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Phytosociological structure of Skyland forests at Wari, Dir Upper, Khyber Pakhtunkhwa, Pakistan

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The recent study was carried out to evaluate the Phytodiversity of Skyland forests at tehsil Wari district Dir Upper Khyber Pakhtunkhwa, Pakistan. The field survey was carried out from October 2018 to June 2019. The random stratified sampling design was utilized and collected 89 relevés and pile up in the TURBOVEG database. Different community organized from releves by modifying TWINSPAN community categorization analysis. The characteristics of these communities evaluated by (TWINSPAN) Two way indicator species analysis utilizing the host JUICE Program and associated among topographic, edaphic, and environmental changeable through Dentrended Correspondence Analysis (DCA). On the base of edaphic factors five different communities, i.e. *Pinus-Berberis* community, *Pinus-Viburnum* community, *Abies-Viburnum* community, *Pinus-Abies* community and *Abies-Picea* community was set up in the Skyland forest. Approximately minimum 10m distance was kept between quadrates of the same formation. The large quantity/ tree cover of plant was estimated through braun-Blanquet Scale and evaluated various factor. Particularly the anthropogenic interruption is the main reason of disturbing of different communities in the study area of Skyland forest.

Keywords: Phytosociology, Phytodiversity, Releve, Multivariate analysis, Skyland forests, Pakistan.

INTRODUCTION

Vegetation is a component which holds distinctiveness in structure and physiognomy adequately great sufficient to allow its separation from further such component (Hussain and Ilahi, 1991). The plants, soil and climate are linked to one another. The variance in all of these units may create a variation in the correlated further component. The survival and foundation of a community show the plant habitation state due to which they build up (Malik, 1986). The relationship of phytosociology with plant, composition, classification, and development is due to strong association among the plant species and physical environment (Allaby, 2004). For the vegetation analysis, vegetation mapping, and preservation of biodiversity it give useful methods. (Rieley and Page, 1990; Ewald, 2003; Biondi, 2011). The similar and dissimilar plant species in a plant community is determined by the habitat difference, time and biotic relations. (Khan et al., 2013). The every ecosystem health, dependable of plant biodiversity (Ruiz et al., 2008) and therefore for the ecosystem managing and conservation of biodiversity the vegetation classification is required. The different vegetation

community type present in Dir, Swat and adjacent areas. The Swat area was studded from time to time (Beg and Khan, 1984; Hussain et al., 1992; Hussain et al., 1995; Peer et al., 2007; Ahmad et al., 2009; Sher and Al-Yameni, 2010; Ahmad et al., 2010; Rashid et al., 2011; Khan, 2012; Ilyas et al., 2012; Khan et al., 2011, 2013; Ahmad et al., 2014; Haqet al., 2015; Sharifullah et al., 2016). There is a kumrat valley which has a dense vegetation of different community need to research and document the vegetation. The aims of the present study to investigate and evaluate the vegetation and recognized plant communities in the area. Furthermore to determine the potential ecological factors such as altitude and edaphic property of plant vegetation

MATERIALS AND METHODS

Study area

In 1996 the district Dir upper was declared as a separate district of Khyber-Pakhtunkhwa. The longitudes of the study area is 71° 32' to 72° 22', towards East while the latitudes is 35° 04' to 35° 46,' toward North. Two sub-divisions in upper Dir district, i.e. Dir and Wari. The two subdivisions are further divided and separated into five Tehsils, named are Kalkot, Wari, Barawal, Dir, and Tehsil Sheringal. (District health profile Upper Dir 2005). in the north side the Chitral located, in the east district Swat, while the south with district Lower Dir and in the west with republic of Afghanistan.The total area of upper Dir district 3,699 km². (Sharifullah et al., 2016). There are 5 Hospitals, 11 Dispensaries, 2 Rural Health Centers, 34 Basic Health Units, 2 Maternal and Child Healthcare Center, 1 Tuberculosis (TB) Clinic, 2 System Health Check (S.H.C) and 3 Leprosy Clinic in the Upper Dir district. (District profile report Upper Dir January 3, 2014). The climate as typically continental type there are 4 seasons that are, winter, summer autumn and spring. The winter season is comparatively long, sever and cold. (Hazrat et al., 2016). The common fauna of the research area are goats, cows, sheep, jackals, monkeys, lizards, snakes, sparrows, pigeon while the flora are *Pinus wallichiana, Juglan regia*, *Abie spindrow*, *Pinus roxburghii*, *Picea smithiana*, *Viburnum grandiflorum*, *Taxus baccatta*, *Quercus baloot*, *Olea ferruginea* and *Morus alba*. The area is hilly and mountainous, but the agriculture is carried out in the slopes of the hills and as well as in the valley also. Two major crops maize and wheat are grown in the area.

Phytosociological analysis and plant Vegetation surveys

Vegetation was examined from August 2017 to August 2018. Eighty-nine vegetation relevés of 10 m× 10 m were put in stratified forested and sparingly wooded areas, sporadic to the extent achievable yet limited by accessibility. Approximately minimum 10 m distance was kept between quadrates of the similar formation. The Braun-Banquet scale was used for the expected Tree cover/plenty of vascular plants. Global Positioning system (GPS) was utilized for the observing of height and coordinates of the study area. The subsequent scale used for tree cover/Abundance calculation.

Cover/Abundance Scale: Cover < 5 %

r 1-2 plants (rare).

\+ 1-5 (-10) plants (scarce).

1 > 10 plants (numerous, abundant), Cover > 5 %

2 Cover 5-25 %.

4 Cover 25-50 %.

4 Cover 50-75 %.

5 Cover 75-100%.

Plants collections and identification

The collected samples of plants were compressed properly, dehydrated. Flora of Pakistan used for the plant identification. The Pakistan Plant Database was utilized for the plant nomenclature *(www.tropicos.0rg/Project/Pakistan).*

Edaphology

For the physical and chemical analysis of soil different site selected and sample samples were collected from the study area via: PH, texture, organic matter, calcium carbonate, nitrogen, potassium, calcium, phosphorus, silt, clay and sand.

Data storage and analysis

89 relevés was pile up in the TURBOVEG (V.2.101) database (Hennekens and Schaminee, 2001) and standard XML files exported to JUICE (V. 7.0.99) (Tichy, 2002). The recorded data were organized by modified TWINSPAN classification to find out the effective species associations in host program JUICE. Rolecek et al., (2009).For the creating cluster 5 false species level (0, 2, 5, 10 and 20) and jaccard difference was put as TWINSPAN parameters. Threshold level for all

frequency and cover were place at 10/100 to determine the dominant, and constant species of all relationship in the synoptic table at p> 0.05. For the determination of relationship between species, ecological variable and plots Dentrended Correspondence Analysis (DCA) R Project version R2.9.0 was used for the analysis

RESULTS

Association:

5 species cut level (0, 2, 5, 10 and 20) and utilized jaccard difference like classification parameters. Below 5 groups were divided (Fig 1). Small synoptic table of relations reflecting reliability values of considerable species which are significant at P≤0.05. Later than Table 2 reflecting the Fischer test and percentage frequencies.

Ordination (Dentrended Correspondence Analysis)

DCA ordination was implemented to find out the relationship between the association and ecological variants. The size of the DCA axis-1 is longer than DCA axis-2 as shown in the table. Clay, PH, CaCO3 and Nitrogen content are more important along DCA axis-2. Dominant species, samples and environmental variables (Fig 2) along DCA axis-2 so that *Viburnum* and *Berberis* relationship is powerfully and positively associated to clay, PH, $CaCO_3$ and Nitrogen contents.

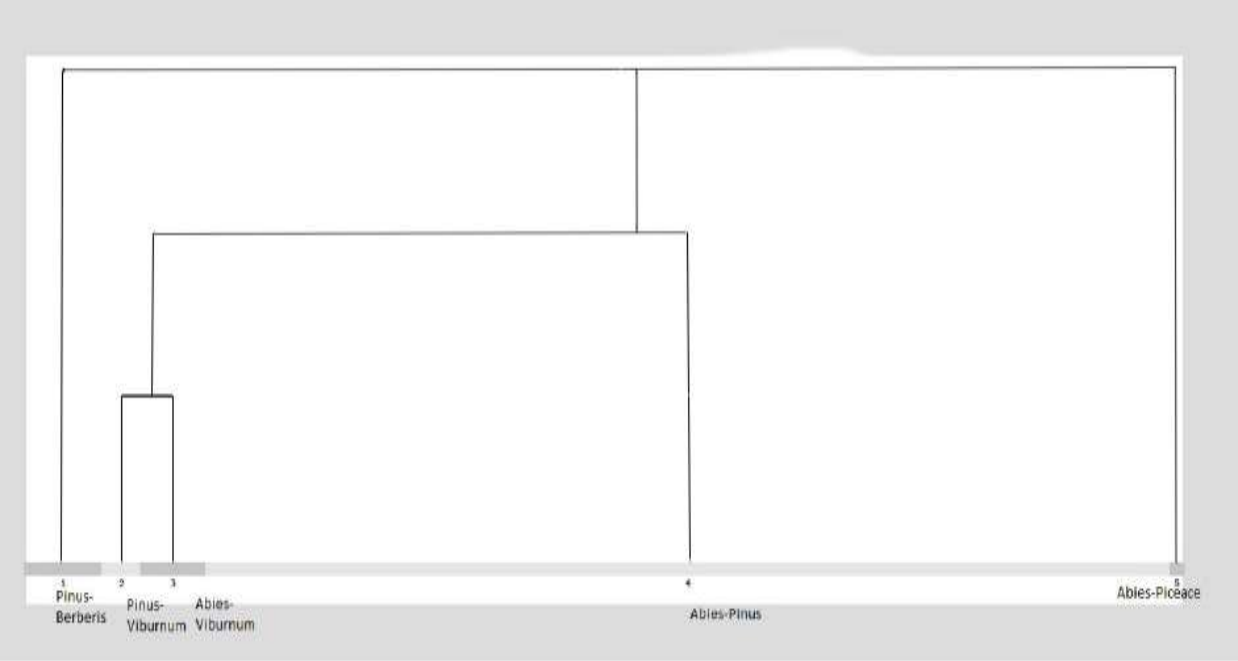

Figure 1*:* Cluster dendrogram of five associations of Skyland mountain tehsil Wari District, Upper Dir

Table 1. Conclusion of Dentrended Correspondence analysis.

	DCA1.	DCA2	DCA3.	DCA4.
Eigenvalues	0.6448	0.3588	0.3167	0.2434
Decorana values	0.7006	0.5101	0.2943	0.2317
Axis length	5.5439	3.8254	2.8517	2.4695

Table 2: percentage frequency measurement of the Synoptic table with and examination of columns of Synoptic Table Phi Coefficient is shown as superscripts for the dominant species in the (5 columns) of Skyland mountains at tehsil wari district Dir upper Khyber Pakhtunkhwa Pakistan. Synoptic table with Percentage (%) Frequency.

Community No.	1	2	3	4	5
No. of relevés	11	8	8	26	36
Pinus roxburghii	100	100	60	100	65
Abie spindrow	40	47	100	100	100
Viburnum grandiflorum	30	100	100	70	12
Ajuga bracteosa	80	76	100	100	_
Plantago lagopus	13	65	56	_	12
Achillea millefolium	11	_	23	100	70
Arum jacquenmontii	56	_	67	19	81
Erigeron Canadensis	100	40	60	_	45
Berberis lyceum	100	11	_	_	_
Chenopodium album	43	_	71	100	_
Medicago sativa	_	11	19	56	50
Picea smithiana	_	_	_	49	100
Artemisia vulgaris	_	_	12	17	_
Viola canescens	_	22	16	15	_
Rumex crispus	_	_	11	5	13
Taxus baccatta L.	_	_	_	9	14

Pinus- Berberis community (PB)

This community is based on 11 releves and situated at an elevation of 2800 to 2850m. The assessment of fidelity columns in a synoptic table with cover threshold dominant species was *Pinus roxburghii*, *Berberis lyceum*, *Erigeron Canadensis*, *Ajuga bracteosa*, *Arum jacquenmontii*, *Chenopodium Alba*, *Abie spindrow*, *Viburnum grandiflorum*, *Plantago lagopus* and *Achillea millefolium* respectively. The soil of this community is slightly acidic PH ranging from 5.8 to 6 and loamy sand. Chemical analysis reflect that Organic matter is 1.01 to 1.51 %, CaCO3 content ranged from 5.7 to 7.4 %. Soil mineral analysis show that Phosphorus was 3.6 to 4.9 ppm, Potassium 99 to 117 ppm and Nitrogen ranged from 0.076 to 0.07% in this community. The soil examination show that the soil in this community restricted clay 9 to 13% silt 25 to 29 % and sand 60 to 64 % (Table 3). The ecological position of the above community was poorly disturbed due to heavy grazing, deforestation and fuel wood extraction because this community was near to the Bandajat of the local community. *Pinus roxburghii* in this community was cut badly due to their wood for timber and *Indigofera heterantha* was used for animal fodder and as well as for fuel wood, so badly affected. Due to animal influences the uppermost covering was removed from this community due to overgrazing, deforestation and harvesting because it was easily accessible.

Pinus- Viburnum community (PV)

Pinus- Viburnum community was found on 8 relevés and was found at higher elevations range from 2851 to 2900m. The soil texture of this community was sandy clay loam to sandy loam having an acid PH range from 5.6 to 6. Organic matter in this community was from 2.01 to 2.31%, while CaCO3 content is from 8.9 to 9.34%. According to soil mineral analysis Potassium was

from 116 to 142 ppm, Phosphorus was 4.3 to 5.08 ppm and Nitrogen was 0.107 to 0.123 % in this community. According to the soil texture examination, soil in this community has sand from 51 to 62 %, silt 30 to 38% and clay from 8 to 13 %. (Table 3). The analysis of constancy columns in a synoptic table with cover threshold predominant species was *Pinus roxburghii*, *Viburnum grandiflorum*, *Ajugabracteosa*, *Plantago lagopus*, *Abie spindrow*, *Erigeron Canadensis*, *Viola canescens*, *Berberis lyceum* and *Medicago sativa* respectively.

Abies- Viburnum community (AV)

This community is also based on 8 relevés and was located at a height of 2901 to 2939m. The study of constancy columns in a synoptic table with cover threshold prime species was *Abies pindrow*, *Viburnum grandiflorum*, *Ajuga bracteosa*, *Chenopodium album*, *Arumj acquenmontii*, *Pinus roxburghii*, *Erigeron Canadensis*, *Plantago lagopus*, *Achillea millefolium*, *Medicago sativa*, *Viola canescens*, *Artemisia vulgaris* and *Rumex crispus* respectively.

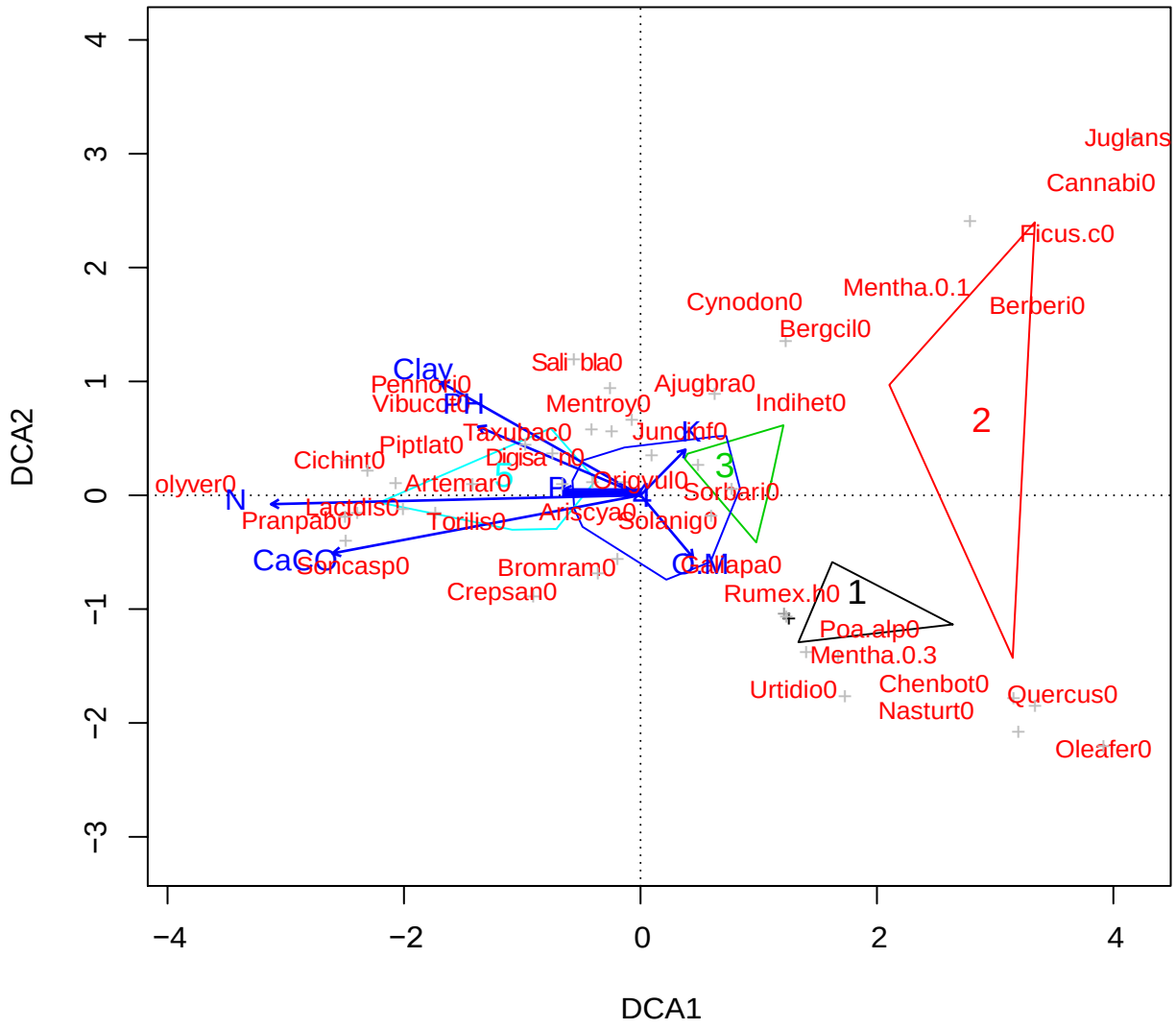

Figure 2: DCA combines triplot of relieves, variability and environmental, species

Table 3: Chemical and physical property analysis of soil in different Communities of Skyland forest.

Sr	Communities	CaCO3 %	O.M %	PH	N %	P ppm	K ppm	Clay %	Silt %	Sand %	Texture Class
1	PB	7.4	1.07	6.1	0.07	3.9	111	11	25	64	Sandy loam
2		6.6	1.01	6.1	0.06	4	114	13	27	60	Sandy loam
3		5.7	1.51	5.8	0.1	3.8	114	9	27	64	Sandy loam
4		6.1	1.03	5.9	0.08	3.6	117	9	29	62	Sandy clay loam
5		6.5	1.31	5.9	0.09	4.8	99	11	26	63	Sandy clay loam
6		6.3	1.41	5.8	0.1	4.9	101	12	2.8	60	Sandy loam
7		8.8	2.01	6.1	0.1	5.12	128	6	36	58	Sandy loam
8		8.7	2.06	6.3	0.09	4.99	123	7	35	58	Sandy loam
9		8.5	2.05	6.1	0.1	3.68	125	12	31	57	Loamy sand
10		8.9	2.1	6	0.11	4	121	9	30	61	Loamy sand
11		9	2.2	6	0.11	4.1	128	6	33	61	Loamy sand
12	PV	9.42	2.29	5.9	0.12	4.15	142	8	34	58	Loamy sand
13		8.9	2.01	6	0.12	4.34	139	8	30	62	Loamy sand
14		9.34	2.24	5.8	0.12	4.3	136	12	36	52	Loamy sand
15		9.23	2.31	5.6	0.11	4.6	129	11	38	51	Loamy sand
16		9.09	2.06	5.9	0.11	5.08	133	9	34	57	Loamy sand
17		9.091	2.11	5.8	0.12	5.07	134	10	33	57	Loamy sand
18		9.17	2.24	5.9	0.12	4.32	119	11	37	52	Sandy clay loam
19		9.21	2.29	6	0.12	4.21	116	13	31	56	Sandy clay loam
20	AV	5.4	2.38	6.7	0.13	5.38	101	13	25	62	Sandy clay loam
21		5.3	2.43	6.8	0.12	5.31	97	12	24	64	Sandy loam
22		5.81	2.33	6.5	0.13	4.71	74	12	20	68	Sandy loam
23		5.99	2.47	6.7	0.13	4.81	99	13	20	67	Sandy loam
24		6.47	2.55	6.7	135	4.88	104	8	21	71	Sandy loam
25		6.01	2.39	6.8	0.13	4.39	101	9	19	72	Sandy clay loam
26		6.06	2.45	6.6	0.25	5.28	103	10	17	73	Sandy clay loam
27		6.09	2.51	6.8	0.2	5.41	107	11	14	75	Sandy clay loam
28	AP	6.04	1.54	7	0.19	4.9	100	14	17	71	Sandy clay loam
29		6.09	1.79	6.9	0.21	5.1	104	13	19	68	Sandy loam
30		7.13	2.1	6.7	1.21	4.8	111	10	18	72	Sandy loam

31		6.9	1.91	6.9	1.31	5.2	117	13	18	69	Sandy loam
32		7.01	2.02	6.6	1.47	4.7	101	10	17	73	Sandy loam
33		7.51	1.98	6.8	1.34	4.9	112	9	21	70	Sandy loam
34		7.84	1.68	6.9	1.54	5.1	99	14	22	64	Sandy clay loam
35		7.1	2.13	6.9	1.75	4.8	93	14	21	65	Sandy clay loam
36		7.98	1.69	7	1.39	5.2	99	13	20	67	Sandy clay loam
37		8.1	1.5	6.8	1.03	4.33	101	15	21	64	Sandy clay loam
38		8.46	1.34	6.9	1.07	4.71	111	14	26	60	Sandy loam
39		8.34	1.49	6.8	1.02	5.2	117	13	25	62	Sandy loam
60	PA	8.01	1.51	7	1	4.9	116	11	23	66	Sandy loam
61		8.44	1.48	7.1	0.99	4.7	113	11	25	64	Loamy sand
62		8.91	1.39	6.9	0.99	4.6	121	19	27	54	Loamy sand
63		9.1	1.41	6.8	0.91	5.1	119	17	25	58	Loamy sand
64		8.9	1.51	6.8	0.93	4.71	110	16	26	58	Loamy sand
65		9.31	1.71	6.9	0.88	4.65	114	14	24	62	Loamy sand
66		9.97	1.49	7	0.86	4.11	111	13	27	60	Loamy sand
67		10.01	1.79	6.9	0.66	4.13	123	9	27	64	Loamy sand
68		10.41	1.89	6.8	0.69	4.23	120	11	26	67	Loamy sand
69		10.91	1.99	6.6	0.29	4.01	101	9	20	71	Sandy loam
70		11.09	2.01	6.5	0.24	4.7	97	11	17	72	Sandy loam
71		11.41	2.03	6.4	0.27	4.11	100	17	23	60	Sandy loam
72		11.89	1.09	6.5	0.17	4.24	103	18	28	54	Sandy clay loam
81		11.79	1.011	6.6	0.21	4.39	119	17	27	56	Sandy clay loam
82		12.21	1.21	6.4	0.24	5.1	116	18	24	58	Sandy clay loam
83		13.11	1.19	6.2	0.19	4.91	121	19	23	58	Loamy sand
84		13.39	1.11	5.9	0.11	4.47	111	17	28	55	Loamy sand
85		12.94	1.09	5.8	0.09	4.13	103	21	29	50	Loamy sand
86		11.91	1.03	5.9	0.07	4.11	107	11	29	60	Loamy sand
87		12.13	0.99	6	0.08	4.29	109	10	31	59	Loamy sand
88		12.91	0.76	6.1	0.06	4.51	116	10	29	61	Loamy sand

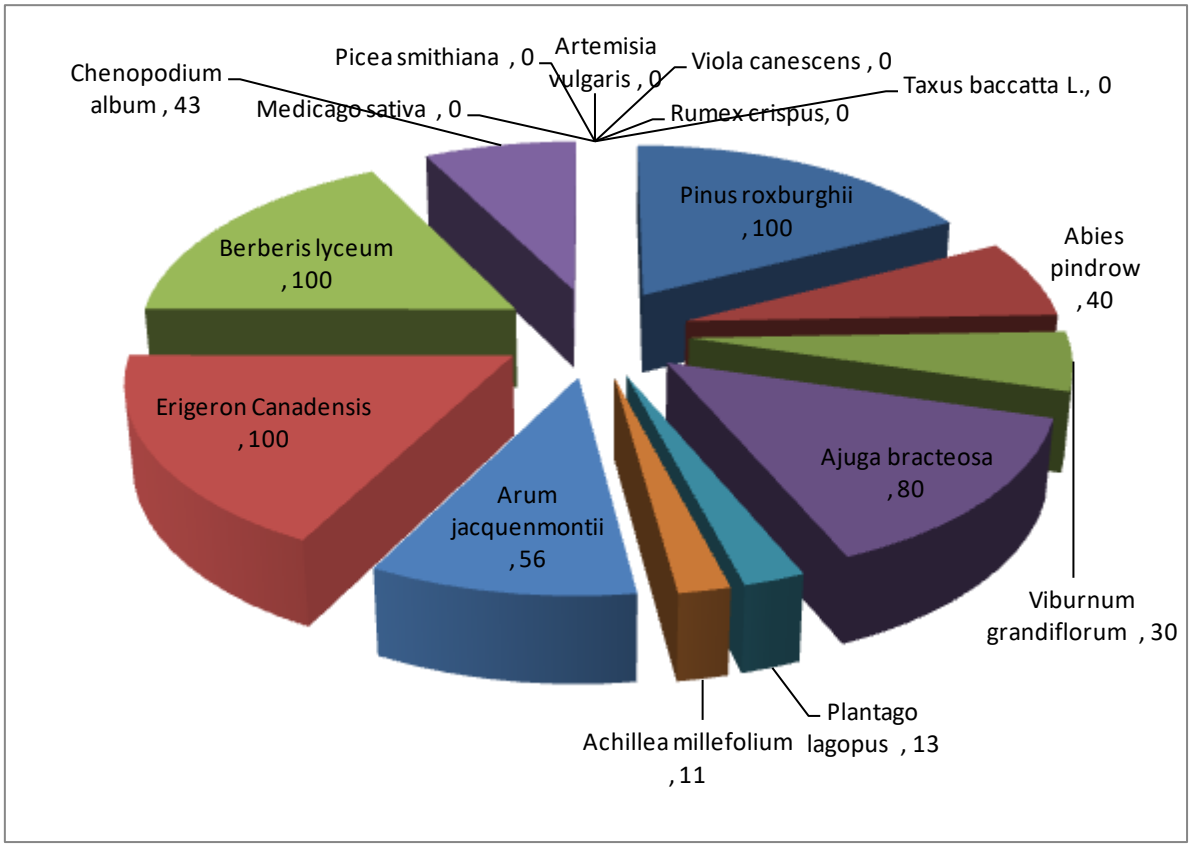

Figure 3: Percentage (%) of predominant plant species

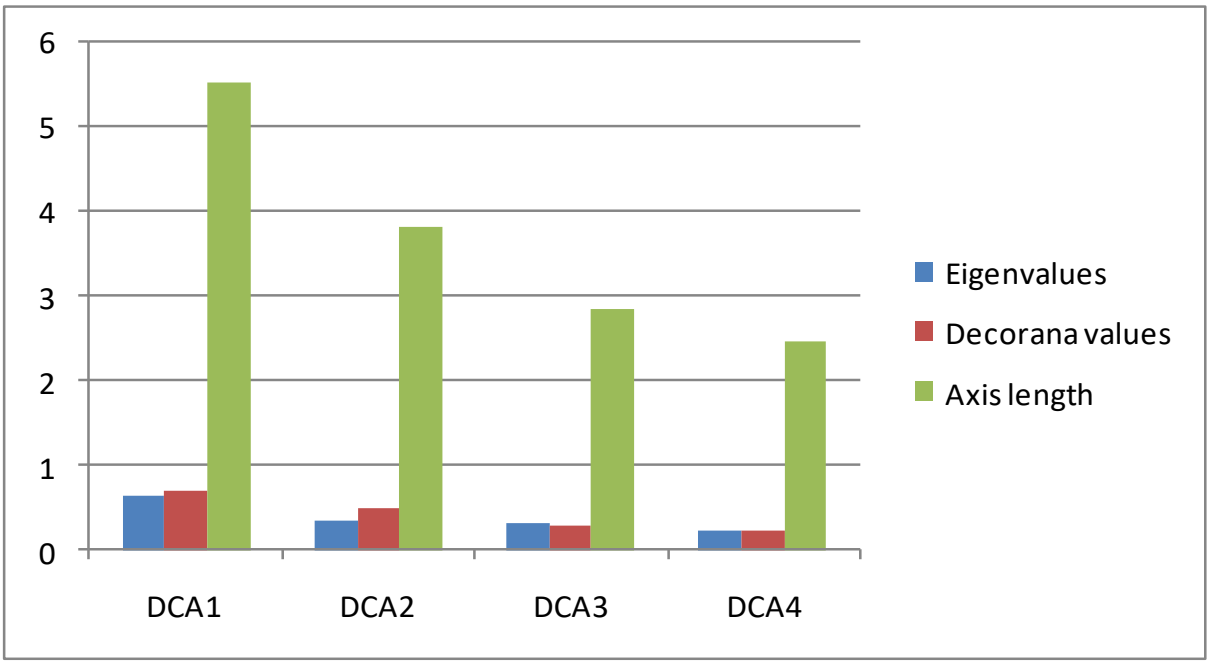

Figure 4: Results of Dentrended Correspondence Analysis

The soil of this community was found somewhat acidic pH ranging from 6.6 to 6.8and sandy loam and having organic matter ranged 2.33 to 2.55 % while CaCO3 content is from 5.3 to 6.47%. According to soil mineral analysis Potassium was ranging from 74 to 107 %, Phosphorus 4.71 to 5.41 % and Nitrogen from 0.116 to 0.246 %. Soil texture analysis of this community reflects that the soil contained clay from 8 to 13 %, silt 14 to 25 % and sand 62 to 75 %. (Table 3). This community was safe as compared to other communities because it was distant from human and animal's interruptions and young plants were more.

***Abies- Pinus* community (AP)**

Abies- Pinus community was represented through 26 relevés and this community situated at a height of 2940 - 2966m. The soil is clay loam to sandy loam whit slightly alkaline pH ranging from 6.9 - 7.6. Chemical evaluation of this community ranges from 1.5 - 2.14% and CaCO3 content is from 6.04 to 8.64%. According to soil mineral analysis Potassium was from 93 to 117 ppm, Phosphorus 4.7 to 4.9 ppm and Nitrogen was 1.021 to 2.47% found in this community. According to soil texture analysis, soil in this community has sand from 60 to 73 %, silt 17 to 26 % and clay from 9 to 15 % (Table 3). The assessment of fidelity columns in synoptic table with cover threshold predominant species was *Abie spindrow, Pinus roxburghii*, *Ajuga bracteosa*, *Achillea millefolium*, *Chenopodium album*, *Viburnum grandiflorum*, *Medicago sativa*, *Picea smithiana*, *Arum jacquenmontii*, *Taxus baccata* and *Rumex crispus* respectively. This community was secured from anthropogenic activities and composed of large trees. The diagnostic species in this community where Taxus baccata because of its leaves are used for animal fodder and its wood is very precious, but it was endangered in the area and its growth was stunted.

***Abies- Picea* community (AP)**

This community is based on 36 relevés and was located at a latitude of 2967 to 3021m. According to analysis constancy columns in synoptic table the dominant species were *Abie spindrow*, *Picea smithiana*, *Arum jacquenmontii*, *Achillea millefolium*, *Pinus roxburghii*, *Medicago sativa*, *Erigeron Canadensis*, *Artemisia vulgaris*, *Viola canescens*, *Taxusbaccata*, *Rumex crispus*, *Viburnum grandiflorum* and *Plantago lagopus* respectively. Soil in this community was sandy loam having acidic PH ranging from 5.8 to 6.6. Organic matter in this community ranges from 0.76 to 1.21 % and CaCO3 content is about 11.97 13.39%. According to soil mineral analysis Potassium was from 103 to 121 ppm, Phosphorus 4.11 to 5.91 ppm and Nitrogen from 0.06 to 0.21% found in this community. According to soil texture analysis, soil in this community has sand from 56 to 61%, silt 23 to 31% and clay from 10 to 21%. (Table 3). This community was located at the top of the mountain having rich and dense vegetation. The vegetation was totally secured due to its presence for away from the local population. Diagnostic species were *a Taxus baccata bearing fruit* which people eat and enjoy at the top of the mountain.

DISCUSSION

The presence and foundation of a plant relationship show the plant category and habitation condition under which they create (Malik, 1986). The atmosphere and vegetation of the Skyland forest in general is subtropical and temperate sort (Champion et al., 1965; Beg, 1975; Hussain et al., 1995). However, because of the stamped contrasts in physiographic, edaphic and nearby weather situation in various inclines at various rises, they bolster distinctive plant arrangements (Ahmad, 1986). Our current study portrayed 9 relationships with various floristic components and small scale ecological situation. The spatial dispersion and floristic creation of plant relationship in the region appear to be controlled by a composite of natural variables, as well as atmosphere, geography, and soil impact. These elements experience alteration of various level because of collaborations between themselves and outcome in micro-gradients (Hanson and Churchill, 1965). The atmosphere decides the huge scope designs in physiognomy and probable species dissemination, yet different aspect, for example, soil qualities are significant also in light of the fact that they impact plant circulation for littler scope for example increasingly nearby scale (Bakkenes et al., 2002). Atmosphere can be depicted by various atmosphere factors. These factors ought to at any rate show summer and frost high temperature and a proportion of the accessible dampness, which are viewed as the primary scheming components for plants dispersion (Leeman and Cramer, 1991). The atmosphere of Skyland forests portrayed by limits of temperature precipitation, with a additional downpour got in rainstorm seasons, which is responsible for the foundation of stratified woodlands in the territory. Geography is the

principle feature that assume a significant job in auxiliary attributes of vegetation. Various heights, *characteristic*s and slants harbor various affiliations. North-bound slants are wetter than South confronting inclines and in this manner harbor deep vegetation with elevated species assorted variety than south-bound inclines. Similar outcomes were acquired by Hussain *et al*., (1995), Hussain et al., (1997), Carmel and Kadmon (1999), Khan et al., (2011) and Haq et al., (2015). At the point when rainfall is gotten; incline, softness of slant, location of incline, vegetation and soil connect to manage the measure of overflow and water invasion, which thusly influence plant development and endurance. Incline, characteristic and gradient additionally influence sun based radiation got and accordingly the temperature at and approach the earth outsided surface (Sukopp and Werner, 1983) and the sum and kind of soil amassed (Monsen et al., 2004). Thus, the geology influences the vegetation in a roundabout way by altering different elements of nature. Altitudinally, *Pinus roxburghii, Ficus palmata, Rumex hastatus* and *Olea ferruginea* involved lower heights; while, *Pinus wallichiana*, *Pteridium aquilinum, Fragarianu bicola, Viburnum grandiflorum* and so forth happened on higher rise. And similarly *Indigofera heteranthavar, Tarraxicum officinale, Berberis lycium, gerardiana,* and so on involved the habitate structure base to top basically because of their expansive environmental sufficiency. Soil is a significant aspect that assumes an important role in plant variety during transformative alteration (Ali et al., 2004). The physical characters of soil are identified with profundity, surface, porousness to water and water holding limit. Soil profundity assume significant job in foundation of plant networks (Khan et al., 2012). Synthetic attributes apply physiological weights on vegetation during their consequences for plant water associations, supplement accessibility and take-up and poisonous quality impact and because of executives of certain compound components. Ideal pH for supplement accessibility is somewhere in the range of 5 and 7.5 with the best accessibility at about 6.5 (Monsen et al., 2004). Man is the main biological specialists managing the parity in an environment through different immediate and aberrant technique (Hussain and Ilahi, 1991). Individuals of Skyland forest are reliant on the vegetation to get their immediate and backhanded requirements. Deforestation has different source with the specific blend of makes fluctuating from position (Helmut and Lambin, 2001, Shaheen et al., 2011). The fundamental explanations behind cutting of trees in Skyland forest are fuel wood extraction, timber wood extraction, infrequent flames and freeing from woodland for porch development. Cutting of forest is the indication of various related and consequent natural issues which eventually converges with the financial issues (Hussain, 1981; Khan *et al*., 2012). Similarly overgrazing is the main reason in this region. The issue is further serious in the inferior slope altitude than the higher ones. It is commonly acknowledged that in biological systems, brushing hinders the advancement and development of woody vegetation and that concentrated touching might switch the course of progression like this frameworks (Seligman and Perevolotsky, 1994). Overgrazing by implication quicken soil disintegration by lessening the plant spread and recovery (Hussain and Ilahi, 1991). Checked contrasts win in the overgrazed and on-one touched territories (Hussain et al., 1997; Sher et al., 2010). The significant community issues liable for the huge humand effects on the vegetation in Skyland forest are the overarching neediness, absence of mindfulness, poor training and regular use, which consolidate to build the challenge for and in excess of utilization of the common plants assets (Khan et al., 2012), Ongoing examinations have uncovered that conventional convictions identified with religion are ground breaking powers advancing ecological safeguarding, including preservation of biodiversity (Pei, 2013). Conventional information ought to be given due significance in a long haul procedure to monitor the regular vegetation of the zone.

CONCLUSION

The result of this study clearly describe that the vegetation of these area is under huge anthropogenic stress because of overpopulation and domesticated livestock populace, seasonal utilization for fuels and fire, lack of awareness and poor education resulted the degradation and exploitation of the natural vegetation. The preservation proportion of this environment is the need of hours through dynamic interest of the nearby networks.

CONFLICT OF INTEREST

There is no conflict of interest.

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AUTHOR CONTRIBUTIONS

All author contributed in the paper here. SH designed and performed the experiments and also wrote the manuscript. AH Identifiation of plants, AHK and SA performed soil analysis,MAA data analysis. KS and AR designed experiments, AHK ,MA and KA reviewed and proof reading of the manuscript. MA identified grammatically mistake. All authors read and approved the final version.

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