
<b>MANDI   मंडी</b>	<b>Mandi Sadar</b>	Ansar	Kathiyari (Sdr)
		Bandhi	Bandhi
		Jawalpur	Kot Dhalyash
		Kathiyari	Kathiyari (Sdr)
		Kigas	Kigash
		Kudi Sehri	Kathiyari (Sdr)
		Surath	Pali (Sdr)
		Swakhari	Kathiyari (Sdr)
<b>MANDI   मंडी</b>	<b>Seraj</b>	Bhatkhdhar	Bhatkidhar (Srj)
		Chateri	Chhatri (Srj)
		Gudaah	Gudah (Srj)
		Janjheli Two	Janjheli (Srj)
		Janjheli	Janjheli (Srj)
		Kheldhar	Bhali Dhar
		Leh	Sunah Lamba Thach (Srj)
		Mayadhar	Thunag (Srj)
		Riyara One	Dheem Kataru
		Riyara Two	Dheem Kataru
		Sangalwada	Dheem Kataru
		Shikawari	Shikawari (Srj)
		Sunah Batahar	Sunah Lamba Thach (Srj)
<b>MANDI   मंडी</b>	<b>Sundarnagar</b>	Sakohar	
<b>SHIMLA   शिमला</b>	<b>Basantpur</b>	CND Apple Growers GP Karyali	Karyali
		Himri High Density Apple growers GP Himri	Himri (Bp)
		Sarail High Density Apple growers GP Majhiwar	Majhiwar

<b>SHIMLA   शिमला</b>	<b>Chauhara</b>	Andra	Dhagoli (Kathli) (Bp)
		Diswani	Diswani (Bp)
		Jangla	Jangla (Bp)
		Khilocha	Diswani (Bp)
		Masli	Masli
		Peja	Khashadhar (Bp)
		Sandasu	Khashadhar (Bp)
		Saribasa	Saribasa (Bp)
		Thana	Thana (Bp)
<b>SHIMLA   शिमला</b>	<b>Chaupal</b>	Chanju	Chanju -Chopal
		Deiya Sandle	Deiya Dochi
		Jhina	Jhina
		Kedi	Kedi
		Madhana	Madhana
		Makrog	Makdog
		Maraog	Gorali -Madawag
		Podan Pouria	Paudia (Bp)
		Tikkari Dhanat	Dhannat
		Tikkari Dhanat	Tikkari (Bp)
<b>SHIMLA   शिमला</b>	<b>Jubbal-Kothkai</b>	Bagra	Gumma
		Cheing	Anti
		Deem	Parali
		Dhangvi	Halaila (Premnagar)
		Mahasu	Mahasu
		Mihana	Badhal
		Pajole	Devgarh
		Patala	Solang
<b>SHIMLA   शिमला</b>	<b>Mashobra</b>	Bharach and Loha Apex	Bhadech
		jai kissan patgehar cluster	Patgehar
<b>SHIMLA   शिमला</b>	<b>Nankhari</b>	Apple Valley Bagalti	Bagalti
		Apple Valley Gahan	Gahan
		Dhanapani Apple Grower	Jahu
		Jahoo	Jahu
		Khuni Panoli	Kunni Panoli
		Kofta Apple Grower	Karangla
		Thaili Chakti Apple Grower	Thaili Chakti
<b>SHIMLA   शिमला</b>	<b>Narkanda</b>	Bai Bhanoli	Kumarsain
		Bhutti	Bhutti
		Jimmu	Sihal-Narkanda
		Khanair	Sihal-Narkanda

		Pharal	Malendi
		Rahu	Zar
		Santpur Jabli	Kumarsain
<b>SHIMLA   शिमला</b>	<b>Rampur</b>	Badhal	Badhal
		Darkali	Darkali (Bp)
		Gopalpur	Gopalpur
		Khakhrola	Shingla
		Majhewali	Dofda
		Taklech	Taklech
<b>SHIMLA   शिमला</b>	<b>Rohru</b>	Arhal	Barasali
		Bachhunch	Bhaloon
		Jagothi Bhuth	Jagothi
		Jagothi Bhuth	Summerkot
		Seema	Seema-Rantadi
		Summerkot	Summerkot
<b>SHIMLA   शिमला</b>	<b>Theog</b>	Cheog	Cheog
		Chikher	Chikhar
		Chikher	Sarivan
		Dhar kandroo loli	Dhar Kandru
		Dharech	Dharech
		Dhartarpanu	Deothi (Bp)
		Guthan	Bagain
		Guthan	Kaleend
		Indkal	Bagain
		Jais	Jais
		Kharori	Bagri
		Kharori	Balghar
		Lafu	Kathog
		Makhrol	
		Nahol	Nahol (Bp)
		Sainj	
		Shilaroo	Kalinda Matiana
<b>SIRMAUR   सिरमौर</b>	<b>Pachhad</b>	Kanuth	
		Mangarh	Mangrah
		Sarol	Chamenji
		Sharia	Sharia
<b>SIRMAUR   सिरमौर</b>	<b>Paonta Sahib</b>	Apple Valley Bohaldhar	
<b>SIRMAUR   सिरमौर</b>	<b>Rajgarh</b>	Bakhog	Matal-Bakhog
		Bhanat	Bhanat
		Bhuira	Bhuira

		Chhogtali	Chhog Tali
		Dahan	Dahan
		Dibber	Dibber
		Haban	Habban
		Jadol Taproli	Jadol Taproli
		Kanda	Chhog Tali
		Kariyuth	Shalana
		Koti Mawga	Bhanat
		Koti Padhog	Koti Padhog
		Kotli	Ser Jagas
		Kudu Lawana	Deothi Majgaon
		Kufar Mond	Koti Padhog
		Manwa Khaniwar	Shaya-Sanura
		Painkuffer	Jadol Taproli
		Ritabpal	Habban
		Ritabpal	Kotla Bangi
		Sanohat Kotli	Neri Kotli
		Shallana	
		Shamoga	Chhog Tali
		Shilli Ser	Koti Padhog
		Shirguli	Koti Padhog
		Talli Bhujal	
		Taproli	Jadol Taproli
		Zimidhar	Neharti-Baghot
<b>SIRMAUR   सिरमौर</b>	<b>Sangrah</b>	Bhuttimanal	Bhutli Manal
		Bhuttli	Bhutli Manal
		Chokkar	Chokkar
		Chunvi	Charna
		Deva Manal	Deva Manal
		Ghanduri	Ghanduri
		Haripurdhar	Deuri Kharahan
		Kando Badol	Bhadol
		Manal	Bhutli Manal
		Nohradhar	Nohra Dhar
		Thanga	Devna
		Ulana	Nohra Dhar
<b>SIRMAUR   सिरमौर</b>	<b>Shillai</b>	Gangtoli	Pab Manal
		Jarwa	Jarwa Janeli
		Kotti Uttru	Koti Utrou
		Kuhant	Kunhant

		Millah	Koti Utrou
		Nawna Bhatwar	Kando Bhatnol
		Panjore	Naya
		Panjore	Naya-Panjod
<b>SOLAN   सोलन</b>	<b>Kandaghat</b>	Dhyawla	Mamlig
		Karog	Dhangeel
		Karog	Hinner
		Kurgal	Hinner
		Mamligh	Mamlig
		Sewla	Dhangeel
<b>SOLAN   सोलन</b>	<b>Solan</b>	Damkari	Jaunaji
		Dharo KI Dhar	Shamrod
		Khanog Matiwai	Sanhol
		Shilli	Seri

<b>Agribusiness Promotion Fund Units</b>				
<b>#</b>	<b>District</b>	<b>Block where project will be located</b>	<b>Name of Investor</b>	<b>Project details</b>
1	Chamba	Salooni	Mohammad Riyaz	Fruit processing/Canning
2		Mehla	Bassu Valley Fruit an Vegetable producer Cooperative	Sorting, Grading & Packaging
3		Pangi	Pangi Kishan Society	Sorting, Grading & Packaging
4		Salooni	Man Singh	Temperate Nursery
5		Dharbhala	Chandra Bhushan	Temperate Nursery
6		Bharmour	Surinder Singh	Sorting, Grading & Packaging
7		Bhawarna	KP Organics, Rakesh Kumar	Fruit processing/Canning
8	Hamirpur	Hamirpur	Sunil Kumar	Fruit processing/Canning
9	Kangra	Pranpur	Vipan Kumar	Fruit processing/Canning
10		Rait	Dushyant Kaistha	Temperate Nursery
11		Bhawarna	Sonu Rana	Fruit processing/Canning
12		Kangra	Aman Guleria	Honey Production and Processing
13	Kinnaur	Nichar	Raju Negi	Honey Production and Processing
14		Pooh	Sana SHG	Oil
15	Kullu	Naggar	Mr. Hukam Chand	Sorting, Grading & Packaging
16		Naggar	The Dev Narayan Coop (Mr. Hem Raj)	Honey Production and Processing
17		Kullu	Mr. Dev Raj (M/s Rana Biotech)	Plant Tissue Culture Lab
18		Naggar	Mr. Mohar Singh Thakur	Sorting, Grading & Packaging
19		Kullu	The Laxmi Agri/Horti coop	Fruit processing/Canning

			society	
20		Kullu	Ms. Sunita Devi	Vermicompost Unit
21		Kullu	Dr. Narain Singh	Fruit processing/Canning
22		Nirmand	Vipul Kumar	Temperate Nursery
23	Mandi	Balh	Mrs. Sumitra Devi	Vermicompost Unit
24		Aut	Mrs. Pushpa Rani	Sorting, Grading & Packaging
25		Gohar	Mr. Layak Ram	Vermicompost Unit
26		Balh	Mr. Bharat Mohan	Oil
27		Kotli	Mr. Lal Singh	Honey Production and Processing
28		Aut	Mr. Paras Ram	Temperate Nursery
29		Gohar	Mr. Sandeep Chadha (Goldwine)	Fruit processing/Canning
30		Sundernagar	Mr. Aman Patial (Himalya Nature Product)	Fruit processing/Canning
31		Balh	M/S Himalayan Food and Herbal Foods Pvt. Ltd. (Mr. Manish Kaushal)	Walnut and Apricot Oil
32		Balh	Mr. Bala Ram	Vermicompost Unit
33		Sundernagar	Kamleshwar Singh	Fruit processing/Canning
34	Shimla	Rohru	Kehar Singh	Sorting, Grading & Packaging
35		Narkanda	Mr. Tara Chand	Temperate Nursery
36		Jubbal	Dinesh Pirta ( Impure)	Cold Storage
37		Kotkhai	Reena Chauhan	Temperate Nursery
38		Rohru	Agar Das	Soil / Leaf Analysis
39		Jubbal	Satish Manta	Fruit processing/Canning
40		Jubbal	Sagar Prita	Temperate Nursery
41		Jubbal	Shamsher Singh	Sorting, Grading & Packaging
42		Rohru	Lahori Singh	Cold Storage
43		Mashobra	Gopal-Mahakali	Sorting, Grading & Packaging
44		Mashobra	Anirudh Thakur	Sorting, Grading & Packaging
45		Kumarsain	Satya Vrat Bhardwaj	Temperate Nursery
46		Kumarsain	Jaichand Singha	Fruit processing/Canning
47		Mashobra	Rohitash Saraswat	Sorting, Grading & Packaging
48		Jubbal	Nanda Chhajta	Fruit processing/Canning
49		Kotkhai	Sanjeev Chauhan	Temperate Nursery
53		Sunni	Mr. Vinod Kumar	Trellis Service
50	Sirmaur	Rajgarh	Parikshit Singh Thakur	Temperate Nursery
51		Pachaad	Deepak Gautam	Fruit processing/Canning
52		Nohra Dhar	Chureshwar	Fruit processing/Canning
54	Solan	Dharampur	Rajesh Sharma	Corrugated boxes unit
55		Kandhaghat	Neelam Verma	Fruit processing/Canning
56		Kandhaghat	Sahil Dutta	Fruit processing/Canning
57		Dharampur	Dr. Hardyal Singh Kanwar	Temperate Nursery
58	Spiti	Spiti	Krishan Kumar Negi	Fruit processing/Canning
59	Una	Haroli	Aloke Bhatnagar	Fruit processing/Canning



**List of Marketing Yard under Himachal Pradesh Agriculture Department:-**

S No	APMC	Market Yards	District	Category	Year of Establishment	Remarks	Longitude	Latitude
1	2	3	4	6	7	8		
1	<b>Bilaspur</b>	Bilaspur	Bilaspur	Principal Market Yard	2002	Functional	31 20'21.2" N	76 45'39.1 "E
		Namhol	Bilaspur	Sub Market Yard	2001	Functional	31°25'59" N	76°8'59.659"E
		Shah-Talai	Bilaspur	Sub Market Yard	1997	Functional		
		Ghumarwin	Bilaspur	Sub Market Yard	2015	Functional		
		Nihal	Bilaspur	Sub Market Yard	1984	Non functional		
		Jukhala	Bilaspur	Sub Market Yard		Under Construction		
		Majari	Bilaspur	Sub Market Yard		Under Construction		
2	<b>Chamba</b>	Chamba	Chamba	Principal Market Yard	2002	Functional	32.5534°N	76.1258°E
3	<b>Hamirpur</b>	Dosarka (Hamirpur)	Hamirpur	Principal Market Yard	1987	Functional	31.6751° N	76.5292° E
		Nadaun	Hamirpur	Sub Market Yard	2002	Functional	31 46'43.1 "N	76 20'40.1"E
		Jahu	Hamirpur	Sub Market Yard	2012	Functional		
		Sujanpur	Hamirpur	Sub Market Yard		Newly constructed yard		
4	<b>Kangra</b>	Kangra	Kangra	Principal Market Yard	1981	Functional	32°5'59.29" N	76°16'8.76"E
		Baijnath	Kangra	Sub Market Yard	1990	Functional	32°04'60.14 N	76°6'53.880"E
		Palampur	Kangra	Sub Market Yard	2010	Functional	32° 6' 37.9512" N	76° 32' 10.4064" E
		Jassur	Kangra	Sub Market Yard	1985	Functional	32°16'54.02 "N	75°51'4.38"E
		Nagrota Bagwan	Kangra	Sub Market Yard	1981	Functional	32°10'70.41 N	76°38'06.63"E
		Jawala Ji	Kangra	Sub Market Yard	2009	Functional	32° 5' 59.2944" N	76° 16' 8.7744" E
		Dharamsala	Kangra	Sub Market Yard	2012	Functional		
		Jaisinghpur	Kangra	Sub Market Yard	2004	Functional	31°9'00.841 N	76°6'07.730"E
		Fethpur	Kangra	Sub Market Yard	2017	Functional		
		Dharman (Chotta Bhangal)	Kangra	Sub Market Yard	2016	Functional		

		Kandrori (Indora)	Kangra	Sub Market Yard	1977	Non Functional		
		Chakki Pul	Kangra	Sub Market Yard	1989	Non Functional		
		Dhaliara	Kangra	Sub Market Yard	1984	Non Functional		
		Passu (Dharamshala)	Kangra	Sub Market Yard		Under Construction		
		Guler	Kangra	Sub Market Yard		Under Construction		
5	<b>Kullu and Lahul &amp; Spiti</b>	Bhuntar	Kullu	Principal Market Yard	1992	Functional	31°53'17" N	77°8'48" E
		Chauri Bihahal	Kullu	Sub Market Yard	1987	Functional	32°12'10.4" N	77°11'17.6" E
		Kullu	Kullu	Sub Market Yard	1986	Functional	31°57'52.47" N	77°6'51.85" E
		Patilikuh al	Kullu	Sub Market Yard	1996	Functional	32°12'5" N	77°11'18" E
		Bandrol	Kullu	Sub Market Yard	2001	Functional	32°1'15" N	77°7'40" E
		Banjar	Kullu	Sub Market Yard	2007	Functional		
		Khegsu	Kullu	Sub Market Yard	2011	Functional	31°20'48.4" N	77°26'47.8" E
		Nirmand	Kullu	Sub Market Yard	2014	Functional		
		Shaat	Kullu	Sub Market Yard	2017	Functional		
		Kargha	Lahul Spiti			Land Available		
6	<b>Mandi</b>	Dhanotu	Mandi	Sub Market Yard	2002	Functional	31 33'8."N L	76 53'58."EL
		Jogindarnagar	Mandi	Sub Market Yard	2012	Functional		
		Takoli	Mandi	Sub Market Yard	1998	Functional	N 31°47'42.7"	E 77°11'23.2."
		Kangni	Mandi	Principal Market Yard	2009	Functional	N 31°41'13.6"	E 76°56'17.7"
		Chail Chowk	Mandi	Sub Market Yard	2009	Functional	31 34'7."N L	76 59'59"EL
		Karsog	Mandi	Sub Market Yard	2013	Non Functional		
		Pali	Mandi	Sub Market Yard	2002	Non Functional		
		Jach	Mandi	Sub Market Yard		Land Available		
7	<b>Shimla &amp; Kinnaur</b>	Dhalli (Shimla)	Shimla	Principal Market Yard	1994	Functional	31.1062° N	77.2103° E
		Koti	Shimla	Sub Market Yard	2000	Functional	31.0411° N,	77.2459° E
		Nerva	Shimla	Sub Market Yard	2006	Functional	30.9173° N,	77.6407° E
		Rampur	Shimla	Sub Market Yard	2001	Functional	31.4492° N,	77.6298° E
		Theog	Shimla	Sub Market Yard	1982	Functional	31.1183° N,	77.3597° E

		Rohroo	Shimla	Sub Market Yard	2007	Functional	31.2046° N	77.7524° E
		Bhatta-Kuffer	Shimla	Sub Market Yard	2009	Functional		
		Kharapat her	Shimla	Sub Market Yard		Functional		
		Parala	Shimla	Sub Market Yard	2015	Functional		
		Plingi	Kinnaur	Sub Market Yard	1995	Functional		
		Anu	Shimla	Sub Market Yard	2020	Functional		
		Tapri	Kinnaur	Sub Market Yard	2020	Functional		
		Mehandli (Rohroo)	Shimla	Sub Market Yard	2020	Functional		
		Tharmati	Shimla	Sub Market Yard		Under Construction		
		Shilaroo	Shimla	Sub Market Yard		Under Construction		
		Dakolar (Rampur)	Shimla	Sub Market Yard		Under Construction		
		Antravali (Nerwa)	Shimla	Sub Market Yard		Under Construction		
		Shandhu	Shimla	Sub Market Yard		Land Available		
		Darni Ka Bagicha (Shimla)	Shimla	Sub Market Yard		Land Available		
		Tutu (Shimla)	Shimla	Sub Market Yard		Land Available		
		Rantu (Kotkhai)	Shimla	Sub Market Yard		Land Available		
8	<b>Sirmour</b>	Paonta Sahib	Sirmour	Principal Market Yard	1997	Functional	30.44°N	77.60°E
		Dadahu	Sirmour	Sub Market Yard	1984	Functional		
		Sarahan	Sirmour	Sub Market Yard	1996	Functional	30 64"N	77 44"E
		Bagthan	Sirmour	Sub Market Yard	2001	Functional	30 64"N	77 44"E
		Nahan	Sirmour	Sub Market Yard	1987	Functional	30 64"N	77 44"E
		Sataun	Sirmour	Sub Market Yard	1984	Functional		
		Rajgarh	Sirmour	Sub Market Yard	2001	Functional	30 64"N	77 44"E
		Kheri	Sirmour	Sub Market Yard	1986	Functional		
		Bhagani	Sirmour	Sub Market Yard	2015	Functional		
		Ghanduri	Sirmour	Sub Market Yard		Under Construction		
		Haripurd haar	Sirmour	Sub Market Yard		Land available		
		Nohradhaar	Sirmour	Sub Market Yard		Land available		

9	<b>Solan</b>	Solan	Solan	Principal Market Yard	2002	Functional	30°55'12.68 "N	77°5'29.364" E
		Dharmpur	Solan	Sub Market Yard	2000	Functional	30°54'10.1" N	77°01'09.7"E
		Nalagarh	Solan	Sub Market Yard	1976	Functional	31°02'29.3" N	76°42'25.8"E
		Parwano	Solan	Sub Market Yard	1989	Functional	30°50'13.78 "N	76°57'41.15" E
		Wakhnaghat	Solan	Sub Market Yard	2016	Functional		
		Chakki Kamour	Solan	Sub Market Yard	1978	Non Functional	30°51'11.5" N	77°00'09.0"E
		Arki	Solan	Sub Market Yard	2000	Non Functional		
		Kandaghat	Solan	Sub Market Yard	1983	Non Functional		
		Banagli	Solan	Sub Market Yard	2002	Non Functional	31°00'01.7" N	76°56'32.1"E
		Kunihar	Solan	Sub Market Yard	1983	Non Functional		
		Sadhupul	Solan	Sub Market Yard	2015	Non Functional		
		Jagjeet Nagar	Solan	Sub Market Yard	1996	Non Functional		
		Ramshahar	Solan	Sub Market Yard	1986	Non Functional		
		Saproon	Solan	Sub Market Yard	1987	Non Functional		
10	<b>Una</b>	Una	Una	Principal Market Yard	1987	Functional	31°28'34"N	76°16'13"E
		Santoshg rah	Una	Sub Market Yard	2009	Functional	31°21'7.38" N	76°19'3.90"E
		Bangana	Una	Sub Market Yard		Functional		
		Takarla	Una	Sub Market Yard		Functional		
		Badsali	Una	Sub Market Yard		Under Construction		
		Rampur (Una)	Una	Sub Market Yard		Under Construction		