

Contribution of Wild Edible Plants in Rural Food System

Implications for Policy, Research and Development

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security

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Study Rationale

- Natural resources, including wild edible plants (WEPs), is one of the key components of local food system
- FAO defines WEPs as “Plants that grow spontaneously in self-maintaining populations in natural or semi-natural ecosystems and can exist independently of direct human action”
- WEPs commonly consumed by **tribal and indigenous communities** (León-Lobos et al., 2022, Thakur et al., 2017);
- More than **440 wild plants** are known to be regularly consumed by many communities in Nepal (Panta et al., 2021, Joshi et al., 2007).
- Source of **food and nutrition**, have medicinal value; contribute significantly in the local food system, particularly **where and when other food is scarce** (Aryal et al., 2018);
Alternative source of income
- Despite numerous studies on importance of WEP, the magnitude of WEPs in rural food system in Nepal remains poorly understood.

Study

Framework

Objective



Methodology



Result Dissemination and Policy Advocacy

- **To estimate and assess the current role and future potential** of WEPs in addressing food and nutrition security in Dhading district of Nepal.
- To **utilize the evidence** generated by the study in policy advocacy for mainstreaming WEPs in government policies and plans.

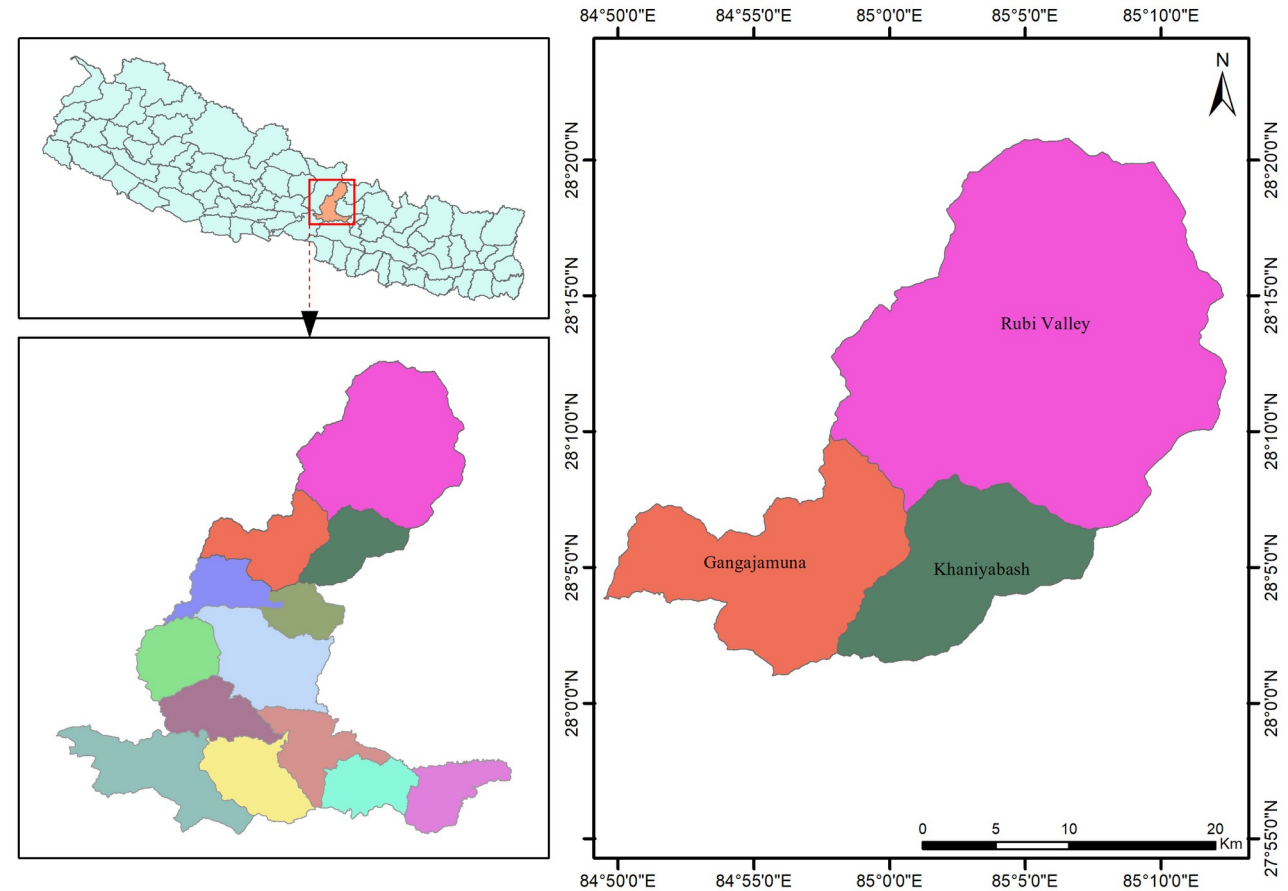
- January to March 2022.
- Participatory rural appraisal (PRA) methods
- Informant Interview (KII)
- Focus Group Discussion (FGD)
- Household questionnaire survey (249 hhs, respondent age > 30 years)
- Photo documentation.
- Microsoft Excel software

- Utilized platforms: local government planning meeting, community group meetings, division forest office, planning meeting at provincial and federal level.
- District-level policy dialogues organized with policymakers and networks.
- **Next step:** Provincial and Federal policy dialogue and further study

Study Area

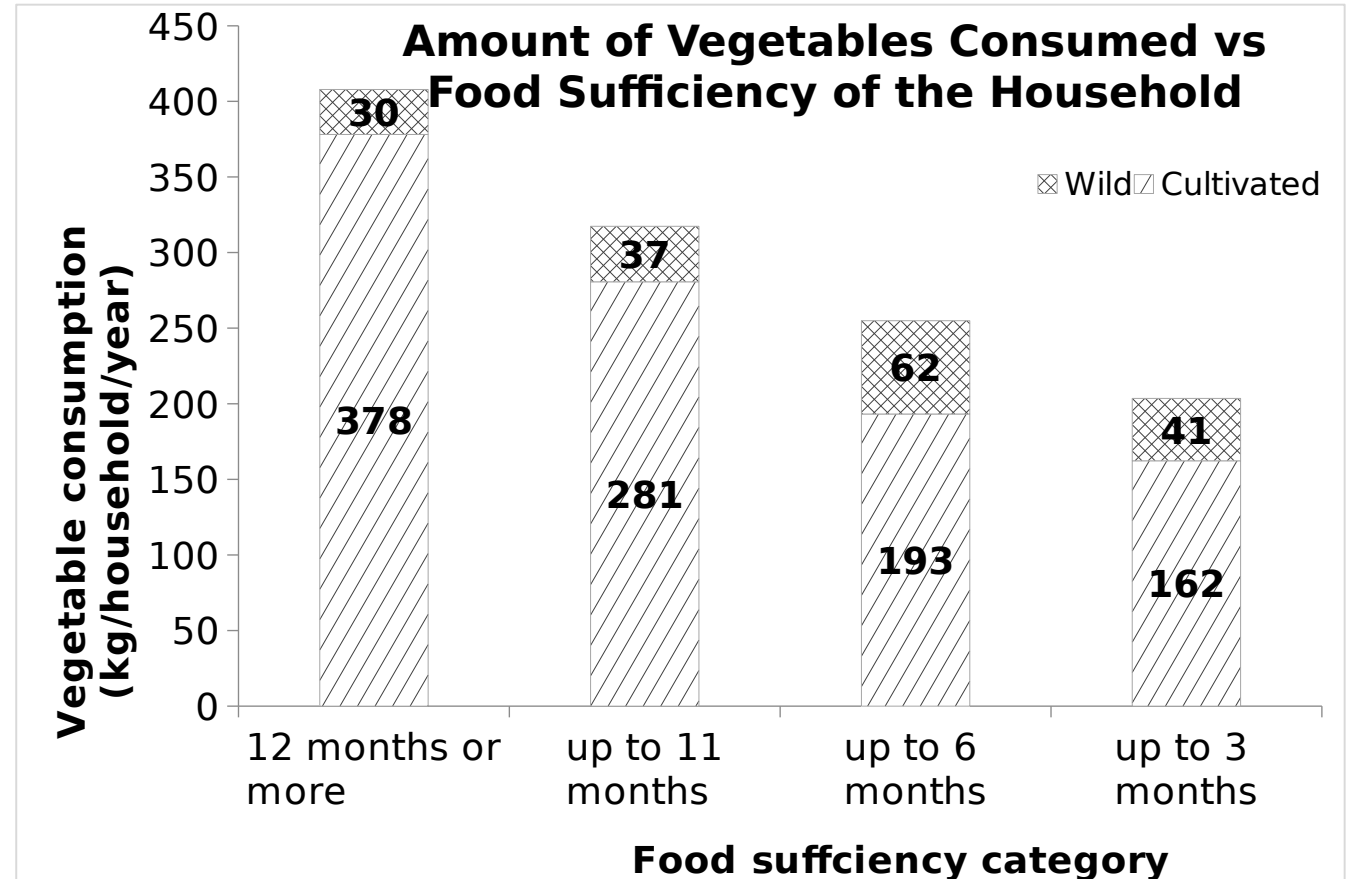
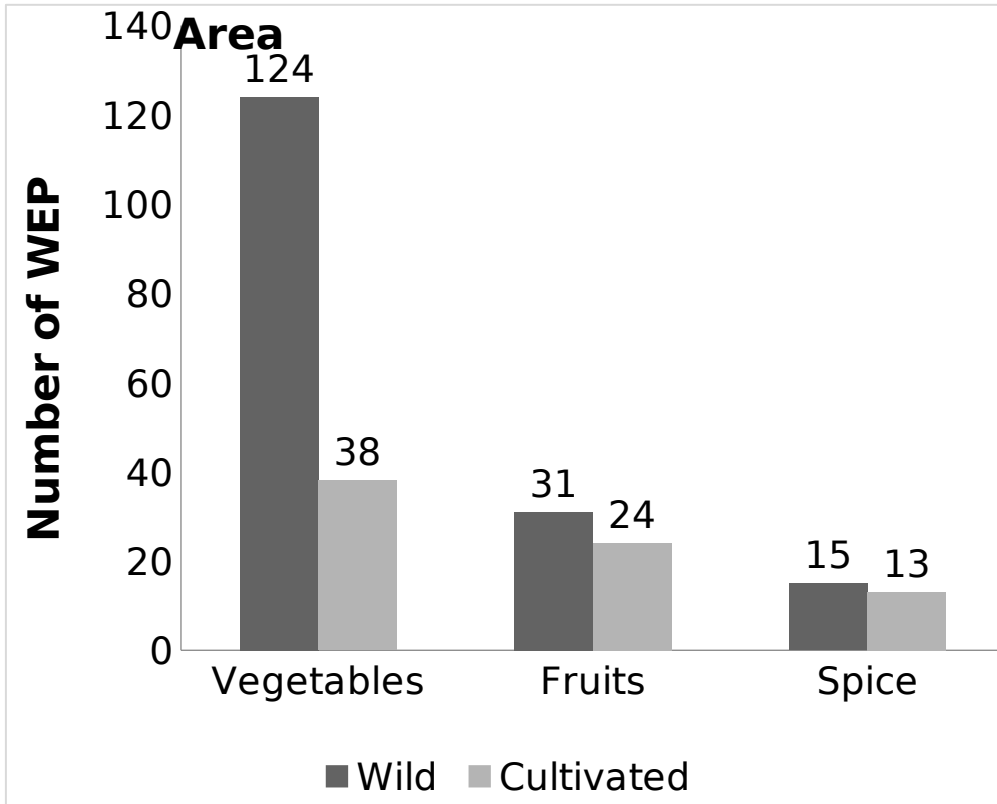
Three **northern rural municipalities** of Dhading district - Ganga Jamuna, Khaniyabas and Ruby Valley- **moderately food insecure**, limited/seasonal road access; and markets, and lower agriculture productivity.

Tamang major ethnic group; Agriculture is a key source of food and livelihood; harvest seasonal WEPs for home consumption.



Key Findings

Number of WEPs Listed in the Study



WEP Species :

- All households consumed WEPs in one or another form.
- Out of 257 plants listed from household survey data, two-thirds (170) were WEPs
- WEP availability decreased with increase in

The quantities of wild vegetables consumed is generally higher for food deficit families compared to relatively better-off families.

SN	Common Name	Local/Tamang Name	Types	English Name	Scientific Name
Vegetables					
1	Niguro	Topling dab, De dab, Nakuli dab, Kaling dab, Ki dab	4	Fern (fiddlehead ferns)	Diplazium maximum (Dauthe niguro), Diplazium esculentum (pani Niguro), Tectaria coadunata (Kalo Niguro)
2	Sisno	Pachyar polo	2	Common/Stinging nettle	Urtica dioica
3	Chyau	Nak syamot, Marmo Syamot, Phurmo syamot, Lemo Syamot Bekr Syamot, Di Syamot	6	Mushroom	Schulzeria umkowaan, T. fuliginosus, T. badius
4	Khole saag	Syong dab	1	Water cress	Nasturtium officinale
5	Latte Saag	Latte	1	Amaranthus	Amaranthus spp.
6	Ilame jhar jasta	Tiri/Pipa/Marya timra/dab	1	Potato weed/ Quick weed	Galinsoga parviflora
7	Chiple Saag	Tilo dab	1		Pouzolzia sanguinea
8	Toosa (Nigalo)	Matro/Mator	1	Himalayan Bamboo	Himalayacalamus brevinodus Stapleton
9	Gittha	Tisya	1	Air potato	Dioscorea bulbifera
10	Allo	Pajer	1	Himalayan nettle	Girardinia diversifolia

Commonly consumed WEPs in the study area

SN	Common Name	Local/Tamang Name	Types	English Name	Scientific Name
Fruits					
1	Ainselu	Palang	1	Raspberry	Rubus ellipticus
2	Chutro	Kerma	1	Tree turmeric	Berberis aristata
3	Kafal	Namun	1	Bayberry	Myrica esculenta
4	Ban tarul	Syamo/Syamot	1	Wild yam	Dioscorea hamiltoni
5	Okhar	Kado	1	Walnut	Juglans regia Linn.

Key Findings : WEP Consumption Status

- FGD output indicated 14% to 28% of meals included wild vegetables.
- The WEP share in total meals was higher in hilly areas (28%) (Ruby Valley) compared to lower altitude (Gangajamuna).
- WEPs in annual consumption amount (kg/household/year) for spices, fruits and vegetables are 13.6%, 19.6% and 17.2% respectively.

Average consumption (kg/household/year) of cultivated and wild plants

Type	Cultivated	Wild	Total (Kg)	Cultivated%	Wild%
Vegetables	236.3	49.2	285.5	82.8	17.2%
Fruits	77.9	19	96.9	80.4	19.6%
Spices	43.1	6.8	49.9	86.4	13.6%
Total	357.30	75.00	432.30		

WEP consumption motivation

Motives of WEP Consumption	Reported percent
It is nutritious	65
It is Tasty	62
Seasonal unavailability of cultivated crops	17

Immediate Output

- As an immediate output of policy dialogue based on this research findings, 50 CFUGs in Dhading in leadership of Division Forest Office of Dhading, has included WEPs in their operational plan.



श्री जनजाति महिला सामुदायिक वन उपभोग समिति, भेदिङ, रोल्पा मा.पा. वडा नं. २, धदिङको वन व्यवस्थापन कार्यले बन्दा २०७३

५.६ जंगली खानयोग्य वनस्पतिको संरक्षण तथा उपभोग किन आवश्यक छ? विषयमा पाइने कुल वनस्पति र खानयोग्य वनस्पतिको निश्चित सङ्ख्या प्राप्त गर्न कठिन छ। एक अध्ययनका अनुसार संसारमा लगभग ३,५०,००० प्रजातिका वनस्पतिहरू पाइन्छन् र जसमध्ये ८०,००० प्रजातिका खान मिल्ने छन्। यी मध्ये लगभग १५० प्रजातिका वनस्पतिको खेती मानिस तथा घरपालुवा पशुपन्छीका लागि गर्ने गरिएको छ। यस्तो जङ्गली अवस्थामा रहेका धेरै प्रकारका खानयोग्य वनस्पतिलाई खेती पद्धतिमा भित्र्याउन मिल्ने सम्भावना रहेको देखिन्छ। प्रायः जिल्लाको रुकुमपश्चिमी, खनियाबास र गंगाजमुना गाउँपालिकाहरूमा गरिएको अध्ययनले पनि जङ्गली खानयोग्य वनस्पति खाद्यान्न, आय आर्जनका साथै पोषण सुरक्षाको प्रमुख स्रोत भएको उल्लेख छ। नेपालमा मरिचो, चिन्चो, जङ्गली खानयोग्य वनस्पतिले खाद्य तथा पोषण सुरक्षामा योगदान दिँदै आएको छ। ग्रामीण/दुर्गम पारिवारिक पोषण र खाद्य सुरक्षामा जङ्गली खानयोग्य वनस्पतिको योगदान स्थानका गरिब तथा सीमान्तकृत समुदायका लागि जङ्गली खानयोग्य वनस्पति खाद्य तथा पोषण सुरक्षा, आय आर्जन र जीविकोपार्जनका महत्वपूर्ण स्रोत हुन्। त्यसैले यिनको संरक्षण, व्यवस्थापन र निरन्तर उपलब्धता सुनिश्चित गर्न सम्बन्धित सरोकारवालाहरूको ध्यान जानु आवश्यक देखिन्छ।

जङ्गली खानयोग्य वनस्पतिको संरक्षण तथा उपभोग किन आवश्यक छ?

- ग्रामीण क्षेत्रका समुदायमा जङ्गली खानयोग्य वनस्पतिको पोषण तथा खाद्य सुरक्षामा महत्वपूर्ण भूमिका छ।
- जङ्गली खानयोग्य वनस्पतिले खाद्य विविधीकरणमा महत्वपूर्ण योगदान दिन्छ।
- यो मौसम अनुसार सहज रूपमा पाइने र सबै वर्ग तथा जातको पहुँचमा हुन्छ।
- यी वनस्पतिहरू धेरै स्वादिता र पोषिला हुन्छन्।
- यस्ता धेरैसो जङ्गली खानयोग्य वनस्पतिमा औषधीय गुण रहेको जनविश्वास छ र विभिन्न अध्ययनहरूले पनि पुष्टि गरेको छ।
- ग्रामीण स्थानमा यस्ता जङ्गली खानयोग्य वनस्पति सङ्कलन र बिक्री गरेर आयआर्जन पनि गर्न सकिन्छ।
- जङ्गली खानयोग्य वनस्पति यस्ता प्राकृतिक स्रोत हुन् जुन प्राकृतिक रूपमै स्वतः नवीकरण हुने गर्दछन्।

तालिका

क्र. सं.	नेपाली नाम	के को रूपमा खाईन्छ?	कुन कुन भाग खाईन्छ?	वर्षमा कति पटक संकलन गरिन्छ?	जंगलमा भएको मध्य कति प्रतिशत उपभोग गरिन्छ?
१	काफल	फल	फल	एक पटक	८५
२	रैसेलु	फल	फल	दुई पटक	८०
३	अमला	फल	फल	तीन पटक	७०
४	जामुन	फल	फल	दुई पटक	५०
५	क्यामुना	फल	फल	दुई पटक	५०
६	वन तरुल	तरकारी, फल	जरा	दुई पटक	७०
७	जंगली च्याउ	तरकारी	फल	तीन पटक	५०
८	सिरानु	तरकारी	सुन्टा/कूल	पटक पटक	२०
९	कुरिलो	तरकारी	कलिलो मुना	एक पटक	४०

यि माथि उल्लेख गरिएका जंगली खानयोग्य वनस्पति स्थानीय उपभोक्ताहरूले परम्परागत तरिकाले जे जसरी उपभोग गरिरहेका छन्, सोही तरिकाले उपभोग गर्न पाइने छ। यसलाई थप प्रवर्द्धन गरी यसको दीर्घो व्यवस्थापनमा जोड दिइने छ।

कार्यक्रम लागू हुने मिति: २०८०/०४/०१

समाप्त हुने मिति: २०९०/०३/३१

Study Implications

- Important source during food deficit periods and have potential to address malnutrition
- Food and nutrition security policies and plans should explicitly incorporate wild edible plants (WEPs) promotion to tap its potential to food and nutrition security of rural indigenous communities.
- Mainstreaming **WEPs in community forest's operational plan** is necessary for its sustainable management
- WEPs traditional knowledge on verge of extinction; prioritize documentation and knowledge transfer
- Research on **proper species identification, their distribution, diversity, and assessment of their nutritional value** should be prioritized

Acknowledgment



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