



Nepal: Investing in Green Inclusive Upland Agriculture Opportunities



Food and Agriculture Organization
of the United Nations



Hand-in-Hand
Initiative

Investment Forum | Rome, Italy | 18-19
October 2022



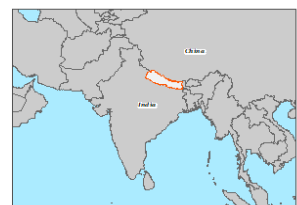
Overview: Nepal



18.7%
Absolute
Poverty

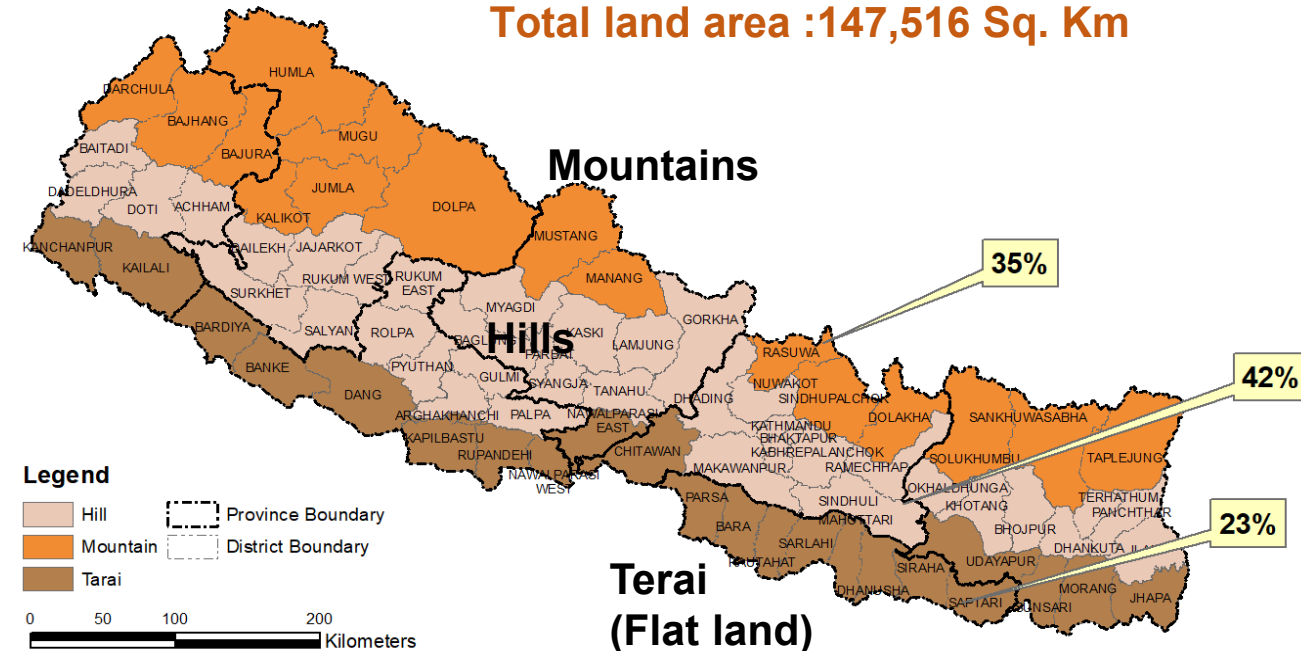


28.6%
Multidimensional
Poverty Index



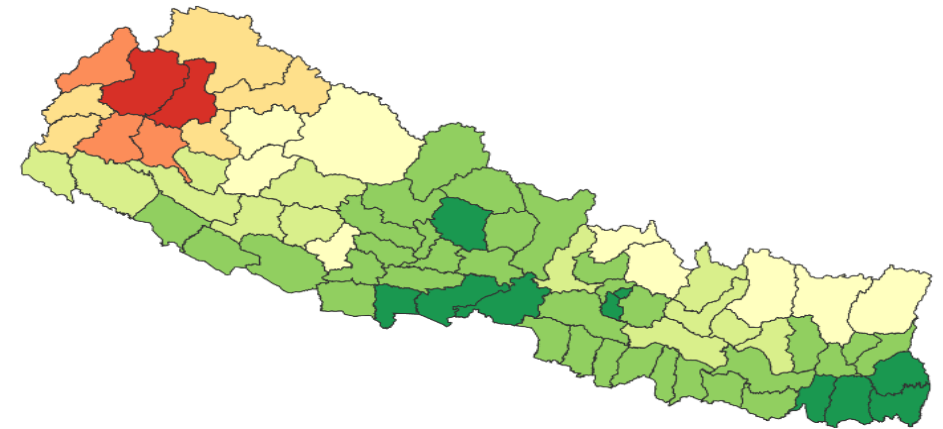
Map of Nepal by Ecological Belt

Total land area :147,516 Sq. Km

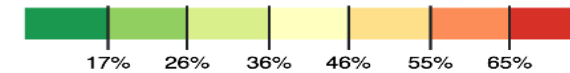


Food Poverty Prevalence

Source: HIHI

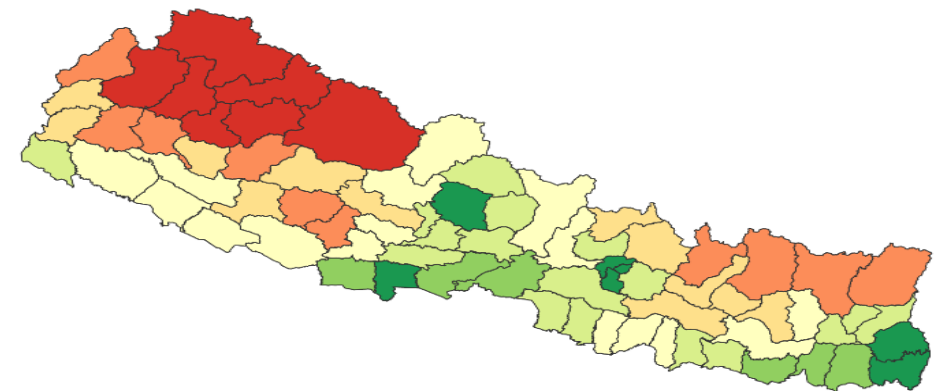


Food Poverty Prevalence

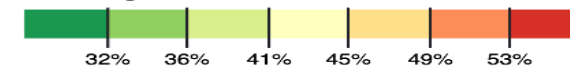


Disclaimer: 2019 Nepal boundary

Stunting

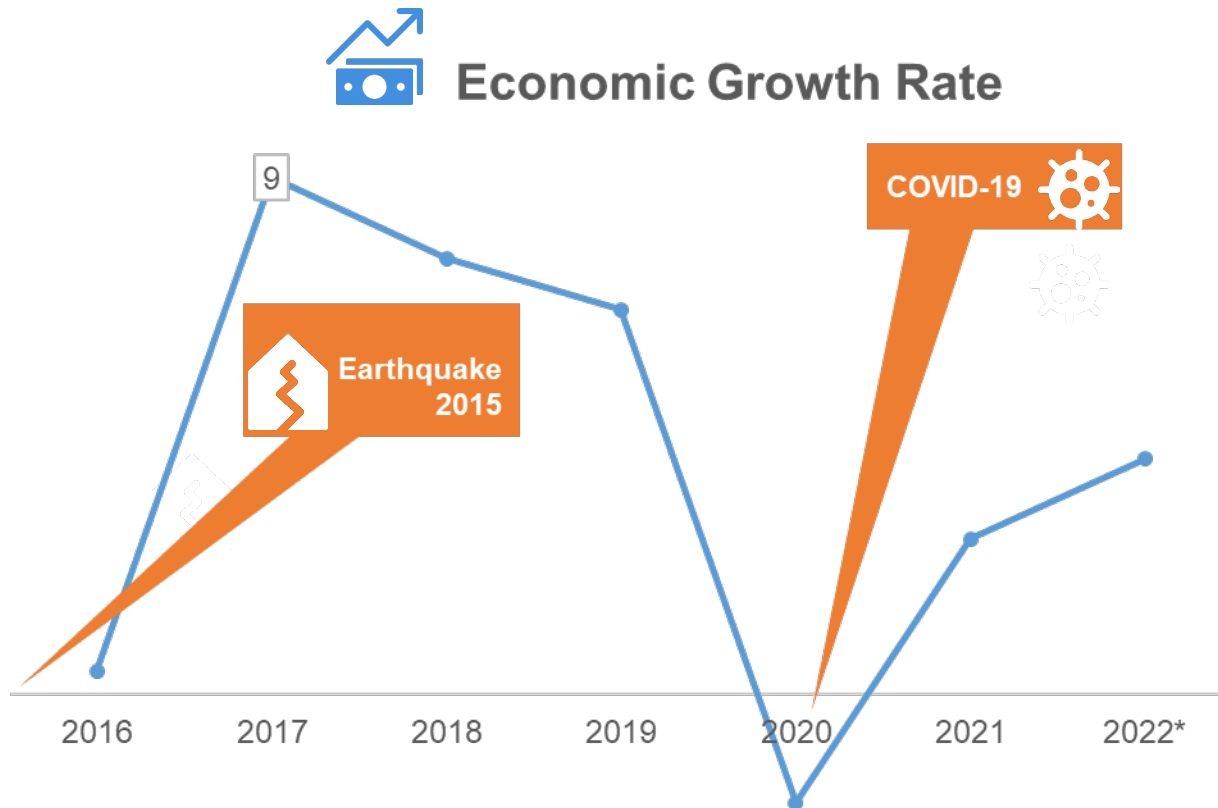


Stunting



Disclaimer: 2019 Nepal boundary

Overview: Nepal's Socio-Economic Context



29.19 M
Total Population



14.29 M
Male



14.90 M
Female



24.9%
Agriculture GDP



\$36,178 M
GDP 2020/21



\$1,239
Per Capita Income



2.16 M
81% Male
Migration




11.4%
Unemployment


10.3%
Male

13.1%
Female


Overview: Nepal's Agricultural Context




60%
Population Engaged




3.91 Non-Agri
2.23 Agri



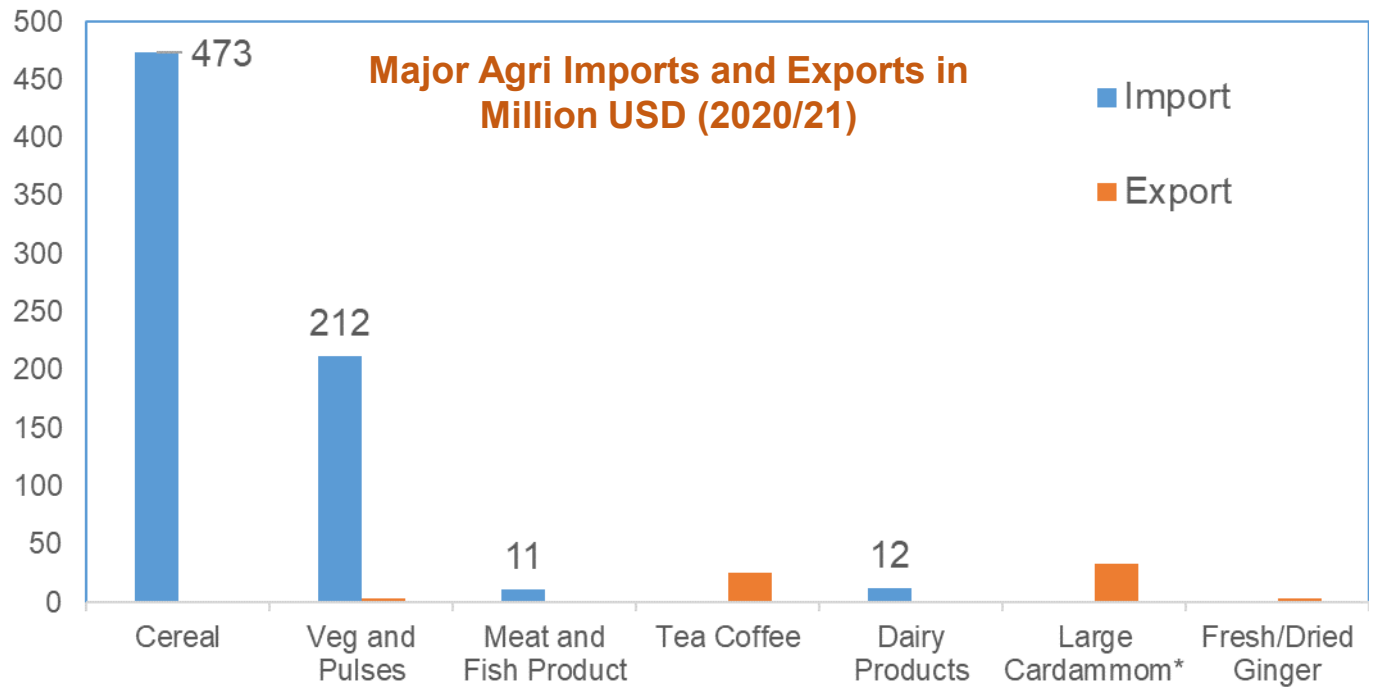
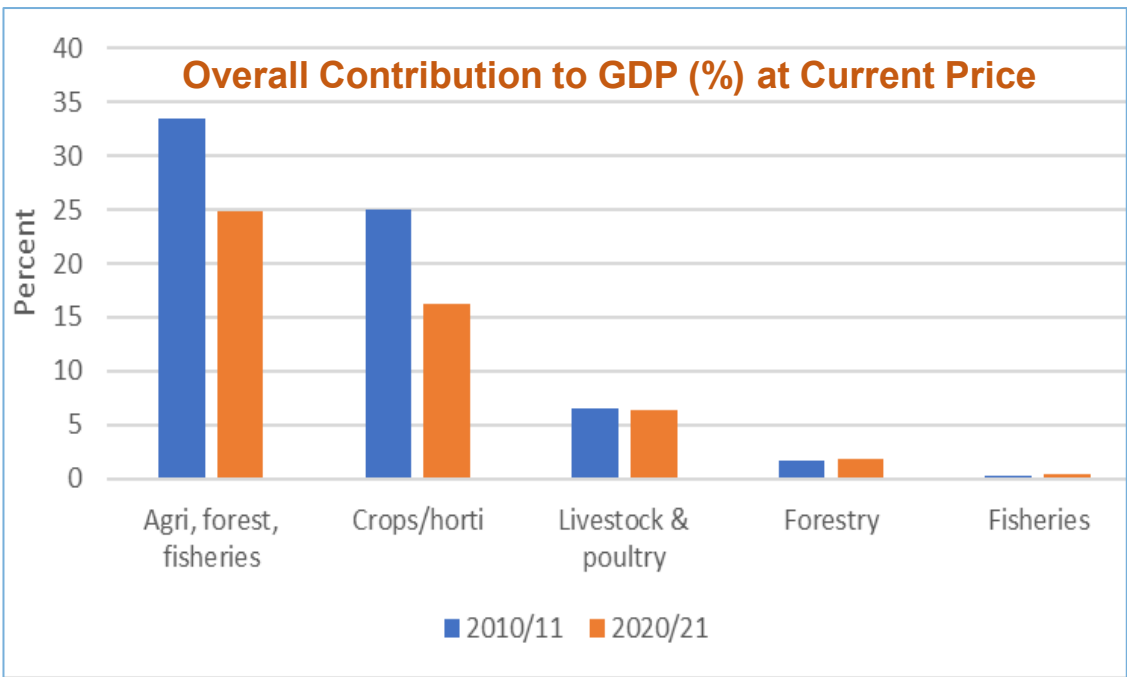
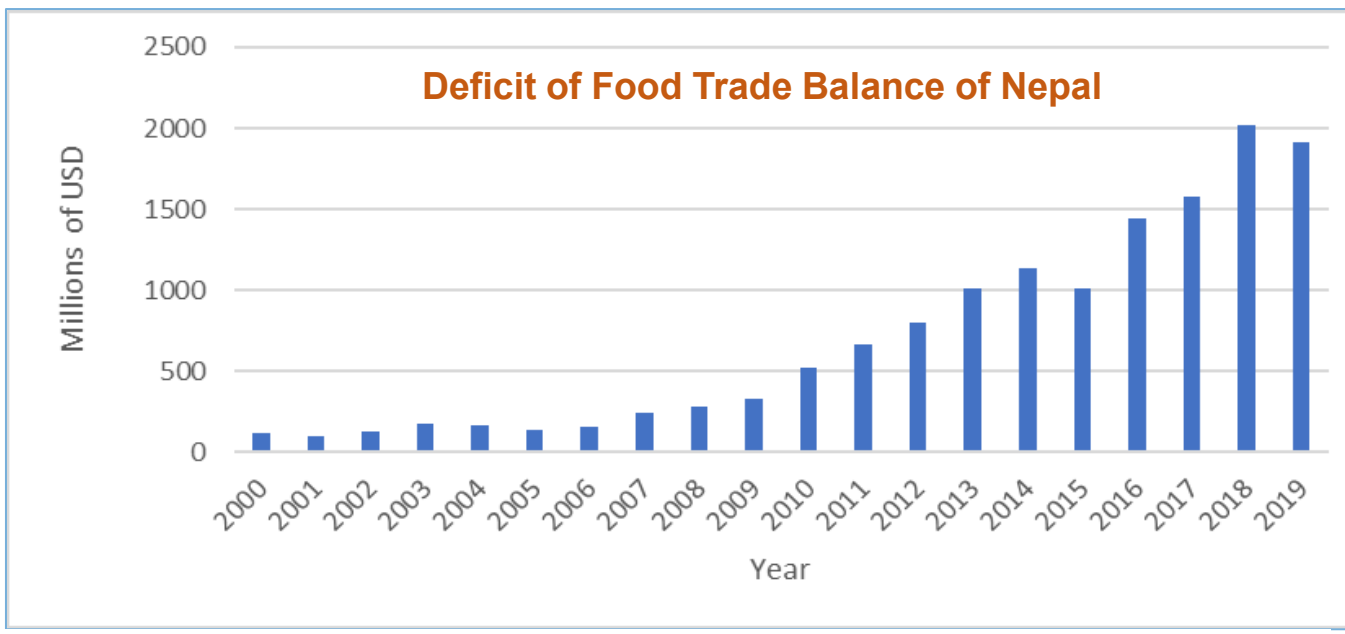
0.68 ha/HH
Land Holding



\$ 632 M
Agri Export

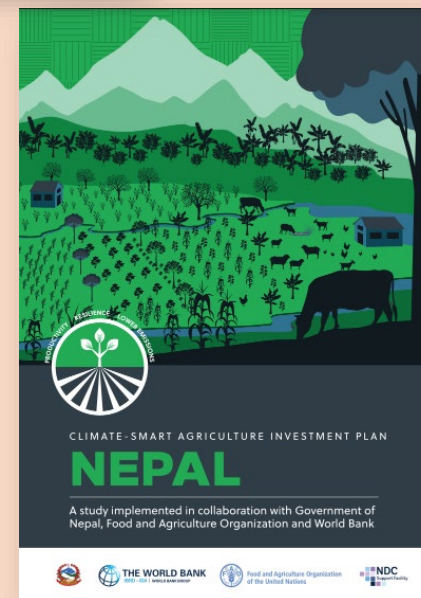
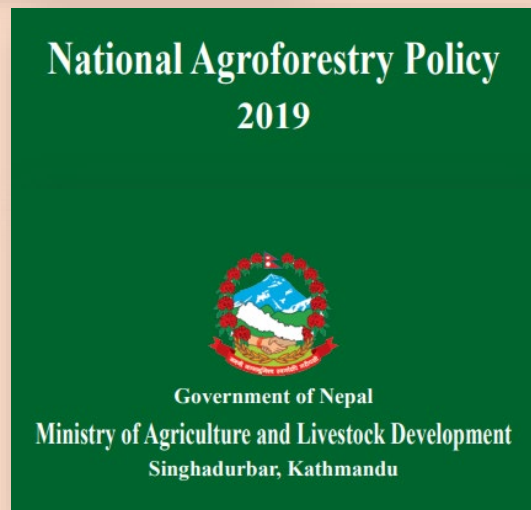
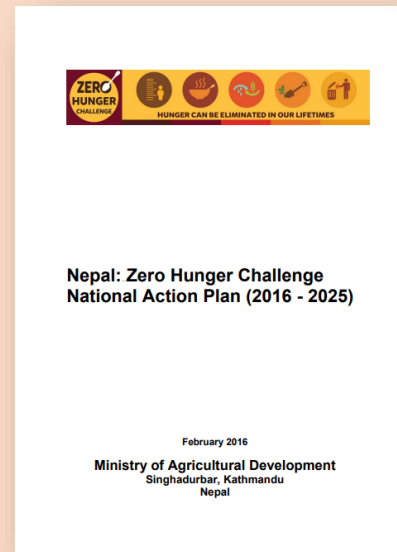
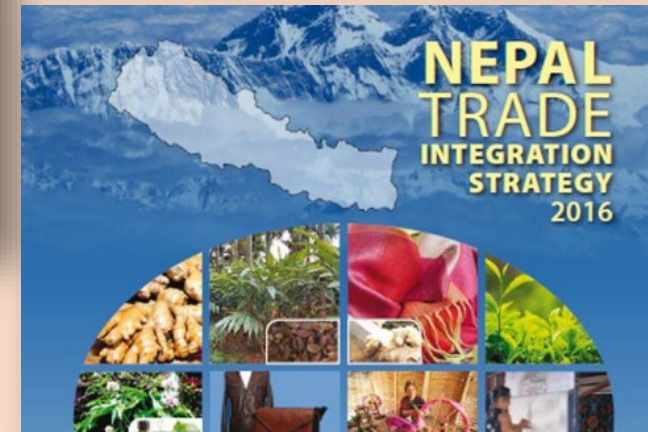
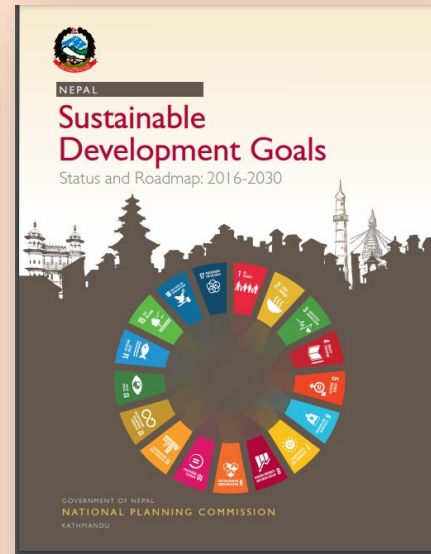
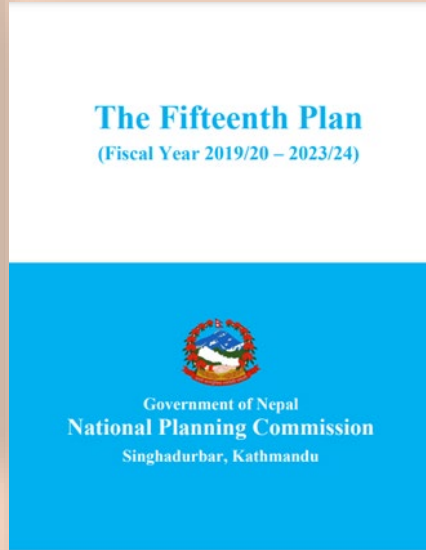


\$ 293
AGDP per Capita



Source: Economic survey 2022 * Statistical Information of Agriculture, MoALD

Overview: Policy Context



कृषि व्यवसाय प्रवर्द्धन नीति, २०६३
Agribusiness Promotion Policy, 2006

Government of Nepal,
Ministry of Agriculture and Cooperatives
नेपाल सरकार,
कृषि तथा सहकारी मन्त्रालय



Objectives and Priorities for Agriculture Development

A self-reliant, sustainable, competitive, and inclusive agriculture sector that drives economic growth, and contributes to improved livelihoods and food and nutrition security leading to food sovereignty.



Flagship Program:

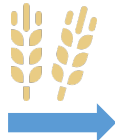


Value Chain Development for Key Commodities (15 value chain priorities)

ADS Key Targets



Annual Growth in Agriculture:

- **4%** in the short term (5 years)
- **6%** in the long terms (20 years)
- (Baseline **2.95%** during 2015/16 – 20/21)

	Baseline (2010)	Target (2035)
 Agricultural Export	\$248 M	\$1999 M
 AGDP per Agricultural Labour	\$794 M	\$1833 M
 Poverty in Rural Areas	27%	10%



Enabling Environment: WHY TO INVEST IN NEPAL?



Policies facilitating export and trade of agri commodity



Right to Information and Good Governance Act (2006)



Provincial Agri Business Promotion Act

Foreign Investment and Technology Transfer Act (2019)



Treaty of Trade and Transit with India
Open Border with India



Intellectual Property Rights (TRIPS Agreement)

HUMAN RESOURCES



57%
Working Age (15-59 Years) Population



LOW COST OF LABOUR

Compared to other Peer Countries

MEMBER COUNTRY OF



SAARC



BIMSTEC



WTO



MIGA



UNESCAP



UNCTAD



BRI

AGREEMENTS AND TREATIES RELATED TO TRADE

BIPPA

with 5 Countries



DTAA

with 11 Countries



FINANCIAL ADVANTAGES



UP TO 100%
Ownership Allowed to Foreign Investors



REPATRIATION
Fully Allowed

TAX HOLIDAY

for Some Sectors/Locations



COMPETITIVE CORPORATE INCOME TAX (CIT)

General: 25%
Priority Sectors (Energy, Transport Infrastructure, and Manufacturing): 20%

SUPPORTIVE CONSTITUTIONAL AND LEGAL PROVISIONS

PRIVATE-SECTOR FRIENDLY LAWS AND POLICIES

Encouraging Foreign Investments, Prioritizing Private-Sector, and Guaranteeing Property Rights, among others

PRIVATE-SECTOR FRIENDLY LAWS AND POLICIES

- Project Development Agreement - PDA (for PPP Projects)
- Project Investment Agreement - PIA (for Private Projects)
- Provision of Non-Nationalization and National Treatment

STRATEGIC ADVANTAGES

Located Between

CHINA
AND INDIA

Duty Free and Open Border

ACCESS
TO INDIA

8000+ Products Duty Free

ACCESS
TO CHINA

77 Items Duty Free Till 2026

ACCESS
TO US

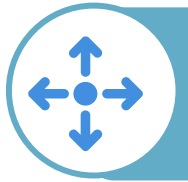
Duty Free Quota Free (EBA)

ACCESS
TO EU

★ ★ ★ Rationale for Prioritizing the Commodities



• ADS and NTIS priority commodities have high export potential



• Scope for value addition, branding and market diversification



• High rate of return



• Potential for high income generation from marginal and slopy land

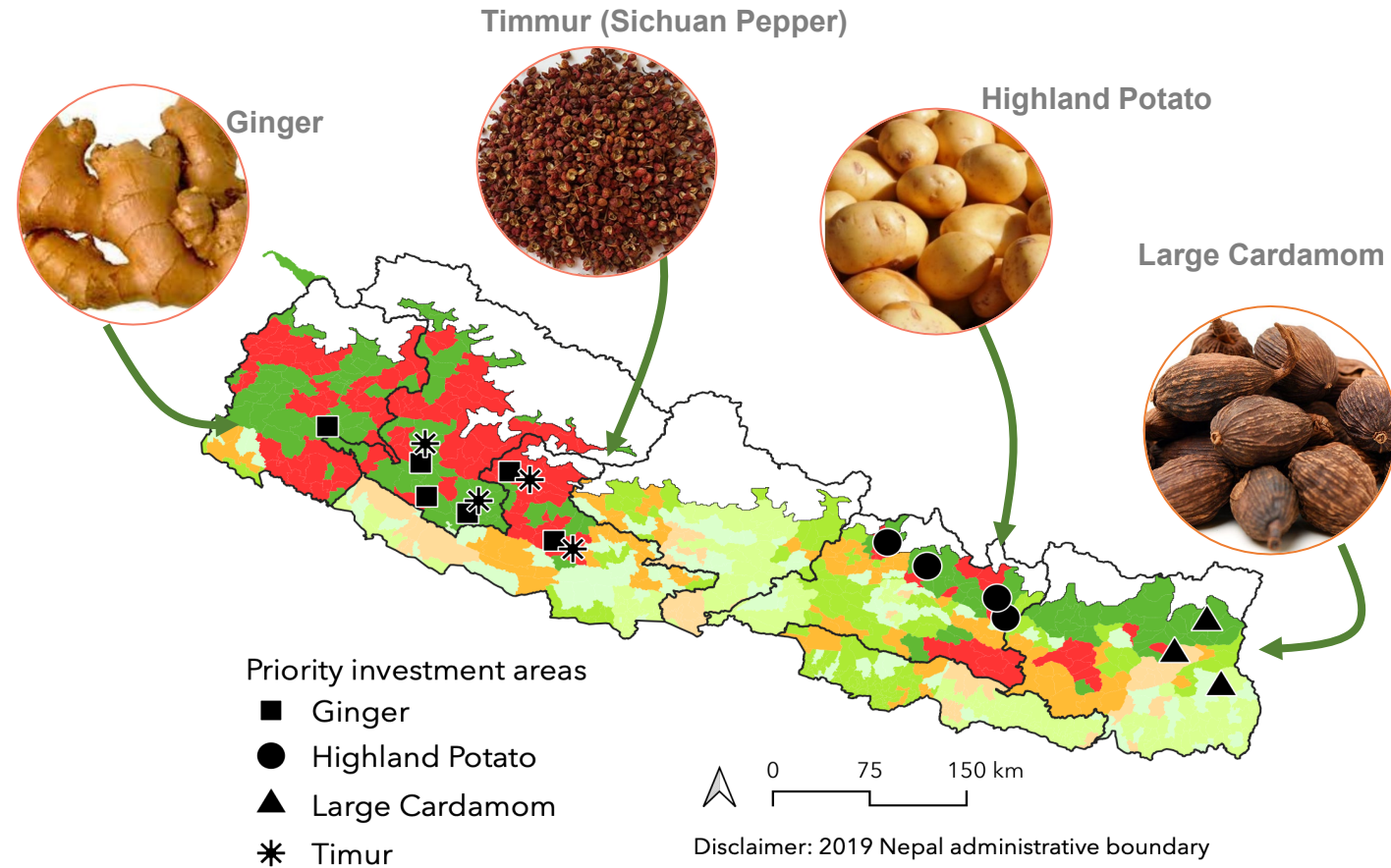


• Environment friendly (Carbon sequestration, soil erosion control)



• Enhance employment in upland rural areas (youth and women engagement)

The Government of Nepal has prioritized the following commodities for Hand in Hand Initiatives to accelerate agricultural transformation and sustainable rural development resulting in minimizing the poverty and contributing to GDP.



SFA typology **

- Critical with moderate opportunities
- Medium priority with moderate agricultural opportunities
- Low priority

- High priority
- Medium priority with high agricultural opportunities
- Low priority with high agricultural opportunities
- High performance

** Stochastic Frontier Analysis (SFA)



Investment Plan: Highland Table Potato

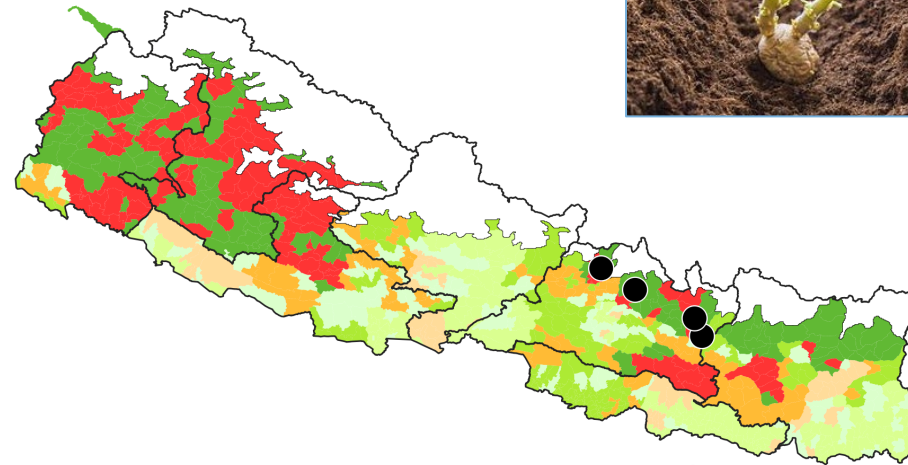


Rationale for Investment:

- Seasonal comparative advantage compared to low lying areas and Indo-Gangatic plain
- **42.8%** out of **3.81 M** farm holding HH grow potatoes
- Profitable than other cereal crops
- Increasing demand , Potential for commercial production
- Take advantage of seed technology for increasing productivity
- Highlands are suitable for growing high quality virus free seed potatoes



Target Districts: Dolakha, Sindhupalchok, Rasuwa, Ramechhap



Priority investment areas
● Highland Potato

0 75 150 km

Disclaimer: 2019 Nepal administrative boundary

SFA typology

- Critical with moderate opportunities
- Medium priority with moderate agricultural opportunities
- Low priority

- High priority
- Medium priority with high agricultural opportunities
- Low priority with high agricultural opportunities
- High performance

Source: HIHI



Scope for Key Investments

- Improve input supplies and production technology
- Tissue culture and screen house facilities to produce virus free seed potato
- Seed potato production and distribution enterprise
- Irrigation and storage infrastructures
- Area expansion (unused and underutilized land)
- Improved post harvest technologies and marketing



Investment Plan: Highland Table Potato



Beneficiaries : 6720
 Indirect Beneficiaries: 33600
 Area : 3360 ha
 Higher income for potato farmers

Outreach and social benefits



Investment
 \$ 8.8 M

Investment

Investment Plan

Risks



Virus diseases
 Unavailability of healthy planting materials
 Farmers are not able to certify the potato seeds

Mitigation

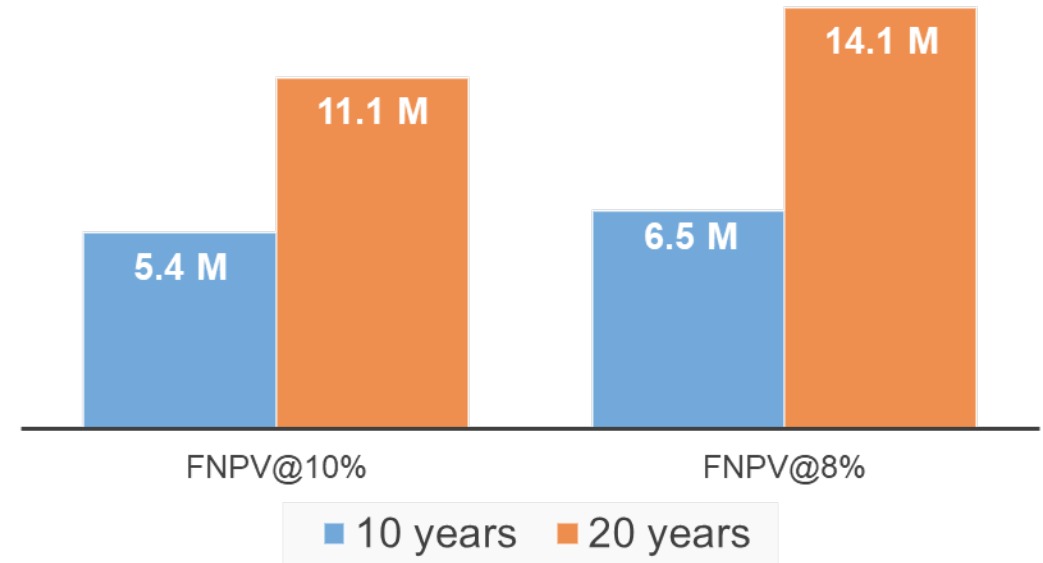


Virus free potato seed
 Capacity building, hill irrigation systems and technology
 Assurance of quality, diversify markets



Return to Investment (USD)

FNPV



IRR :

33.94% in 10 years and 37.27% in 20 years



Investment Plan: Large Cardamom

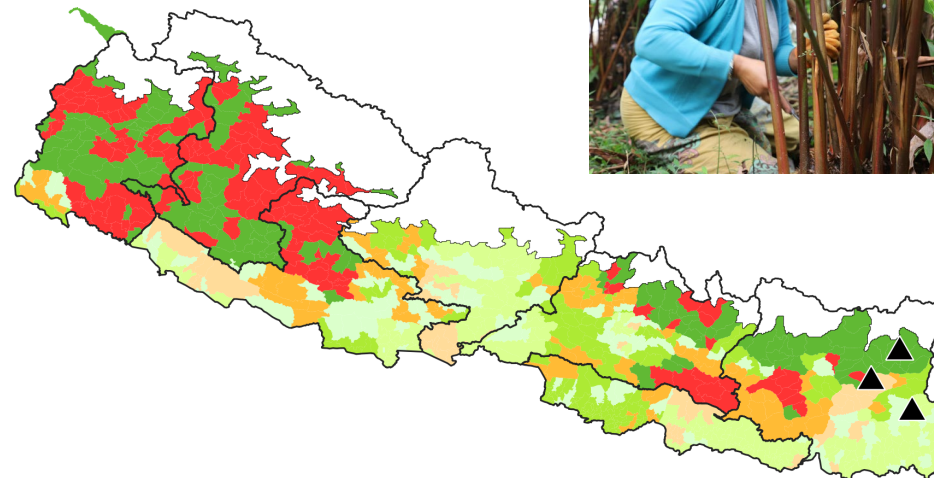


Rationale for Investment:

- World's top producer, **8000MT** produced, worth **\$37M** exported
- Higher scope for value addition and export, Widely used culinary items
- Oil has high demand for medicinal purposes in global markets
- Cultivated in slopy/unused land
- Highly profitable
- Higher demand for quality planting material, area expansion
- Technological and adoption gaps in drying and storage
- Increased income generation opportunities



Target Districts: Ilam, Terhathum, Taplejung



Priority investment areas
▲ Large Cardamom



Disclaimer: 2019 Nepal administrative boundary

SFA typology

- | | |
|--|---|
| ■ Critical with moderate opportunities | ■ High priority |
| ■ Medium priority with moderate agricultural opportunities | ■ Medium priority with high agricultural opportunities |
| ■ Low priority | ■ Low priority with high agricultural opportunities |
| | ■ High performance |

Source: HIHI



Scope for Key Investments

- Improve input supplies and production technology
- Tissue culture and screen house facilities to produce virus free planting material
- Value addition, market diversification and export enterprises
- Drying and storage facilities
- Area expansion (unused and underutilized land)
- Improved post harvest technologies and marketing



Investment Plan: Large Cardamom

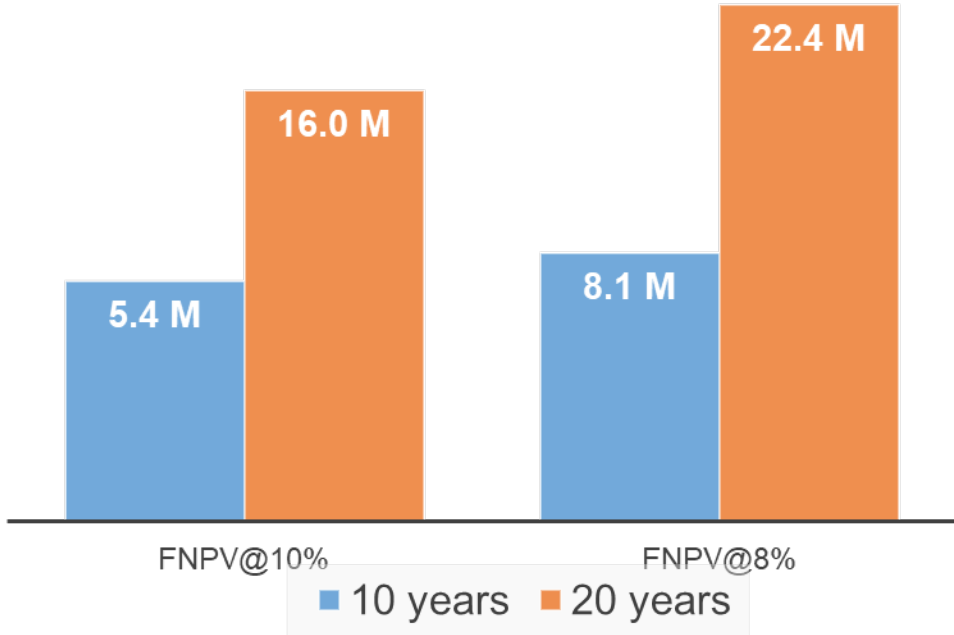

Beneficiaries : 20100
Indirect Beneficiaries: 100500
Area : 6700 ha
Higher income for farmers


Investment
\$26.2 M



Return to Investment (USD)

FNPV




Outreach and social benefits

Investment

Risks

Mitigation


Disease outbreak (Virus)
Price fluctuations


Virus-free planting materials
Capacity building
Standard quality brand, diversify markets

IRR :
15.98% in 10 years and
20.69% in 20 years



Investment Plan: Timmur (Sichuan Pepper)

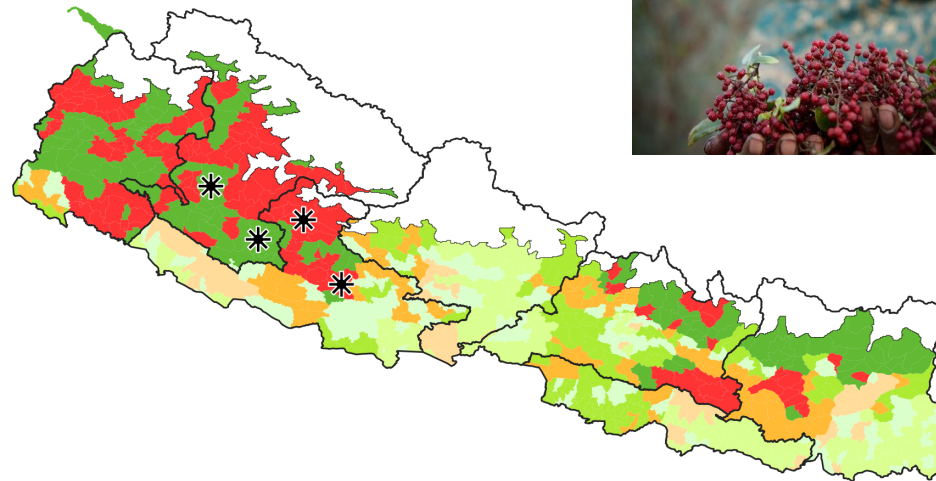


Rationale for investment:

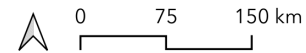
- Highly profitable NTFP (**\$3/kg**; essential oil **\$28/lit**)
- Found in wild and also grown at the altitude of **1,000 to 2,500 M**
- Productive use of degraded forests, private marginal land
- High demand for essential oil (EO) in international market for medicine and cosmetics (India, China, US and Europe)
- Potential to increase area, yield: **975 MT**; yield **3.5 kg** per plant;
- High potential to grow in farmland and area expansion



Target Districts: Dailekh, Rukum, Pyuthan, Salyan



Priority investment areas
* Timur



Disclaimer: 2019 Nepal administrative boundary

SFA typology

- | | |
|--|--|
| ■ Critical with moderate opportunities | ■ High priority |
| ■ Medium priority with moderate agricultural opportunities | ■ Medium priority with high agricultural opportunities |
| ■ Low priority | ■ Low priority with high agricultural opportunities |
| | ■ High performance |



Scope for Key Investments

- Improve input supplies and production technology
- Tissue culture and screen house facilities to produce quality planting material
- Value addition, market diversification and export enterprises
- Drying and storage facilities
- Area expansion (unused and underutilized land)
- Improved post harvest technologies and marketing



Investment Plan: Timmur (Sichuan Pepper)



Beneficiaries : 25000
Indirect Beneficiaries: 125000
Area : 2500 ha
Higher income for farmers

Outreach and social benefits



Investment
\$48.2 M

Investment

Investment Plan

Risks



Unavailability of high yielding cultivar saplings
Price fluctuations



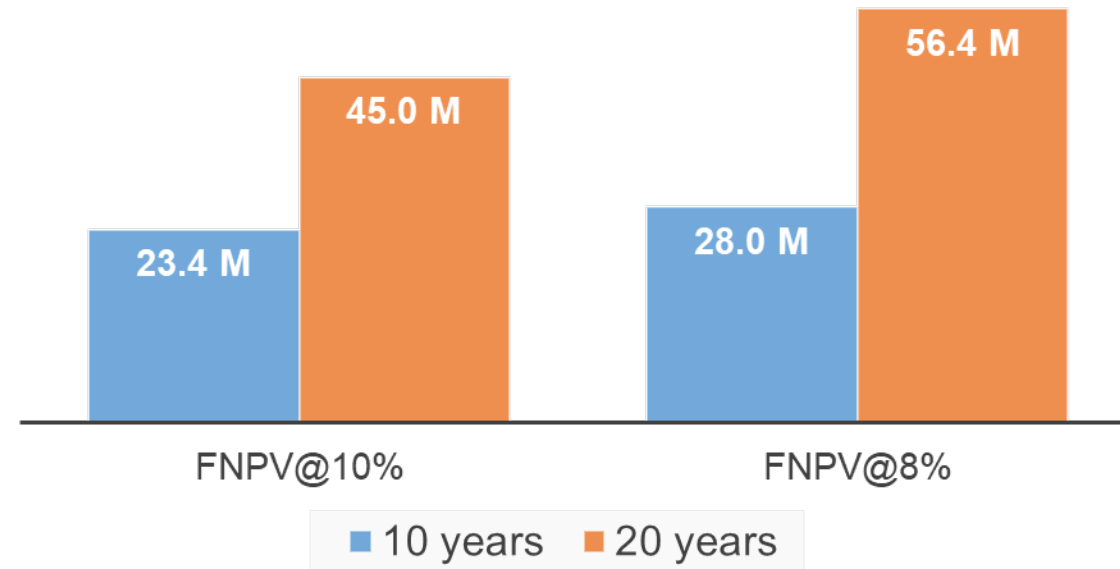
Capacity building to produce high yielding cultivar saplings,
Value addition to produce oil when fresh Timmur price drops

Mitigation



Return to Investment (USD)

FNPV



IRR :

34.70% in 10 years and
37.39% in 20 years



Investment Plan: Ginger



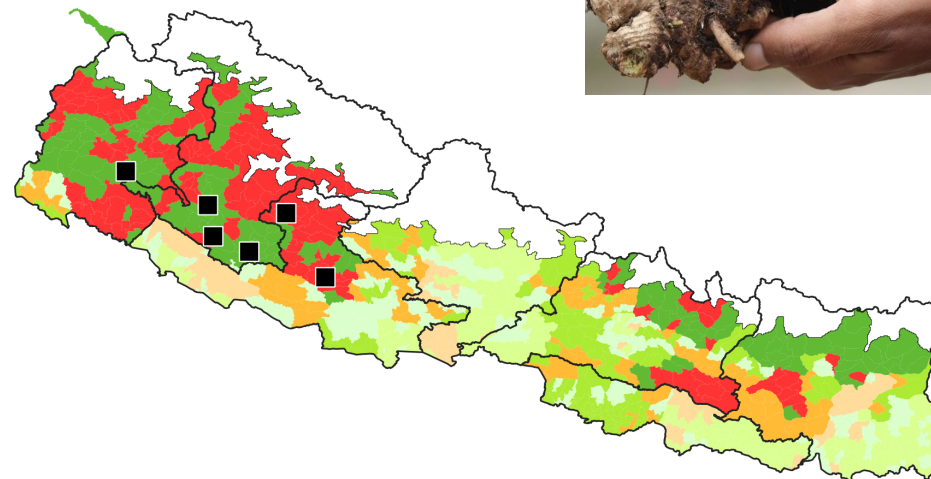
Rationale for investment:

- Grown in hills, slopy lands of poor/women farmers, High value crop with high domestic/ global demand
- Potential to increase current level of production **279,206 tons**
- Nepal ranks **4th largest** in the world for ginger production
- Profitable against cereal crops
- Production system versatility and climate resilience
- Opportunity to promote new varieties with different characters and quality specifications
- Value addition and other Infrastructure constraints



Target Districts:

Salyan, Pyuthan, Rukum, Dailekh, Surkhet, Doti



Priority investment areas

■ Ginger

SFA typology

- Critical with moderate opportunities
- Medium priority with moderate agricultural opportunities
- Low priority

■ High priority

- Medium priority with high agricultural opportunities
- Low priority with high agricultural opportunities
- High performance



Scope for Key Investments

- Expansion of production areas and increased yields, Organic ginger export opportunity
- Expansion of processed ginger for export
- Special products- essential oils
- Post harvest quality aggregation
- Drying and processing facilities
- Essential oils extraction lab
- Certification, and product diversification
- Warehouse and storage infrastructure



Investment Plan: Ginger



Beneficiaries : 8400
 Indirect Beneficiaries: 42000
 Area : 2100 ha
 Higher income for farmers

Outreach and social benefits



Investment
 \$34.9 M

Investment

Investment Plan

Risks



Rhizome rot
 Sale rhizomes with soil
 Fibrous varieties not preferred
 Price fluctuates



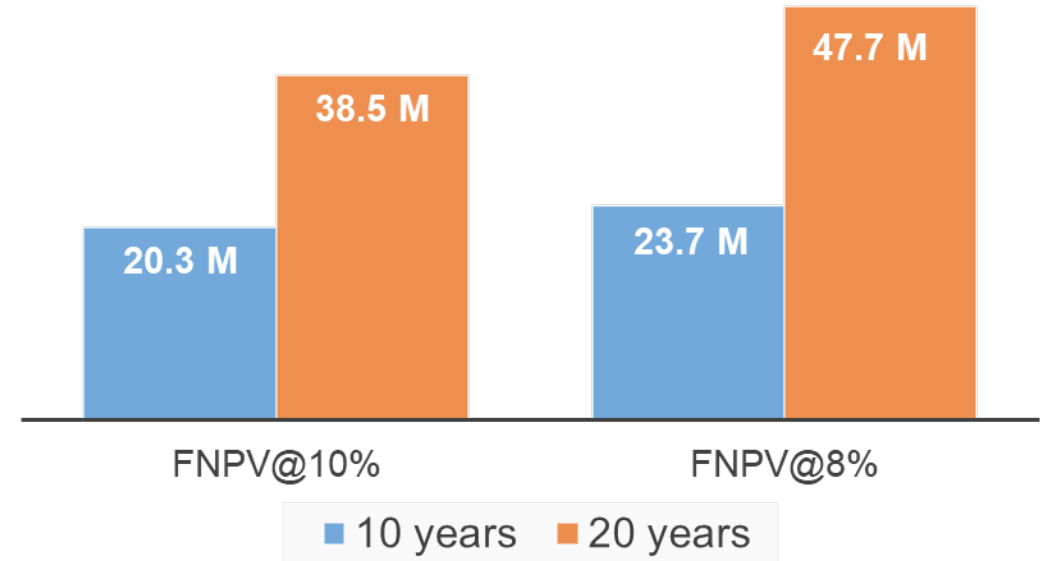
Mitigation

Disease free planting materials and crop rotations
 Washing facilities for rhizome
 Fibrous varieties processed
 Standard quality brand



Return to Investment (USD)

FNPV



IRR :

50.96% in 10 years and
 53.02% in 20 years



Investment Plan: Potential Export Market



Highland Table Potato

Products :

Off season high land fresh table potato, seed potato, hybrid true potato seed, organic potato

Country and destination market :

Domestic market (low lying) and urban center, Neighboring states of India (Bihar, UP, West Bengal) and Bangladesh

Major Exporters:

- Arihant Commercial Pvt. Ltd.
- loons Traders
- Global Trading Company Pvt. Ltd.



Large Cardamom

Products :

Dried cardamom, cardamom powder, essential oil, mixed spices, mouth fresheners

Country and destination market :

Existing market India and high scope for export to middle east, Pakistan and Bangladesh

Major Exporters:

- Bhandari Traders and Supplier
- Everest Large Cardamom Industries
- Nima Himali Traders



Ginger

Products :

Organic ginger product, essential oil, dried ginger, mixed spices, ginger candy, fresh ginger, ginger pickles

Country and destination market :

India for fresh ginger, Middle east, US, Germany, Bangladesh and EU countries for processed ginger products

Major Exporters:

- Organic Mountain Flavour Pvt. Ltd.
- Illam Ginger Export Pvt.
- C.G. Biotech Pvt. Ltd.



Timmur

Products :

Primary processed dried Timmur grain, Timmur powder, mixed spices, essential oil

Country and destination market :

Germany, France, US and domestic market

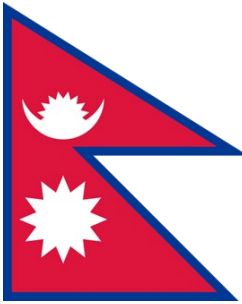
Major Exporters:

- Methi Associates Pvt. Ltd.
- P&K Enterprises
- Saugat Koseli Ghar

Nepal Investment Plan



Food and Agriculture Organization
of the United Nations



SUMMARY

US\$ 118.1 M
Total Investment

37.09%
Overall
Average IRR

60,220
Direct Beneficiaries

301,100
Indirect Beneficiaries

US\$ 389
Income Increase
Per Capita

MT -7.69
Emission Reduction
Per ha/year

KEY INVESTMENTS

1

Intervention

Highland table potato
production and marketing

Cost (USD)

8.8 M

IRR (%)

37.27%

NPV

11.1 M

Sustainability Benefits

Beneficiaries: 6,720

Indirect Beneficiaries: 33,600

Income increase per capita:
\$514

Emission reduction per ha/year:
MT -0.07 | ≥ 20 yrs: -4,822.22

2

Intervention

Large cardamom production
and marketing

Cost (USD)

26.2 M

IRR (%)

20.69%

NPV

16.0 M

Sustainability Benefits

Beneficiaries: 20,100

Indirect Beneficiaries: 100,500

Income increase per capita:
\$319

Emission reduction per ha/year:
MT -3.35 | ≥ 20 yrs: -449,593.05

3

Intervention

Timmur production, processing
and marketing

Cost (USD)

48.2 M

IRR (%)

37.39%

NPV

45.0 M

Sustainability Benefits

Beneficiaries: 25,000

Indirect Beneficiaries: 125,000

Income increase per capita:
\$450

Emission reduction per ha/year:
MT -3.53 | ≥ 20 yrs: -176,929.55

4

Intervention

Ginger production, processing
and marketing

Cost (USD)

34.9 M

IRR (%)

53.02 %

NPV

38.5 M

Sustainability Benefits

Beneficiaries: 8,400

Indirect Beneficiaries: 42,000

Income increase per capita:
\$277

Emission reduction per ha/year:
MT -0.74 | ≥ 20 yrs: -31,235.29

Note: NPV@10%, 20-year project cycle, spill over beneficiaries not included