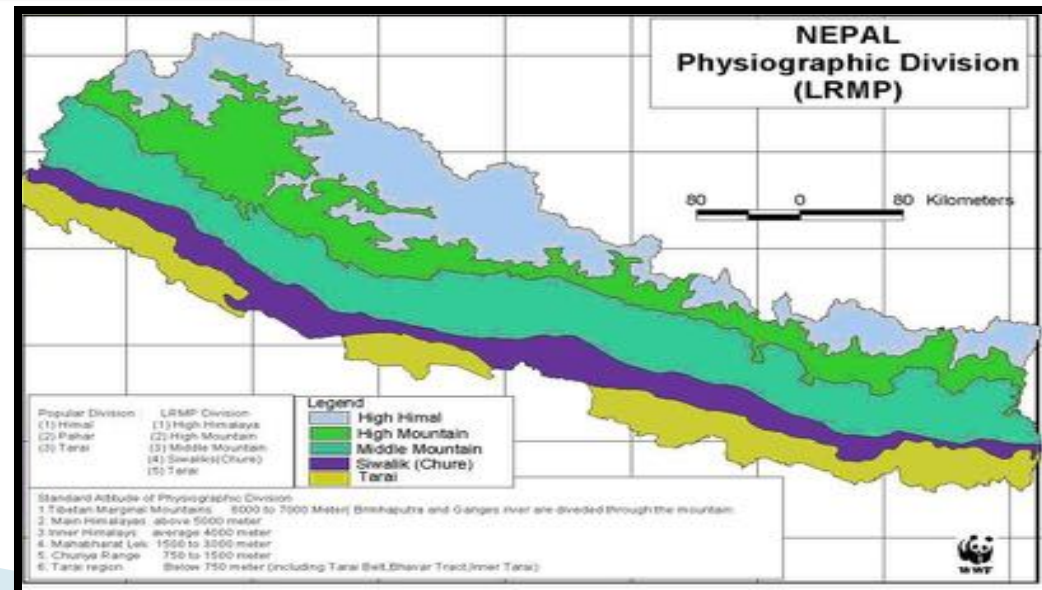


NEPALESE PRACTICE ON HARVESTING AND POST- HARVESTING MACHINATION

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Nepal at a glance

- Total land area – **147,181 sq. km**, Only **0.1% of total land mass** of earth
- 77 districts, 263 Municipalities, 3157 VDCs
- Population 28.98 millions, 10 religions
- 125 caste/ethnic groups, 123 languages spoken as mother tongue
- Predominantly an agrarian country
- **25.2 % people still below poverty line** as of 2010
- **Agriculture contributes 29.37 % to GDP**, 66% employment
- 21% of the land is cultivable (47% rain-fed)
- **Average land holding – 0.68 ha**
- Major crops Paddy, Maize, Wheat and Horticulture
- Livestock: Cattles, Buffaloes, Sheep/Goat, Pigs and Poultry

Post Harvest Loss of Different Cereal Grains (%) in Nepal

Crop	Harvesting	Transportation	Threshing	Drying	Storing	Processing	Total
Paddy	1.63	0.52	2.19	1.57	6.31	4.4	16.6
Wheat	2.21	1.22	3.07	2.07	7.76	2	18.3
Maize	3.33	1.04	2.85	2.5	7.44	2.3	19.5

Source: Moad Nepal

Transportation Loss of Fruits and Vegetables in Nepal

Crop	Loss %	References
Tomato	23-35	Bajracharya 2000, Sharma 2002
Apple	26-35	ABPMDD 2000
Cabbage	6-19	ABPMDD 2000, Werner 1991
Cauliflower	4.48-18.75	ABPMDD 2000, Werner 1991
Mangoes	36.36	ABPMDD 2000
Radish	3.48	ABPMDD 2000
Oranges	2.02-8.2 50	Thapa and Shrestha 2002 ABTRACO 2003 (Bangladesh, Tibet)

Harvesting Practices in Nepal

- Manual Harvesting: Traditionally using sickle highly dominated by female labors.
- Almost 99% percentage of harvesting is done manually except rice and wheat.
- Reaper: Tractor, power tiller and minitiller reaper are highly growing last few years for rice and wheat crop.
- Reaper binder: Few Reaper binders are being use for harvesting wheat and rice.
- Combine: Number of combine is growing each year. Almost 350 Number.



Reaper Growing Trends of Nepal



Source: Cimmyt Nepal



Post-Harvesting Practice in Nepal

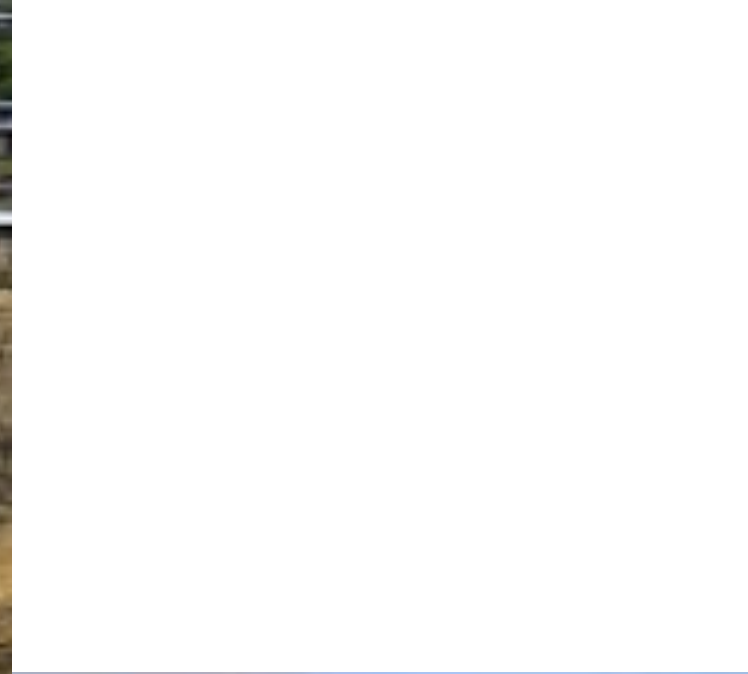
Threshing

Traditional Threshing

- ▶ Beating bundle on stick and stone (Rice, Wheat and Millet)
- ▶ Using animals feet. (Pulse, Rice, Millet)

Using Thresher

- ▶ Paddle Thresher: Use in threshing paddy in upper hills and mountain.
- ▶ Electric thresher: Use for Paddy wheat and maize
- ▶ PTO Thresher: Paddy, wheat maize and multicrops



Post-Harvesting Practice in Nepal cont..

Storage

Traditional Storage

- Bhakari
- Jute bag

Modern storage

- Storage bin: made of tin and wood
- Hermetic Bag & cocoons : use to store seed grains
- Cellar storage : Storage of orange
- Storage/ Warehouse: Use by miller, rice and wheat trader and seed trader.
- Cold storage: Vegetable trader and rental business





Bhakari



Post-Harvesting Practice in Nepal cont..

Transportation

- ▶ Manual: People carry bag of grain on their back
- ▶ Animals Drawn: use direct animal to carry food grain and use draft animals to drawn cart.
- ▶ Power: tractor, pickup are common mean of transport.



Post-Harvesting Practice in Nepal cont..

Processing and packing:

Cleaning:

Traditional: Washing with water and sun drying.

Now a day: Winnowing with fan

Milling:

Traditional: jatho (Stone mill) , dhiki, (wooden Hammer Mill), ghatta (Water mill)

Now a day: huller, seller mill.

Sorting

Sieve , Grading machine.



Stone mill



Water Mill



Wooden Hammer mill

Post-Harvesting Practice in Nepal cont..

Market

- Weekly market in rural area.
- Agricultural wholesale market.
- Agri mart.



Government Step on Harvesting Practice

Harvesting (so far and ongoing)

- **Demonstration** of harvesting Machinery like reaper, Reaper binder combine harvester in collaboration with local stakeholder and private sector.
- Government has **compelled** to use binder while using combine.
- **Upton 85% Subsidy** on harvesting machinery for Individual farmer, farmer group, cooperative and private firm.
- **up to 50% Subsidy on** Community custom hiring center Equip with harvesting machinery.

Harvesting (upcoming)

- Custom hiring service provider Equip with harvesting machinery.
- Establishment of Agricultural machinery factory.

Government Step on Post-Harvesting Practice

Threshing (so far and ongoing)

- **Demonstration** of threshing machinery.
- **Research, test and technology handover** to local manufacture (paddle thresher, Millet thresher).
- **Upton 85% Subsidy** on Threshing machinery (maize Sheller, paddy , wheat and multicrops Thresher) for Individual farmer, farmer group, cooperative and private firm.
- **up to 50% Subsidy on** Community custom hiring center Equip with Threshing machinery.

Threshing (upcoming)

- Custom hiring service provider Equip with threshing machinery.
- Establishment of Agricultural machinery factory.

Government Step on Post-Harvesting Practice

Storage (Done so Far)

- **100% Subsidy on metal bin for grains storage** (198-262)kg (148-196)kg (75-148)kg.
- **100% Subsidy on Hermetic bags & Cocoons** for storage of grains and seeds.
- **Up to 85% Subsidy** on Rustic, Zero Energy, Cellar storage for potato, orange and others Fruits and vegetables.
- **Up to 85% Subsidy** on Post Harvest Service Center with Proper Threshing floor, transit shed, Drying and Storage.

Government Step on Post-Harvesting Practice

Storage (on Going program)

- **Up to 85% Subsidy on Seed bank** (at 9 Place) with proper Threshing Floor, transits shad, drying and Storage for seed Storage.
- **Interest Subsidy on Storage House for Cereals** Of total Capacity 62,200 Mt.
- **Interest Subsidy On Cold-Storage** for vegetable fruits and meat and honey of total Capacity 48,000 MT.
- **Up to 70 % Subsidy on Infrastructure development of Cold- Storage** for vegetable fruits and meat and honey of total Capacity $5,000 * 13 = 65,000$ MT.

Government Step on Post-Harvesting Practice

Storage (Upcoming program)

- To construct 1,00,000 Mt storage house (Silo Type structure) in each 7 Province.
- To construct Rustic storage, cellar storage and cold storage base on local commodity in Province local level.



Government Step on Post-Harvesting Practice

Transportation (so far and ongoing)

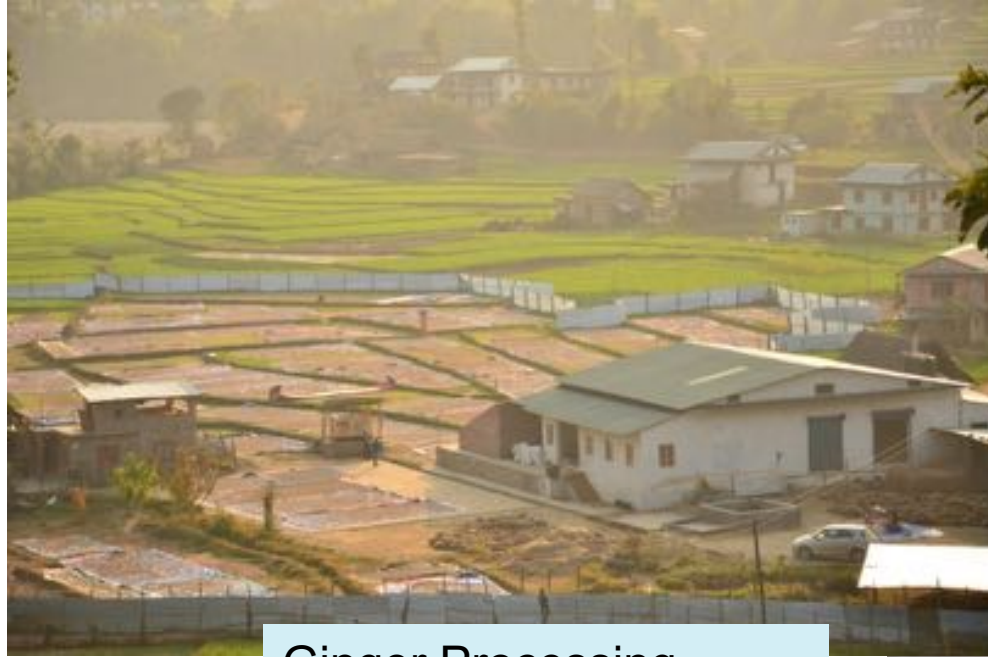
- ▶ **Upto 50% Subsidy** on Tractor attached with the Trailer.
- ▶ **Upto Custom subsidy** on pickup truck for transportation of vegetable, fruit, milk and meat.
- ▶ **Upto 75 % subsidy** on Transportation charge for meat and fish.



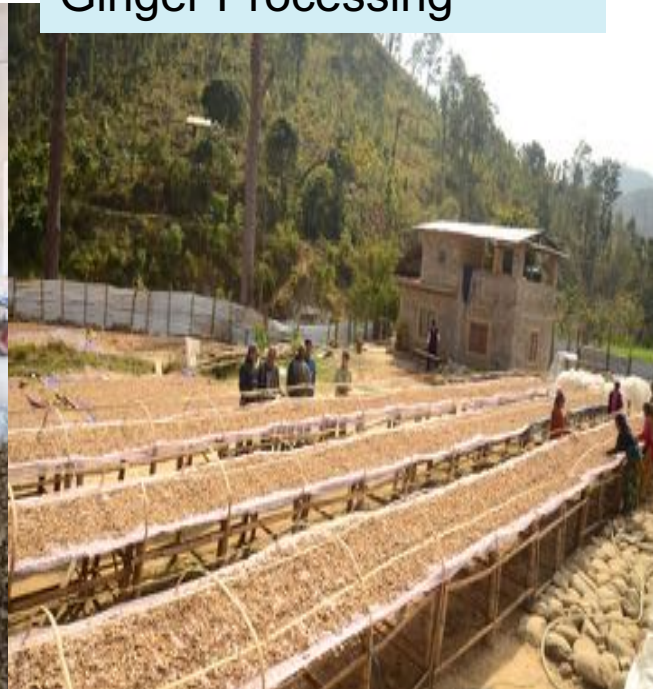
Government Step on Post-Harvesting Practice

Processing and packing:

- ▶ **Upto 85% Subsidy** on packing House equip with cleaning shorting grading and weighing and packing facility . For Fruits and high value crop like ginger,, Coffee Tea etc.
- ▶ **Upto 50% Subsidy** on Grading and milling machine on Post harvest service Center.
- ▶ **Upto 50% Subsidy** on Grading on Seed bank for seed grading .

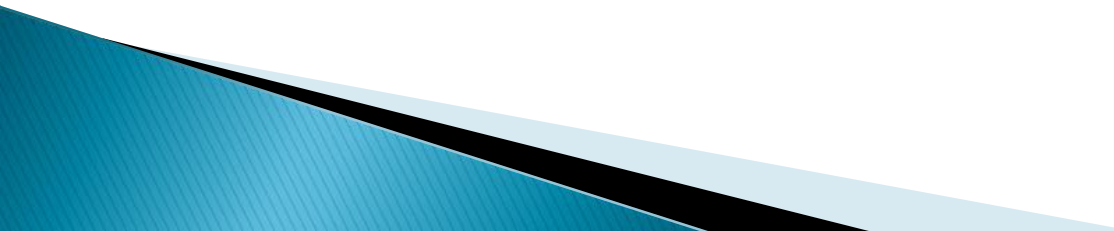


Ginger Processing



Government Step on Post-Harvesting Practice

Market

- ▶ **Up to 85% Subsidy** on Construction of Agriculture whole sale market.
 - ▶ **Up to 85% Subsidy** on Slaughter house and meat shop.
 - ▶ **Up to 50% subsidy** on AgriMart.
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R&D
green mart
grocery retail chain

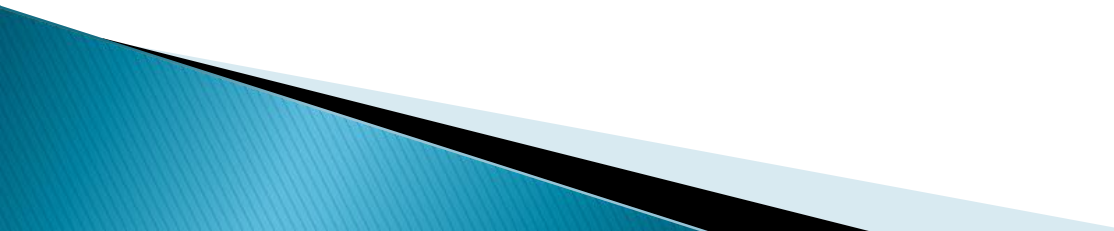
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Way Forward

- Wasted food in Productive use.
 - Study on post-harvest lost on transportation in fruits and its means of reduction.
 - Post harvest lost in vegetable specially in Processing so search for better processing ways to be search.
 - Post harvest lost in cereals in most in storing process so need to study on minimizing lost in storing.
 - Data Collection in the new structure of Nepal.
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Thank You