



- 1. Project No:** 50034901
- 2. Project title:** Feasibility study to conserve chir pine (pinus roxberghii) forest ecosystem in Marghazar valley of district Swat

3. Project Executants

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- 4. Project Duration (in months)** 12 months
a) Starting date: April 2003
b) Ending date: March 2004

5. Project objectives

- i. Assess the current status of the chir pine forests ecosystem in Marghazar valley of Distract Swat.
- ii. Identify key threats to the ecosystem.
- iii. Know local community perception on conservation of these forests

6. Methodology:

To assess the current situation of the forest ecosystem information about the following areas were collected. The method adopted for collecting the information is given separately for each sub-heading.

a) Forest and non wood forest products:

To assess the current status of forest the already available data in the form of maps prepared by different donor assisted environment related projects, forest department and available revenue record were consulted. The main reports consulted in this connection are those prepared by Environmental Rehabilitation Project (ERP), Water Shed Management Project, Report The natural resources and human ecology of mount Elem distract Swat by Dr. Habib ahmad, recent demarcation maps of the forest department, Revenue department, Resource management plan for the Swat Forest Range of Swat Forest Division and population census report 1998. Necessary temporal and spatial adjustments in relevant maps regarding current status were carried out under the present project. For non-wood forest products and pastures status assessment, relevant Quadrante methods were used and compared with the previously documented assessments. Information on vegetation assessment is mainly focused on cover and frequency at different elevation/aspects and utility zones.



b) Agriculture

The land use data was obtained from Revenue record, ERP project maps and the trends in utility were explored by using relevant PRA tools. The land tenure and temporal changes were explored through interview with elders. Personal observations and field visits further improved the quality of current status assessment. Meetings with the farmer groups at different occupation zone/social groups were held to know the current status of agriculture, cropping pattern and cropping encroachment in the forest

c) Livestock

The data of the livestock population and dynamics was obtained from relevant officials of livestock and dairy development department and verified through interview with farmers of different social groups, residing at different ecological niches.

d) Wild life

Data of the wildlife was collected using appropriate PRA tools including meetings with elders of villages attached to the actual habitat and famous aged hunters of the past. Information was obtained to identify the change in the availability of wildlife with the change in ecosystem.

Social System

Survey to get information on the social structure of the society in the valley were carried out through the use of appropriate PRA tools, interviews with the elders and different social group, visit to main villages of the valley. Meeting with the community members, social activist, village organizations and leader of the community were held in this connection. Information were obtained regarding family labor distribution, sources of income and dependence on forest and non wood forest product.

Information on temporal distribution of different social groups in different ecological niches of the valley was obtained through appropriate PRA tools. Meeting with the elders and personal visits to the main villages were carried out to know their sections/caste as well as their mutual relations and methods of livelihood. Population data has been given using senses report of 1998.

Personal observation during field visit and interviews with elders were used to indicate the current status and trends of the water resources and its usage for drinking, livestock and agriculture. The flow pattern in streams and gullies and their temporal dynamics were explored through interviews and group information, impact of changes in water availability, condition and hunting pattern of fisheries was also obtained through interview with elders and hunters to know the present situation of the water and fisheries in the valley. Information on the disease occurrence pattern and education trends were obtained from the relevant officials of the health and education departments respectively

Identification of key threats to the ecosystem

a) Data on smuggling, its history and intensity during different eras were obtained through interviews with elders, market survey, and interview with relevant forest institutions officials and data from relevant available documents. Correlation of timber



smuggling was subsequently made with available forest cover, local use, land tenure and institutional arrangements for conserving natural resources.

b) Cropping extension to forest

Data and maps were collected from the forest department, revenue department and ERP projects. The already available ERP maps were modified accordingly to accommodate the changes incurred till date. Changes in maps of the area were drafted through taking slides and photographs to further clarify the understanding about such encroachment. PRAs were held with local communities to correlate the process with the land tenure system to know the encroachment of agriculture into forest area.

c) Exotic species planted in the area

Data and maps were obtained from the ERP project and water shed plantation regarding the exotic species planted in the valley. Expert and community elders were interviewed regarding the impact of the exotic species on water resources, flora and fauna and wildlife resources

a) Land tenure

Information on the broader tenure system and the disputes regarding the land ownership and occupation were obtained from the record of Revenue department, interviews with different social segments including owners, tenants and forest department officials. PRA tools were used in different villages of the valley to know the dynamics of the disputes of individuals and different social groups.

Know local community perception about conservation of forests

Meeting were held with communities/social groups, directly related to the forest land and with the Union council Islampur to institutionalise the process and to know the collective perception of the community and its representatives.

Meeting with district Nazim, forest department, Union council Nazim, Naib-Nazim, Counselors were held to know the perception of relevant institution in this connection. PRA were held in different villages of the valley to know the local community perception about the conservation of the ecosystem, keeping in view their dependency on the resource base.

7. Results and their significance

Marghazar Valley as evident from its name is the combination of two words “Marghu” and “Zar”. The Margha means pertaining to birds in the local language, while Zar is a Persian word for garden or a place for nurturing birds and flowers. Though the name is given some 50 years back, it reflects that once this valley was a friendly habitat for various birds and plant species. The name of Marghazar was Myana before the state time.

Geographically Murghazar valley is situated in the south of Mingora. It start just from Shagai and the metal road inside the valley is 15 Km. Marghazar lies between 34-35 to 30-50 north latitude and between 72-15 to 72-30 east longitude. The annual rainfall varies between 1000-1500 mm, providing sufficient water for infiltration and diverse



vegetation. The valley gradually rise from 1000m from see level at Kokrai till 3000m at the top of mount Elem. The total area covered by the valley is 62.46 sq km. Geographical orientation of Marghazar is such that it has Shagai village of Mingora/Saidu Sharif in the extreme North, (where the water shed of the valley empties) Jambil village to its extreme East, Kokarai to its North_East and Maniar to its extreme West and Odigrgram to its North-West directions. It has contiguous boundaries with Bunair in the Southeast and Barikot in the South-west. In the East it has Shangla Mountain range which meets at "Dwa sarey Ghar"(a high peak of 3000 meter high)mount. The valley is provided access to Bunair village from main Swat through Jwarai Kadoon; Islampur is famous for its weaving industry and provide good quality handicrops. Due to its scenic beauty the ex-Badshah of Swat selected it for summer Palace, now called Marghazar White places and the valley attract local and national tourist around the year, mainly in summer.

Mount Elem is famous not only in Marghazar valley but in the entire region. It is historically important for its rich historical sites of Bhudests remains and Hindus pilgrimage until recently visited to the mount Elem to fulfil their religion festivals. From the top of Elem (3000 meter from sea level) one can see the entire plains of Peshawar valley, Potohar, Bunair upper and lower Swat, lower Dir, Bajor and even part of Paktia Afghanistan on a clear day. The availability of springs through out the mount and the valley and its strategic location make the logical base for its historical importance and provide sufficient space for complimentary promotion of eco-tourism.

The valley was covered with chir pine and scrub forests until recently. This diversity of overall fauna and flora provide the necessary element for making a site worth of conservation. The extending cultivation with exploding population is seriously disrupting the ecosystem. The forests are cut ruthlessly and now only remnant forest patches of these can be seen on sacred places like graveyards or small landholdings protected by individuals or communities, its cutting is to be alarming due to domestic and commercial needs of the local community and market in Mingora city respectively. The rapid pace of deterioration warranted immediate attention, hence this project was launched to make an assessment of the current trend of these forests, know key threats root causes of destructive exploitation and recommend actions for conservation of the ecosystem.

Status of Forest and non wood forest products

The Marghazar watershed is drained by Marghazar khwar, which joins the river Swat near Mingora town after receiving tributary from Islampur above Shagai. It comprises compartments 1 to 18 of Marghazar Forest Block as indicated in Map 1. The map 2 indicates the forest cover during ex-State times that cover more than 75% of the valley. The dotted lines indicate the existing forest compartments claimed by the forest department. The range/scrub lands are situated in the vicinity of main villages, while the agriculture is confined to the main valley bottom. The hills have been greatly depleted of trees and are now used as grazing land. Agriculture and Horticulture is also practiced on appropriate land.

After merger of State during 1969, the ex-State institutions collapsed and newly extended institutional mechanisms were not so for effectively in place. During this period



the common residents in general and the poor and powerless social segments in particular ruthlessly harvested the forest and either stored the wood inside their house for fuel or timber or sold it to the resident of Mingora. The practice continued for a decade, when the need for afforestation in the entire valley watershed was felt and different externally funded projects like Water Shed Management, Social Forestry and Environment Rehabilitation Projects started work on hillside rehabilitation. Map 3 indicates the afforested area in Marghuzar valley by different project. Mainly the fast growing exotic species were planted on areas in the mouth of the valley, while the remote areas were still denuded.

Map 4 indicates the current status of forest cover in relation to other land use activities. The regeneration is taking place particularly in areas within the vicinity of hillside residences and controlled by the local people for their household requirements. The need for protection of regeneration has been felt, as the residents are at present harshly feeling the deficiency of fuel wood for cooking and heating during winter. The area that once fulfilled the maximum portion of fuel wood requirement of entire Mingora city is now striving for fuel wood that in some areas is brought from Bunair Mountains to the valley.

The valley also once served as a prime habitat for wild life. During mid nineteen sixties, when Queen Elizabeth and her husband Prince Phillip visited Swat. They were driven to Marghuzar valley for hunting and within a few hours, they were able to hunt dozens of Ibex in the mouth of the valley. The ex-State authorities routinely visited to Marghuzar valley for hunting and public was completely banned from hunting wild birds and herbivores. At present such wild herbivores have become absolutely extinct, as no one among the valley residents was able to confirm its presence during the past 10 years.

The extended cultivation has also seriously affected the availability of non-wood forest products availability in the valley. The shrubs are uprooted for fuel use, and the rangelands are extensively grazed. The edible and medicinal herbs abundantly available during ex-State time can now be searched out with difficulty. The broader understanding is such that the eco-system is not only degrading quantitatively but also qualitatively.

According to the report of Marghazar Planning Unit (PU)¹ of forest department the main forest types in Marghazar valley include

Sub-Tropical-broad leaved forest:

It is scattered over the lower level and is visible in the north of the valley. On the southern aspect it is extended up to 900 meters elevation. This is partly visible from the approach road connecting Marghuzar. *Acacia modesta*, *Olea farruginea*, *Ficus glomerata* and *Delbargia sissoo* is in majority. *Mallotus phillipensis*, *Dodonea viscosa*, *Adhatocera vesica*. *Gymnospora_royaliana* are the evergreen species and grasses like *Thahemeda anathera*, *Eargrestis pilosa*, *Seacharum monja* and *Digitaria stricta*. Artificially grown spices in this zone are *Ailenthus altissima*, *Robinia psecidoacacia* and *Spindu mukerossiata*.

¹ The Marghazar Planning unit comprises the Maerghazar and Jambil watershed and include Saidu Sharif and Miongora



Sub-Tropical Chir-pine Forest:

The dominant species in this zone is Chir Pine (*Pinus roxburgii*) mixed with *Olea ferruginea*, *Quercus incana* the lower altitudes and Kail (*Pinus wallichiana*). This zone is extended from 900 up to 1500 meters elevation on the southern aspect. Other significant species of this zone are *Olea ferruginea*, *Bauhinia variegata*, *Pyrus pashia*, *Grewia optiva*, *Pistacia integerrima*, *Zanthoxylum aromaticum*.

Prominent feature of this zone is chir pine (*Pinus roxburgii*) inter mixed by *Olea ferruginea* and *Quercus incana* at the lower limits and *Pinus wallichiana* at the upper limits. It extends from 900m to 1500m particularly on the south on the southern face. This zone goes up to (Jawzo Candaw) here too the traceable land is being converted into cultivation terraces resulting in nucleation of human settlements in the forest area, which has impaired the composition and structure of natural flora and the associated fauna. However, in small patches where the communal lands have been divided among the inhabitants, it is observed that other associated species of this zone are *Olea ferruginea*, *Bauhinia variegata*, *Pyrus pashia*, *Grewia optiva*, *Pistacia integerrima*, *Xanthoxylum aromaticum* and *Celtis australis*.

The cleared degraded slopes where soil land is deep is generally occupied by *Cotinus coggyria*, *Myrsine africana*, *Berberis lycium*, *Indigofera heterantha*, associated with *Rubus feruticosus*, *Rubus inermis* and *Rubus ellipticus*. The highly drained exposed and shallow soil is inhabited by *Sophora angustifolia*, *Periploca aphylla*, *Rumex acetosa*, *Origanum vulgare*, *Trichodesma indicum*, *Ajuga bracteosa*, *Micromeria briflora* and *Lotus corniculatus*.

The chir pine generally occupy the steep exposed faces of mountains which are heavily exposed to grazing, fuel wood, timber wood, logging and fire for fodder clearing. All the practices have greatly degraded the structure and composition of flora diversity. Most of the area of this zone has been converted into open ridges with shallow soil and sparse vegetation cover of *Aristida cyanantha*, *Periploca aphylla*, *Adhatoda vesica* and gravelly *Naarium oleander* along with *Selagenella*².

According to the resource management plan for Swat forest area 5.3% of the area is covered with conifer forest and 2% with broad-leaved forest. The rangelands occupy 57.3% of the land while Agriculture land mainly comprising of hillside terraces occupy 35.3% land. The coniferous forest is becoming worse and worse due to excessive cutting by the local for their own use as well as due to sale of timber at Saidu Sharif. In the valley ERP project planted *Eucalyptus*, Chir and *Robinia* on the hillside in the vicinity of Islampur. The total hillside plantation carried out by ERP and Watershed project in the valley amounts to 466 hectares.

Table 1 shows the current density and frequency of trees/regeneration on the North/East facing tops of mount Elem at 2000m elevations. The forest cover in this region is present less than 10% while at the peak (3000m) the same species are available the forest cover range from 30-40%.

² (The natural resources and human ecology of mount Elum Distract by Habib ahmad report Agst,2000)



Table: 1 **Current status of the forest cover and density**

Forest	Density/hectare	Frequency%
Pinus roxberghii	50	60
Pinus wallichiana	50	50
Quercus incana (Banj)	20	20
Jangulans regia (Ghwaz)	20	20

Current status of grasses in the free grazing area with protected forest limits.

Table: 2

Vegetation (Local name)	Cover%	Frequency%
Chamyarai	.5	10
Atheer	8.7	80
Chrysologon (Pashkalay)	8	70
Grasses	21	80
Ghane	1	10
Ghwareja	4	30
Zanghalee Shahthooth	3	20
Polygoucim emplexecaule (Shalkhai)	1	10
Sunbal	4	20
Qurhach	1	10

Tab: 2 shows the availability of forage species in areas denuded of forest and currently used as free grazing land. The total vegetation cover is 52% dominated by Grasses of Chrysopogon species.

Current status of forages in the protected grazing area regarding cover and frequency are as under:

Some area mostly with in the forest or intermingled with in the cropped terraces are protected by the exploiter households for hay harvest during autumn. The hay is stored for water feeding of the livestock. The vegetation is dominated by Pisholum. Spairkey and *Wagha* grasses and *Ghwareja* shrub.

Table:3

Vegetation (Local Name)	Cover%	Frequency%
Spairkay	12	70
Ghwareja	8.5	80
Mamana	4.5	30
Lada Sperkay	3	20
Lwangh(Wakha)	10	50
Beran(wakha)	4	30
Pisholam(wakha)	14	60
Kabal	7	50
Kwaray	2	10
Throokai	.5	10



Lathar	.5	10
Qurach	.5	10

Fuel wood consumption

Three main sources are used for fuel, wood, liquid gas and dung cakes. Those residing in valley bottom and in close association with market have mainly shifted to liquid gas for cooking but for winter heating they still depends on wood. The Gujars partly depends on dung cakes and partly on wood for cooking and heating, while Shekhan residing near forest are entirely dependent on wood for fuel requirement.

There are 2480 households in the valley. According to the locals, for those residing in hillside, the annual requirement if fuel wood per household is estimated as 450 mound (22500kg); If we assume that 40% (1000 households) of the households are entirely dependent on wood for cooking and heating then the annual fuel wood requirement in the valley comes to be 4500 metric tons.

During the recent past Marghazar valley served as the main supply area for fuel wood to Mingora and in routine 5 to 15 tones of fuel wood daily shifted to Mingora. At present this supply has become nominal and rather fuel from Bunair Mountain is shifted to Mingora through Marghazar valley. In the valley bottom the trends are that people are planting fuel wood trees on their field boundaries to fulfill their domestic requirement, while the hillside resident are shifting to shrubs uprooting for fuel.

Non-wood forest products

Medicinal Plants

Marghazar is rich in medicinal plants and the importance can be imagined from the fact that still approximately 20% of population is using the indigenous herbal methods for treatment of diseases.

There are about 21 medicinal plants but the Local Doctors [*Tabib*] use few medicinal plants for curing practices. Due to the disruption of forest ecosystem, the medicinal plant population is decreasing at an alarming rate.

Table 4: List of Medicinal Plants

SNo	Local Name	B/Name	Parts used	Used for
1	Sperkai	Plectranthus rugosus	Leaves	Blood coagulation
2	Khardug	Saliva moorcroftiana	Leaves	Pain killer and boils
3	Kharkhwag	Verbascum thapsus	seed	Boils
4	Botti	Ajuga bacteosa	leaves	Blood purification



5	Banafsha	Viola serpens	Whole plant	Body coolness
6	Dambara	Zanthoxylum armatum	Seed	Common cold and softening of animal infected skin
7	Karwarra	Rubus fruticosus	Seed	Blood pressure
8	Kwarrai	Berberis lycium	Roots	Warmness, stomach infection, strength and vitality, wounds.
9	Spero bota	Dephne oleides	Leaves	Stomachache and animal constipation
10	Tarkha	Coniza bunariensis	Leaves	Pain killer, vaginal contraction and for gum pain
11	Sakha bote	Chenopodium ambreocides	Leaves	Earache
12	Bung	Canabis sativa	Leaves	Pain killer
13	Ghuraja	Indegofera heterantha	Roots	Stomachache
14	Zamake tarooke	Oxalis carniculata	Leaves	Digestion, removal of body Warmness and wound healing
15	Valane	Mentha longifolia	Whole plant	Stomachache
16	Zanglee Bote	Coniza canadensis	Leaves	Scabies
17	Shar shame		Roots	Male sexual tonic
18	Mamaikh	Paeonia emodi	Roots	Backache
19	Palol	-----	Leaves	Sugar and for Blood pressure
20	Marjare	Lavum	Roots	Joint pain, sexual tonic
21	Sra zela	Geranium spp	Rhizomes	Blood purification

b) Agriculture

On the state merger time the total number of households was 478 as indicated by the local residents with a total population of 3800 people. During the last 32 years the number of households increased to 2480 (520% increase) with a total population of 22613 people (600% increase). The recorded increase in agriculture land is less than 1%, however in real situation including protected forest encroachment may be more than 20%. During state time the per household land availability was 8.2 hectares, while currently only 1.7 hectares cultivable land is available.

According to Revenue department the land use data is as under



Table:5

S. No	Name of Main village	Population	House Holds	Irrigated	Rice cultivation	Orchard (Bagh)	Barhai	Sadin	Karin	Total Cultivable land
1	Spal bandai	2554	288	164.7	-	27.5	127.9	169.5	.5	516.4
2	Kokrhair/C hithor	3222	344	117.9		1.5	147.8	282.4	14.0	564.4
3	Marghazar/Gulbandai	5490	599	87	-	2.4	217.4	586.6	188.6	1082.4
4	Shairathraf	1494	168	14.9	5.5	-	294.1	269.3	34.5	618.3
5	Islampur	9853	1081	223.6	11.9	19.3	206.1	896.4	40.9	1388.2

The above table shows the land classification and ownership boundaries of individual villages as compared with the population and number of household. The decreasing availability of land per household is converting cropping from primary to secondary activity.

According to the population census the population and the land use data is as under

Table:5

Main Villages	Population	House Holds	H.H Size	Area in Hectares
Gulbandai	1042	120	8.7	388.00
Marghazar	4448	479	9.3	1909.29
Shera Taraf	1494	168	8.9	850.40
Sapalbandai	2554	288	8.9	384.72
Islampur	9853	1081	9.1	1659.18
Kukrai/Chitor	3222	344	9.4	1055.27
Total	22613	2480		6246.86

The remittances from abroad and mega cities followed by non-form earning opportunities in the service sector are currently farming the base for family subsistence. In general production has replaced the grain production and the denuding forest has compelled the population to grow fuel trees on the field boundaries. It thus seems that the trees are shifted from hillside to valley bottom.

Generally semi traditional agricultural practices are adopted which have kept agriculture below subsistence level. As the valley has no vast plan land, mechanization of agriculture is not adopted, cropping system is mainly mono-seasonal but in some areas double cropping is practiced. Multiple cropping patterns and inter-cropping is not visible.



In the upper limits, which is Barani irrigated area. Maize is the main crop, while in the lower valley wheat and onion are cropped in double cropping system. Rice is grown in some areas where possible. Soil fertility is degraded due to the little input of farmyard and green organic matter and the irrational use of fertilizers. Agriculture is mainly extensive and integrated, traditionally, with livestock and horticulture. Cow, buffalos, sheep and goat are reared, only for domestic need. Apple, apricot, pears and plum are the main trees, which are traditionally grown. There is no honeybee or silk-worm keeping in the valley.

In nut-shell, due to the worst conditions of natural resources, mismanagement and worst conservation, the valley is not able to meet the basic food requirement of its population

Livestock

The data to be collected.

Wilde life

According to report of Marghazar Planning Unit (PU) of forest department the wilde life status is as under:

Table:7 Wildlife with its status in Marghuzar PU.

Category						
Mammals	No	Status	Birds	No	Status	Remarks
Rhesus monkey	170	Common	Monalpheasant	76	Endangered	
Black bear	5	Endangered	Koklas pheasant	46	Common	
Goral	6	Threatent	chakor	300	Common	The population of chakor in Marghuzar is sheared with Najeegram.

According to a report (Habib ahmad, 2000)³ the wild life in the valley was as under:

Table:8

S.No	Scientific name	Common Name	Local Name
1	Acridotheres fuscus	Common myana	Karo
2	Alectoris chkar	Chakor	Zarka
3	Corvus splendens	House crow	Qargha
4	Francolinus francolinus	Black partridge	Taro
5	Lanius schach	Bay backed shrike	Teghak
6	Passer domestics	House sparrow	Chanchanra
7	Pycnonotus cafer	Red Vented bulbul	Balbala
8	Pycnonotus leucogenys	White cheeded bulbul	Balbala

³ The natural resources and human ecology of mount Elum of District Swat, WWF-Pakistan.



9	Streptopelia decaocto	Collared dove	Korkorai
10	Turdoides caudatus	Common babbler	Sourea
11	Upopa epops	Hoopoe	Mula Chargak
12	Francolinnus pondicerianus	Grey partridge	Tanzarae

Since then, there is no significant change has occurred in the status of the birds in the valley.

Current status of wild life:

Table:9

S.No	Common Name	Local Name	Status
1	Wild sheep	Saranai ghada	Extinct
2	Skunk	Skoon	-do
3	Loin	Manzare	-do
4	Bear	Yagh	-do-
5	Jackal	Geedarh	Fair
6	Wolf	Sharmakh	Extinct
7	Rabbit	Sooya	Fair
8	Monkey	Shado	Fair
9	Fox	Loombana	Rare

Social System

Two broader categories of the inhabitants can be classified as those residing in the valley bottom and those residing on hill slopes. In the valley bottom main village are sporadically scattered. The residents of the main villages include Miangan. (the main land owner), the artisans (carpenter, potters, weavers and black smith) and occasionally Buffaloes rearing Gujars.

The Ghujars are the subsequent hillside residents in the suburbs of the main villages. They apart from rearing livestock also lease the lands belonging to miangan. In a few areas in the vicinity of Islampur, there are 30-40 families of Kohistan tenants residing mainly in Salaim khan and Tour Kamer. The Gujars mainly depend on livestock and sale of milk and may bring wheat and rice straw from down the Swat valley for winter-feeding of their livestock. Gujars are dominant population group surpassing slightly the population of Miangan in the valley.

Shekhan are the residents of the forest area. They mainly depend on forest and sale of Timber and fuel wood. They keep cattle, goats and sheep. They are the primary forest exploiters. After the exhaustion of the natural forest, only the forest trees in the vicinity of their residences are still prevailing and trees regeneration is taking place in areas protected and possessed by Sheikhan families.



During state time 30-40 nomadic sheep and goat flocks used to spend their winter in the valley, but due to cropping encroachment to grazing land and protection of tree grazing lands for hay harvesting limited land is available and now while proceeding for winter pasturing to Bunair.

The tenants including Gujars, Shekhan and Kohistani are mostly facilitated by the ex-royal family to settle in the area, when they were in possession of most of the land in the valley and they needed tenants and watchers to guard them.

The shaikhan, Kohistanis and Ghujran hane equal social status and can be termed exterior tenants traditional subordinate groups to Miangan, while the artisans are the traditional subordinates groups residing inside the main village. All the subordinate groups do inter marriages however the Miangan considering themselves socially superior refrain to establish marital relation with subordinate group in general.



Threats to the ecosystem

a) Smuggling

The main smuggling centre in the valley is the village Marghazar. The logs are shifted to secret storehouses in the vicinity of Marghazar bus stand. The Shekhan (residing of the forest area) use to work as labour, in the process of timber smuggling. They get 100 to 150 rupees per log of 8 feet long and 4 inches thick log including tree cutting, its logging and transportation to the bus stand.

Just after state merger more then 400 per day such logs were shifted to the place. During late eighties this decreased to 100 per day, during late nineties to 40-50 per day and at present no more then 5-10 logs can be brought to Marghazar bus stand. This is due to non-availability of harvestable tree rather then check on smuggling. The present 5-10 per day logs are mostly shifted from Bunair forest rather then the forest of the valley itself.

The officials concerned with prevention of smuggling are directly limited to the smuggling and they receive their share regularly from illegal timber as well as fuel wood smuggling. After reaching Mingora the rate per log increases by more then two folds, hence can accommodate the expenditure of the concerned officials as well as the smuggling.

b) Exotic species planted in the area

In the whole valley of Marghazar ERP project planted Eucalyptus, Chir and Rubinya in the area of Islampure.

Table:10: ERP Project Plantation in Islampur

Year	Area in acres
1996-1997	459
1997-1989	500
1989-1999	205
Total	1164

Land tenure

The land tenure and temporal changes

According to the interview from the community members in the main villages i.e. Islampure, Kokrai/Chithor, Spalbandai and Gulbandai the land is the property of Miangan and some part of the land is with the tenants. In the upper villages like Sherathraf, Muthrapaindai, Serkhanai, Jawz, Kadoona, Thor kamar and Marghazar the land is under the custody of tenants mostly Gujar.

In state time the land in the main villages were the property of Miangan and Bacha Saib. The tenants Gujar used the land of Bacha saib and they pay the Hjara to Bacha Saib and Usher to the State. The upper villages were declared as State property and it



was under the control of tenants Gujar. The forest area in the whole valley was the State property and it was protected by the State.

After the State merger the area under control of tenants remain with them and Miangan had dispute over it. Under the 1986 Bandobasth (Revenue record) the ownership of the main villages were the same and the land of the state was given under the Provincial land commission and the forest area as the property of Provincial government but the whole area were remain under the control of tenants Gujar.

The major conflict in the Marghazar valley is the land ownership. The dispute is in between the Government departments, Wali-Swat family, Mianghan and the occupant tenants. Thousand of cases are in the local courts, High Court and Supreme Court. Huge amount of money is spending by either side for the resolution of this conflict. Traditional conflict resolutions institutions like Jirga system is eroding and village organizations like CBO's, CCB and Union Council is not strengthen enough to resolve the prevailing conflicts amicably.

Land disputes

The land of the valley possessed by Royal family was either snatched by force (Shehzad Gul in Sherathraf and Asilthanrhy main in Muthra paidai were the pervious owner of respective areas) through purchase, or as gift from the previous possessors of the land. Generally there are two categories of people on the biases of relation to land. Those loyal to Royal family over land ownership and those against the royal family i.e. dispute on land ownership. The loyalists are politically affiliated with the tenants who get benefit from the royal family by not paying any tributes for land possession, while the opponents (Degreedar) are struggling alone.

According to the revenue record the land use classification of Marghazar valley is as under.

TABLE 6: LAND USE CLASSIFICATION IN THE DESIGNATED FOREST

S.#	Category	Area	Remarks
1	Nil		
2	Protected Forest	3016.19Acres (1206.48hact)	
3	Area belonging to Provincial Govt.	8.7acres (3.48hact)	
4	Under land Commission	707.5acres (283hact)	
5	Decree Status	773.75acres (309.5hact)	Area under S# 5&6 is 104.75acres(416.3hact)is under the custody of Tenants & Self-Cultivators.
6	Private Ownership	267.0acres(106.8hact)	



According to the Revenue record Marghazar is the property of Decree holders and Land Commission but Tenants have control over it since after State time, later on some land has been allotted by the Govt. to the Tenants.

Know local community perception on conservation of these forests

During pre State era, the natural resources were abundant in relation to the dependant population. Most requirement of the population was fulfilled from forest resources. Hunting provided them with needed meat, while herbs collected were cooked for domestic consumption. Grazing of livestock in forest, arranged for milk, yoghurt and butter. Only corn, barley or wheat were needed from other areas or produced in the valley bottom irrigated or rained patches.

During state time strict rules were implemented and the people were forcefully prevented from hunting and tree cutting. If someone did hunting or tree cutting he was heavily fined. There was a fearful environment, wherein the natural resources were forcefully protected from its main dependent population.

After merger, when the state rule abolished and new Pakistan rules were not effectively extended. The local residents used the gap, and most of the timber and fuel resources were looted mainly due to greed and hurry so that they can do maximum exploitation before the Pakistan rules are strictly implemented.

Now even for Shekhan the fuel wood is lacking and they are obliged to burn shrubs to keep their residence warm as well as for cooking. All the residents have realized the loss of habitat, however lack of institutional mechanism and unclear ownership/ land disputes have left limited space for effective conservation basis.