

Table 6: Diversity of Ornamental plants

No.	Common name	Scientific name	Family	Habit
1.	Orchid	---	Orchidaceae	Herb
2.	Phillipines orchid	<i>Denderobuim sp.</i>	Orchidaceae	Herb
3.	Rose	<i>Rosa indica L.</i>	Rosaceae	Shrub
4.	Carnation	<i>Dianthus caryophyllus</i>	Caryophyllaceae	Herb
5.	Chrysanthemum	<i>Chrysanthemum indicum</i>	Asteraceae	Herb
6.	Dahlia	<i>Dahlia sp.</i>	Asteraceae	Herb
7.	Bryophyllum	<i>Bryophyllum sp.</i>	Crassulaceae	Herb
8.	Khursani ful	<i>Achania malvaviscus L.</i>	Malvaceae	Shrub
9.	Christmas tree	--	pinaceae	Tree
10.	Thuja	Thuja sp.	Cupressaceae	Shrub
11.	Gladiolus	<i>Gladiolus gandavensis L.</i>	Iridaceae	Herb
12.	Poinsettia	<i>Euphorbia pulcherrima L.</i>	Euphorbiaceae	Herb
13.	Marigold	<i>Tagetus erecta L.</i>	Asteraceae	Herb
14.	Poppy flower	<i>Papaver rhoeas L.</i>	Papaveraceae	Herb
15.	Geranium	<i>Geranium sp.</i>	Geraniaceae	Herb
16.	Hibiscus	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Herb
17.	Juniper	<i>Juniperus communis L.</i>	Cupressaceae	Shrub

Table 7: Diversity of Medicinal Plants

No.	Comman name	Family	Habit	Scientific name	Plant parts used	Medicinal uses
1.	Amala	Euphorbiaceae	Tree	<i>Phyllanthus emblica L.</i>	Roots, seeds	Jaundice, asthma, bronchitis, laxative
2.	Ghiu kumari	Liliaceae	Succulents	<i>Aloe vera (L.) Burm.f.</i>	leaves	Cooling effect, used against piles
3.	Panchaule	Orchidaceae	Herb	<i>Dactylorhiza hataqirea (D.Don) Soó</i>	root	Dysentery, diarrhoea chronic fever
4.	Tulasi	Labiatae	Herb	<i>Ocimum tenuiflorum L.</i>	Leaves, seeds	Antipyretic, cough cold
5.	Neem	Meliaceae	Tree	<i>Azadirachta indica A.Juss.</i>	Leaves, barks	Antidandruff uses, skin problem remedies
6.	Gandhe	Asteraceae	Herb	<i>Ageratum conyzoides (L.) L.</i>	leaves	Treatment in cuts and injuries
7.	Coconut	Arecaceae	Tree	<i>Cocos nucifera L.</i>	fruit	Lowers the rate of heart diseases, reduces belly fat
8.	False daisy	Asteraceae	Herb	<i>Eclipta prostrata (L.) L.</i>	Fruit	Fever, liver tonic, wounds, skin infections
9.	Calotropis	Apocyanaceae	Herb	<i>Calotropis gigantea (L.) Dryand.</i>	Leaves, fruits	Diabetes, migraine, muscle pain

Table 8: Diversity of Spices and Condiments species

No.	Common name	Scientific name	Habit	Family	Plant parts used
1.	Onion	<i>Allium cepa L.</i>	Herb	<u>Amaryllidaceae</u>	Chopped bulbs
2.	Garlic	<i>Allium sativum L.</i>	Herb	<u>Amaryllidaceae</u>	Chopped bulbs
3.	Chili	<i>Capsicum annum L.</i>	Herb	Solanaceae	Dry pods along with seeds
4.	Turmeric	<i>Curcuma longa L.</i>	Herb	Zingiberaceae	Tuberous rhizome
5.	Coriander	<i>Coriandrum sativum L.</i>	Herb	<u>Apiaceae</u>	Fresh leaves and dried seeds
6.	Curry leaves	<i>Murraya koenigii (L.) spreng</i>	Shrub	Rutaceae	Fresh leaves
7.	Tejapatta	<i>Cinnamomum tamala (Buch.-Ham.) T.Nees & Eberm.</i>	Tree	Lauraceae	Bark, leaves
8.	Pudina	<i>Mentha spicata L.</i>	Herb	lamiaceae	Fresh leaves

Table 9: Other crop diversity with multiple uses

S.n	Common name	Scientific name	Habit	Family	Uses
1.	Napier	<i>Pennisetum purpureum</i> Schumach.	Herb	Poaceae	Fodder
2.	Sisam	<i>Dalbergia sisoo</i> (roxb.)	Tree	Legumionasae	Fodder and as a fuel
3.	Bakaini	<i>Melia azedarach</i> L.	Tree	Meliaceae	Fodder and fuel
4.	Neem	<i>Azadirachta indica</i> L.	Tree	Meliaceae	Fodder and also medicinal value plant
5.	Bayar	<i>Ziziphus mauritiana</i> Lam.	Tree	Rhamnaceae	Fruit and fodder
6.	Pithari	<i>Trewia nudiflora</i> var. <i>dentata</i> Susila & N.P.Balakr.	Tree	Euphorbiaceae	Fodder
7.	Asare	<i>Lagerstroemia reginae</i> Roxb	Tree	Lythraceae	Fodder and ornamentals
8.	Mulberry	<i>Morus alba</i> L.	Tree	Moraceae	Fodder
9.	Bamboo	<i>Phyllostachys nigra</i> (Lodd. ex Lindl.) Munro	--	Poaceae	Fodder
10.	Badahar	<i>Artocarpus lakoocha</i> Roxb.	Tree	Moraceae	Fodder
11.	Bar	<i>Ficus benghalensis</i> L.	Tree	Moraceae	Religious value
12.	Peepal	<i>Ficus religiosa</i> L.	Tree	Moraceae	Religious value
13.	Swami	<i>F. benjamina</i> L.	Tree	Moraceae	Religious value
14.	Titepati	<i>Artemisia vulgaris</i> L.	Herb	Asteraceae	Medicinal value and religious value
15.	Gurjo	<i>Tinospora cordifolia</i> (Thunb.) Miers	Climbers	Menispermaceae	Fodder
16.	Dumri	<i>Ficus racemosa</i> L.	Tree	Moraceae	Fodder

4. CONCLUSION

Home garden not only supports or reutilizes the time and land of the people but also the home garden is a promising approach to ensuring household food security. The home garden is on the farm itself where mixed cropping approaches produce multiple crop species with an enormous purpose. In the context of agrobiodiversity conservation home garden plays a vital role in engaging people and making use of their knowledge on it. From day to day needed vegetables and fruits to less abundance but with high importance persuing condiments, feeders and medicinal plants home garden is assimilating every possible component to increase local food security as well as building the food system stronger and healthier. Household garden contributes to the household economy as well as to their species richness by increasing the diversity index. Study areas conclude not only the food security problem, but a home garden is also fixing the other important task i.e. women empowerment. During their leisure time women could make up their work more useful and meaningful and the result getting is aiding them mentally, emotionally and also financially. We know the importance and beneficial reasons for the existence of home garden; the main agenda should primarily focus towards the mechanism of its protection and also towards its continuation for not being extinct. Also, proper policy should be stepped up to promote and conserve the home garden diversity.

5. DECLARATIONS

5.1 Fundings

There are no fundings granted for this research.

5.2 Competing interests

The authors do not have any type of competing interests.

5.3 Data availability

Primary data were available through field surveys conducted by authors and for literature review, secondary information was accessed through open access journals and websites.

5.4 Authors Contribution

The authors have a significant role in manuscript preparation and conducting surveys.

REFERENCES

- Anonymous. (n.d.). GIS Map of Itahari sub-metropolitan city | Itahari Sub-Metropolitan City Office. Retrieved May 26, 2020, from <http://itaharimun.gov.np/en/node/26>
- CBS. 2015. Population Census In Nepal. Ministry of Population and Environment, 111(3), 51-57.
- Daly, A. J., Baetens, J. M., De Baets, B. 2018. Ecological diversity: Measuring the unmeasurable. *Mathematics*, 6(7). <https://doi.org/10.3390/math6070119>
- Gautam, R., Sthapit, B., Subedi, A., Poudel, D., Shrestha, P., Eyzaguirre, P. 2009. Home gardens management of key species in Nepal: A way to maximize the use of useful diversity for the well-being of poor farmers. *Plant Genetic Resources: Characterisation and Utilisation*, 7(2), 142-153. <https://doi.org/10.1017/S1479262108110930>
- Gautam, R., Sunwar, S., Subedi, A., Shrestha, P., & Sthapit, B. R. 2009. Home Gardens and Their Roles in Domestication of Wild and Uncultivated Plant Genetic Resources in Nepal. *Acta Horticulturae*, (806), 677-684. <https://doi.org/10.17660/actahortic.2009.806.84>
- Hammer, D. A. T., Ryan, P. D., Hammer, Ø., & Harper, D. A. T. 2001. Past: Paleontological Statistics Software Package for Education and Data Analysis. In *Palaeontologia Electronica*. 4(1). Retrieved from http://palaeo-electronica.org/http://palaeo-electronica.org/2001_1/past/issue1_01.htm.
- Itahari climate, 2020. Average Temperature, weather by month, Itahari weather averages - Climate-Data.org. (n.d.). Retrieved March 29, from <https://en.climate-data.org/asia/nepal/eastern-development-region/itahari-29979/>
- Kerekhoff. 2010. Measuring biodiversity of ecological communities.
- Khanal, S., Khanal, D., Kunwar, B. 2019. Assessing the Structure and Factors Affecting Agrobiodiversity of Home Garden at Kathari Rural Municipality, Province 1, Nepal. *Journal of Agriculture and Environment*, 20(August), 129-143. <https://doi.org/10.3126/aej.v20i0.25039>
- Kumar, A., Plants, A., Jnanesha, A. C., Plants, A. 2019. Medicinal Herbs for Home Gardens and their Uses. (March).

- Magurran, A. 2004. *Measuring Biological Diversity*. Blackwell Publishing, p. 256.
- MOPE. 2017. Ministry of Population and Environment (MoPE) Singha Durbar, Kathmandu.
- Neelamegam, R., Premkumar, K. B., Sowmiya, S. A., Sabana, A. R. F. 2015. Floristic Composition and Diversity Assessment of Home garden Plants in a Rural Village , Swamithoppe , Kanyakumari District , Tamil Nadu , India. 3(11), 901–913.
- Newbery, D. M. 1995. M. A. Huston, *Biological Diversity: the coexistence of species on changing landscapes*. Cambridge University Press. ISBN 0-521-36930-4 (pbk). 681 + xix. pages. £24.95. *Journal of Tropical Ecology*, 11(4), 568–568. <https://doi.org/10.1017/S0266467400009135>
- Peet, R. K. 1974. The Measurement of Species Diversity. *Annual Review of Ecology and Systematics*, 5(1), 285–307. <https://doi.org/10.1146/annurev.es.05.110174.001441>
- Semu, A. A. 2018. The Study of Homegarden Agrobiodiversity, Practices of Homegardening and Its Role for <i>In-Situ</i> Conservation of Plant Biodiversity in Eastern Hararghe, Kombolcha Town Oromia Regional State Ethiopia. *Open Journal of Forestry*, 08(02), 229–246. <https://doi.org/10.4236/ojf.2018.82016>
- Shrestha, J., Shrestha, R. 2019. SFD Report Itahari Nepal Final Report. Retrieved from www.sfd.susana.org
- Sunwar, S., Thornström, C. G., Subedi, A., Bystrom, M. 2006. Home gardens in western Nepal: Opportunities and challenges for on-farm management of agrobiodiversity. *Biodiversity and Conservation*, 15(13), 4211–4238. <https://doi.org/10.1007/s10531-005-3576-0>
- Thapa, S., Prasai, A., Rawal, S., Ghimire, A. 2020. A case study of medicinal plants and their usage by the local community of Dilasaini Gaunpalika , Baitadi district , Nepal. *Archives of environment science*. 5(1). <https://doi.org/10.26832/24566632.2020.050107>
- Vineeta, V., Banga, U., Vishwavidyalaya, K., Sarkar, B. C., Banga, U., Vishwavidyalaya, K., Vishwavidyalaya, K. 2019. AGRICULTURE & FOOD : e- Newsletter. (August).
- Yamane, Y., Kularatne, J., Ito, K. 2018. Diversity of cropping patterns and factors affecting homegarden cultivation in kiboguwa on the eastern slopes of the uluguru mountains in tanzania. *Agriculture (Switzerland)*, 8(9), 1–20. <https://doi.org/10.3390/agriculture8090141>.

