

Upper Indus Basin Network Technical Working Group-6

Adaptation strategies at local level-water use
and management and socio-economic factors

Group Members

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The Passu Workshop

Tasks:

- Assessment in terms of: land uses (land cover maps), vulnerability, capacity (at local and intuitional levels), and analysis of socio-economic conditions (included an assessment of local livelihoods) at village/valley level; identification of best practices and local adaptation practices.

Key outputs:

1. Development of an adaptation plan
2. Institutional networking;
3. Local indigenous practices scaled up of and/or best practices based on new technologies demonstrated.

Success indicators:

1. Awareness raised;
2. Institutional arrangements;
3. Adoption of Adaptation plan by Provincial and local Government;
4. Capacity building of local communities.

Working arrangements:

Using both a top down and bottom up approach in order to involve local communities and provincial administration of Gilgit Baltistan for the elaboration, acceptance and implementation of the Adaptation plan.

Addressing Poverty-Environment Nexus for building resilience of local communities -examples from SEED Project for CKNP-

Muhammad Zafar Khan, KIU
and Luca Listo, Ev-K2-CNR

Central Karakoram National Park

Central Karakoram National Park Physiography

HKKH Partnership
for ecosystem management



Source: CIA, DOD, USGS, Park Boundary, and other National Park Development Project and other data.



Major livelihoods in CKNP Region

**Agro-pastoral
livelihoods**



**World-class tourism
and mountaineering
opportunities**

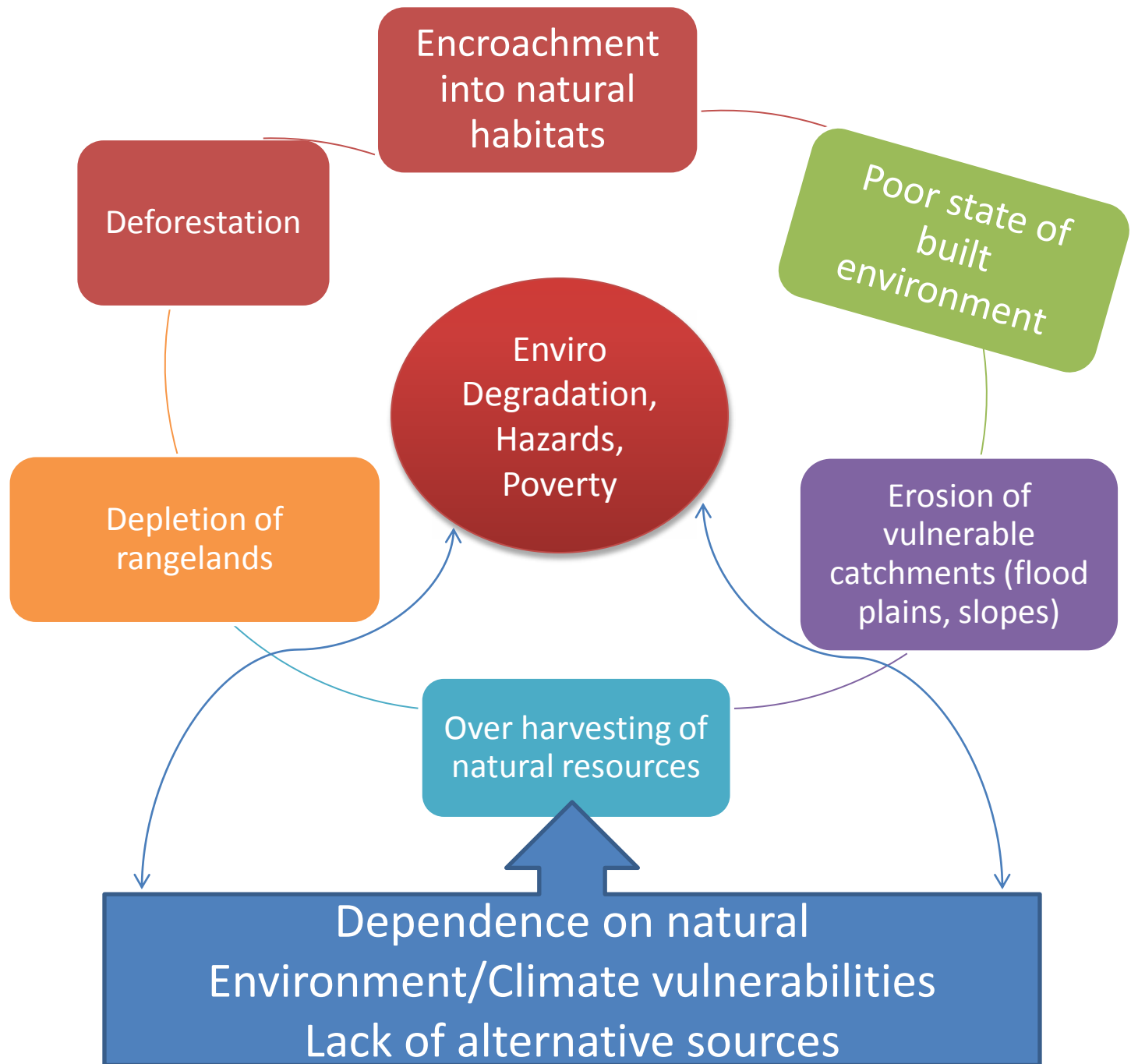


Mining and minerals



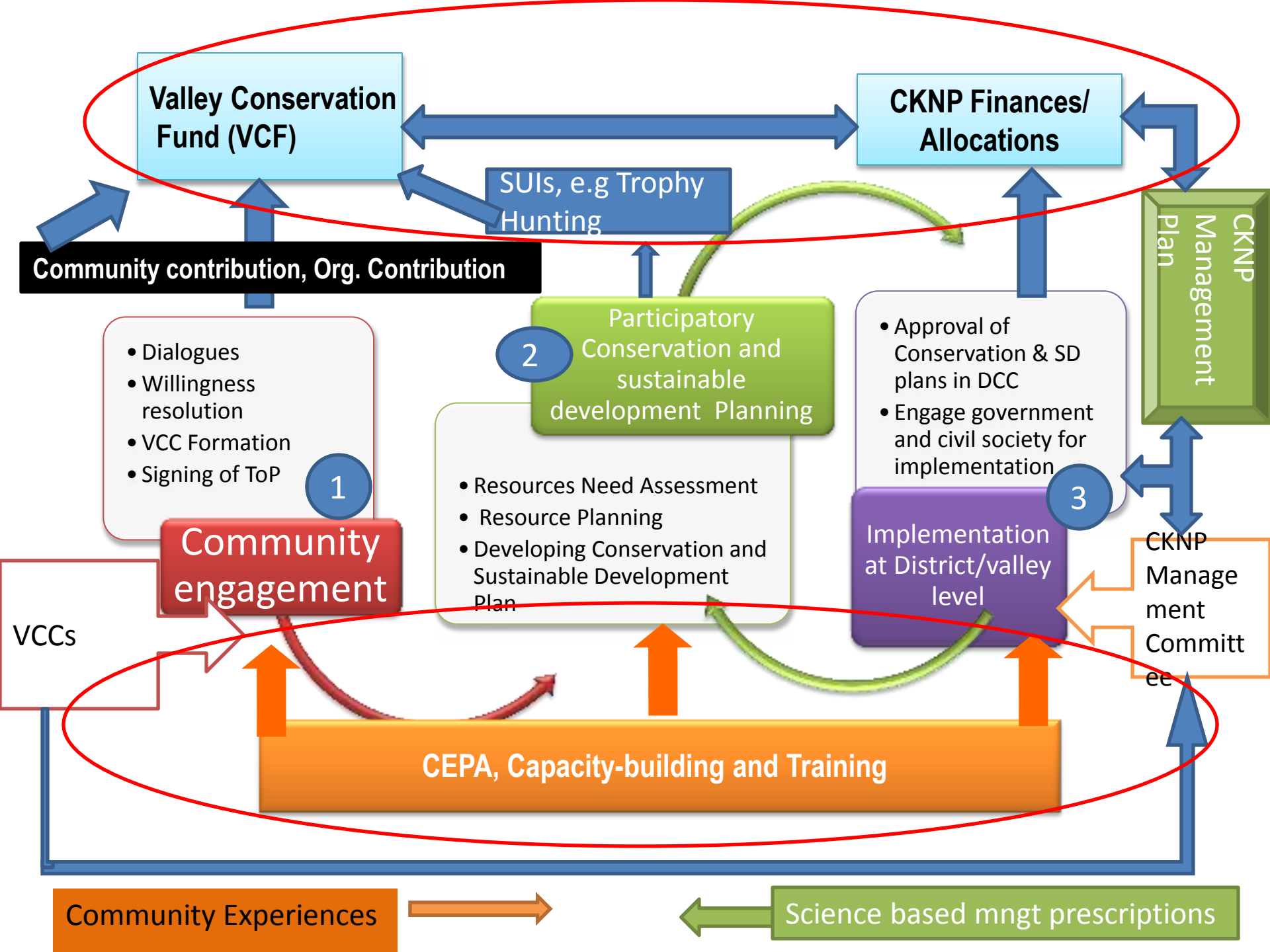
Poverty- Environment Nexus in

CKNP



Some examples of addressing Poverty-Environment Nexus in CKNP

Under
Social, Economic & Environmental
Development Project for CKNP



Community-based conservation planning

Participatory Conservation and Development Plans for more than 20 valleys in CKNP



Afforestation to protect forests and vulnerable catchments

Plantation of 500,000 plants on communal lands over more than 400 ha in 20 valleys and demonstration of FES in one valley



Livestock and Pastures Management

- ☐ Livestock breed improvement campaigns Livestock vaccination
- ☐ Training of herders in improved animal husbandry
- ☐ Grazing management
- ☐ Cultivation of fodder crop
- ☐ Livestock insurance schemes
- ☐ Improvement of corrals/cattleshed



Improved agricultural practices

- Value chain development
- Farmers trainings



Documentation of customary laws and traditional resource use patterns and practices

Conducted in four valleys (more than 20 villages)

- Demography
- Water use and management
- Pastures and pastoralism
- Livestock rearing
- Agriculture
- Forests and forestry
- Mining
- Tourism

Way forward

- Empirical and action research engaging KIU and other stakeholders
- Integration of climate adaptation work in Valley Conservation and Sustainable Development Plans, following a valley level vulnerability and capacity assessment
- Strengthening the networks of CBOs and DCCs
- Demonstration of small scale adaptation initiatives
- Enabling policies at procedures
- Dissemination (publications, conferences)



GOP Initiative under CHINA - PAKISTAN ECONOMIC CORRIDOR (CPEC)





AGRO-BUSINESS CENTRES DEVELOPMENT OPPORTUNITIES ON CHINA - PAKISTAN ECONOMIC CORRIDOR (CPEC)

**Pakistan Agricultural Research Council
Ministry of National Food Security & Research**



Agricultural Commodities in Different Agro-Ecologies

Legend

- Corridor
- Districts
- Agro-Ecology**
- Northern Dry Mountains **High Mountain Corridor (HMC)**
- Wet Mountains **Wet Mountain Corridor (WMC)**
- Barani Lands **Potowar Corridor (PC)**
- Northern Irrigated Plain **Northern Irrigated Corridor (NIC)**
- Southern Irrigated Plain **Southern Irrigated Corridor (SIC)**
- Western Dry Mountains **Dry Mountain Corridor (DMC)**
- Sulaiman Piedmont **Sulaiman Belt Corridor (SBC)**
- Dry Western Plateau **Coastal Belt Corridor (CBC)**
- Sandy Desert **Thal Corridor (TC)**
- Indus Delta

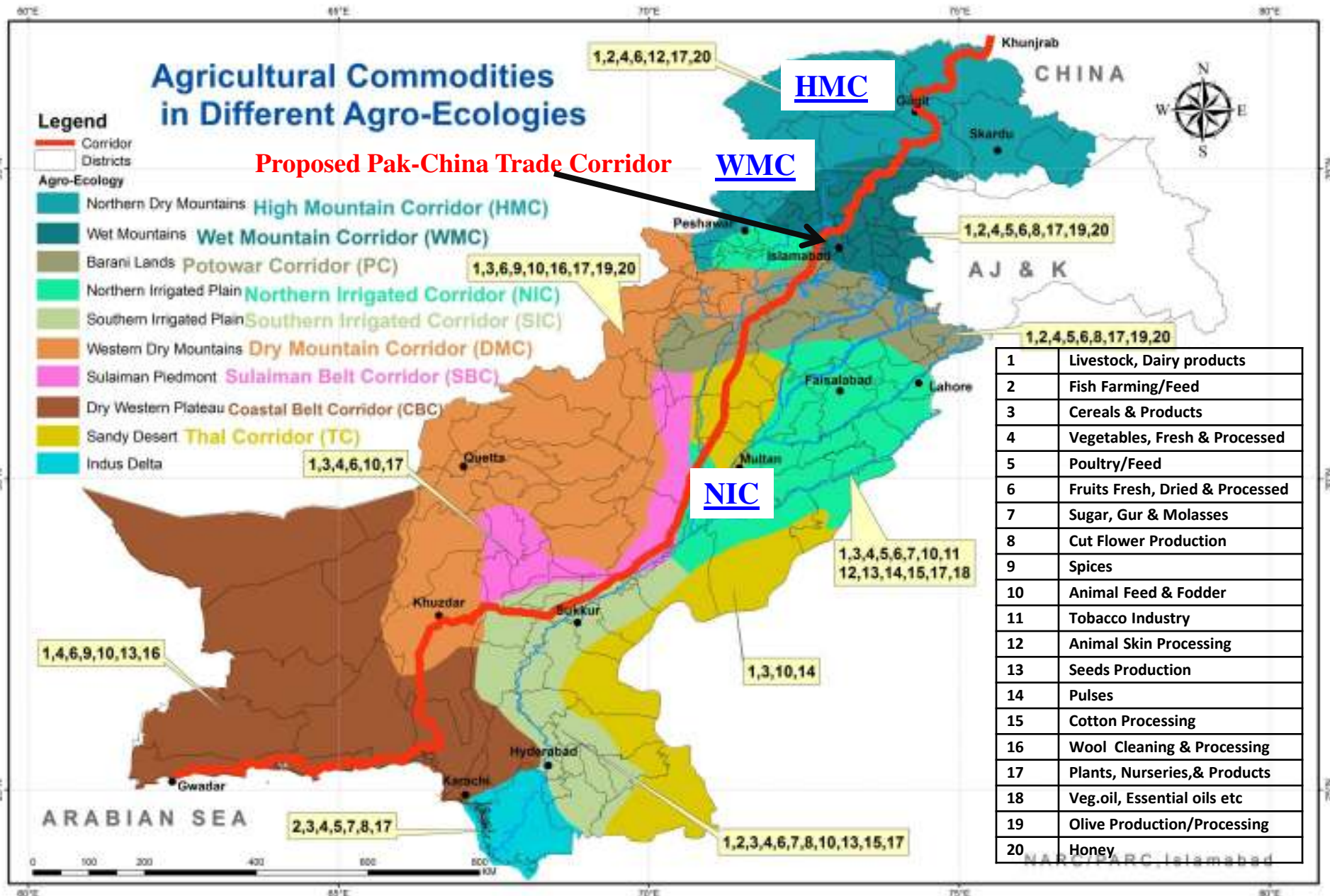
Proposed Pak-China Trade Corridor

HMC

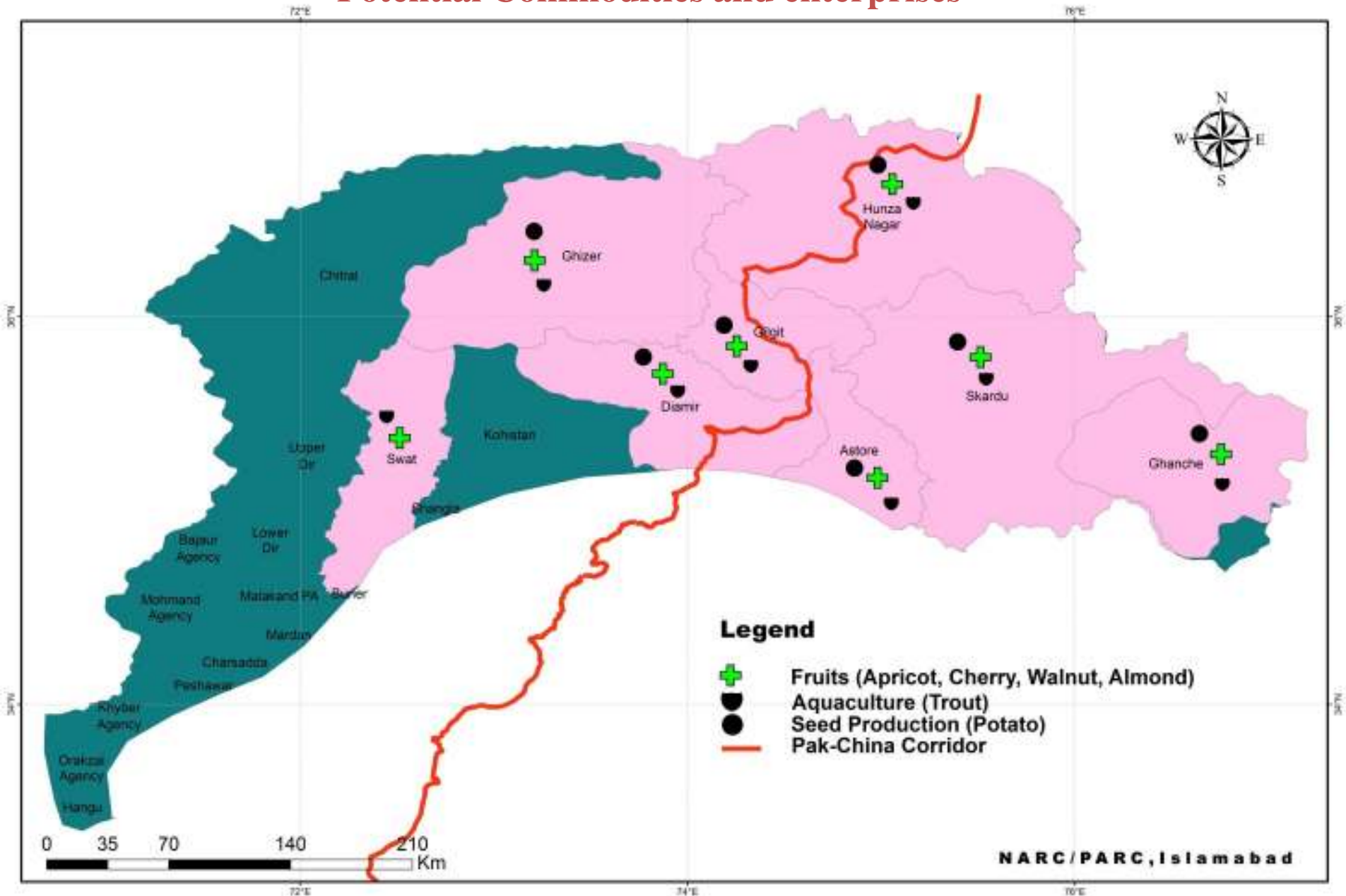
WMC

NIC

1	Livestock, Dairy products
2	Fish Farming/Feed
3	Cereals & Products
4	Vegetables, Fresh & Processed
5	Poultry/Feed
6	Fruits Fresh, Dried & Processed
7	Sugar, Gur & Molasses
8	Cut Flower Production
9	Spices
10	Animal Feed & Fodder
11	Tobacco Industry
12	Animal Skin Processing
13	Seeds Production
14	Pulses
15	Cotton Processing
16	Wool Cleaning & Processing
17	Plants, Nurseries, & Products
18	Veg.oil, Essential oils etc
19	Olive Production/Processing
20	Honey



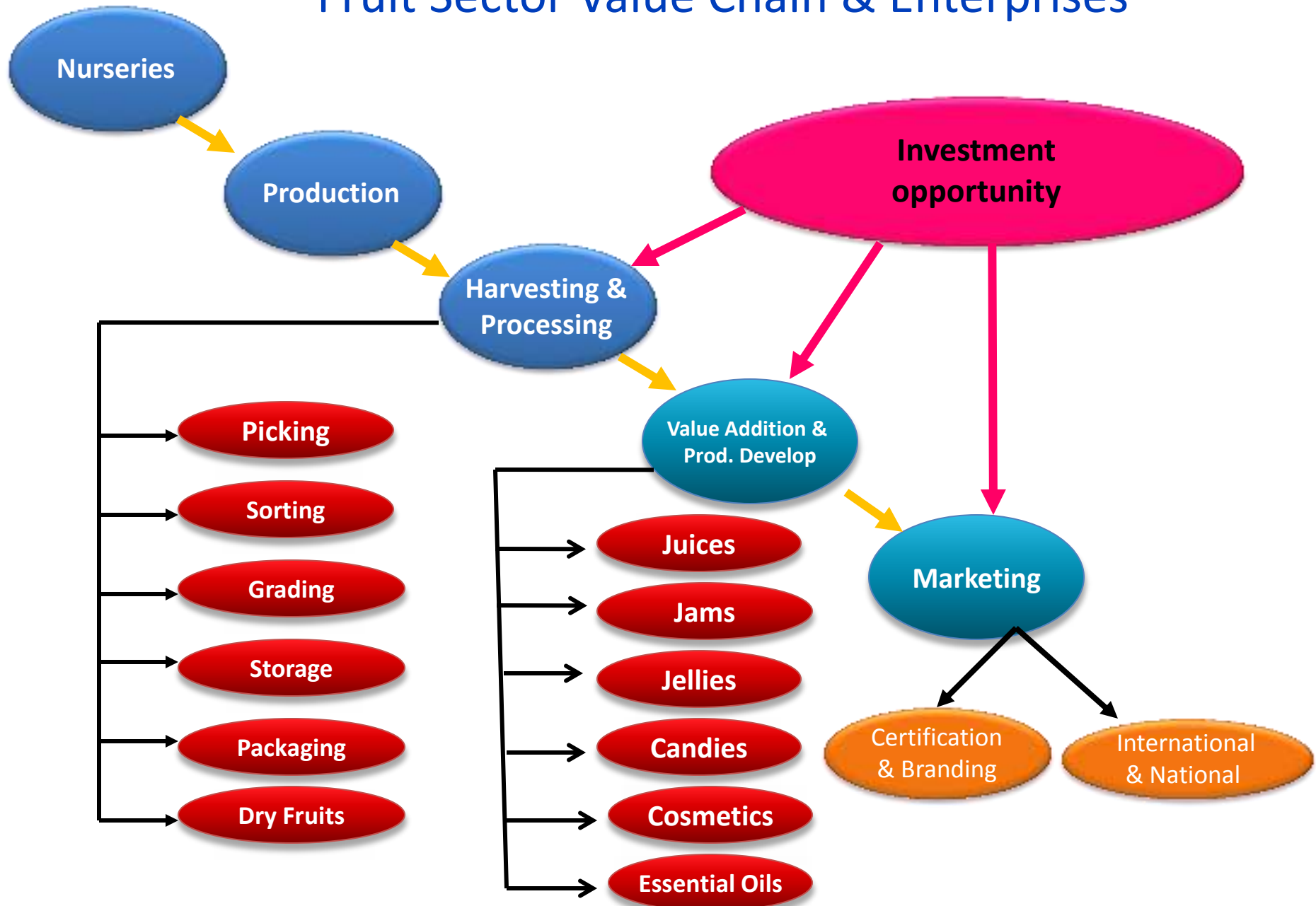
(High Mountain Corridor) Potential Commodities and enterprises



Key Initiatives (Investment/ Enabling Environment)

- ☐ Subsidizing, training and demonstration of efficient irrigation technologies, water harvesting & watershed improvement measures (WWM)
- ☐ Establishment of clean fruit & vegetable nurseries for hybrids and certified seed production
- ☐ Fruit harvesting, grading and sorting technology and training
- ☐ Training of service providers for new recommended technological packages
- ☐ Improve efficient storage facilities and product storage
- ☐ Primary processing and value addition with product diversification at household and small scale processing for fruits and vegetables
- ☐ Soft-loans for modern horticultural business enterprises

Fruit Sector Value Chain & Enterprises



Investment Strategies for G-B

Public Investment	Rate (Rs. million/acre)	Area/size (Acres)	Total Rs. Million
Improving and promotion of efficient existing irrigation system	0.1	30000	3000
Development of efficient irrigation system for new areas	0.1	12000	1200
Water harvesting & watershed improvement measures (WWM)	0.03	30000	900
Training of service providers for new recommended technological packages	0.2	21	4.2
Establishment of fruit nurseries	0.5	21	10.5
Fruit harvesting and post harvest technologies training	0.2	21	4.2
Sub-Total			5118
Soft-loans for modern horticultural business enterprises	2	21	42
Private Investment			
Small Scale Processing Units	3	21	63
Efficient facilities for storage of products	5	21	105
Packaging	2	21	42
Sub-Total			210
Grand-Total			5370

Economical Potential:

Potential Income Increase via Enabling Environment in GB

Income in million Rs.							
Fruit	Production (Tons) (2)	Harvest Losses (Tons) (3)	Income (4)	Saving in Losses (5%)* (6)	Vertical Potential Increase** (col 4 x 30%) (5)	Horizontal Potential Increase (50%)* (col4+col5+col6)x50%	Total Potential increase in income
Apricot	60305	16804	6838	342	2051	3419	5812
Apple	24442	4213	2661	133	798	1331	2262
Mulberry	18225	6585	2480	124	744	1240	2108
Walnut	6552	135	2080	104	624	1040	1768
Cherry	1862	257	845	42	254	423	718
Almond	883	3	721	36	216	361	613
Total	112269	27997	15625	781	4687	7814	13281

Fruits Data: 2004-05

* Average losses are 10%

** Enabling environment

*** Expansion in area under fruits via Enabling policies (subsidies, soft loans, zero tax)

Way Forward

- A detailed feasibility is required for each sub zone through a team of multidisciplinary professionals to ascertain tradable potentials
- The capacity of existing agro-base industry needs to be strengthened besides establishing new ones along the CPEC
- The capacity of local human resource and agricultural service providers needs to be strengthened and enhanced keeping in view the new trends in technological advancement.
- Local manpower should be given preference in undertaking future agri-business activities.
- The infrastructure of main markets along the corridor needs to be upgraded according to the future requirements of agri-business in the country

THANK YOU

**For your
attention**