



ADB

Digital Agriculture Experience in Nepal: Lessons Learned and the Way Forward

NEPAL: Nuts and Fruits in Hilly Areas Project

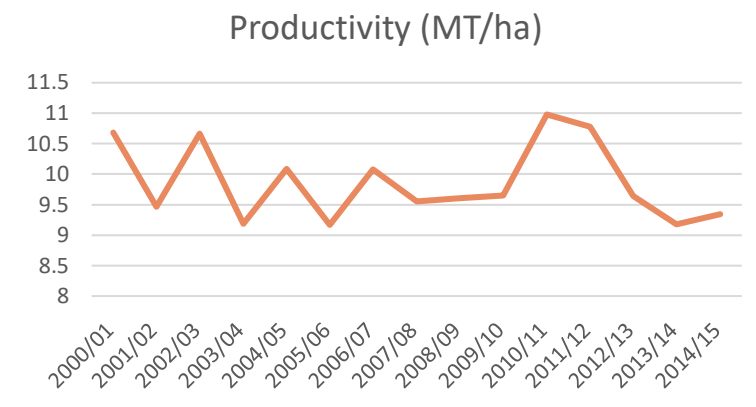
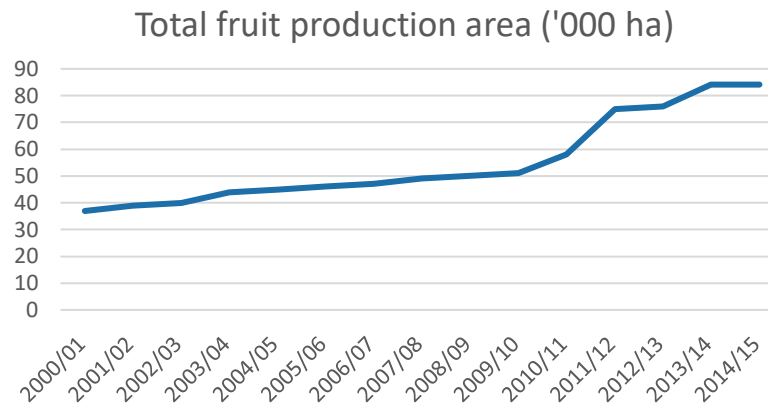
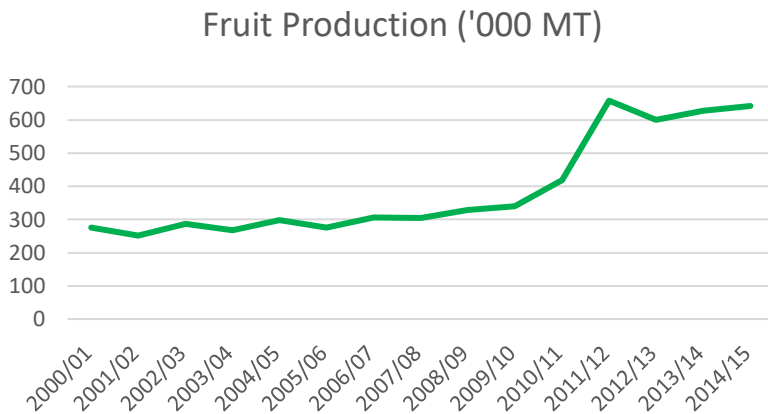
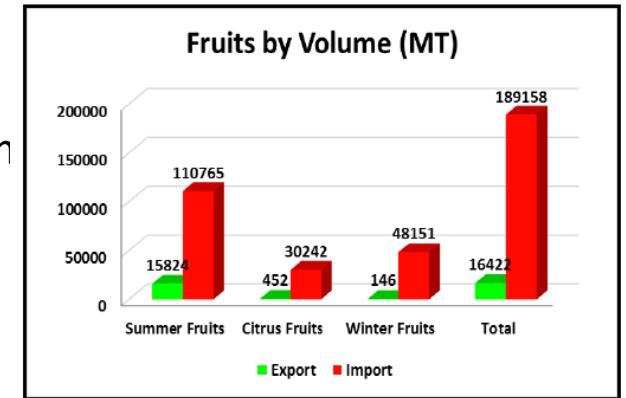
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1. Rationale (1)

- **Nepal's favorable condition for fruit production:** Year-round and a wide-range of production possible thanks to diverse agro-climatic zones
 - Tropical zone below 1,000 masl – mango, litchi, guava, banana, papaya
 - Subtropical zone between 1,000-1,800 masl – citrus, plums, pears, avocado, kiwi, persim
 - Temperate zone 1,800 – 2,800 masl – apple and walnut
- **Decreasing fruit productivity:** apple and citrus productivity has decreased by 20% between 2008 and 2019



- **Increasing fruit and nut demand and supply gap:** Fruit demand increasing due to urbanization, rising national wealth, nutrition and increased tourist flow. Still national production does not meet the demand. **Between 2013-2017, nut importation increased by 43% and apple importation increased by 260%.**
 - **Nepal Fruit Development Plan (GoN, 2017)** aims to increase fruit production by 300% over the next 20 years

2. Rationale (2)

(1) Lack of business and marketing channel

- Only 20% of rural families are commercial farmers

(2) High post-harvest losses

- Nearly 40% of production lost due to poor post-harvest management techniques and inadequate equipment and infrastructure

(3) Limited access to loans

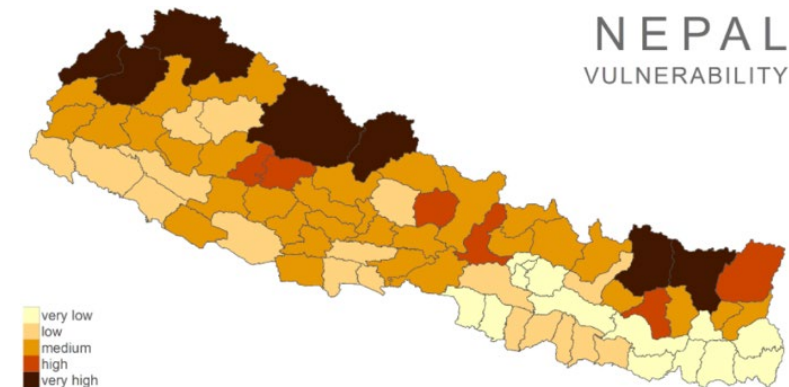
- High collateral requirements, interest payment requirements, complex loan acquisition process

(4) Shortage and high cost of seasonal labor

- Decrease in domestic production due to labor shortage and weak labor productivity

(5) Climate change

- Shifting crop cultivation altitude and increasing diseases and insect pests



4. PROJECT

IMPACTS:

- Livelihoods of rural households improved (Agriculture Development Strategy 2015-2035)
- Resilience of farmers to climate change improved (Agriculture Development Strategy 2015-2035)

OUTCOME: Beneficiary farmers' agricultural income from climate resilient horticulture farming increased.

TARGET: Increased agricultural income of approximately 40,000 farm households in 100 municipalities in hilly areas of five provinces: Province 1, Bagmati, Gandaki, Karnali and Sudurpashchim

- Development of approximately 10,000 hectares (ha) of climate resilient fruit and nut orchards providing value-addition to the nuts and fruits produced by at least 30,000 farm households.
- Support approximately 10,000 smallholder households, who are not capable of investing in fruit and nut orchard development in the project provinces to improve their vegetable and other nutritious crop production and its marketing.

5. FINANCING and IMPLEMENTATION ARRANGEMENT

Financing

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	60.0	64.7
Special funds resources (ADB grant)	10.0	10.8
Global Agriculture and Food Security Program	9.0	9.7
Government	13.76	14.8
Total	92.75	100.0

Implementation arrangement

Executing agency: Department of Agriculture,
Ministry of Agriculture and Livestock Development (MOALD)

Implementing agency (6):

- National Center for Fruit Development, MOALD
- Province 1 MOLMAC
- Bagmati MOLMAC
- Gandaki MOLMACPA
- Karnali MOLMAC
- Sudurpashchim MOLMAC
- National Agricultural Research Council

Processing Timeline

ADB internal review in April 2022

Loan/grant negotiations in June-July 2022

Board consideration in August 2022

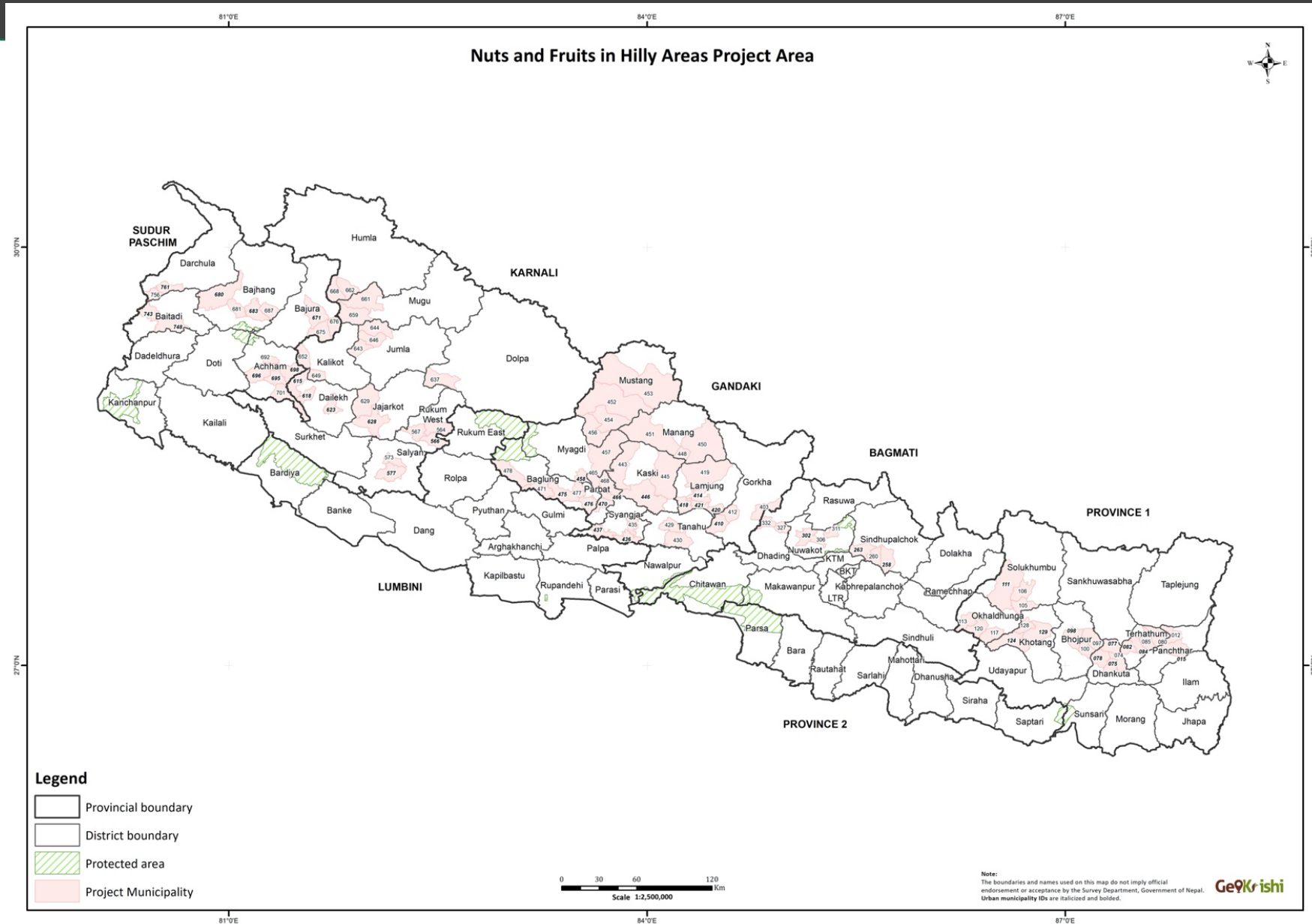
Implementation Period

August 2022 – July 2029 (7 years)

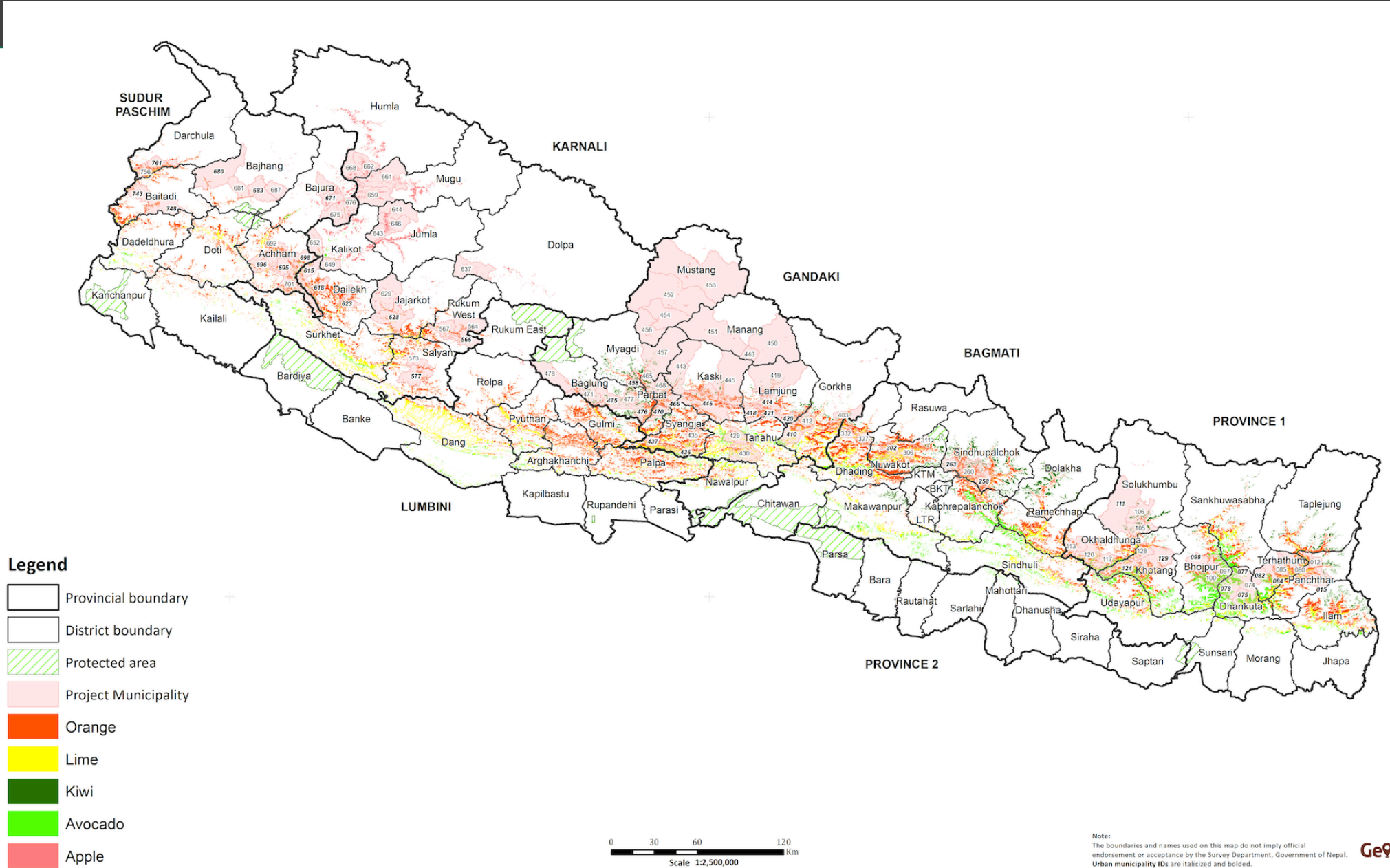
*MOLMAC: (provincial) Ministry of Land Management, Agriculture and Cooperatives



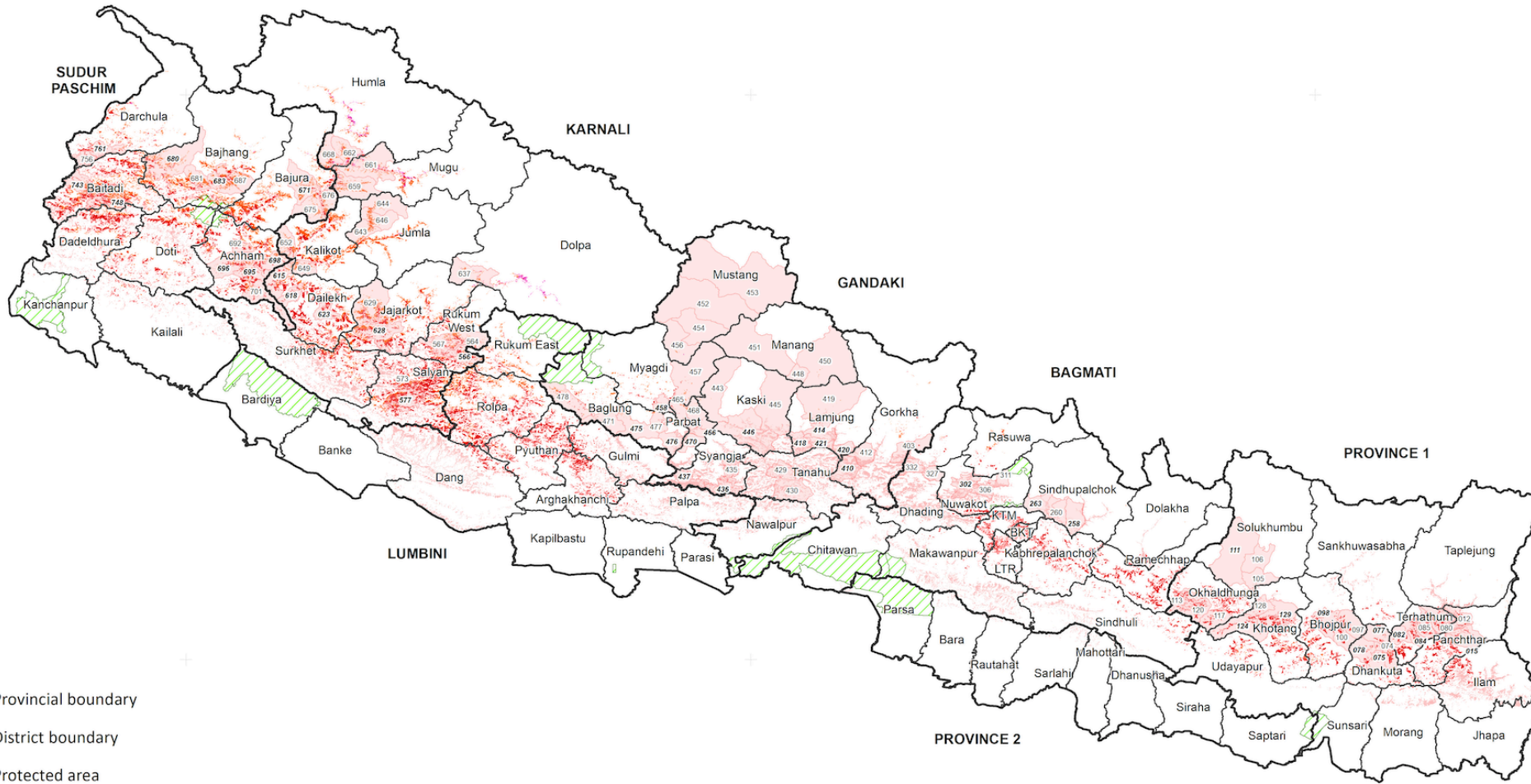
6. TARGET AREAS (1)



6. TARGET AREAS (2)

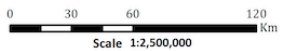


6. TARGET AREAS (3)



Legend

- Provincial boundary
- District boundary
- Protected area
- Project Municipality
- Walnut
- Pecan
- Macadamia
- Almond



Note:
The boundaries and names used on this map do not imply official endorsement or acceptance by the Survey Department, Government of Nepal. Urban municipality IDs are italicized and bolded.



6. TARGET AREAS (4) – 100 municipalities

District	Municipality Code	Municipality/ Rural Municipality
	82	Laligurans
	84	Myanglung
	85	Phedap
Dhankuta	74	Chhathar Jorpati
	75	Dhankuta
	77	Mahalaxmi
	78	Pakhribas
Bhojpur	97	Arun
	98	Bhojpur
	100	Pauwadungma
Khotang	124	Halesi Tuwachung
	128	Rawa Besi
	129	Diktel Rupakot Majhuwagadhi
Okhaldhunga	113	Champadevi
	117	Manebhanjyang
	120	Sunoshi
Solukhumbu	111	Solududhkunda
	105	Thulung Dudhkoshi
	106	Mapye Dudhkoshi
Total Priority Districts		7
Total Priority Municipalities		22

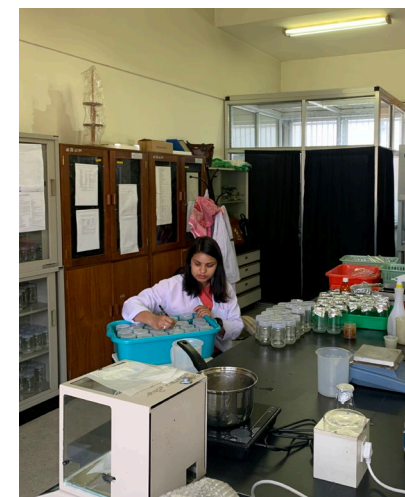
District	Municipality Code	Municipality/ Rural Municipality
Sindhupalchok	258	Chautara Sangachok Gadhi
	260	Indrawati
	263	Melamchi
Nuwakot	306	Likhu
	311	Tadi
Dhading	327	Netrawati Dabjong
	332	Tripura Sundari
	322	Gajuri
Total Priority Districts		3
Total Priority Municipalities		8

District	Municipality Code	Municipality/ Rural Municipality
	437	Galyang
Parbat	465	Jaljala
	466	Kushma
	468	Modi
	470	Phalebas
Mustang	452	Barhagaun Muktikhetra
	453	Dalome
	454	Gharapjhong
	456	Thasang
Manang	450	Nashong
	451	Neshyang
	448	Chame
Myagdi	457	Annapura
	458	Beni
Baglung	471	Badigad
	475	Galkot
	476	Jaimuni
	477	Kantekhola
	478	Nisikhola
Total Districts		10
Total Priority Municipalities		34

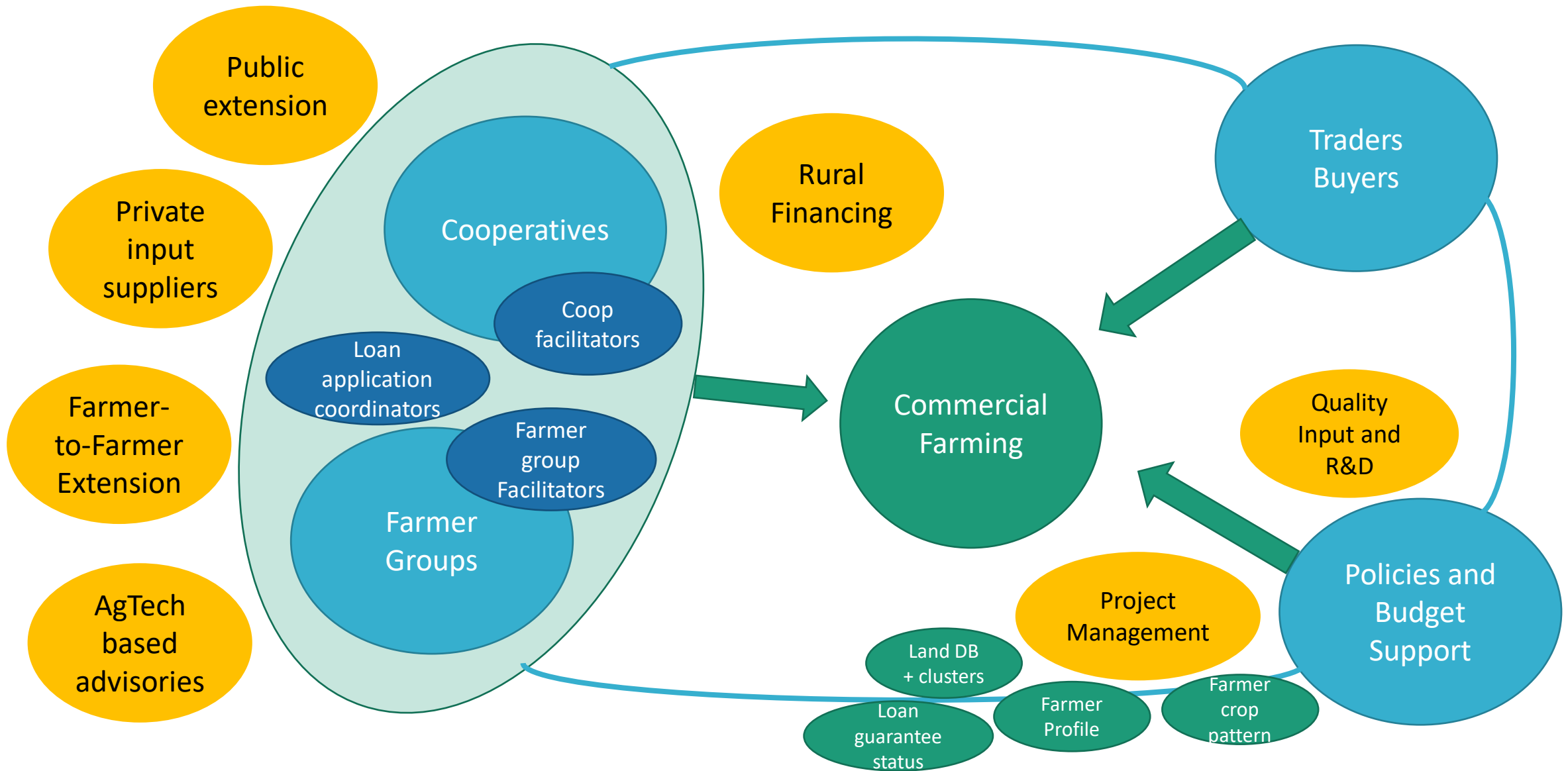
District	Municipality Code	Municipality/ Rural Municipality
Rukum West	564	Banfikot
	566	Musikot
	567	Sani Bheri
Salyan	573	Dhorchaur
	577	Sharada
Jajarkot	628	Chhedagad
	629	Junichande
Dailekh	615	Aathabis
	623	Narayan
	618	Chamunda Bindrasaini
Kalikot	649	Kalika
	652	Naraharinath
Jumla	643	Hima
	646	Sinja
	644	Kanakasundari
Mugu	659	Khatyad
	661	Soru
Humla	668	Tanjakot
	662	Adanchuli
Dolpa	637	Mudkechula
Total Priority Districts		9
Total Priority Municipalities		20

District	Municipality Code	Municipality/ Rural Municipality
Achham	692	Bannigadhi Jayagadh
	695	Kamalbazar
	696	Mangalsen
	698	Panchadawal Binayak
	701	Turmakhad
Bajura	671	Budhinanda
	675	Pandav Gupha
	676	Swami Kartik
Baitadi	743	Dasharathchanda
	748	Patan
Bajhang	681	Chabispathivera
	687	Masta
	683	Jaya Prithivi
	680	Bungal
Darchula	761	Shailyashikhar
	756	Lekam
Total Priority Districts		5
Total Priority Municipalities		16

Output 1	1.1 Crop and land suitability assessment
	1.2 Landuse DB, land classification and zoning (DB establishment, Data collection, training, update, DB management analysis and reporting)
	1.3 Nursery standards, regulations and inspection system (NARC, NCFD and MOLMAC Center training) + recurrent costs of nursery inspection and certification
	1.4 Horticulture station facility upgrade
	1.5 Staff training (together with 1.3)
	1.6 Coop and private input supplier training (nursery, agrovet, knowledge exchange program)
	1.7 Private nursery and lab facilities enhancement (scheme 6)
	1.8 Research (horticulture, OSV, crop specific technologies)
	1.9 Voluntary certification of nurseries
Output 2	2.1 Farmer group facilitation + extension
	2.2 Planting materials (together with 1.4 and 2.7)
	2.3 POPs development and training
	2.4 AgTech based advisories
	2.5 Farmer-to-farmer extension (together with 2.1)
	2.6 Carbon sequestration measurement
	2.7 Orchard and vegetable farming land development
	2.8 Credit Guarantee Fund + PFI capacity building + loan application facilitators
	2.9 Drip Irrigation
Output 3	3.1 Cooperative Promotion
	3.2 Cooperative Training (together with 3.1)
	3.3 VC Matching grant to coop
	3.4 VC matching grant to agrienterprises (PPP)
	3.5 VC grants to local infra (public)
	3.6 Food safety workshops (together with 3.1 & 3.2)
PM	CPMU
	PPMU
	NARC



8. Digital Platform for Commercial Farming



Thank you