Hippophae salicifolia D.Don 10029 Elaeagnaceae

Nomenclatural reference 1217 Govaerts, R. (2022): The World Checklist of Vascular Plants (WCVP). – Royal Botanic Gardens, Kew. Checklist dataset of 2022-12-08. Retrieved from https://sftp.kew.org/pub/data-repositories/WCVP/, viewed 4.3.2023.

Summary

Intrinsic Traits

Distribution	Hippophae salicifoliais native to the Himalayan region. It is considered endemic to the southern slopes of the Himalayas, occurring from the western Himalayas to Tibet. Its distribution spans across northwest India, Nepal, Bhutan, and southeastern Tibet. There is no evidence of this species being introduced outside its native range.
Abundance	Apart from some anecdotal information for Nepal, reliable data on the abundance of the species across iis range is not available.
Habitat	The species is commonly found on riverbanks, lakeshores, but also on slopes and rocky or erosion-prone terrains. Habitats include moist gravel, forest gaps, shrubby steppes, open shrublands, extending to temperate and sub-alpine zones, including cold deserts.
Regeneration	Vegetative reproduction is dominant, with the species regenerating rapidly through root turions, which are underground buds on horizontal roots capable of sprouting into new plants. This facilitates clonal growth and makes the plant a fast-growing pioneer species. It exhibits strong coppicing ability and readily produces suckers from its vigorous root system. Natural seed regeneration is scarce, making vegetative reproduction the primary mode of propagation.
Reproduction	The plant is dioecious, meaning male and female flowers are on separate plants, and it is not self-fertile. Pollination is predominantly anemophilous (wind-pollinated) as both flower types lack nectar, which limits insect attraction. Additionally, animals, especially birds, play a role in seed dispersal.
Plant Parts	Main plant part used is the fruit, but also leaves and barkare harvested.
Lifeform	Hippophae salicifolia is predominantly a shrub or small tree, with a growth form described as thorny and deciduous. It typically reaches heights between 2-7 meters but can grow as tall as 10–15 meters.
Systematics	The genus Hippophae includes seven species, all with Eurasian distribution. Only H. rhamnoides has a wide Euroasian distribution, the range of the other species is restricted to the Hinmalyan region, Tibet and south-central China.

Extrinsic Traits

Threat Status	Hippophae salicifolia has not been assessed globally by IUCN. At the national level, China classifies the species as Vulnerable (VU) in assessments from 2013 and 2017.
Threats	The primary threats vary by region. In India, rapid human interventions such as unscientific cutting and root-sucker collection practices, along with forest fires and extensive grazing, have led to forest loss. Habitat degradation in the central Himalaya is exacerbated by road construction and the unsustainable harvesting of the species for fruits, fuel, and fencing. In Sikkim, the species is regionally classified as Vulnerable (VU) due to habitat degradation and over-exploitation, while in Himachal Pradesh and Uttarakhand, it is listed as Near Threatened (NT). In Nepal, forest fires are a major threat, alongside encroachment and felling for fuelwood, particularly in the Dolpa region, where the species is considered locally Vulnerable. Additionally, the difficulty in harvesting the fruits leads to collectors cutting whole branches, which is a concern for the sustainability of the species.
Purpose	Willow-leaved Sea Buckthorn is widely utilized for its extensive medicinal properties. Oils, leaves, bark, and fruits are used to treat burns, ulcers, eczema, cardiovascular diseases, and radiation injuries. Rich in bioactive compounds, the plant aids in tissue regeneration, lipid regulation, and potentially cancer prevention. Its antioxidants and antibacterial properties are a focus in pharmaceuticals, cosmetics, and traditional Asian medicine. Nutritionally, its fruit is a rich source of vitamins A, C, B12, and E, as well as minerals and polyphenols. Consumed in juices or preserves, it also has high nutraceutical value. Environmentally, it stabilizes soil on fragile slopes, prevents erosion, and fixes nitrogen (60-180 kg/ha annually), enhancing soil fertility. It serves as a pioneer species in woodland restoration and windbreaks.
Use Fields	8 competing uses are reported. (The underlying standard of use types distinguishes a total of 27 use categories. The average number of uses based on 137 well-studied species is 7.)

Trade Trend	Trade volumes and trends for Hippophae salicifolia are not quantified in the available sources. Wild fruit collection exists in certain regions but commercial-level collection is not yet institutionalised. There appears to be mainly regional or local trade value in Nepal and India but emerging research could cause future demand beyond its native Himalayan region. The species is cultivated in India, whereas in Nepal cultivation is limited, though small initiatives have integrated the plant with crops like apple trees, yielding promising results. Agro-technological research on propagation, germination, and seed viability is however limited. Sustainability guidelines recommend harvesting fruits only from mature plants and limiting collection to 80% of the stock in designated areas. However, improper harvesting practices, such as cutting entire branches or plants, remain prevalent.
Legislation	The species is not protected by CITES and it is not included in the Annexes of the EC Habitats Directive.

Taxonomy and Identification

Taxonomy	Reference	
PoWO distinguishes 7 species in the genus: Hippophae gyantsensis (East Himalaya, Tibet), H. litangensis (China South-Central), H. neurocarpa (China South-Central, Qinghai, Tibet), H. rhamnoides (Eurasia), H. salicifolia (East Himalaya, Nepal, Tibet, West Himalaya), H. sinensis (China North-Central, China South-Central, Inner Mongolia, Qinghai), H. tibetana (China North-Central, East Himalaya, Nepal, Qinghai, Tibet)	1192	Plants of the World Online (POWO). Royal Bo
[Genus:] "5 temp. Euras. (Eur. 1)"	3753	Mabberley, D.J. (2017): The plant-book. 4th e

Synonyms

Taxon Present in Pharmacopoeias and other References

Name as used in Source	Status	Reference	
Hippophae salicifolia D.Don		3145	Brinckmann, J.A., Kathe, W., Berkhoudt, K, Harter, D.E.V. & Schippmann, U. (2022): A new global estimation of medicinal and aromatic plant species in commercial cultivation and their conservation status. Economic Botany 22(10): 1-15.
Hippophae salicifolia D.Don		3221	Goraya, G.S. & Ved, D.K. (2017): Medicinal plants in India. An assessment of their demand and supply. National Medicinal Plants Board & Indian Council of Forestry Research & Education, New Delhi & Dehradun. Retrieved from http://www.rcfceast.org/wp-conten
Hippophae salicifolia D.Don		3561	Quattrocchi, U. (2012): World dictionary of medicinal and poisonous plants. Common names, scientific names, eponyms, synonyms, and etymology. CRC Press, Boca Raton.
Hippophae salicifolia D.Don		8547	Ved, D.K. & Goraya, G.S. (2008): Demand and supply of medicinal plants in India. FRLHT, Bangalore.
Hippophae salicifolia Don		2156	FRLHT - Indian Medicinal Plants Database - http://www.medicinalplants.in/

Common Names

Common Name	Typ	Language	Country	Ref	
Aashuka	ver	Sanskrit		2155	ESON & ICIMOD (): MAPs-Net. Medicinal
Chichi	ver	Nepali		2155	
Chuck	ver	Hindi		4078	Ved, D.K., Sureshchandra, S.T. & al. (201
Daale chuk	ver	Nepali		2155	ESON & ICIMOD (): MAPs-Net. Medicinal
himalayahavtorn	ver	Swedish		1100	GRIN Database (Germplasm Resources In
Kaara chuk	ver	Nepali		2155	ESON & ICIMOD (): MAPs-Net. Medicinal
Kharpu	ver	Nepali		2155	
liu ye sha ji	ver	Chinese		1117	eFloras. Flora of China. http://www.efloras.
Phesakpo	ver	Nepali		2155	ESON & ICIMOD (): MAPs-Net. Medicinal
sea buckthorn	ver	English		3561	Quattrocchi, U. (2012): World dictionary of
Seabuck thorn	ver	English		2155	ESON & ICIMOD (): MAPs-Net. Medicinal
Taare chuk	ver	Nepali		2155	
Tarwa	ver	Hindi		4078	Ved, D.K., Sureshchandra, S.T. & al. (201
Weidenblättriger Sanddorn	ver	German		1222	CABI Digital Library. Compendium Forestr
Willow-Leaved Sea Buckthorn	ver	English		1123	Plants for a Future - www.pfaf.org
柳叶沙棘	ver	Chinese		1117	eFloras. Flora of China. http://www.efloras.

Distribution Range

Distribution Range	Ref	
"disjunct species in the southern slopes of the Himalayas"	3505	Swenson, U. & Bartish, I.V. (2002): Taxono
"Himalayan endemic. N Pakistan, Kashmir, NW India, Nepal (W & C), Sikkim, Bhutan, S Tibet"	8619	Ghimire, S.K., Sapkota, I.B., Oli, B.R. & Par
"Himalayan region across India, Nepal, Bhutan and South East Tibet "	4078	Ved, D.K., Sureshchandra, S.T. & al. (2016):
"Native to: East Himalaya, Nepal, Tibet, West Himalaya"	1192	Plants of the World Online (POWO). Royal B

"Native: Asia-Temperate: CHINA: China [Xizang Zizhiqu (s.)]; Asia-Tropical: INDIAN SUBCONTINENT: Bhutan, India (Himalaya), Nepal"	1100	GRIN Database (Germplasm Resources Info
"The native range of this species is Himalaya to S. Tibet."	1192	Plants of the World Online (POWO). Royal B

Distribution

Continent	Region	ICC	Status	Free Text	Ref
4 Asia-Tropical	40 Indian Subcontinent	BT	native		1100
		CN	native	"Xizang Zizhiqu (s.)"	1100
		CN	native	S Xizang	1117
		IN	native	"Himalaya"	1100
		IN	native	Himachal Pradesh, Uttar Pradesh, Sikkim and Arunachal Pradesh	4078
		NP	native		1100

Abundance / Local Population Size

ICC	Abundance	Reference	
NP	"occurs on the fragile lands with weak soil composition and unfertile river fords. Newly emerging plants are grown abundantly along the fords where the associates are lacking."	4126	Pyakurel, D. & Baniya, A. (201
NP	"Hippophae salicifolia D. Don and Hippophae tibetana Schlecht. are widely distributed in sub-Himalayan regions of Nepal."	4126	
NP	"Fairly common"	8619	Ghimire, S.K., Sapkota, I.B., O
NP	"Common"	2427	Choden Lama, Y., Ghimire, S.

Ecology

TypeEc	ICC	Ecology	Ref	
alti		"in the Himalayas be found at elevations between 2000-3700 m"	1113	Ecocrop. FAO. - http://ecocrop.f
alti		1500-3500m	3505	Swenson, U. & Bartish, I.V. (200
alti	CN	2800-3500 m	1123	Plants for a Future - www.pfaf.o
alti	NP	"H. salicifolia has been distributed from 2000-3600 m from msl whereas H. tibetana is distributed from 3300 – 4500 m altitude in Nepal"	4085	Rajchal, R. (2009): Seabuckthor
alti	NP	2100-3500m	8619	Ghimire, S.K., Sapkota, I.B., Oli
alti	NP	2200-3500m	2427	Choden Lama, Y., Ghimire, S.K
habit		"grows naturally on sandy soils in areas with a cold climate and can resist temperatures between -43 °C and +40 °C."	4107	Dincă, L., Holonec, L., Socaciu,
habit		"It can also be found on riverbanks, lakeshores, steep slopes, and other susceptible terrains"	4107	
habit		"on sandy and gravelly ground, occationally on rocky slops"	3505	Swenson, U. & Bartish, I.V. (200
habit	CN	"Moist gravel or stony areas, often beside rivers or streams"	1123	Plants for a Future - www.pfaf.o
habit	IN	"Notable rare species with a wide range of habitats were [...] Hippophae salicifolia (4 habitats) [...]," 3=Shady moist; 4=Forests; 13=Near settlement; 15=Road side	4127	Singha, A., Samant, S.S., Mano
habit	IN	"prefers to grow in low humidity, alluvial gravel, wet landslips and riverside"	4099	Pant, M.,, Lal, A. & Rani, A. (20
habit	IN	[genus:] "cold deserts of Himachal Pradesh, Jammu and Kashmir, Uttaranchal, Sikkim and Arunachal Pradesh"	4114	D.P Sharma, D.P. & Singh, N. (2
habit	NP	"along riversides, alluvial gravel"	2427	Choden Lama, Y., Ghimire, S.K
habit	NP	"found in gorges colonizing alluvial gravel, wet landslips and riversides in temperate and sub-alpine areas"	4126	Pyakurel, D. & Baniya, A. (2011
habit	NP	"Riversides, alluvial gravel, rocky slope, forest gap, shrubby steppes, open shrubland"	8619	Ghimire, S.K., Sapkota, I.B., Oli
regen		"growing [...] at a fast rate"	1123	Plants for a Future - www.pfaf.o
regen		"Horizontal roots also have root turions (underground buds) which sprout and give rise to another plant"	4126	Pyakurel, D. & Baniya, A. (2011
regen		"pioneer species [...] fast growing"	4085	Rajchal, R. (2009): Seabuckthor
regen		"rapid growth, strong coppicing"	4099	Pant, M.,, Lal, A. & Rani, A. (20
regen		"Reproduction occurs through suckers [...], while natural regeneration through seeds is scarce"	4107	Dincă, L., Holonec, L., Socaciu,
regen		"Seabuckthorn propagates by seeds but can regenerate well by vegetative means. Vegetative propagation is facilitated by 'root turions' present in the horizontal roots. These root turions are capable to give rise to individual plant."	4126	Pyakurel, D. & Baniya, A. (2011
regen		"The trees have an extensive and vigorous root system and sucker freely once established."	1123	Plants for a Future - www.pfaf.o
regen		"very fast growing"	1123	
repro		"60-75% seeds germinate in the natural condition"	8619	Ghimire, S.K., Sapkota, I.B., Oli
repro		"dioecious (individual flowers are either male or female, but only one sex is to be found on any one plant [...])"	1123	Plants for a Future - www.pfaf.o
repro		"favourite food of animals, especially birds"	4085	Rajchal, R. (2009): Seabuckthor
repro		"not self-fertile"	1123	Plants for a Future - www.pfaf.o
repro		"pollinated by Wind"	1123	
repro		"Pollination is anemophylous"	8619	Ghimire, S.K., Sapkota, I.B., Oli
repro		"Pollination via insects is impeded by the fact that both the male and female flowers lack nectarines which are instrumental for attracting insects. The pollination is, thus, extensively wind-dependent."	4099	Pant, M.,, Lal, A. & Rani, A. (20

repro	"The female flower depends almost entirely on the wind for pollination because both the male and the female flowers have no nectar and they rarely attract bees or other insects."	4085	Rajchal, R. (2009): Seabuckthor

Life Form

LF_Standard	Duration	Lifeform	Woodiness	Height	Ref	
shrub					3221	Goraya, G.S. & Ved, D.K. (201
shrub					3221	Goraya, G.S. & Ved, D.K. (201
shrub or tree				2-7m	1113	Ecocrop. FAO. - http://ecocrop.
shrub or tree				up to 5m	2155	ESON & ICIMOD (): MAPs-Net
shrub or tree				2-3(-10)m tall	1117	eFloras. Flora of China. http://
shrub or tree					1192	Plants of the World Online (PO
tree				6-10(-17)m	4085	Rajchal, R. (2009): Seabuckth
tree				up to 15m	1123	Plants for a Future - www.pfaf.

Threat Situation

ICC	PopulationStatus	Ref	
	"Rapidly increasing human interventions, unscientific cutting and root-sucker collection practices, forest-fires and extensive grazing of animals in the forests have resulted in severe loss of forest stocks."	4099	Pant, M.,, Lal, A. & Rani, A. (2
IN	"In Indian Himalayan Region, anthropogenic interferences have led to degradation of natural stands of the species."	4099	
IN	"Natural habitat of Hippophae salicifolia in Central Himalaya is continuously being degraded due to habitat destruction and harvesting. Although logging is prohibited, habitat destruction has increased because of regular road construction, repairing and broadening activities. In addition, Hippophae resources are continuously being harvested by lopping (both partial and complete) for fuelwood, fodder and fruits in higher Himalayan region."	4129	Dhyani, D., Dhyani, S. & Maikh
IN	"NT" [Near Threatened] in Jammu and Kashmir, Himachal Pradesh and Uttaranchal	4125	Kumar, A., Mitra, M., Adhikari,
IN	"unsustainable harvesting from plants for fuel, fencing and fruits along with road broadening activities in Central Himalaya are the main cause of habitat destruction"	4129	Dhyani, D., Dhyani, S. & Maikh
IN	Regional threat assessments: Himachal Pradesh: NT (2003), Sikkim: VU (2014), Uttarakhand: NT (2003)	4078	Ved, D.K., Sureshchandra, S.T
IN	Status: Lahauil Vally VU [Vulnerable], Himachal Pradesh NT [Near Threatened]; Threats: Habitat degradation, over-exploitation	4127	Singha, A., Samant, S.S., Man
IN	VU (Vulnerable) in Sikkim	4128	Ved. D.K. & Suma, T.S. (2015)
NP	"Due to the difficulty in harvesting the fruits, collectors often used to cut the whole branches (especially for H. salicifolia), which is the big concern for the sustainability of the species."	4126	Pyakurel, D. & Baniya, A. (201
NP	"Forest fire is the major threat regarding the sustainability of Seabuckthorn."	4126	
NP	"Local status : Vulnerable [in Dolpo]. Threat is due to encroachment and felling for firewood."	2427	Choden Lama, Y., Ghimire, S.
NP	"locally vulnerable in Dolpa due to encroachment and felling for fuel"	8619	Ghimire, S.K., Sapkota, I.B., O

Threat Status: Global and Supranational

Threat Status: Countries

ICC	Region	Threat Category		Assd.	Publ.	Ref	
CN	VU	Vulnerable			2017	3293	Haining Qin & al. (2017): Threatened species list of
		Name used in redlist:	Hippophae salicifolia	Accepted	Accepted Name:		Hippophae salicifolia D.Don
CN	VU	Vulnerable – 易危			2013	3319	Chinese Academy of Sciences (2013): Chinese biodi
		Name used in redlist:	Hippophae salicifolia	Accepted	Accepted Name:		Hippophae salicifolia D.Don

Purpose of Use

Purpose		Ref
<multiple>	"Fruits acidic, astringent, antihemorrhagic, an antidote for food poisoning, also for catarrh, aphonia and influenza. Syrup from the very sour fruits given in lung complaints. Oil from seeds, pulp, tender branches and leaves for healing wounds, treating burns, cuts, ulcers, wounds, eczema, vaginal and rectal mucositis. The bark or the fruit paste applied to treat pains of the pelvic girdle or the joints; bark paste used to heal wounds and ulcers; bark taken orally as blood purifier. Veterinary medicine, juice from the berries given to eradicate poison taken by livestock."	3561
	"increasing soil fertility in fields with high slopes where it prevents erosion and landslides, but also as firewood and as forage"	4107
	"serving as a measure of biodiversity conservation, soil conservation, medicines, food, fodder and fuel wood"	4085
	The fruit is edible, rich in vitamins, often made into jam and has medicinal properties. The plant can be grown for soil and water conservation and slope stabilization. It can be used as firewood, as pasture and fodder, for windbreaks and shelterbelts. The leaves can be used as green manure."	1113
animal food - general	"The seed cake can also be used as animal feed due to its rich protein and mineral content"	4099

environmental use - general	"A symbiotic mycorrhizal fungus, which is identified as Flankia (Actinomycetes), has been found on seabuckthorn roots. This symbiosis between the fungus and seabuckthorn results in root nodule formation that can fix the maximum amount of atmospheric nitrogen. It is estimated that the capacity of seabuckthorn roots to fix nitrogen is twice that of soybean"	4085
	"excellent pioneer species for providing shelter and helping to establish woodland condition [...] excellent for stabilising the soil, especially on slopes, and are often planted in the Himalayas to prevent land slips on the mountain slopes"	1123
	"Seabuckthorn has a mighty and well-developed root system. A five year old plant can have 3 m deep taproot with horizontal feeder roots extending up to 6-10 m. Over 80% of the horizontal roots are in the top 0.2-0.8 m soil; helping to prevent erosion."	4126
	"The roots are in symbiotic association with Frankia in its nodules and nodulation varies with plant height [...]. This Frankia association accounts for atmospheric nitrogen fixation, hence adding to the soil-fertility [...]. The expanded root-system helps to fix atmospheric nitrogen @60 - 80kg/ha/ annum."	4099
	"useful in reclaiming and conserving soil, especially on fragile slopes, due to its extensive root system. [...] Riverbanks, lakeshores, steep slopes and other susceptible terrain can benefit from the establishment of seabuckthorn. Windbreaks made up of H. salicifolia are effective at preventing wind erosion in open areas"	4099
	[genus:] "possesses outstanding qualities such as nitrogen fixing (60 to 180 kg/ha/ year), as soil binder, reduces topsoil erosion by 30 per cent and retains soil moisture up to 80 per cent"	4114
food - general	"High amounts of vitamins A, B1, B12, E, K and polyphenols account for its vast nutraceutical properties"	4099
	"The leaves of Hippophae salicifolia are used to make tea"	1117
	Fruit highly nutritious, rich in vitamins (notably vitamin C), minerals, and bioflavonoids, and contains essential fatty acids; can be consumed raw, cooked; used in preserves and juices; oil content can reach up to 9.2%	1123
material - general	"the fruit is used for polishing gold and silver"	1117
medicine - general	"In China and the former Soviet Republics, medicinal sea buckthorn was used to treat the harmful effects of radiation, mouth burns, inflammation, and gastric ulcers [...]. The oil from this species blocks ultraviolet rays and helps in regenerating tissues [...]. The sea buckthorn oil, leaves and bark are known for their medicinal properties and have been used in treating the symptoms of the high number of lipids in blood, gingivitis, eye, or skin diseases, as well as cardiovascular diseases [...]. In China and Russia, the fruits have been used for years as prime material in alimentation and medicine."	4107
	Oils derived from its branches, leaves, and fruit treat burns, eczema, and radiation injuries. Internally, it aids cardiac health, stomach, and intestinal issues. The fruit's bioactive compounds are under investigation for potential cancer prevention and treatment properties.	1123
medicine - phytomedicinal product	The plant forms a part of patented herbal formulations for the prevention and management of senile dementia [...] as well as for prevention and management of coryza (common cold)	4124
medicine - source of pharmaceutical agent	"superiority of H. salicifolia over other close relatives in terms of bioactive components"	4099
	"The oil has traditionally been described as potent antioxidant and is endowed with properties beneficial in cancer cure, cardiovascular risk reduction, skin diseases and gastrointestinal ulcer and liver protections [...]. H. salicifolia oil showed antibacterial property. The oil has been described as having potential for use in cosmetics, health products and nutraceuticals."	4124
medicine - traditional Asian medicine	"traditional component of herbal medicines in Tibet"	4085

Purpose: Standardized Use Fields

Purpose: Fields of Use	Frequency
<multiple>	4
animal food - general	1
environmental use - general	6
food - general	3
material - general	1
medicine - general	2
medicine - phytomedicinal product	1
medicine - source of pharmaceutical agent	2
medicine - traditional Asian medicine	1

Purpose: Number of Use Fields

Purpose: Number of use fields

Taxon used in 8 different standardized use categories (max. 27 categories possible).

Plant Parts Used

Plant Part (standardized)	Plant Part (free text)	Remark	Ref	
bark	Bark		4125	Kumar, A., Mitra, M., Adhikari, B.S. & Rawat,
bark	Bark		4107	Dincă, L., Holonec, L., Socaciu, C., Dinulică,
fruit	Fruit		4125	Kumar, A., Mitra, M., Adhikari, B.S. & Rawat,
fruit	Fruit		2427	Choden Lama, Y., Ghimire, S.K. & Aumeeruc
fruit	Fruit		4107	Dincă, L., Holonec, L., Socaciu, C., Dinulică,

fruit	Fruit	2156	FRLHT - Indian Medicinal Plants Database -
fruit	Fruit	3221	Goraya, G.S. & Ved, D.K. (2017): Medicinal p
leaf	Leaf	4107	Dincă, L., Holonec, L., Socaciu, C., Dinulică,

Scale and Trend of Trade

ICC	Trade Trend	Ref	
	"Despite all its valuable properties, the plant has an ignored status- both commercially and ecologically. The pharmaceutical, nutraceutical and cosmetic industries continue resorting to other Hippophae species which have comparatively lower nutrient content."	4099	Pant, M.,, Lal, A. & Rani, A. (2014): Hippophae salicifolia D.Don. A plant with multifarious benefits. International Journal of Pharmacy and Pharmaceutical Sciences 6(11): 37-40.
	"Production of Seabuckthorn juice has started since 1990s in trekking routes of Manang and Mustang district. Fruit juice collected from Seabuckthorn is mostly centralized in Kathmandu and juice are made and sold mostly in supermarkets. Some cottage industries of Karnali and Seti zones are producing Seabuckthorn juice on local level."	4126	Pyakurel, D. & Baniya, A. (2011): NTFPs. Impetus for conservation and livelihood support in Nepal. A reference book on ecology, conservation, product development and economic analysis of selected NTFPs of Langtang Area in the Sacred Himalayan landscape. WWF Nepal, Kathmandu.

Utilization: Commodity, Cultivation, Harvest, Sustainability, Trade

Type	ICC	Utilization	Ref	
cul		"Plant can be propagated from seeds and cuttings. But the rate of regeneration is faster in seed culture than through cuttings. [...] Nutrient contents have been reported to be higher in the seabuckthorn growing sites than those of barren mountain lands."	8619	Ghimire, S.K., Sapkota, I.B., O
cul		"There are no established agro-techniques for promoting its cultivation. Only preliminary studies have been done to provide information regarding germination and viability of H. salicifolia seeds and propagation via cuttings."	4099	Pant, M.,, Lal, A. & Rani, A. (2
cul	IN	cultivated	3145	Brinckmann, J.A., Kathe, W.,
cul	IN	cultivated and wild harvested	3221	Goraya, G.S. & Ved, D.K. (201
cul	NP	"Cultivation of Seabuckthorn is not practiced in Nepal as it is abundant in the natural stage [...]. However, few initiatives were taken towards the propagation of Seabuckthorn [...]. H. salicifolia and Apple are intercropped in some places with good results. "	4126	Pyakurel, D. & Baniya, A. (201
har	NP	"Commercial level collection has not been institutionalized but it was observed that the fruit was excessively collected in few places (for example-in Khambachen region of Kangchenjunga Conservation Area in 2008)."	4126	
sus	NP	"It will take about four to five years for Seabuckthorn to become mature and the plants yields fruits for the next 12-15 years. Fruits should be collected only from the mature plants. Quantification of harvestable stock should be assessed before issuing the collection permit. It has been estimated that 80% harvest of fruits from collection area is considered sustainable."	4126	
sus	NP	"Proper harvesting technique is lacking. The thorny nature of the plant causes difficulty in harvesting. In some places, harvesting is done by cutting the whole branches or even the whole plant is destroyed. In this regard a long forceps proves best to collect the fruits. Fruits can be harvested once in 2-3 years. The harvesting intensity should be maintained <80% of fruit leaving at least 20% intact."	8619	Ghimire, S.K., Sapkota, I.B., O
tra	NP	"Fruits of seabuckthorn is used to make more than 200 industrial products [...]. Seed oil is also used in various products of food items, drug and cosmetics [...]. However, in Nepal, value addition and commercialization of seabuckthorn is very much limited to the extraction and trade of sour concentrate or juice. [...]. In Dolpa, sour concentrate (‘chuk’) prepared from fruits are traded in limited extent."	8619	
tra	NP	"Species traded in smaller amounts include [...]Hippophae salicifolia D. Don"	2427	Choden Lama, Y., Ghimire, S.

Legislation

Regulation

ICC	Regulation	Ref	
NP	"There is no policy about the royalty rate, processing and export"	8619	Ghimire, S.K., Sapkota, I.B., O

Bibliography

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Abbreviations and Standards

ICC = ISO Country Codes Ref = literature reference

Altitude: Low / High = minimum and maximum limits of altitude range [m]

Legislation: Source Taxon = name of taxon as contained in legislation

Utilization: TypeUtil

TypeUtil	*TypeUtilLong*
com	commodity
cul	cultivation
exp	export
har	harvest
imp	import
man	management
price	price
rem	remark
socu	socio-cultural significance
sus	sustainability
tra	trade
trend	trend and scale of trade

Distribution Status: Standard

Status	*Explanation*
chk	check entry
nat	native
int	introd., established
adv	introduced, not established
ocd	occurrence doubtful
unc	status unclear
ext	extinct
cul	cultivated
sou	source doubtful
ica	introduced (casual or naturalized)
don	doubtfully native
pex	(presumably) extinct
ali	casual alien
nzd	naturalized
nna	not native
dpn	status doubtful, possibly native
abs	absent but reported in error

Common names: Type

TypeShort	*Type*
?	<unknown>
ayn	ayurvedic name
hom	homoeopathic name
pha	pharmaceutical name
scn	standardized common name
tra	trade name
ver	vernacular name

Ecology: TypeEcol

TypeEcol	*Explanation*
alti	altitude
grow	growth rate
habit	habitat
morph	morphology
regen	regeneration
repro	reproduction