

GOVERNMENT OF NWFP FORESTS,
FISHERIES & WILDLIFE DEPARTMENT

PC - I

FINAL VERSION FOR PDWP

PALAS CONSERVATION AND
DEVELOPMENT PROJECT

AUGUST 1995

PART A

PROJECT DIGEST

1. **Name of the project:** Palas Conservation and Development Project.
2. **Authorities responsible for:**
 - i. sponsoring: Government of NWFP
Commission of the European Communities
 - ii. execution: **Government of NWFP through:**
 - Additional Chief Secretary NWFP
 - Secretary Forests NWFP
 - Conservator Wildlife NWFP**Commission of the European Communities through:**
 - BirdLife International
 - iii. operation: **PCDP Management Team:**
 - Project Director, NWFP Wildlife Department, PCDP
 - Co-Director (CTA) BirdLife International, PCDP
3. **Time required for completion of the project** 60 months (January 1996 to December 2000)
4. **Plan provision:**
 - i. If the project is included in the Five Year Plan, specify the actual allocation. The Project is included in the 8th Five Year Plan, and is identified as a priority project in the Sarhad Provincial Conservation Strategy (SPCS).
 - ii. If not included in the current Five Year Plan, how is it to be accommodated. Inter/intra-sectoral adjustment or other resources may be indicated. Not applicable
 - iii. If the project is proposed to be financed out of block provision for programme, indicate actual allocation. Not applicable
5. **Relationship of the project with the objectives of the sector** **Palas contains Pakistan's most important remaining tract of natural west Himalayan forest, recognised as a global priority for biodiversity conservation.** However, the forest and biodiversity of Palas are seriously threatened by unsustainable commercial timber harvesting. **Poverty** and the need for income is an important contributing factor in the unsustainability of logging - Palas lies in the least developed tehsil in NWFP and one of the least developed Districts in all Pakistan.

The PCDP aims to safeguard biodiversity in Palas by enabling local communities to tackle the linked causes of poverty and incipient natural resource degradation, through an integrated and participatory approach to conservation and development.

The PCDP extends and expands the work and approach of the Himalayan Jungle Project (HJP) 1991-1994. HJP operated under a PC-1 and an Agreement between the Government of Pakistan and BirdLife International. Following the disastrous floods of 1992, the HJP carried out relief and rehabilitation activities under a second PC-1. Based upon the achievements of the HJP, the Government of NWFP requested BirdLife to develop a follow-on project. A Concept Paper for the PCDP was approved by the Government of Pakistan in December 1993. To allow time for preparation of the PCDP, the HJP was extended with financial support from the EC.

The PCDP addresses key national and provincial policy objectives concerning natural resource management and poverty alleviation, notably those of the NCS, Forestry Sector Master Plan, SPCS and Social Action Programme. The PCDP will also help Pakistan to meet its obligations under the **Biodiversity Convention** which Pakistan has ratified.

The **National Conservation Strategy** prescribes a number of policies and measures supportive of the current proposal including: shifting towards an integrated and facilitative role, with provision of multi-sectoral support to enable sustainable livelihoods for local populations; the promotion of community-based management systems; diversification of local economic activities to include sustained development of appropriate-scale agriculture and timber-based industries; maintaining the vital ecological services of watershed forests; conservation of selected representative 'old' forests to maintain the bank of biodiversity; introduction of incentives to safeguard conservation areas and divert pressures from threatened wildlife habitats and species - in particular, encouraging higher productivity of food in adjacent areas; and the reduction of conflicts between timber and wildlife objectives.

The PCDP is also consonant with the **Forest Sector Master Plan**, whose objectives and measures include: improvement of working plans by broadening forest-use objectives and greater participation of local residents; introduction of cost-effective harvesting systems that minimise environmental damage and wood wastage; intensive management of upland forests for soil conservation to reduce siltation of reservoirs (Palas feeds the Tarbela catchment); protection of endemic and endangered species, with adequate protected areas to ensure their future viability; legislation to conserve natural forest ecosystems and their multiple use functions, and provide for greater community participation. The FSMP specifically calls for measures to safeguard biodiversity in Palas.

The **Sarhad Provincial Conservation Strategy (SPCS)** Inception

Report cites HJP as an example of the commitment of the Government of NWFP towards resource conservation and sustainable development, providing 'experience in new approaches to working with local people and to achieve the treatment of wildlife populations on a sustainable basis.' The SPCS proposes extension of HJP to cover more of the eastern portion of NWFP, and calls for 'the preparation and implementation of integrated development projects for those areas of NWFP [such as Kohistan] which have not yet benefited from this kind of work.'

Provincial forest policy prioritises the kind of participatory and integrated approach to natural resource management proposed in the PCDP. In NWFP, and elsewhere in Pakistan's uplands, there are a number of ongoing projects pursuing related goals, and testing similar approaches. The HJP has benefited from the experience and lessons of these projects, and the PCDP will play an increasingly important role in the ongoing dialogue on conservation and rural development in NWFP. GoNWFP programmes and projects with which the PCDP has particular affinity include:

- Sarhad Provincial Conservation Strategy;
- Social Forestry Project Malakand/Dir;
- Siran Forest Development Project;
- Kalam Integrated Development Project;
- Forest Management Centre Support Project;
- Environmental Rehabilitation Project;
- WFP/UNDP/ILO-supported watershed management projects in NWFP and AJK;
- Sarhad Rural Support Corporation;
- Natural Resource Conservation in Galiat and Dir;
- Malakand Fruit and Vegetable Development Project (Tutti Frutti);

The PCDP's programme for health, nutrition and sanitation is in line with the **Social Action Programme** of the Eighth Five Year Plan. The PCDP, like SAP, places special emphasis on women and children, the improvement of health through community participation, and the training of community health workers. The PCDP also addresses national priorities identified under the **Child Survival Programme**.

The PCDP will also act as a precursor to the proposed Kohistan Area Development Project, the proposed Forest Sector Project (expected to operate in other valleys of Kohistan) and the tentative Guzara Forest

Development Project.

6. Capital cost of the Project

The project is funded by a **donor grant** from the Commission of the European Communities acting on behalf of the European Community (EC), and a local contribution from the Department of Forest, Fisheries and Wildlife, Government of NWFP.

The **local contribution** is the rupee equivalent of ecu 800,000 which under the current exchange rate of ecu 1 = Rs 38.5 is equal to Rs 30.8 million.

A **donor contribution** fixed at ecu 4.80 million is provided under a Financing Agreement. At the above exchange rate this is equal to Rs 184.8 million.

The **total cost** of the project is therefore ecu 5.60 million, equal at the current exchange rate to Rs 215.6 million.

7. Annual recurring costs

The annual recurring costs cannot be fully assessed at this stage because after completion of the project, there are several possibilities for institutional successors to the PCDP (see Part B). However, certain GoNWFP institutional functions will have to be retained to continue technical and extension support to the Palas communities. Total annual recurring costs would be in the order of Rs 4 million.

8. Objectives of the project

The project objectives were evolved from those of the precursor Himalayan Jungle Project, through a number of joint planning workshops between the implementing agencies, and joint meetings between the EC project preparation mission and the implementing agencies. *Goal oriented project planning* was used and the widely accepted *logical framework* has been adopted.

OVERALL GOAL: to which the project will contribute in the long term:

To safeguard the biodiversity of the Palas Valley by enabling local communities to tackle the linked causes of poverty and incipient natural resource degradation.

PROJECT OBJECTIVES for the 5 year project period:

- 1) To catalyse and facilitate the establishment and/or strengthening of **viable community organisations that sustain participation** in conservation and development.
- 2) To **safeguard biodiversity** and optimise the flow of local, national and global benefits from the **management and sustainable use of natural resources**, involving:

- a) planning and implementation of biodiversity conservation and environmental awareness programmes, and their extension to other areas of Kohistan through support to a Kohistan Wildlife Unit;
 - b) participatory forest management, including setting aside from commercial timber harvesting forests of highest biodiversity value ('core zones'); sustainable use of remaining forests ('sustainable use zones'); conservation of biodiversity and sustainable use of non-timber forest products in all forests;
 - c) sustainable agricultural development for improved nutrition and income generation;
 - d) improved livestock and rangeland management.
- 3) To foster the local economy and facilitate natural resource management through the **rehabilitation and development of basic infrastructure**.
 - 4) To develop and sustain **improvements in health, nutrition and sanitation**, particularly among women and children.

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Note: the preparation of the PC-1 was technically assisted by G. Duke, Project Coordinator HJP

PART B

Project Description and Financing

9. Location of the project:

a) Place and administrative district in which the project will be located.

The project is located in the Hazara Civil Division, in the Palas Valley, Pattan Tehsil, District Kohistan (Annex 9, Map 1). This incorporates the entire area covered by the Revised Forest Working Plan for Palas Forests (excluding the valley of Kolai), a map area of c.1300 sq km (Annex 9, Map 2). A field headquarters will be purpose-built in or near Palas, with a liaison office in Islamabad (see 11.6).

b) Area and population to be covered by the project. Income and social characteristics of the population to be provided services.

i) LOCATION, TOPOGRAPHY, CLIMATE

Palas Valley lies east of the River Indus among the front ranges of the western Himalaya. Altitudes range from c. 1000 m to 5151 m and the topography is mostly rugged and precipitous. The main river, the Musha'ga, c. 75 km long, enters the River Indus at 73°05'E, 35°08'N. Climatic figures are not available. Lower altitudes experience dry sub-tropical conditions, higher altitudes temperate conditions. Summers are generally warm to hot, winters cold to severe. Estimated mean annual precipitation is 900 mm to 1350 mm, falling mostly as winter snow; Palas receives sporadic summer rains, being somewhat sheltered from the monsoon by mountains to the south.

ii) NATURAL RESOURCES (for details, see Annex 3)

The great altitudinal and climatic range of Palas supports a wide diversity of natural plant communities, including: subtropical dry oak *Quercus* dominated forests and scrub; temperate forests (deciduous, mixed and coniferous); sub-alpine birch *Betula* woods; alpine scrub and meadows. The Revised Working Plan for Palas Forests gives a (temperate) forest area for Palas (including Kolai) of over 400 sq km, or 28% of the total area. The forests of Palas are remarkable in their contiguity, diversity of plant associations, and near-primary condition. Cultivable land makes up only c. 5% of the total land area. There are extensive alpine rangelands. Palas has an abundance of water, with permanent, snow-fed rivers.

The forests of the Western Himalaya - particularly the temperate forests - have been reliably identified as a 'biodiversity hotspot', a global priority for the conservation of biodiversity. Surveys between 1987 and 1995 leave little doubt that the Palas forests represent Pakistan's most outstanding remaining tract of temperate forests. Over 140 bird species have been recorded in Palas, including seven of the eight 'restricted range' West Himalayan species. Palas contains the largest known population of the globally threatened western tragopan *Tragopan melanocephalus*. Palas also contains many rare and/or threatened mammal species of the Western Himalaya, including Kashmir grey langur *Presbytis entellus*,

brown bear *Ursos arctos*¹, black bear *Selenarctos thibetanus*, wolf *Canis lupus*¹, snow leopard *Panthera uncia*¹, common leopard *Panthera pardus*¹, leopard cat *Felis bengalensis*, musk deer *Moschus crysogaster* and markhor *Capra falconeri*. Many other species occur, many in abundance. Palas also exhibits a rich diversity of reptiles, amphibians and invertebrates. IUCN identify the Western Himalaya as a region of high floral endemism, and surveys indicate that Palas is also an area of outstanding botanical importance. Surveys have so far identified over 400 plant species, including three species new to science and many rarities; the total number of plant species in Palas probably exceeds 600. Palas contains the largest known population of the threatened West Himalayan elm *Ulmus wallichiana*.

The Palas forests provide a wide range of non-timber forest products with subsistence or cash value. Some villagers rank NTFPs as a more important source of income than agriculture, livestock or timber harvesting. The morel mushroom *Morchella* spp. and the plants *Geranium wallichianum* and *Valeriana jatamansii* together generate an estimated Rs 6 million/year from Bar (Upper) Palas alone. Preliminary ethnobotanical surveys have so far listed over 130 plant species having customary uses among the Palasis. Of these, almost 70 are said to have medicinal properties; the remainder are valued for a wide range of uses including food, 'tea', animal fodder, firewood and tinder, 'chewing gum', cosmetics, attracting honeybees, 'paper' and dye. Many of these plants may have potential for sustainable economic development.

The temperate forests provide vital **browsing** for cattle, sheep and goats, particularly during the early summer and early autumn migrations. The alpine rangelands provide **summer grazing**. Foliage from the subtropical oak *Quercus* forests provides vital **winter fodder** for stall-feeding. A wide variety of grass, herb, shrub and tree species are utilised.

The temperate forests of Palas are an important and potentially sylviculturally sustainable source of timber - deodar *Cedrus deodara*, silver fir *Abies pindrow*, spruce *Picea smithiana* and blue pine *Pinus wallichiana* - for Pakistan's construction industry. However, current timber harvesting practices are *not* sylviculturally sustainable. The Palas forests are currently managed under the Revised Working Plan for Palas Forests (RWP), which divides the forested area of 400.43 sq km into 235 compartments. Of these, 101 compartments comprising 42.5% of the area are placed in Selection Working Circle and 134 compartments comprising 57.5% of the area in Improvement Working Circle. The RWP prescribes a total annual yield of 812,000 cft over a 15 year period (1988-89 to 2002-2003), worth c. Rs 162 million per year at current prices. However, costs are high in relation to this return, particularly for the more remote compartments, and particularly if the adverse impact of timber harvesting on non-timber forest values (both direct and indirect values) is properly included in the analysis.

The Palas forests provide important watershed protection against soil erosion, landslides, river siltation and flooding. This protection has substantial economic and environmental security implications for Pakistan. The Palas watershed drains into the River Indus. Tarbela reservoir, Pakistan's largest and a major source of power generation, is just 180 km downstream from Palas. The *local* impact of watershed deforestation can also be economically and socially

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Occurrence in Palas expected and/or reported locally, but not yet confirmed.

damaging. Deforestation in the neighbouring valley of Kaghan is thought to have exacerbated severe landsliding, with high social and economic costs, during the heavy rains of September 1992. Kohistan is prone to earthquakes; studies after the major earthquake of December 1974 showed that the watershed forests helped mitigate damages and loss of life by reducing landslides and rockfalls.

iii) *POPULATION AND SOCIAL SYSTEMS* (for details, see Annex 2)

The project beneficiaries will be the **30-40,000 villagers** of the Palas Valley, **plus emigrant Palasis** (number unknown) who retain rights to land and forest and often return to Palas. This population is **dominated by the Shin `quom' or tribe**, who speak a dialect of Shina. The Shin are divided into two `main tribes' (the Dharma and Kuk Manka) which are further divided into many sub-tribes. There are **small numbers of ethnically distinct, marginalised, groups** including the Sarkheli, Shamoga, Gujars and Akhars. The people of Palas tend towards a strictly orthodox Sunnite interpretation of Islam, and are much influenced by the Tableeghi Jumat.

Property regimes in Palas derive from the `wesh', an historical division of resources among the Shin; no formal land entitlement has taken place. **Agricultural land** is held **freehold** and is fairly equitably distributed among the Shin families. There are no big landowners; indeed Shin society discourages any one individual gaining a significant economic advantage. *Legally*, the **temperate forests** of Palas are classified as *guzara* forests. The local owners enjoy an 80% share of commercially harvested timber, against the government's 20% share. However, under the current harvesting system, the local community realise only a small fraction of the value of this share. *Customarily*, the **temperate forests** of Palas are the *common property* of the Shin quom. The forests of Bar Palas (or `Upper' Palas, which incorporates those parts of Palas lying north of the Musha'ga together with those parts lying south of the Musha'ga and east of the Sharial Valley) belong either to the Dharma or to the Kuk Manka, while those of Kuz Palas (or `Lower' Palas, which incorporates the remainder of Palas) are subdivided among their sub-tribes. **Shares** in forest royalties are linked to the freehold ownership of agricultural land; each man, woman and child of each owning sub-tribe has a share. **Oak *Quercus* trees** - valued for fodder - in the sub-tropical forests are also subdivided among the Shin. **Alpine rangelands**, and land at the edge of the village (`khil'), are managed under traditional *common property regimes*. **Non-timber forest products** and **wildlife** are *open access resources*.

The marginal groups - Gujars, Akhars, Sarkheli, Shamoga, etc. - do not own land. They live as tenant farmers or practice specialist occupations (graziers, blacksmiths, millers, carpenters), have no share in forest royalties, but enjoy various rights of access to non-timber forest products, rangeland and wildlife.

Palas does *not* suffer the problem faced in many parts of Pakistan's mountainous north of an `institutional vacuum' at the village level; **the customary institution of the `jirga' (tribal council) is very active.** The Shin jirga differs in two important respects from the Pashtun jirga. First, while the Pashtun jirga is generally a fixed group of representatives, the constitution of the Shin jirga is **situational**, ie. it is determined by the parties involved in the matter at hand. Second, the Shin jirga, unlike the Pashtun jirga, is a **council of equals**, not of elders; Shin society in Palas is relatively egalitarian. Decisions are customarily taken by **consensus** among

all the interested parties. Most often constituted to resolve disputes, the jirga can also have a pro-active or planning aspect, and is able to implement communal tasks through the mechanism of `hashr' (community labour).

A striking feature of Palas society is the **frequency and severity of inter-family disputes**. These can persist for many years, having severe economic repercussions, in particular disrupting agriculture and livestock herding.

iv) *DEVELOPMENT STATUS*

Palas has a largely traditional subsistence economy with a **very low development status**. **Most Palasis, of both landowning and non-landowning groups, live in poverty**. An official survey shows that Pattan tehsil (incorporating Palas) is the least developed tehsil in NWFP. Aside from 3 districts of Baluchistan, District Kohistan is the least developed of the 64 districts of Pakistan. A 1989 survey showed that Kohistan has: no industry; poor agricultural production (4.8% of the land area cultivated: mean farm size 1-2 ha; low yields/ha); and `abysmal' social sector provisions (literacy rate 1.4%; one doctor per 205,000 people).

With a shortage of cultivable land, and a short growing season, the Palasis cannot survive by agriculture alone; traditionally, they practice a mixed **agro-sylvo-pastoral subsistence economy**, which makes use of the diversity of natural resources in Palas. The traditional lifestyle involves seasonal transhumance, in which most of the population move annually with their livestock between winter villages and summer pastures. Crop yields are low due to poor seed, inadequate irrigation and fertiliser, poor cropping practices, and uncontrolled pests and diseases. The staple crop, maize, is supplemented by milk products from goats, cows and buffalo, and by cultivated and wild (forest) vegetables. Livestock perform an important function in cycling nutrients from the forests and rangelands on to the agricultural land, and are an insurance against crop failure. However, livestock are of poor genetic stock, and suffer uncontrolled diseases. The people are not self-sufficient, and buy food to meet shortages, particularly prior to the harvest. Non-timber forest products (NTFPs) make a major contribution to local subsistence and cash incomes (forest mushrooms alone contribute c.Rs 10 million/year to the Palas economy). Commercial timber harvesting, government service and wage labour increasingly contribute to the local economy.

10. Existing facilities, detail of existing extension work in public and private sector. Number of demonstration farms established so far and results obtained from such efforts.

There is little existing infrastructure in Palas (for details, see Annex 4). Almost all construction is `kacha'. There are two roads - Pattan-Taghi (c. 17 km), Pattan-Sherakot (c. 10 km) - but most settlements remain between one and three days' walk from the road-head. Pathways, including the arterial Bar (Upper) Palas pathway, are mostly in poor condition and arduous. There are several primary schools, but teachers are rarely present; the nearest middle and high schools are in Pattan. There are a few dispensaries in Palas, but medical supplies are very limited; the nearest doctor is in Pattan. There is no tapped drinking water, no electricity or gas supply. There is a single Forest Rest House in Palas, at Sherakot.

The PCDP is the only multi-sectoral project in Palas. C&W Department is constructing a 23 km road to Palas (Rs 16.6 m). LG&RD Department has recently metalled 2 km of the Sherakot road (Rs 0.7 m) and extension of this road to Sharial is in progress. Kohistan District Council is building a few footpaths and irrigation channels under the 'Community Uplift Programme' (Rs 0.88 m). Under the flood rehabilitation programme, the HJP has built 4 suspension foot-bridges (with 3 more in progress), 45 irrigation channels and 12 watermills.

There are very few other development projects planned for Palas: the Health Department plans to build one BHU; the Education Department has 13 schemes for Primary Schools (1993-1995); Forest, Agriculture, Irrigation and Shydo departments have no projects in progress. A number of basic water supply schemes are under development.

For the wider District, a **Kohistan Area Development Project (KADP)** is under preparation. PE&D Department has proposed that **the PCDP be implemented as a precursor to the KADP.** The KADP is expected to adopt similar strategies and approaches to the PCDP. To prevent duplication of activities, the KADP is not expected to operate in the Palas area. The proposed ADB-funded **Forest Sector Project (FSP)** is likely to select the neighbouring valleys of Dubair and Pattan as project areas, and has noted the possibility for collaboration with the PCDP. There are no other major donor-funded programmes known to have a specific focus on Kohistan, although the National Rural Support Programme (NRSP) had originally identified District Kohistan as a priority area. Meetings have been held between PCDP and NRSP.

11. Description and justification of the project.

11.1 PROBLEMS TO BE ADDRESSED BY THE PCDP

11.1.1 *Forests and Biodiversity* (for details see Annex 3)

i) *UNSUSTAINABLE COMMERCIAL TIMBER HARVESTING*

Unsustainable commercial timber harvesting is **the most immediate and tangible problem** in natural resource management in Palas, and of all the natural resource management problems in Palas presents **the greatest observed threat to forests and biodiversity.** By comparison, the kind of forest degradation often attributed to increasing human and livestock populations elsewhere in NWFP is of less concern in Palas (see below).

Unsustainable commercial timber harvesting is **driven by external demand for timber, the 'rent-seeking' activity of both state and private enterprise, and by socio-economic change.** In regard to the latter, the resolution of long-standing tribal disputes over forest ownership, retention of forest shares by an increasing number of non-resident Palasis, increasing importance of income from wage labour relative to cash and subsistence income from NTFPs, increasing uncertainty of agricultural production (with declining maize seed quality, increasing pests and diseases and declining soil fertility due to the maize mono-culture) and the need for cash income (due to increasing bride-prices, the increasing sophistication and cost of weaponry, increases in the cost of living index and widespread poverty and debt) **are some of the important factors which tend to increase the demand for income from commercial timber harvesting, while**

undermining any nascent interest in sustainable use of the forest resource.

The **sale of timber rights** is a simple way for forest owners to raise urgent cash, analogous to the cashing in of shares. Private enterprise is only too ready to oblige with cash down-payments. Forest users who are not owners - the poorer, more marginalised groups - stand to suffer most, as they will suffer the effects of forest degradation without the attendant benefits of cash income.

The unsustainability of commercial timber harvesting is **further exacerbated** by: the conflict between statutory and customary forest management regimes, reflected in the exclusion of local participation from forest planning and management, and the cursory attention given to domestic demands on forest resources given in the Working Plan; the inadequacy of existing forest planning and control measures; the failings of customary common property regimes and institutions in the face of socio-economic change; and conflict over forest ownership which undermines cooperative action.

Commercial timber harvesting is prescribed under the Forest Department's Working Plan for Palas Forests. Under the First Working Plan, harvesting was *much lower* than prescribed, apparently due to local disputes over forest ownership. And while substantial harvesting has taken place under the Revised Working Plan since 1988, **most Palas forests remain as yet intact. However, in some areas, overcutting has caused substantial degradation of the remaining resource**, and high rates of deforestation elsewhere in Hazara give cause for concern in Palas.

While non-owning forest users stand to lose most, the owning Shin also realise a small fraction of the value of their timber. **The current harvesting system is very wasteful** and out-turn is only 40-45%; and though 80% of this out-turn legally belongs to the forest owners in Palas, the advance sale of felling rights results in their receiving only c. 20% of the market price; consequently, they realise as little as $(40 \times 0.8 \times 0.2 =)$ 5% of the value of their timber. The owners additionally **miss out on income from the management and execution of timber harvesting**, which is mostly done by outsiders, and miss out on the opportunity to develop their own forest processing industries. More seriously, the forests are often left in such poor condition that the potential for regeneration and sustained timber harvesting is greatly reduced.

Though all commercial timber harvesting in Palas is subject to the provincial timber harvesting ban, **timber harvesting is certain to accelerate if and when the ban is lifted**, in the face of uncertainty over possible future bans - much as uncertainty over *any* investment will lead to accelerated liquidation. It follows that **the forests and biodiversity of Palas can only be saved by credible moves to safeguard the certainty of future returns to the investors - the Shin of Palas**. Once liquidated, natural capital such as biodiversity and natural forests cannot be regained; the loss in local, national and global.

ii) *OTHER PROBLEMS AND THREATS*

The Palas forests are generally not subject to the acute local pressures for domestic use observed in many other parts of NWFP. Although official data sources are conflicting, the human population of Palas does not appear to be growing rapidly. The birth rate appears to be

balanced by migration to urban areas and the departure (for better economic opportunity elsewhere) of non-landowning families. Livestock populations are also not excessive. Resident livestock populations appear to have declined; as the Palasis increasingly turn to wage labour, they can no longer maintain their traditional transhumant lifestyle, and so abandon animal husbandry. Moreover, the Palasis forbid nomads and their numerous livestock from entering the valley. Indeed, some areas of Bar Palas have experienced an apparent *decline* in human and livestock populations, and forest are recolonising once cleared land. The size of the remaining forest resource in Palas appears more than sufficient to sustain the domestic needs of current and foreseeable densities of human and livestock populations. However, the following problems and threats are notable:

- * **Over-hunting.** A number of key species are threatened by over-hunting, including most of the large mammals and pheasants. Wildlife is persecuted for crop and livestock depredation, hunted for trade (bear cubs, skins, musk, etc.), or simply shot for sport or for meat. The trade in wildlife products is driven by external demand.
- * **Over-grazing.** Though livestock pressures in Palas are low, some Palas rangelands are degraded by a history of poor rangeland management, leading to severe, localised sheet and gully erosion, and the spread of unpalatable species.
- * **High domestic use of timber.** In some localities high domestic demand for timber for houses and mosques damages the forest resource. The vernacular architecture makes heavy use of timber. Damage is most evident around the larger Kuz Palas villages, and around Bar Palas summer camps where regeneration is prevented by uncontrolled grazing.
- * **Possible unsustainable use of NTFPs.** Current harvesting of medicinal plants and morel mushrooms may prove unsustainable. Collection of 'dindasa' (walnut rootbark) is almost certainly unsustainable. Trade in NTFPs is driven by external demand.
- * **Commercial sale of firewood.** In some of the more accessible parts of Kuz (Lower) Palas, Oak *Quercus baloot* is subjected to heavy lopping or even felling for commercial sale as firewood. However, this threat appears generally to be well controlled by local mechanisms. Domestic use of firewood is *not* a critical threat.
- * **Inappropriate road-building.** Roads under construction in Palas threaten to open up previously inaccessible forests to unsustainable commercial timber harvesting and fuelwood extraction. These roads are not part of any considered 'opening up' plan, and alignments and construction methods make no allowances for the important Palas environment.
- * **Introduction of exotic tree species.** The Forest Department is beginning to plant a number of exotic species along roadsides in Kuz Palas, including *Ailanthus*, *Robinia* and *Eucalyptus*. These are undesirable in an area of importance for its native diversity. However, the impact is so far small.

11.1.2 Agriculture, Livestock and Rangeland (for details see Annex 3)

i) *UNDER-DEVELOPED AGRICULTURAL SYSTEMS*

Palas is not self-sufficient in food. Crop varieties are unimproved and yields very poor. The range of crops grown is very limited. Cropping practices and agricultural implements are primitive. Knowledge of improved crop production is very poor. Maize is the primary arable source of food and fodder, but varieties grown are mostly unimproved or degenerate, and are low yielding. For most other crops, there is a lack of seed (and other planting materials) of improved varieties. Vegetables and pulses are under-utilised. Fruit trees are not cultivated despite considerable potential. There is also potential for developing non-arable fodder production on fallow agricultural land and village margins. No or very little fertilisers are used. In most maize areas, fixation of phosphate is a problem, with low concentrations of soil phosphates. Farmyard manure (FYM) is not properly stored but is added fresh to the soil. No protection measures are currently used and pests and diseases are common. Very primitive agricultural implements are used. A lack of modern agricultural knowledge extends to most aspects of crop production, and farmers are unable to resolve problems for themselves. Agricultural support services are almost non-existent. Poor access and rugged terrain make the import of agricultural inputs costly and difficult. There are no formal rural credit systems, and informal systems are generally exploitative. Palas presents a challenging physical and social environment for agricultural development: a widely scattered population, seasonal transhumance, difficult terrain, poor access and violent disputes all complicate extension. Improved crop varieties are generally not adapted to altitudes above 2000 m.

ii) *UNDER-PRODUCTIVE LIVESTOCK AND RANGELANDS*

The keeping of livestock is an integral part of the farming system of Palas. Livestock provide security against uncertainty in crop production. Though there is no accurate census of livestock numbers in Palas, most households keep goats, sheep, buffalo, cows, bullocks and poultry, as well as mules and donkeys for transportation. **Livestock diseases are common.** In some areas of Palas, particularly in and around the major summer pastures (Ledi, Ganja, Moru), **poor rangeland management** practices have led to a reduced productivity of palatable species, localised gulleying, and the suppression of forest regeneration through browsing and trampling.

11.1.3 Infrastructure (for details see Annex 4)

i) *INADEQUATE BASIC INFRASTRUCTURE*

District Kohistan was only opened to the outside world with the completion of the Karakorum Highway in the mid 1970s. The interior, particularly in valleys such as Palas trans-Indus from the KKH, remain remote from modern-day Pakistan. Consequently, even prior to the devastating 1992 floods, infrastructure in Palas was primitive. No roads penetrated the interior and the few 'kacha' approach roads were often closed by sliding. Access to almost all villages was only by foot, with the more remote villages lying 2-3 days' trek from the road-head. Few ways were suitable for pack animals, most arduous, even perilous, for people. Obstructed by bluffs, the arterial Bar Palas footpath crossed the torrential Musha'ga several times. Bridges, traditional cantilever structures of wood and stone, were often dangerous, vulnerable to seasonal floods and

often had to be rebuilt. Paths and bridges were built and maintained by the community, using the simplest implements, without external assistance. This basic communications network nonetheless provided vital passage for the daily and seasonal movements of people and livestock, for access to goods and services, and for the export and sale of local produce.

Agricultural infrastructure in Palas before the floods was equally primitive, and consisted of 'kacha' irrigation channels cut into the earth or traversing cliff-faces in hollowed logs, often several km in length, and simple water-mills for grinding the staple maize grain.

In September 1992, the Palas Valley was hit by natural disaster as Pakistan suffered its **worst floods this century**. Floods in Palas destroyed land and villages caused great damages to the already inadequate infrastructure. All foot-bridges and a 40 km stretch of the arterial Bar Palas footpath were destroyed, together with intakes of all irrigation channels on major rivers and c.70% of the valley's watermills. The damages led to a temporary food crisis, undermined the fragile subsistence economy, and precipitated the departure of many families.

11.1.4 Health, Nutrition, Sanitation and the Status of Women (for details see Annex 5)

i) *ABYSMAL HEALTH, NUTRITION AND SANITATION*

The people of Palas, and women and children in particular, suffer serious problems of health, nutrition and sanitation. **Child mortality is high and female reproductive health is precarious.** Women and girls do not eat well, often drink insufficiently, and suffer poor hygiene. Home birth deliveries are the rule, and are usually assisted by the mother-in-law; babies in the breech position usually die. Common health problems in Palas include tuberculosis, skin infections and infestations, respiratory problems caused by wood-smoke, and diarrhoea caused by Giardia and amoebic dysentery. Problems specific to women include infertility and goitre (iodine deficiency), problems related to delivery, bone deformities and pains caused by osteomalacia (Vitamin D deficiency) and carriage of heavy loads; and psychological problems. Existing health facilities in Palas are minimal. The few Basic Health Units are usually closed, and poorly supplied with medicines. Patients must walk, often for 2 or 3 days, to receive medical attention at the Pattan hospital or missionary clinic; on occasion, women and children die on the way. Palasis continue to make use of traditional medicines based on plants, some of which may do more harm than good.

ii) *LOW SOCIAL STATUS OF WOMEN*

Life for women in Palas can be harsh. *Purdah* strictly proscribes intimacy between men and women outside of their own families. Transgression of this code insults a family's honour and may be punishable, in extreme cases by the death of both parties. While women have freedom of movement to carry out normal tasks, they may not travel, for example, to Pattan without the company of a male family member. Communication between husbands and their wives may be limited, particularly immediately after marriage. A married women generally lives with her in-laws. There may be strong pressure for her to bear sons and if she cannot, she may be ill-treated, and/or her husband may take a second wife. Widows are usually provided for by remarriage to their husband's brother. Almost all women in Palas are illiterate and speak only the local dialect

of Shina. There are no operative girls' schools and attendance of girls at school is likely to be discouraged by custom. Women's work-loads are heavy; they provide almost half of the labour for agriculture and animal husbandry, share in construction work and are responsible for most household tasks and child care. Women cannot sit in the (male) jirgas; it is not clear to what extent women influence community or household decision.

11.2 ACTION TAKEN UNDER THE HIMALAYAN JUNGLE PROJECT

The Himalayan Jungle Project (1991-1994) (HJP), the precursor to the PCDP, operated under two PC-1s and was executed by BirdLife International in partnership with the NWFP Wildlife Department, National Council for Conservation of Wildlife, World-Wide Fund for Nature (WWF) Pakistan and the World Pheasant Association. The core project was wholly funded by donor grants, the major donors being the British and American governments and WWF. Flood relief and rehabilitation activities under the HJP were mostly funded by the Government of NWFP, with some donor grants. About 18 months' interim financing has been provided by the EC to bridge the gap between the HJP and commencement of the PCDP. Independent appraisals and HJP documentation (Annex 1) indicate the following **main achievements**:

i) *COMMUNITY ORGANISATION AND PARTICIPATION*

- * sensitive and substantive **grass-roots dialogue established** with both men and women in Palas, influence gained in local decision-making processes, and **participatory planning methodologies** applied;
- * **community-based organisations established** throughout Bar (Upper) Palas: these CBOs serve as working groups for the jirgas, from which they take their authority, and provide a permanent interface between the jirgas and the Project;
- * **participatory relief, rehabilitation and development programmes implemented** following disastrous floods of September 1992: 10,000 worst-affected villagers received food aid on an equitable basis; reconstruction of basic infrastructure planned and implemented with local participation (see below); agricultural and horticultural development initiatives implemented in partnership with farmers;

ii) *NATURAL RESOURCE MANAGEMENT*

- * **community organisation for, and participation in, NRM initiated**: grass-roots dialogue and PRA for participatory planning of NRM initiated; local goodwill and credibility for dialogue on NRM established, through timely flood relief work; community organisations established as local institutional platform for NRM;
- * **NWFP Wildlife Department and WWF-Pakistan capacities for NRM strengthened** through training of staff (overseas and in-country), international collaborations, joint planning and representation.
- * **incentives and instruments linking conservation and development applied**: HJP-Bar

Palas agreement signed under which the community agree to formal dialogue on forest management and to reduced hunting of wildlife, in return for flood rehabilitation assistance;

- * **biodiversity surveys made** including surveys of the Western Tragopan and other birds and mammals, preparation of botanical and ethnobotanical checklists, and commencement of habitat mapping from satellite imagery: consequently the biodiversity of Palas is probably better documented than any other single natural area in NWFP;
- * **forest management planning initiated:** local dialogue, PRA and technical studies combined with GOPP workshops to develop proposals for participatory forest management; issues covered include customary ownership and property management regimes, legal status and statutory measures for forest management, customary uses of forest products including NTFPs, current commercial timber harvesting systems and the sale of forest royalties, comparison of costs and benefits of current and alternative forest management scenarios, options for sustainable forest management including sustainable use of NTFPs;
- * **official recognition won** for the importance of the biodiversity and forests of Palas: conservation of the forests and biodiversity of Palas are stated objectives of the Forest Sector Master Plan and Sarhad Provincial Conservation Strategy (SPCS);
- * **agricultural research and development initiated:** technical appraisals made of crop production systems in Palas, varietal and seed multiplication trials for staple maize crop initiated, fruit tree nurseries and demonstration orchards established; linkages with national and international agricultural development agencies established;

iii) *REHABILITATION AND DEVELOPMENT OF BASIC INFRASTRUCTURE*

- * **flood rehabilitation programme planned:** participatory planning of rehabilitation priorities carried out in all villages of Bar Palas; priorities identified as: 22 suspension foot-bridges, 54 irrigation channels, 40 km of footpaths and 20 watermills.
- * **agreements signed for participatory implementation** including a framework agreement for Bar Palas, and site specific agreements, specifying terms of partnership between HJP and local communities.
- * **reconstruction of c.45 irrigation channels and 12 watermills completed** in partnership with community-based organisations, involving mobilisation of over 10,000 man-days of labour.
- * **construction of suspension foot-bridges initiated:** 4 bridges completed, 3 bridges under construction and a total of 10 bridges targetted for completion prior to the commencement of the PCDP.

iv) *HEALTH, NUTRITION AND SANITATION*

- * **planning process initiated for a basic health, nutrition and sanitation programme**, including a review of local health problems as experienced by the Kohistan Medical Assistance Project, and a detailed PRA on health, nutrition and sanitation.

11.3 PCDP GOAL AND OBJECTIVES

The **GOAL** to which the project will contribute in the long term is:

To safeguard the biodiversity of the Palas Valley by enabling local communities to tackle the linked causes of poverty and incipient natural resource degradation.

The **OBJECTIVES** for the 5 year project period are:

- 1) To catalyse and facilitate the establishment and/or strengthening of **viable community organisations that sustain participation** in conservation and development.
- 2) To **safeguard biodiversity** and optimise the flow of local, national and global benefits from the **management and sustainable use of natural resources**, involving:
 - a) planning and implementation of **biodiversity conservation and environmental awareness programmes**, and their extension to other areas of Kohistan through support to a Kohistan Wildlife Unit;
 - b) **participatory forest management**, including setting aside from commercial timber harvesting those forests of highest biodiversity value ('core zones'); sustainable use of remaining forests ('sustainable use zones'); conservation of biodiversity and sustainable use of non-timber forest products in all forests;
 - c) **sustainable agricultural development** for improved nutrition and income generation;
 - d) **improved animal husbandry and rangeland management**.
- 3) To foster the local economy and facilitate natural resource management through the **rehabilitation and development of basic infrastructure**.
- 4) To develop and sustain **improvements in health, nutrition and sanitation**, particularly among women and children.

NB: Flexibility is vital in order that the Project can: incorporate the developmental priorities to be evolved through participatory planning; have room for mediation and negotiation; maintain a sensitivity of response to changing local circumstances; and operate through a cumulative learning process. Thus, while this PC-1 defines clear objectives and clarifies the strategic approach and operational arrangements, details of activities, outputs, inputs, phasing and budgets must all be considered **indicative**. Provision for annual workplans, prepared by the Management Team and approved by the Project Steering Committee (see below), will allow details to be clarified and rigorous schedules set. Thus, necessary adjustments to project activities, inputs, outputs, and phasing, and the re-allocation of funds between budget-lines, will be admitted within the framework of the project objectives and the budgetary ceiling.

11.4 INDICATIVE PROJECT OUTPUTS

11.4.1 *Community Organisation and Participation*

* Palas communities organised in a functional network of community-based organisations (CBOs) including an All-Palas CBO, village CBOs, special interest CBOs and women's CBOs * Participatory planning, monitoring and evaluation processes ongoing throughout Palas, with locally defined indicators of success and sustainability; * Community skills enhanced, trained Community Facilitators and Village Activists available to the institutional successors to PCDP (including CBOs and a Kohistan Wildlife Unit); * Community savings initiated as collateral for development loans.

11.4.2 *Natural Resource Management*

General Outputs

* Communities and independent monitors in agreement that natural resource degradation is halted, and that sustainable NRM will be fully operational within a reasonable time-frame; * Participatory planning, monitoring and evaluation of natural resources ongoing throughout Palas, with locally defined indicators of success and sustainability; * Local cash and subsistence incomes enhanced from community forest management, marketing of NTFPs, sustainable agriculture, improved livestock and rangeland management; * Package of incentives, instruments and mechanisms linking conservation and development in place; * The value of a single multi-disciplinary agency treating a watershed as an integral unit for NRM demonstrated * Kohistan Wildlife Unit established and extending participatory NRM to other areas of highest importance for biodiversity in District Kohistan; * Capacity of WWF-Pakistan and/or other environmental NGOs enhanced as support agencies for participatory NRM * Legal, policy and institutional framework for participatory NRM strengthened.

Sectoral Outputs

- a) Biodiversity Conservation and Environmental Awareness

* Local awareness raised of value of biological diversity; * Recovery plans in operation for key species; * Wildlife depredation of crops and livestock managed; * Floral and faunal inventories and detailed habitat map completed; * Longer-term biodiversity research programmes (including ethnobotanical research and plant screening) in progress with international collaborations.

b) Community Forest Management

* Forests of highest importance for biodiversity ('core zones') set aside from commercial timber harvesting, remaining areas of forest ('sustainable use zones') managed for sustainable use, possibly including ecologically and silviculturally sustainable commercial timber harvesting, and zonation secured (with possible legal protected area designation); * Locally accountable organisations of forest owners in Palas strengthened and playing an effective role in forest planning and management, with conflicts between customary and statutory forest management resolved; * Flexible forest management plan prepared through participatory planning processes, within the framework of a broader NRM plan for Palas; plan approved by GoNWFP; * Introduction of community (or joint) forest management in progress, local owners being trained as forest workers/petty contractors'; * Introduction of improved harvesting technologies (eg. valley-bottom roads and sky-line cranes) in progress where appropriate, timber wastage reduced, and local value-added processing options developed, NTFPs being used sustainably, with improved marketing; * Sale of royalties (timber felling rights) stopped, sold royalties 'bought back'; * Benefits of harvesting equitably distributed among owners and rights of forest users (non-owners) secured.

c) Sustainable Agriculture

* Improved and adapted crop varieties introduced, evaluated and multiplied in farmer-managed plots, including staple maize crop and other field crops; * Fruit tree nurseries, orchards and field-edge plantings established; * Women trained for improvement of nutrition through kitchen-gardening of vegetables, backyard poultry production, etc.; * Cropping intensity increased with introduction of spring and autumn crops; * Fodder production and storage improved; * Cultivation and crop rotational practices improved; * Crop losses from pests and diseases reduced with integrated pest and disease management programme in place; * Widespread use of more efficient implements, with consequent reduction in workload.

d) Animal husbandry and rangeland management

* Village veterinary workers trained and established; * Farmers trained in animal health and nutrition; * Livestock health and productivity improved; * Community rotational grazing agreements secured; * Pasture productivity enhanced; * Degraded pastures rehabilitated.

11.4.3 Rehabilitation and Development of Basic Infrastructure

* 12 suspension footbridges; * 100 km of bridle-ways and footpaths; * Numerous irrigation

channels and other small infrastructure completed; * 15 km of valley-bottom road; * PCDP/CBO headquarters built in Palas; * Construction costs shared by community and systems for joint maintenance in place.

11.4.4 Health, Nutrition and Sanitation

* Female Health Workers trained and Child Care Centres established; * Nutrition improved and dietary deficiencies reduced; * Incidence of disease and pest infestations reduced; * Provision of clean water supply in progress; * Hygiene improved, smoke-free *chollahs* introduced and home and hujra ventilation and sanitation improved; * Quarterly mobile clinics conducted and immunization increased; * Gender-disaggregated base-line data on health, nutrition and sanitation available.

11.5 PROJECT COMPONENTS - STRATEGIES AND INDICATIVE ACTIVITIES

Background information, strategies and key activities for the four project components - i) community organisation and participation, ii) natural resource management, iii) rehabilitation and development of basic infrastructure, and iv) health, nutrition and sanitation - are detailed in Annexes 2-5 respectively. Summaries are presented below.

i) *COMMUNITY ORGANISATION AND PARTICIPATION* (Annex 2 for details)

RATIONALE

Community organisation and participation constitutes the most fundamental component of the PCDP. The PCDP will build upon the achievements and approach of the HJP, the key elements of which are: **dialogue, mediation and negotiation**, which ensure a sensitivity to local social and political realities and link the project into local decision-making processes; **participatory planning, monitoring and evaluation**, which enable local communities to assume greater control over the project cycle, and so nurture a sense of ownership vital to sustainability; and **community organisation**, which provides the local institutional platform for sustained activity. In addition, developmental initiatives - related to natural resources (Annex 3), infrastructure (Annex 4) and basic health (Annex 5) - provide the necessary **incentives** for organisation and participation, and the **physical activities** through which organisations are strengthened, skills imparted and income generated.

The potential efficiency of such an approach to local development, and the opportunities it affords for a degree of cost-sharing, can make it extremely cost-effective, reducing developmental costs and minimising recurrent costs.

INDICATIVE ACTIVITIES

a) Dialogue, Mediation and Negotiation

Though participatory methodologies provide a powerful set of tools for pro-active dialogue in Palas, the Project will continue to make effective use of **conventional fora and methods for dialogue and decision-making**. This is of particular importance in view of the vital role to be played by the Project in the **mediation and negotiation** of agreements (see in particular Annex 3). Mediation and negotiation require an array of skills quite separate from those of participatory methodologies. The PCDP will maintain a continual **dialogue** with, *inter alia*: individuals and small groups through the informal channels of the hujra, mosque, wayside and PCDP field office; the more formal fora of jirgas, jirga committees and CBOs; elected representatives and their workers.

b) Participatory Planning, Monitoring and Evaluation

Participatory rural appraisal (PRA) provides a 'basket of tools' for participatory planning, monitoring and evaluation. These tools help local communities to critically analyse their problems, constraints, opportunities for development, and progress. PRA will be applied under the PCDP in a concerted but flexible manner.

PRA teams will normally include 4-8 PCDP staff (men and women) from Programme Officers to Community Facilitators, plus local Village Activists and, where necessary, outside professionals. All project staff will be trained in PRA methodologies and gender awareness (see 11.8.1).

Two kinds of PRA are anticipated. *Village PRAs* will cover the whole range of socio-economic, environmental and institutional issues that affect development in particular villages. Their objectives are: to stimulate in the villagers a critical analysis of local problems and constraints, capacities and priorities; and to provide baseline studies, establishing 'milestones' and indicators that can be used in monitoring and evaluating subsequent activities. *Topical PRAs* carried out in one or more 'representative' villages will investigate in greater depth particular sectoral issues, with the main objective being to refine sectoral strategies.

PRA outputs will be *shared* between the Project and the community, leading to a crystallisation of development objectives, and elaboration of expected outputs, activities, roles and responsibilities, inputs and schedules.

PRA must be applied with care: it is potentially intrusive, demands a lot of time from villagers, and can arouse conflict and heighten expectations. To sustain community confidence and participation, each PRA must lead quickly to follow-up development activities. Development of a standardised methodology will help keep costs of time and energy down, and enable the PCDP to increase the number of PRAs, from no more than four in year 1, to cover all Palas villages by year 5. Documentation of each PRA will provide baseline information for monitoring, and allow comparisons to be made over space and time.

The mid-term evaluation of the PCDP will **review the strategy for community organisation and participation**, assessing progress and problems encountered, introducing new methods or

innovations, and recommending any necessary strategic adjustments. For more details on participatory monitoring and evaluation, see 11.6.2.

c) Establishment and Strengthening of CBOs

The PCDP will continue to catalyse, establish, activate and strengthen CBOs for participatory implementation of development initiatives. As with the HJP, these CBOs will emerge from and be linked to the existing institution of the jirga. CBOs will be of several kinds:

- * an **All-Palás CBO** to address valley-level issues such as the management of common property resources; a strong all-Palás CBO, capable of natural resource planning and management is seen as a vital institutional successor to the PCDP and a focus on the support and development of such this CBO will underlie much PCDP activity;
- * **village CBOs** in all villages in Palas, to address issues that fall within the purview of the village - such as the development of agricultural, livestock and local infrastructure;
- * **special interest CBOs** for particular issues such as the collection and marketing of NTFPs, or to ensure that marginalised groups are not omitted from project activities; special interest CBOs often prove more active as they form around issues that matter to them;
- * **women's CBOs** - the formation of women's CBOs will be approached with care and a particular sensitivity to local conventions.

The PCDP will seek to **catalyse and strengthen organisations** through the participatory implementation of development initiatives in natural resource management, infrastructure, and basic health. For village, special interest and women's CBOs, this will usually involve: selection of village/special interest group; initial PRA to identify development priorities; preparation of cost estimates; inauguration of CBO; agreement on terms of partnership; provision of grant in instalments; provision of training and technical assistance; monitoring and evaluation. Establishment and strengthening of the All-Palás CBO will be a more complex process and is closely linked to the PCDP's strategy for natural resource management (see Annex 3).

The PCDP will seek to sustain CBO activity through the development of community skills and of community capital. The PCDP places a strong emphasis on **skills training** (see 11.8.1), and will develop options for community savings through dialogue with the people of Palas and local credit institutions. A **savings and credit** approach to the financing of local development will increase local control of the development process and reduce any dependency on grant assistance.

In the interim, the PCDP will aim to **share costs** of development with the local community. The first development activity in each village will be supported by limited **grant** aid from the PCDP. This, however, must be matched by a **community contribution** in kind (labour, local materials, land, etc.); community contributions under the HJP have ranged from c. 20-60%.

- ii) *NATURAL RESOURCE MANAGEMENT* (Annex 3 for details)

OVERALL RATIONALE

Though Palas as yet retains a remarkable biodiversity and natural forest cover, poverty and the need for income now threatens these resources. Any attempt to safeguard the forests and biodiversity of Palas must therefore seek to alleviate poverty through income generation. Palas exhibits considerable potential to improve local incomes through the sustainable development of non-timber forest products, livestock and animal husbandry, crops and cropping systems and, if found appropriate, timber harvesting. For this purpose, the happy coincidence of the physical boundaries of Palas with local property boundaries allows the Palas watershed to be treated as an integral resource management unit. Within this unit, the PCDP strategy will be to integrate **sectoral programmes** for the various natural resources through a number of **cross-sectoral elements**:

Cross-sectoral Elements in NRM

- a) Community Participation in NRM

Community organisation and participation - see (i) above - will aim to ensure the participation of all owners and users of natural resources (including women and marginal groups) in NRM. **PRA methodologies** will allow the PCDP to access indigenous knowledge, practices and values relating to natural resources; **applied technical and scientific studies** will provide more conventional natural resource planning information. NRM objectives defined as being of high priority by both PRA and technical/scientific studies will be **integrated**. However, some **trade-offs** may be needed where local and national objectives conflict, and/or where there is conflict between local interest groups. Care must be taken to ensure as far as possible that development initiatives are compatible with conservation. To enable local communities to make **informed choices** about conservation and sustainable development options, the PCDP will implement a **coherent communications and environmental awareness programme**. Local agreement on conservation and development initiatives will require **dialogue, mediation and negotiation**. Implementation of NRM initiatives will then be through the **appropriate community-based organisations**.

- b) Incentives, Instruments and Mechanisms for NRM

Community organisation and participatory methodologies must be supported by a comprehensive **package of incentives**, responsive to local social and economic forces. This will include both **positive and negative incentives** which encourage conservation and sustainable use, and the **removal of 'perverse' incentives** which encourage environmental degradation. A locally appropriate, supportive 'basket' of **instruments and mechanisms** will be required to formalise, activate and sustain local commitment; options include 'gentlemen's agreements', legally binding agreements, and mechanisms for enforcement.

c) Strengthening of Support Institutions for NRM

The PCDP organisational structure itself will demonstrate the workability of a single multi-disciplinary unit for integrated planning and management of natural resources; staff, consultancies and linkages with relevant institutions, will provide necessary skills and expertise in all aspects of natural resource management in Palas. The PCDP will associate existing **Forest Department** staff in forest management planning, and implementation of the plan, and will provide necessary training and re-orientation. The project will also establish and strengthen a **Kohistan Wildlife Unit** for the extension of participatory and integrated natural resource management to other areas of highest importance for biodiversity in District Kohistan (for details see 11.7.6). The PCDP will support capacity-building of **WWF-Pakistan** and/or other environmental NGOs as support agencies for participatory natural resource management. The testing of these institutional arrangements in Palas will contribute to, and benefit from wider provincial initiatives to integrate NRM - including legal, policy and institutional developments.

Sectoral NRM Programmes

a) Biodiversity Conservation and Environmental Awareness

RATIONALE

Activities in this sector will focus on identifying the local, national and global values of the biodiversity of Palas, and on determining priorities for conservation action and opportunities for sustainable use. Given that the **costs** of biodiversity conservation will mostly be borne locally, while the **benefits** will mostly accrue nationally and globally, it is probable that this sector will require greater consideration of **incentives** (positive, negative and 'perverse'), instruments and mechanisms than any other sector of PCDP activity in Palas. The most appropriate positive incentives would be related to increased income generation through sustainable NRM; cash compensation is considered a last resort.

INDICATIVE ACTIVITIES

Key activities will include: contribution to the legislative and policy framework for people's participation in biodiversity conservation in NWFP; development of positive and negative incentives for biodiversity conservation, with supporting instruments and mechanisms, and identification and reduction of 'perverse' incentives which encourage unsustainable use of biodiversity; support to a Kohistan Wildlife Unit (Annex 6); monitoring of the Western Tragopan population and research on the value of pheasants as indicators of forest biodiversity; surveys of other key species, and the development and implementation of recovery plans where necessary; research on the impacts of forest use on biodiversity; management of crop and livestock depredation by wildlife, and control of hunting; completion of a floral inventory, analysis of phytogeographic affinities and levels of endemism; completion of an ethnobotanical inventory and identification of opportunities for sustainable use of plants; preparation of a habitat map based on remote sensing and an ecological analysis of ground truth data; development

and implementation of plant species/genetic conservation plans.

b) Participatory Forest Management

RATIONALE

It is anticipated that the current ban on commercial timber harvesting, imposed in 1992, will *not* be lifted until a number of preconditions have been fulfilled, relating to **organisational reform of the Forest Department, sound forest management planning, and improvements in the harvesting system**. The PCDP will seek to fulfil these preconditions in Palas, in line with wider provincial initiatives, **in so far as they are compatible with the Project's wider objectives of biodiversity conservation and poverty alleviation**.

To achieve this aim, **it is essential that the PCDP is delegated the necessary jurisdiction and authority for the planning and implementation of its NRM objectives; this includes jurisdiction and authority for forest management planning and implementation within the project area**.

INDICATIVE ACTIVITIES

- * **Strengthening CBOs for forest management:** The PCDP will seek to strengthen existing CBOs of forest owners and users in Palas (including Forest Harvesting Societies) for participatory (joint) forest management. The PCDP will initially focus on promotion and organisation of these institutions and on raising local awareness of the various forest functions, thereafter on participatory forest planning, management (including harvesting and regeneration), marketing of forest products and administration. The PCDP will provide training, technical and financial assistance, and will ultimately assume a controlling and monitoring role. Various roles may ultimately be devolved to local CBOs or to District-level organisations, or be retained within the Forest Department (see 11.7.6).
- * **Participatory forest management planning** will require the resolution of conflicts between customary and statutory forest management regimes through the integration of PRAs with technical studies, and a process of dialogue, mediation and negotiation between the 'key players' - local communities, forestry contractors and government. **A possible scenario for forest management in Palas**, that could meet the PCDP objectives to safeguard biodiversity and optimise benefits, involves division of the Palas forests according to the primary *forest functions* of biodiversity conservation, NTFP production, and timber production. Those areas of forest identified as having the primary function of biodiversity conservation would be set aside from commercial timber harvesting as *core zones*; the remainder, identified as having the primary function of NTFP production or timber production, would be managed as *sustainable use zones*. Core zones need not necessarily exclude sustainable use of NTFPs. Zonation would take into account existing ownership, and aim for equitable distribution of benefits from both timber and NTFP exploitation among the owning tribes.
- * **Improving the harvesting system:** If the plan identifies timber harvesting as an

appropriate activity, and provided the existing ban on timber harvesting is lifted or exemption obtained, the most probable technological option for sustainable harvesting in Palas involves the 'opening up' of *sustainable use zones* with a minimum number of valley-bottom roads, and the use of skyline cranes. This allows the extraction of whole logs, doubling the out-turn per tree in comparison with the wasteful 'pathroo-and-scant' system. When operated through local trained 'petty contractors', the system provides local employment, while directional felling and extraction by skyline reduce damage to the remaining forest resource. This system has been tested by the Kalam Integrated Development Project; a block allocation of Rs 16 million is made for forestry-related infrastructure and capital equipment based on costings derived from KIDP (Annex 7). Preliminary cost-benefit analysis suggests that, compared with current forest management systems, **the proposed alternative forest management scenario and harvesting system would enhance the flow of local, national and global benefits.**

- * **Protecting felling rights:** In certain areas, Palasi communities have sold felling rights to contractors, effectively excluding participatory forest management until rights are regained. The PCDP will seek **government action to forestall the continuing sale of felling rights**, and will seek appropriate legal assistance as necessary to regain/buy back sold rights.

c) Sustainable Agriculture

RATIONALE

Sustainable development of agriculture offers great potential for income generation in Palas. A number of priorities have been identified through PRA and technical studies (see below), some of which are already being addressed under the HJP; the PCDP will build upon these. Flexibility is retained to allow additional priorities to be identified through further studies. However, with limited staff, new initiatives must be phased in gradually. Activities will generally **prioritise nutrition over income generation**, and will aim to reduce the risks of crop failure rather than maximise production.

To avoid the creation of dependency upon external assistance, there will be a strong emphasis on **training** of village-based agricultural extension workers and of progressive farmers enabling them to resolve problems themselves. Training will raise awareness and develop skills in relation to the various programme interventions. The programme requires limited inputs for demonstration purposes (seed, planting materials, fertilisers and pesticides, tools and implements), and support for training courses and for agricultural workers; no high-cost capital items are involved.

INDICATIVE ACTIVITIES

- * **Introduction, evaluation and multiplication of improved crop varieties:** improved and adapted seed and planting materials offer great potential for mountain areas such as Palas. The PCDP will continue the work of the HJP on the introduction and multiplication of improved varieties of the staple maize crop, and initiate work on other crops. Improved

and adapted varieties will be sought from agricultural research and development agencies in Pakistan, and from overseas where necessary. Dependency on external sources will be minimised through local maintenance, multiplication and security of high quality seed and planting material, as far as possible through farmer-managed plots. Care will be taken not to destroy any important existing crop genetic diversity in Palas; breeding of local landraces is a possibility.

- * **Establishment of fruit tree nurseries and orchards:** Palas offers good potential for production of a wide variety of fruits. The PCDP will continue the HJP initiatives in the establishment of nurseries and orchards, to demonstrate and multiply improved and adapted varieties for extension to orchards and field-edges throughout Palas.
- * **Trials to increase cropping intensity and crop rotation:** Potential exists for double-cropping at lower altitudes, without disrupting existing cropping systems; trials will explore the potential for winter-hardy fodder crops to precede, and late season vegetables to follow, the staple maize crop. Trials in crop rotation will seek to resolve problems of disease and soil fertility caused by maize mono-cropping.
- * **Integrated pest and disease management:** An IPDM programme will be developed and implemented, with preference given to cultivation control measures rather than the use of pesticides.
- * **Women's agricultural extension:** This is vital given that women are responsible for about half of agricultural tasks, while joint training of men and women is culturally unacceptable. A cautious approach is required, with male approval for the programme a precondition. The objectives will be to improve household nutrition, improve women's productivity and reduce women's workloads - this programme will be closely linked to the PCDP's basic health, nutrition and sanitation component. Training will be imparted through village and household-based training sessions by female agriculturalists working in the local language and using appropriate teaching aids. Priority areas for training include: kitchen-gardening of vegetables; improved backyard poultry production including trials with more productive, scavenging poultry birds ('Fayoumi') for increased egg production; animal health; fodder production and storage; demonstration of improved tools; land preparation; pests and diseases of field crops; grain storage. In addition, specialised skills training is planned for 1-2 women from each village, eg: in vaccination of chickens against Newcastle's disease, and improved poultry management techniques.
- * **Agricultural enterprise development:** The PCDP will analyse the current enterprise situation and aim cautiously to facilitate improved access to credit. Specialised advice may be provided in business development, quality control etc., and in developing the linkages between producers and buyers.
- * **Introduction of efficient tools, implements and simple machinery,** eg. maize shellers, to enhance the efficiency of cultivation, increase productivity and reduce workloads (particularly of women); improved hives for bee-keeping.

- * **Agro-ecosystems analysis and base-line studies:** PRA and technical studies will describe and analyse agronomic conditions and provide base-line data on yields and production. Meteorological data will also be collected.

d) Livestock and Rangeland Management

RATIONALE AND INDICATIVE ACTIVITIES

Participatory planning is expected to generate a variety of livestock and rangeland management priorities. Two initial priorities for PCDP action have already been identified through a combination of PRA and technical studies: to **reduce the incidence of livestock disease and mortality** and so reduce losses to family income; and to **improve rangeland management** and so increase productivity. A possible additional area of activity is the improvement of livestock quality. The creation of dependence on outside expertise will be avoided by developing necessary skills within the community.

Reduction of animal disease and mortality will be achieved through the training of **village-based veterinary workers**, and the **training of larger numbers of farmers in animal health and nutrition**. Each village will provide a room as a veterinary dispensary, veterinary workers will receive an initial PCDP stipend but ultimately subsist by charging locally appropriate fees for their services, and medicines will be purchased from a revolving fund set up with PCDP grant assistance.

Improvement of rangeland management is likely to involve the development of **community rotational grazing agreements and possible exclusion zones** to enhance rangeland productivity and to speed the natural recovery/ regeneration of rangeland and forest.

- iii) *REHABILITATION AND DEVELOPMENT OF BASIC INFRASTRUCTURE* (Annex 4 for details)

RATIONALE

Construction works provide a useful *entry point* for community organisation and participation. For the PCDP, the timely achievement of *physical targets* is less critical than the *process* of construction and, in particular, *local participation* in that process. Consequently, **most construction works will be carried out by the Project in partnership with local communities, rather than through contractors**. The prioritisation and planning of infrastructural works will be carried out through local dialogue and PRA, supported by technical feasibility studies and the development of detailed designs, bills of quantities and cost estimates. Some works have already been planned under the HJP (eg. suspension foot-bridges) and will be implemented under the PCDP. Other priorities remain to be identified, but are likely to include bridle-ways and footpaths, irrigation channels and watermills. The PCDP will **not** construct roads, unless proven essential to sustainable forest management.

The PCDP budget provides *indicative* targets of: 12 suspension foot-bridges; 100 km bridle-ways and footpaths; 15 km valley-bottom road; irrigation channels and other small items of

infrastructure. **The indicative nature of these targets allows accommodation of priorities identified through participatory planning.** Targets will be detailed in annual work plans. The PCDP will also construct a number of buildings for project use, including a Project Headquarters and several basic Rest Houses in Palas (see 11.6).

Implementation of each work will be carried out under an agreement between the PCDP and the community detailing terms of partnership. These terms will require a *community contribution*, usually in kind. The extent of cost sharing will vary from 20% to 50% or more according to a number of factors (outlined in Annex 4).

INDICATIVE ACTIVITIES

- * **Foot-bridges:** Locations have been broadly determined by HJP working with the local community. Most are located on the Musha'ga, providing crossing points for the arterial Bar Palas footpath. General designs - both suspension and hanging-type bridges - are appropriate to the local environmental conditions and load-bearing requirement. Detailed designs and bills of quantities will be prepared for each site, together with detailed cost estimates based on a locally appropriate schedule of rates. The PCDP budget provides an average of 25,000 ecu (c.Rs 960,000) per bridge; this takes into account the high costs of carriage of materials for the more remote bridge locations, some of which are 3 days' walk from the roadhead. Procurement of materials will be through direct purchase procedures; blasting and wood cutting will be carried out under petty contracts; local materials will be provided by the local community. Carriage of materials from road-head to site, and skilled and unskilled labour for construction, will be arranged through the community organisations. Skilled labour will be secured from elsewhere if not available in Palas. For each bridge, HJP will enter into an Agreement with the user community, detailing terms of partnership. The community contribution will usually be in the form of carriage of converted timber from forest to site, collection of local materials (sand and gravel) and/or other carriage work. All other costs will be borne by the project. The community will be responsible to select and organise the unskilled labour, and Village Activists will be responsible to ensure community commitments of materials and labour are provided on time. The employment of cost-conscious engineers, and the community contribution, together ensure cost-effectiveness. PCDP will provide adequate supervision, and keep records of the storage and movement of all materials and of all labour. Payment to community labour will be made periodically against work completed.
- * **Bridle-ways, footpaths, irrigation channels and other infrastructure.** The PCDP will upgrade the arterial Bar Palas footpath and some other priority paths to bridle-way status. The PCDP will identify priorities for the construction of larger and more secure irrigation channels, watermills, river defence works and other small items of infrastructure. For each work, the PCDP will: work directly with CBOs in the setting of priorities, selection of sites, and implementation of the works under agreed terms of partnership; utilise local labour as far as possible; secure a community contribution in kind; and provide technical assistance and extraneous materials free of cost.
- * **Roads.** The PCDP will assess the impact of roads under construction, seek to improve

construction methods and, in the case of the Sherakot-Sharial road, seek a re-alignment so as to optimise its potential value for a sustainable timber harvesting system (see Annex 3). A budget is provided to allow the PCDP to on construction of this road itself if necessary; these funds can otherwise be used for other forest-related infrastructure.

iii) *HEALTH, NUTRITION AND SANITATION* (Annex 5 for details)

RATIONALE

A health, nutrition and sanitation (HNS) programme is regarded as the most appropriate 'entry point' to enhance the social status of women in Palas, and for working with women as users of natural resources. The HNS programme will enable women to deal with the most basic problems themselves, and link them to other (non-PCDP) programmes in the health sector. It will provide opportunities for women to meet, and enable them to act for the benefit of themselves and their families. The novelty of working with women in District Kohistan will necessitate particular care and flexibility. Acceptance must be sought from the local (male) community, approaches framed in the light of local cultural norms, and the programme phased in gradually. Initial priorities identified through participatory planning under the HJP may be refined through further analysis, and further studies carried out to refine the programme and provide base-line data and indicators for monitoring and evaluation. Care must simultaneously be taken that other project activities do not have an adverse impact on women, eg. by increasing workloads or male conflict.

INDICATIVE ACTIVITIES

- * **Female Health Workers and Child Care Centres:** One or two mothers - of Shin and other groups - from each village will be trained as Health Workers, to provide assistance in basic health, nutrition and sanitation, particularly for women and children. Older women will be trained as traditional birth attendants. Each village will construct a Child Care Centre, to include simple demonstration hygiene and sanitation facilities (including latrine, smoke-free *chollah* and adequate ventilation and sunlight). The PCDP will provide a grant for first aid and safe delivery facilities, and a nominal stipend for one year, during which period the Health Worker can establish herself; she will charge fees according to rates fixed locally, and the purchase of medicines, vaccines, etc., will be through a revolving fund.
- * **Nutrition:** activities will focus on the removal of deficiencies (eg. of iodine, calcium, iron, Vitamin D) through dietary supplementation and encouraging greater exposure to sunlight, and on improving the production and diversity of foods through kitchen-gardening and backyard poultry production (see Annex 3).
- * **Hygiene, Safety and Sanitation:** Awareness programmes and demonstrations of simple precautions and technologies will address: clean drinking water supplies; use of low-cost latrines; reducing damp, increasing light and reducing smoke through better household ventilation and use of smoke-free *chollahs*; prevention of skin infections, pest infestations, and burns.

- * **Mobile Clinics and Immunization:** periodic mobile clinics will provide more professional health care, and will be linked to the existing immunization programme (EIP).

11.6 PROJECT INPUTS

a) **Technical Assistance and Project Evaluation**

Technical Assistance provides for all costs relating to the PCDP Co-Director (= Chief Technical Adviser) and to short-term international and national consultants and advisers (including trainers). It also provides for occasional helicopter hire (10 hrs flying time/year) for emergency use, carriage of bulky or high value equipment, and visiting VIPs. Additional EC funds are allocated for independent mid-term and final project evaluations.

b) **Staff** (for details, see 11.7)

Project staff, daily paid labour and the staffing of the Kohistan Wildlife Unit are provided for under the balance of the EC grant and through GoNWFP financing. The budget provided covers salaries and all allowances and per diem.

c) **Project Offices and Accommodation Facilities**

The PCDP will construct a **Project Headquarters in Palas**, to provide office and accommodation facilities for the project staff. Construction is necessary as there are no appropriate facilities available in Palas. Several possible locations with all-year road access exist. Local consultants will be contracted for design and technical supervision of construction; buildings will reflect local housing styles, and will include offices, accommodation rooms for senior staff, small dormitories, a meeting room, kitchen etc. Power will be provided by solar panels and a backup generator. Satellite communications are provided for. To enhance community ownership of the project, it is intended that the facilities will be handed over to the proposed All-Palas CBO after the project period; this will be subject to the approval of the PSC and will require that the CBO has achieved a reasonable degree of institutional maturity.

The PCDP will in addition rent a **Project Liaison Office** in Islamabad. This will provide sufficient office space to accommodate, from time to time, all Programme Officers and Assistant Programme Officers, with facilities for meetings and workshops. Though the possibility of an Abbottabad liaison office has been fully considered, an Islamabad liaison office is felt to be fully justified by the necessity of reliable day-to-day telecommunications (internet, modem, IDD) with the BirdLife Secretariat (UK) and the EC Technical Unit (Brussels), the necessity of frequent liaison with the EC Delegation and national and international conservation and development agencies based in Islamabad, and the advantages of air connections to Lahore (WWF) and Peshawar, excellent office support and vehicle maintenance services, and the proximity of federal government offices.

d) **Vehicles, Capital Equipment and Construction**

The PCDP will take over all capital equipment currently in use by the precursor Himalayan Jungle Project, including: 2 4WD Toyota jeeps, 1 4WD Toyota pick-up, 1 4WD Suzuki jeep, computers and printers, office furnishings and fittings, scientific and technical equipment. The PCDP budget provides for the purchase of additional capital equipment including: four 4WD vehicles, computers and printers, GIS equipment, a generator, a satellite communications system, solar heating system, office furnishings and fittings (including heaters and ACs), scientific and technical equipment (for wildlife survey, etc.), audio-visual equipment, and (under the GoNWFP component of the budget) equipment for the Kohistan Wildlife Unit. Appropriate mechanisms for operational sharing of these resources will be developed by the PD and Co-Director.

On the basis of the proposed alternative forest management scenario and improved timber harvesting system (see Annex 3), the PCDP makes provision for the purchase of the following harvesting equipment: 2 sky-line cranes, 1 truck, 1 tractor, 4 band saws, forest survey and management tools.

The PCDP will take over all foot-bridge construction materials purchased and not yet utilised by the precursor Himalayan Jungle Project (including any steel wire rope, iron bars, cement, fabricated parts, cut and/or converted timber, collected sand and gravel, tools, etc.). The PCDP budget provides for the purchase of additional construction materials to enable the completion of 12 suspension or hanging-type foot-bridges of average length 200' (steel wire rope, iron bars, cement, fabricated parts, tools, technical equipment, etc.).

The PCDP also provides lump sum funds for the construction of 100 km of bridle-ways and footpaths, for the construction of irrigation channels and other small infrastructure (works to be specified), for the possible construction of 15 km valley-bottom road (lump sum), and for the construction of a field headquarters and rest houses (6).

Note on procurement and transfer of project assets: Vehicles and other items of capital equipment not locally available will be imported under the terms of the EC-GOP Financing Agreement. This provides for duty and sales tax exemptions for all vehicles and equipment imported in line with the PC-1. All PCDP-financed buildings, vehicles, equipment and information generated will remain the property of the respective funding agency (GoNWFP or EC) until the end of the PCDP. The mid-term review (see 11.8.2) will make recommendations on the transfer of these assets after the project period (taking into account any existing agreements in regard to HJP equipment).

e) **Project Running Costs**

Funds are provided for office rental, O&M vehicles (fuel, parts, maintenance, insurance), local air and land travel, post and telecommunications, office supplies, reference materials, photographic film and audio tapes, printing & publications, training courses, agriculture and animal husbandry inputs (seed and planting materials, fertilisers, pesticides, fencing materials, implements, tools, simple machinery, vaccines, etc.), low-cost appropriate technology (eg. bee hives), health and sanitation inputs (medicines, latrines, smoke-free *chollahs* and *angetis*), field gear (tents, rucksacks, mountain clothing, sleeping bags, etc.), entertainment costs (for VIPs and

jirgas), and running costs for the Kohistan Wildlife Unit.

A limited fund is also provided for the possible re-purchase of forest rights, and/or compensation to forest owners for the setting aside of forests from commercial timber harvesting.

11.7 PROJECT ORGANISATION

11.7.1 *Project Execution and Operation*

The PCDP will be **executed** by the Government of NWFP through Secretary PE&D Department, Secretary Forests and Conservator Wildlife, and **operated** through the PCDP Management Team (11.7.3), made up of the Project Director (GoNWFP) and the Co-Director (BirdLife International). The Management Team will head a Field Team (11.7.4) consisting mostly of contract staff, and will report to a Project Steering Committee (11.7.2). Together, the Management Team and Field Team constitute the Project Management Unit (PMU), the structure of which is presented in the PMU Organogram (Figure 1). The special conditions in which the project is operating (remote area, local suspicions of government intervention, focus of community participation, need to minimise recurrent costs) justify the appointment of contract staff, rather than operation within the regular set up of the line agencies.

11.7.2 *Project Steering Committee*

The Project Steering Committee (PSC) will be reconstituted from the HJP Project Management Committee. It will be chaired by Secretary PE&D Department NWFP, and in his absence by his nominee from among the PSC members. Membership will comprise related government departments, NGOs, senior project management, and the EC Delegation, as follows:

- * Secretary, Planning, Environment & Development, GoNWFP (**chair**)
- * Inspector General of Forests, GoP
- * Secretary, Forests, Fisheries and Wildlife, GoNWFP
- * Chief Conservator Forests (Territorial & Conservation), GoNWFP
- * Conservator (Wildlife), GoNWFP
- * Programme Director IUCN-SPCS Unit
- * Chief Executive Officer - World Wide Fund for Nature-Pakistan
- * Chairman, World Pheasant Association-Pakistan
- * PCDP Project Director, GoNWFP
- * PCDP Co-Director, Birdlife International
- * EC Delegation representative (observer)

Additionally, as required, individuals with particular expertise (eg. in community organisation and participation, gender in development, health, nutrition and sanitation) may be co-opted as observers. The PSC will meet at least once a year and will operate by consensus. The PSC will provide operational guidance in line with the PCDP goal, objectives and strategies. The PSC will approve the appointment of the Project Director and Programme Officers, examine and approve annual workplans and budgets, ensure timely release of approved NWFP and EC funds, monitor progress, and may arbitrate in cases of any unresolved dispute within the project team.

The PSC may convene from its membership a smaller Project Executive Committee to meet more frequently if required.

11.7.3 Management Team

Project management will be through a **partnership** between a Pakistan **Project Director (PD)** and an EC/BirdLife **Co-Director** (= CTA). This will involve joint responsibility for steering the interdisciplinary, strategic aims of the project, for recruitment of contract staff and for the coordination of workplans. Important management decisions will be shared, and staff (including government staff) will report to both. This arrangement requires commitment to a consensus-based approach.

The Management Team will prepare **Annual Workplans** to be reviewed and approved by the Project Steering Committee. The Annual Workplans will accommodate the evolving priorities which emerge from the participatory planning process and detail activities, 'milestones', a rigorous schedule of implementation and annual budgets.

The **PD** will have lead responsibility for coordinating government inputs in line with project workplans, and for the preparation of technical and financial reports as required by GoNWFP. The **Co-Director** will have lead responsibility for coordinating EC technical assistance inputs in line with the workplans (including appointment of short-term consultants) and for the preparation of technical and financial reports as required by the EC.

The **PD** will be appointed by the Government of NWFP by transfer at BPS 18/19, and will hold the **simultaneous position of DFO (Wildlife) Kohistan** (see 11.7.6). The **Co-Director** will be appointed by Birdlife International with the approval of the EC. Appointments of both PD and Co-Director will be made in accordance with the job descriptions and minimum requirements given in Annex 6.

Financial authority: The PD will draw on funds received through the government treasury, in accordance with annual workplans and the financial rules of the GoNWFP, and will submit accounts in the normal manner. The Co-Director will draw upon the EC technical assistance funds managed by BirdLife, according to the terms of technical assistance contract between the EC and BirdLife. The balance of the EC grant will be called upon by an annual request for advance, prepared on the basis of the approved Annual Workplan. On approval by the EC Delegation, funds will be transferred from the EC to a special PCDP bank account, in a local branch of a national or international bank. Expenditure made against this account will be jointly sanctioned by the PD and the Co-Director.

11.7.4 Field Team

The PCDP staffing structure provides for 8 Programme Officers, 3 Assistant Programme Officers, 16 Community Facilitators, 10 Infrastructure Support Staff and 8 Office Support Staff.

Nominal stipends are also provided for up to 40 Village Activists. Junior staff will be phased in over the first 3 years of the project, enabling 'organic' growth of the PMU and reducing the risk of over-stretching the Management Team. Additional (non-PCDP) positions are provided for under the Kohistan Wildlife Unit (see 11.7.6). As far as possible, **HJP staff will be retained in appropriate positions of seniority.**

All positions, including Programme Officers, will be required to work for frequent and extended periods within the demanding physical and social environment of Palas. To be able to recruit and retain the necessary high quality staff, four types of incentive are planned: competitive contracts/benefits packages; a 'time-on/time-off' system, whereby professional staff spend periods of concerted quality time in the field followed by equal periods of analysis, consolidation and 'recharging' in home environments; a well resourced and comfortable field headquarters; and a full role in decision-making and evolution of project strategy and capacity. **An emphasis will be placed on recruiting young and motivated personnel. All project staff must be physically fit, experienced and competent in montane trekking and survival, and emotionally stable.** Applications by suitably qualified women will be encouraged. Pakistanis will be preferred, though nationals of other countries, particular Asian, will be considered.

i) PROGRAMME OFFICERS

8 Programme Officers (POs), reporting to the Management Team, will be appointed:

- PO Community Facilitation
- PO Social Organisation
- PO Biodiversity Conservation
- PO Community Forest Management
- PO Agriculture, Livestock and Rangeland
- PO Infrastructure
- PO Health, Nutrition and Sanitation
- PO Finance, Administration & Personnel

Recruitment: Programme Officers will be recruited within Pakistan on the basis of explicit terms of reference and candidate profiles, to be developed by the Management Team; indicative job descriptions and minimum requirements are given in Annex 6. POs in contract positions will be recruited through a Selection Committee comprising the PD, Co-Director, a GoNWFP nominee of the PSC, and Chief Executive WWF-Pakistan. The position of PO Biodiversity is a secondment from WWF-Pakistan; recruitment will be done by the Co-Director together with the Chief Executive WWF-Pakistan. All POs will be appointed at the beginning of year 1 of the PCDP. All appointments will be subject to the confirmation of the PSC. Following probationary periods, POs will be required to sign contracts for the full project period.

ii) ASSISTANT PROGRAMME OFFICERS

The following Assistant Programme Officers (APOs), reporting to the relevant POs, will be appointed:

- * APO Health, Nutrition & Sanitation
- * APO Finance & Administration
- * APO Infrastructure

Recruitment: Assistant Programme Officers will be recruited within Pakistan on the basis of explicit terms of reference and candidate profiles, to be developed by the Management Team, at the beginning of year 1 of the PCDP. Following probationary periods, APOs will be required to sign contracts for the full project period.

iii) COMMUNITY FACILITATORS, SUPPORT STAFF, VILLAGE ACTIVISTS

A corps of **Community Facilitators** (preferably Palasis) will be gradually recruited to support the senior staff in the field, building up to a total of 16 by year 3 of the PCDP. Community Facilitators will have a primary specialisation, supported by common skills in community organisation and participatory inquiry (PRA), supporting. Primary specialisations and indicative phasing of recruitment are as follows:

- * CF Social Organisation: two in place in Year 1;
- * CF Participatory Forestry and Biodiversity: two in Year 1, four by Year 2 and six by Year 3;
- * CF Agriculture, Livestock and Rangeland: two in Year 1, four by Year 2.
- * CF Health, Nutrition and Sanitation: two in Year 2, four by Year 2.

PO and APO Infrastructure will oversee a works team of Site Supervisors and support staff (munshis, chowkidars, etc.). PO and APO Finance & Administration will oversee a support staff including secretary, drivers and chowkidars. Most support staff will be appointed in Year 1.

Village Activists (non-staff) (up to 40) will be appointed on a nominal stipend. Their role will be adapted from the customary role of the 'Zetoo', to see that agreed activities are carried out.

Recruitment: Community Facilitators and Support Staff will be recruited by the Management Team according to terms of reference to be developed. Village Activists will also be recruited by the Management Team; they will be the consensus candidates of the village CBOs, and should be literate, numerate, progressive, active, respected and not involved in any dispute. Following probationary periods, Community Facilitators, Support Staff and Village Activists will be required to sign annual renewable contracts.

11.7.5 Short-term Consultants

The technical assistance contract between the EC and BirdLife provides for the employment of expatriate and local short-term consultants in such areas as land and resource use mapping and planning, engineering, agronomy, socio-economics, gender issues, environmental economics,

credit and enterprise development, forestry, health extension, training in PI and SO, and the development of sustainability monitoring indicators. Terms of reference will be developed by the Co-Director in consultation with the PD, and consultants will work directly under the Co-Director. Procurement of consultants will be according to the terms of the EC-BirdLife technical assistance contract.

11.7.6 Forest Department

Existing Forest Department staff will be associated in activities relating to forest management planning and the implementation of the plan. A DFO (Working Plans) from the Forest Management Centre (FMC) will be associated with PCDP staff and consultants for participatory forest management planning. Existing Forest Department staff in Kohistan and the Palas Range in particular (1 Range Officer, 2 Foresters, 16 Forest Guards, 2 Chowkidars, 1 Peon) will be associated in the planning process and provided necessary training and re-orientation. They will retain their forest protection function during the planning period. The division of responsibilities between line agency and PCDP staff following completion of the plan will be detailed in the plan.

11.7.7 Kohistan Wildlife Unit

i) JUSTIFICATION

The Palas Valley is a microcosm of the wider District Kohistan (c.7000 sq km). While Palas is particularly outstanding for biological diversity, many other valleys in District Kohistan are also of national and global value for their diversity of flora and fauna, and for the occurrence of many rare species; District Kohistan is undoubtedly the most important District in NWFP for wildlife. Similarly, other valleys of District Kohistan suffer the same low development status as Palas, with widespread poverty being a major factor in accelerating environmental degradation. These other valleys suffer similar problems of unsustainable commercial timber harvesting, underdevelopment of agriculture and livestock, poor basic infrastructure and abysmal health conditions.

Local communities from these other valleys have repeatedly requested the HJP to their areas, and such an expansion of the HJP approach is advocated under the Sarhad Provincial Conservation Strategy. In the past, the HJP has lacked the resources to respond to this need; and, despite the importance of the District for wildlife, the NWFP Wildlife Department has only a skeletal presence in Kohistan (1 Range Officer, 2 Deputy Range Officers, 10 Wildlife Watchers). While the PCDP will continue to focus its limited resources on the Palas Valley, the Project now provides an opportunity to satisfy popular demand for extension of activities, through the strengthening of a Kohistan Wildlife Unit (KWU). This will consolidate political support for the PCDP within the District.

ii) OBJECTIVES AND ACTIVITIES

The objectives of strengthening the KWU are: to safeguard biodiversity in other parts of District

Kohistan by an extension of the PCDP approach; to provide a model for the reorientation of other Wildlife Divisions within NWFP towards a facilitatory (as opposed to punitive) approach; to develop an institutional successor to carry forward the PCDP's work in biodiversity conservation in Palas after the project period.

Activities of the KWU will include: systematic survey of key species and areas to identify conservation priorities; extension of integrated, participatory approaches to conservation and sustainable natural resource management in District Kohistan; and enforcement of biodiversity protection legislation and control of illegal wildlife trade.

iii) **STAFFING**

KWU staffing will be as follows:

S.no.	Name of Post	Already Sanctioned	To be Sanctioned	Total
i	Project Director-cum-DFO (Wildlife) Kohistan	-	1	1
ii	Range Officer Wildlife	1	1	2
iii	Deputy Ranger Wildlife	2	3	5
iv	Wildlife Watchers	10	9	19
v	Stenographer-II	-	1	1
vi	Office Assistant	-	1	1
vii	Junior Clerk	1	1	2
viii	Driver	-	1	1
ix	Naib Qasid	1	2	3
x	Chowkidar	-	2	2

The KWU will be wholly staffed by transfer and recruitment within the NWFP Wildlife Department. The PCDP Project Director will simultaneously hold the position of DFO Wildlife Kohistan (for job description see Annex 6). Other KWU staff will not hold PCDP positions, though KWU support staff will assist the Project Director PCDP where necessary.

iv) **INFRASTRUCTURE**

KWU Range Officers will require two residences additional to the accommodation to be provided by the PCDP Project Unit. The budget provides for necessary land purchase and construction at prevailing prices in the area.

v) **FINANCING**

The KWU will be wholly financed by the GoNWFP component of the budget (Annex 9). The KWU will *not* draw upon EC grant intended for the Palas Valley, but will seek to develop collaborations with the forthcoming Kohistan Area Development Project and Forest Sector Project for integrated conservation, natural resource management and development in Kohistan.

11.7.8 WWF-Pakistan

The PCDP will support capacity-building of WWF-Pakistan, and possibly of other environmental NGOs in Pakistan, as support agencies for participatory natural resource management. WWF-Pakistan has been a staunch supporter and close collaborator on the HJP to date, while project management capacity within WWF-Pakistan is steadily increasing. Over the course of the PCDP, the PCDP will maintain close links and support capacity-building within WWF-Pakistan, such that technical assistance - most specifically TA related to biodiversity conservation - can be provided by WWF-Pakistan after the 5 year project period. As detailed above, the PO Monitoring and Communications will be appointed jointly by the PCDP and WWF-Pakistan. The cross-sectoral remit of this position makes it particularly appropriate for development of the broad spectrum of project management skills required within WWF-Pakistan. Birdlife may further consider transferring operational responsibility for certain components of PCDP technical assistance to WWF-Pakistan in the later years of the project; however, Birdlife will continue to retain ultimate project management responsibility and accountability to the EC.

11.7.9 Linkages to Other Institutions and Projects

Proposed linkages are shown schematically in Figure 2. In summary:

- * the PCDP will operate as an 'honest broker' between the Palas community and the Department of Forest, Fisheries and Wildlife;
- * the PCDP will hold twice-yearly or quarterly consultation sessions at the District level with the District Commissioner Kohistan, DFO Kohistan and other relevant officers, and will brief the Assistant Commissioner, Pattan regularly on project staff and consultancy movements in Palas;
- * other agencies will provide particular services at particular times - government line agencies, NGOs (eg. WWF-Pakistan, Association for Development of Human Resources, Strengthening Participatory Organisation, Sungi, ActionAid), rural support programmes (eg. National Rural Support Programme, Aga Khan Rural Support Programme, Sarhad Regional Support Corporation) and sectoral projects (eg. Kalam Integrated Development Project, Malakand/Dir Social Forestry Project, Siran Forest Development Project, etc.);
- * strong links will be maintained, by these agencies and the PCDP, with the Sarhad Provincial Conservation Strategy, both so that the SPCS learns the lessons a major 'conservation and development pilot project', and so that the PCDP receives support for any policy, legislative and procedural changes that may be required.

11.7.10 Institutional Successors to the PCDP

The PCDP aims to establish CBOs as sustainable institutions for conservation and development. However, it is not likely that CBOs will be able to assume all functions of the PCDP; various other institutional successors will be required. In selecting these, and developing institutional roles, it will be important to maintain a balance between local communities, government and NGOs. Existing possibilities include: government line agencies including the Kohistan Wildlife

Unit; local government; NRSP; SRSC; WWF Pakistan; IUCN Pakistan. Alternatively, the PCDP could foster the establishment of a Palas or Kohistan Rural Support Programme, or Resource Management Agency. The PSC and annual review will have a specific brief to develop and review evolving institutional needs.

11.8 TRAINING, MONITORING & EVALUATION

11.8.1 *Training*

Training will be a vital project component. Funds are provided under the TA component (training consultants to run PCDP training courses) and under sectoral inputs (for training placements on non-PCDP courses in Pakistan and overseas).

Training will focus on orientation, raising awareness and building skills among the PCDP staff and Palasi villagers, and also among agencies with which the PCDP develops collaborations. **The most important areas of training will be community organisation and participatory methodologies, and natural resource management.**

Sources of trainers and facilitators include the various Rural Support Programmes, Association for Development of Human Resources (ADHR), IUCN, ActionAid and International Institute for Environment and Development (IIED). Initial 1-3 week trainings will be followed by a period of 'learning by doing', and by shorter sessions of conceptual and practical support involving the same facilitators; the PCDP will aim to retain trainers and facilitators to provide a continuity of input over the project period.

All staff should be aware of the linkages between conservation and sustainable development, and between poverty and environmental degradation, so that they may understand the importance of integrating their various disciplines. This will require common group training sessions of staff from different sectors.

Particular emphasis will be placed on training in the use of PRA for planning, monitoring and evaluation, and in goal-oriented project planning. These methodologies have already been used to good effect in the HJP, and are widely recognised as a powerful tools. Effective training in PRA should be 'tailor made' and conducted within the project field context; dogged replication of an approach from elsewhere is rarely appropriate. However, the PCDP will seek to learn from the relevant experiences of other projects and agencies. Intensive Palas-based training workshops on PRA will be required in the early years of the PCDP as Community Facilitators and Village Activists are phased in; staff of all levels from PO down will be trained. Participants may also include a small number of staff from government and NGOs. The primary objectives of PRA training will be: to introduce the PRA approach and to train participants in the basic PRA concepts, principles and methods (through classroom exercises and practical fieldwork); to apply PRA in a specific village, or to a specific topic, assess local needs and potentials with the villagers and, if possible, identify development initiatives; to provide

recommendations on standardisation of approach; basic project methodologies should be outlined in simple guideline handbooks, and made familiar to a growing number of Community Facilitators and Village Activists in subsequent one-week trainings; and to determine potential approaches to participatory monitoring.

Courses in other subjects will be developed in subsequent periods of the PCDP to cover needs which will emerge through the processes of VPP, such as conflict resolution, gender awareness, agricultural techniques, credit and enterprise operations, health, nutrition and sanitation, and project management.

Formal training: provision is made for short term training courses in Pakistan, and for 2 overseas M.Sc. courses. The PCDP will also assist in seeking placements and scholarships for staff keen to study abroad for higher degrees.

11.8.2 Monitoring and Evaluation

The flexible process approach of the PCDP will be closely evaluated through four levels of monitoring:

- * **Community monitoring:** PRA will enable the identification of monitoring which are valid to local perceptions. Villages will be trained to monitor progress against these criteria, such that all CBOs are able to assess *why* they became involved, how *their* objectives were met and whether these objectives should be *changed*.
- * **Project monitoring:** The PCDP will monitor activities and progress in each project component, so that performance can be evaluated and enhanced. In addition to monitoring criteria for sound financial and management practices and the accomplishment of annual targets and 'milestones', clear indicators will be developed to be used as tools for the assessment of **economic** (eg. production levels, income diversity, local value added), **environmental** (eg. productivity, use of biological processes optimised, quality of resources - photographic evidence will be an important part of monitoring activities), **social** (eg. community resilience and knowledge, changes in self-dependence) and **institutional** (eg. professional maturity, changes in operational procedures of local and external institutions) viability and sustainability. Monitoring of the impact of project activities on biodiversity will be given particular attention.
- * **Annual independent review:** This will normally be a two week review by two experienced professionals in natural resources and social organisation, one local, one international, selected by the Project Management. They will assess the results of community and project monitoring and review the evolution of the Project, notably its institutional roles and links. This will act as an important 'bouncing board' for Project staff, and will feed recommendations into the Project Steering Committee.
- * **Independent mid-term and final evaluation by the EC:** The annual review in year 3 will be a larger **mid-term review mission** (with Birdlife, EC, GoNWFP and WWF representation) to develop more closely the plans for post-project arrangements. An

independent project evaluation at the end of the fourth year of the PCDP is also recommended.

11.9 SUMMARY OF PROJECT JUSTIFICATION

Project justification is largely provided in the foregoing project digest and description, which detail the natural, social, economic and institutional environment in which the project is to operate, the extent of the problems to be tackled, the objectives, strategies, activities, inputs and organisational arrangements needed to address these problems, and the high degree of relevance of project objectives to national and provincial policies. The following summary indicates the main justifications.

The focus of the project on biodiversity conservation and natural resource management is justified in that **Palas contains Pakistan's most important remaining tract of natural west Himalayan forest**. These forests possess a remarkably diverse flora and fauna, and are recognised as **a global priority for biodiversity conservation**. Yet the forests and biodiversity of Palas - along with their substantial potential for the sustainable flow of local, provincial, national and global benefits - are **seriously threatened by unsustainable commercial timber harvesting systems**. If action is not taken now, there is every probability that the forests and biodiversity of Palas will be irretrievably damaged.

Forest management proposals under the PCDP involve the division of the Palas forests by primary function (biodiversity conservation or timber production), participatory planning of forest management, and the continuation of timber harvesting with improved technology (sky-line cranes and carefully aligned valley-bottom roads) and community employment as 'petty contractors'. This is **wholly consonant with the reasonable expectation that the current timber harvesting ban will not be lifted until preconditions relating to organisational reform, sound forest management planning and improvements in the harvesting system have been fulfilled**. The PCDP does not advocate the complete prevention of harvesting in Palas as it is not considered either politically pragmatic or socially just, while the consequent alienation of local owners from the resource would probably be counter-productive; once dispossessed, local communities would have no incentive for forest conservation.

The simultaneous focus on poverty alleviation through income generation is socially justified in that Palas is **one of the least developed areas in NWFP**, and in that local **poverty is a fundamental cause of the unsustainability of current commercial timber harvesting systems**.

The inclusion of a component for health, nutrition and sanitation is justified by the **gravity of health situation** in Palas, by the high priority given to such work by local communities, and by the opportunity this will afford to improve the social status of women and to secure their vital participation in the development process.

The PCDP addresses key national and provincial objectives concerning biodiversity conservation, natural resource management and poverty alleviation, as expressed in the

National Conservation Strategy, Sarhad Provincial Conservation Strategy, Forest Sector Master Plan, Social Action Programme and Child Survival Programme. The project will assist Pakistan in meeting its obligations under the Biodiversity Convention. The project's focus on community organisation and participation also reflects the latest policy directions, and is **in line with broader macro-economic measures for structural adjustment and privatisation.**

Though a rigorous cost-benefit analysis remains to be attempted, the PCDP is **economically justified** in that it is considered **cost-effective**; the benefits of the project could not be accrued in any other way at less cost. At a total cost of under Rs 3000 per head of the Palas population, the PCDP will enhance local organisational capacity, **optimise the flow of benefits** from natural resources (including biodiversity, NTFPs, timber, watershed protection, agriculture and livestock), improve basic infrastructure and improve health, nutrition and sanitation in Palas.

The **institutional arrangements are justified** by the precursor project, the HJP, whose achievements commend the value of a continued BirdLife-DFFW partnership. This continuity will ensure that accumulated experience is retained, along with the hard-won credibility and goodwill of the reticent Palasi community. A continuing low-key government role, at least in the early years, is justified to maintain the Project's vital position as an 'honest broker' between the Palasis and the government.

Thus, the PCDP's objectives and strategic approach are justified by the gravity and urgency of the problems to be addressed, and the appropriateness of the technical means to be employed, and the valuable precedents set by the precursor Himalayan Jungle Project.

12. Give date when capital expenditure estimates were prepared. If prepared more than a year ago confirm if they are still valid.

October 1994.

13. Summary of capital cost covering the whole of investment period.

See Annex 7 (Table 1).

14. Basis of cost estimates.

The GoNWFP will finance some PCDP staffing, some physical infrastructure and capital equipment for community forest management, and all costs of the Kohistan Wildlife Unit. The EC will provide a grant to fund all other project activities. Further details of the basis of cost estimates are given in Annex 7. These tables provide a sound estimate of the overall project cost ceiling and indicative costings of project components. The project's adaptive approach will require that a more accurate costing of components within the main budget lines is made on an annual basis.

15. Annual operation and maintenance cost after completion of the project.

The annual recurring expenditure cannot be fully assessed at this stage because after completion

of the project, there are several possibilities for institutional successors to the PCDP (see 11.7.9). However, certain GoNWFP institutional functions will have to be retained to continue technical and extension support to local communities. In addition to the Kohistan Wildlife Unit, certain minimum staff may be needed for this purpose; this will be determined by the mid-term project evaluation in year 3 of the PCDP. Total annual recurring liability is likely to be in the order of Rs 4.0 million.

16. Unit cost for each category of service or output.

See Annex 7.

17. If any income accrues, give estimates of annual income and basis of calculation

Since the Project aims to protect biodiversity through supporting community organisation for poverty alleviation and sustainable development, improvement in incomes of Palasi households is a core objective. The development of foot-bridges, bridle-ways and footpaths will support community income generation by improving access to markets. They will also help the export of products (eg. livestock, non-timber forest products) which contribute to the government exchequer. Irrigation channels will generate income through greater crop production. Community forestry, agriculture and livestock interventions are aimed improving both nutrition and income levels.

18. Give estimate showing phasing of repayments of loans. Indicate debt service capacity.

Not applicable. The EC contribution is being given in the form of grant aid which will not be repayable.

19. Annual phasing of physical works and financial requirements of Project.

See Annex 7 (Tables 2-8).

20. Foreign exchange effects/benefits of the Project.

Foreign exchange effects of the Project relate to sustained timber production, sustained yield of non-timber forest products (NTFPs), increased agricultural and livestock production, the potential for eco-tourism.

FE benefits from timber production will arise only when sustainable forest resource management has been achieved, and assuming the harvesting ban is lifted. The FE benefits will then be substantial, as it is estimated that under the proposed forest management, the forests can continuously produce an annual average out-turn of c. 15,000-20,000 cubic metres. At present rates (world market price per cubic metre of timber = US\$ 140) this implies a FE value of US\$ 2.1-2.8 million annually. This amount would not be available if forest destruction continues to accelerate at present rates, as under these conditions the exploitable forest will have disappeared in the next 15-25 years.

It is difficult to quantify the FE benefits of NTFP production. However, the total Palas Valley production of just one NTFP, the morel mushroom, is currently at least US\$ 250,000/annum. FE benefits from morels, and from other NTFPs - including plants of potential for the pharmaceutical industry - can be expected to increase substantially and perhaps dramatically. A total recurrent FE benefit of US\$ 1-2 million/annum is not improbable. This amount will not be available if forest destruction occurs as most NTFPs are dependent upon a healthy forest cover.

The FE benefit from increased production of cereals, fruits and vegetables, meat, dairy products and eggs, is also difficult to quantify. However, this increased production will help to reduce import requirements of these food products.

A direct FE benefit is provided in the EC's grant aid (ecu 4.80 million), with no FE liability on the part of the provincial government. This FE benefit will accrue in the form of infrastructure, equipment, technical assistance and training. Had EC grant aid not been provided, equivalent FE costs would have to be borne by the provincial government. The project's investment in community-based institutions and in training should lead to further FE benefits as communities and trainees begin to apply new skills productively. Finally, conservation of the outstanding biodiversity of the Palas Valley, and increasing global recognition of the importance of Palas for biodiversity, may lead to substantial FE earnings from eco-tourism.

21. (a) Likely source of purchase of equipment and financing (foreign exchange costs of the Project).

Most major capital items will be financed under the EC Financial Agreement. However, skyline cranes (2), one tractor, one truck and one 4x4 vehicle and some minor equipment will be financed from provincial resources.

An amount of ecu 4.80 million (equivalent to c. Rs 184.8 million) has been allocated under an EC Financing Agreement on grant terms. This amount covers all foreign exchange costs of technical assistance and capital equipment, and all local project costs not funded by provincial resources.

(b) Present position regarding availability/commitment or negotiation.

The Financing Agreement is being drafted by the EC. A positive Financing Decision was made in June 1995. Finalisation of the Financing Agreement with the Government of Pakistan is scheduled for end 1995/early 1996.

22. Indicate sources and amount of Rupees component of the Project.

The funds will be provided from the ADP of NWFP during 1995-96, 1996-97, 1997-98, 1998-99, 1999-2000 and 2000/2001. The Rupees component budget ceiling for the project period is Rs 30.8 million. Indicative annual budgets are given in Annex 7. These may be subject to revision based on annual workplans and budgeting, within the Rupees component budget ceiling for the

project period.

23. Indicate indirect results not mentioned earlier.

Reduced human misery, deprivation and squalor; protection of a unique scenic and cultural heritage for the nation; possible reduction in civil disturbances in District Kohistan, through provision of developmental benefits; reduced future costs of development through i) increased self-reliance of communities, and ii) increased potential for cost-sharing with local communities; prolongation of the power supply facilities in Tarbela (prevention of increased siltation); reduced health care liabilities.

24. (a) Approximate number and categories of job opportunities likely to be created indirectly as a result of the Project.

Aside from the management team, Programme Officers (9) and Project Officers (4), direct job opportunities are created by the project through the employment of Community Facilitators (16), Village Activists (40), a construction works team (9) and support staff (10). As the project progresses, it will create additional employment in forest management (trained forest workers). A large quantity of daily paid labour will be required for carriage, construction, etc. Short-term national consultants will be employed under the TA component.

It is difficult to assess the indirect job opportunities as they would not be limited to the project area. The benefitting groups will include local craftsmen for civil works, local landlords, traders and shopkeepers providing facilities, goods, services and supplies to the project and its workforce, various contractual and private jobs and business related to construction, timber transportation and trade, NTFP processing and trade, production of agricultural and livestock inputs, processing and trade of agricultural products, and provision of basic healthcare products.

(b) Economic life of components of the Project (buildings, equipment, etc.).

Roads, bridle-ways, footpaths	25-50 years
Buildings	35-50 years
Suspension foot-bridges	25-50 years
Irrigation channels, small infrastr.	10-20 years
Equipment	5-10 years
Heavy machinery	8-10 years
Vehicles	5-10 years

(all statements under the condition of regular maintenance)

PART C

Project Requirements

Note: estimates and allocations indicated in Part C of the PC-1 serve as a planning tool only and do not have any binding value.

25.

(a) Manpower:	The staff requirement of the Project is indicated in the organogram (Figure 1)			
(b) Likely shortages of staff by occupation:	Not foreseen			
(c) Steps to be taken to ensure availability of staff:	See Part B 11.7. Most positions are contract staff; the Project will be exempt from any government ban on recruitment.			
(d) Approximate number of persons required to be trained per year (locally and abroad and the kind of skills to be acquired):	See Part B, 11.8.1			
(e) Give total capital outlay:	Source	Local	FEC	Total
	GOP	30.8	-	30.8
	CEC	-	184.8	184.8
	Total	30.8	180.4	215.6

- | | | |
|-----|---|---|
| 26. | Physical and other facilities required for the Project: | Nothing extra is required beyond what has been indicated in Part B, 11.6 (Inputs). |
| 27. | | |
| (a) | Material, supplies and equipment requirements: | Vehicles and other equipment not locally available will be imported under the terms of the EC-GOP Financing Agreement. Material, supplies and equipment requirements are detailed at 11.6, and in the budgets (Annex 6) |
| (b) | In case of import of material and equipment for execution indicate justification for import, sources of supply through import: | Justification: vehicles to be imported are not locally available.

Sources of supply: donor funds (EC) |

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Bibliography

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Maps & Figures

9	Maps & Figures
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Annex 1

PCDP Documents and Reports

ANNEX 1

PCDP DOCUMENTS AND REPORTS

PCDP INCEPTION PERIOD

- * **Palas Conservation and Development Project, Inception Period: Annual Workplan 1995/96.** Final Output of the Annual Workplanning Workshop. HJP, Islamabad: March 1995.
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- * **Palas Conservation and Development Project, Pakistan.** Final Report to the Commission of the European Communities. James Mayers, IIED, London: January 1995.
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Annex 2

Community Organisation & Participation

ANNEX 2

COMMUNITY ORGANISATION AND PARTICIPATION

1 OBJECTIVE

To catalyse and facilitate the establishment and/or strengthening of **viable community organisations that sustain participation** in conservation and development.

2 BACKGROUND

2.1 An Outline of Palasi Society

2.1.1 Kinship

Palas is **dominated by the Shin `quom' or tribe**, whose mother tongue is Kohist'yo Shina, a dialect of Shina. The Shin are organised in segmentary patrilineages, branching descent groups whose membership is inherited in the male line. The two `main tribes' are the Dharma and Kuk Manka. These are subdivided and further subdivided. There are **small numbers of ethnically distinct, marginalised, groups** including the Sarkheli, Shamoga, Gujars and Akhars.

2.1.2 Property Regimes

Property regimes in Palas derive from the `wesh', a historical division of resources among the Shin. There is no written record of the wesh, and no formal `land settlement' has taken place. **Agricultural land** - which constitutes only about 5% of the land area of Palas - is held **freehold**. Agricultural land is fairly equitably distributed among the Shin families, and there are no big landowners; indeed Shin society discourages any one individual gaining a significant economic advantage. Legally, the **temperate forests** of Palas are classified as `guzara'; the local owners enjoy an 80% share in the timber production, against the government's 20% share (but see Annex 3). Customarily, the temperate forests of Palas are the **common property** of the Shin; the forests of Bar (Upper) Palas belong either to the Dharma or to the Kuk Manka, while the forests of Kuz (Lower) Palas are subdivided among their sub-tribes. **Shares** in forest royalties - the profits from commercial logging - are linked to ownership of agricultural land; each man, woman and child of the owning sub-tribe has a share. **Oak Quercus trees** - valued for fodder - in the sub-tropical forests are also subdivided among the Shin, even to the family level. **Alpine rangelands**, and land at the edge of the village (*khil*), are managed under **common property regimes**. **Non-timber forest products** and **wildlife** are apparently **open access resources**.

The marginal groups - Gujars, Akhars, Sarkheli, Shamoga, etc. - do not own land. They live as tenant farmers or practice specialist occupations (graziers, blacksmiths, millers, carpenters), have no share in forest royalties, but enjoy various rights of access to non-timber forest products, rangeland and wildlife.

2.1.3 Customary Institutions and Decision-making Processes

Palas does **not** suffer the problem faced in many parts of Pakistan's mountainous north of an institutional vacuum at the village level. **The customary institution of the `jirga' (tribal council) is very active.**

The Shin jirga differs in two important respects from the Pashtun jirga. First, while the Pashtun jirga is a generally a fixed group of representatives, the constitution of the Shin jirga is **situational**, ie. it is determined by the parties involved in the matter at hand - be it the resolution of a dispute, the use of resources, or some other activity of common concern. Second, the Shin jirga, unlike the Pashtun jirga, is a council of equals, not of elders; Shin society in Palas is **relatively egalitarian** - at least as far as relationships between men go. Decisions are customarily taken by **consensus** among all the interested parties. There are some specialised leadership roles, but the risk of participatory development programmes being hi-jacked by any local elite is very low.

Most often constituted to resolve disputes, the jirga can also have a pro-active or planning aspect, and is able to implement communal tasks through the mechanism of **`hashr'** (community labour). **`Zetoos'** (activists) may be appointed to ensure implementation of the jirga's decision, and **`nagar'** (fines) imposed against those who contravene the jirga's decision. **The situational and irregular nature of the jirga does not particularly lend it to pro-active partnerships for development.** However, the Palasis are familiar with organisations having a fixed membership and more regular meetings, such as (government) Union Councils (currently suspended), Forest Harvesting Committees and various **`jirga committees'**. **There is thus no a priori reason why other fixed-membership, pro-active, community-based organisations should not be established.**

2.1.4 Disputes

A striking feature of Palas society is the **frequency and severity of inter-family disputes**, particularly within the Shin. These can persist as long-running family feuds, having severe economic repercussions, in particular disrupting agriculture and livestock herding. The systemic role of feuds and disputes is not yet fully understood. The project is unlikely to be able to directly effect patterns of dispute; its indirect effects upon them will need to be monitored.

2.2 Community Organisation and Participation under the HJP

HJP has established initial momentum for community organisation, and for community participation in project planning, implementation, monitoring and evaluation in Palas. Key steps in the process are described below.

2.2.1 Grass-roots Dialogue and PRA

The HJP has built substantial experience in **grass-roots dialogue** with the people of Palas, and in working through local decision-making processes. Informal dialogue with individuals and small groups on waysides, in mosques and in hujras has gradually been reinforced by more formal dialogue with the jirgas, **`jirga committees'** and elected representatives.

HJP first applied participatory inquiry techniques in July 1992 with the implementation of **Village PRAs** (participatory rural appraisals) in 2 villages of Bar (Upper) Palas. These generated a wealth of information from the community on the local socio-economy, including systems of social organisation, property regimes and decision-making processes (see above) and the problems and constraints relating to agriculture, livestock, rangeland, forests and wildlife. These PRAs indicated a number of pressing development needs. HJP has continued to experiment with PRA: a **Topical PRA** focussing on basic health was carried out in a number of villages in Kuz (Lower) Palas in December 1994.

2.2.2 Participatory Relief, Rehabilitation Planning

Disastrous floods in September 1992 changed overnight the development priorities that had been identified in the mid 1992 PRAs. Immediately following the floods, HJP coordinated an emergency flood relief programme, delivering over 50 tonnes of food aid in a 10-day airlift to Bar (Upper) Palas. Food was distributed to c.10,000 worst affected villagers in partnership with the jirgas. This experience demonstrated the organisational capacity and accountability of the jirgas, and established a *modus operandi* between HJP and the jirgas.

In November/December 1992, HJP prepared with the participation of each village in Bar Palas a comprehensive flood rehabilitation programme. Priorities identified by the villagers included 22 suspension footbridges, 40 km principle footpaths, 54 irrigation channels and 20 watermills. Local communities pledged substantial contributions in kind (labour, local materials) to the works.

2.2.3 Workshop on Strategy for Community Organisation and Participation

In May 1993, HJP convened a workshop on 'The Organisation of Community Participation for Rehabilitation, Conservation and Development in Palas.' The workshop drew up recommendations relating to six key issues: the **constitution** of appropriate community-based organisations (CBOs); **procedures and tools** for their establishment; HJP **terms of partnership** with CBOs; **funding** of CBOs; **sustaining** CBOs; and HJP **capacity-building** for community organisation (HJP in prep). The results of the workshop were discussed in regional jirgas in Palas during May 1993, and the jirgas agreed in principle to the establishment of CBOs in the form of 'Regional Jirga Committees' (RJC) and 'Village Jirga Committees' (VJC).

2.2.4 Applying Instruments for Participation: Written Agreements

HJP called a Bar Palas Jirga (representing all villages and households in the upper valley) in June 1993, to ratify the establishment of CBOs and seek framework agreements for the implementation of the planned rehabilitation programme and for longer-term conservation and development activities. Witnessed by senior government officials, the Bar Palas Jirga signed with HJP the **Bar Palas Agreement**. Under this 'gentlemen's agreement' the Jirga ratified the establishment of RJC and VJC, agreed to formal dialogue with HJP on forest management, and agreed to reduced hunting of wildlife, in return for HJP's rehabilitation assistance. This is

regarded as a vital first step in a process of negotiation towards a 'Conservation Covenant' for all Palas (see Annex 3). A second gentlemen's agreement, the **Bar Palas Rehabilitation Agreement** outlined community and HJP contributions to the rehabilitation programme.

A number of HJP-VJC and HJP-farmer agreements have been **written in the local language** (Kohist'yo Shina). Use of the local language helps to strengthen the community's sense of ownership of the Project. The Kohist'yo Shina script has been developed with HJP support.

2.2.5 Establishment of CBOs

HJP has since catalysed the establishment of **3 Regional Jirga Committees** (RJC) and over **20 Village Jirga Committees** (VJC), covering all three regions and every village in Bar Palas.

Village Jirga Committees consist of 5-20 male members representing the various family groupings within the village, including non-landowning groups (custom forbids women to sit in mixed gatherings - see Annex 5). In practice, HJP-VJC meetings are commonly attended by most members of the village jirga. The VJC serves as a **working group** for the village jirga, and provides the **permanent interface** between the village jirga and the Project in relation to village-level issues (eg. a watermill, a local irrigation channel, on-farm trials). Each VJC elects two officers - a '**zetoo**' (an 'activist', responsible to ensure that decisions are implemented) and a **secretary** (responsible to keep records). Any matter on which the VJC feels unauthorised to make a decision may be referred to the village jirga. **Thus, the VJC takes its authority from the village jirga**, which itself is composed of representatives of all households in the village; decisions taken by the VJC are thus **consensus** decisions of the entire (male) village community.

Regional Jirga Committees consist of 20-40 representatives of the VJCs, and similarly elect a zetoo and secretary. As with VJCs, HJP-RJC meetings are commonly attended by other members of the regional jirga. The RJC serves as a **working group** for the regional jirga (Bar Palas is customarily divided into 3 regions - Paro, Ser and Pichbela - roughly corresponding to the Union Council areas), and provides the **interface** between the regional jirga and the Project in relation to regional-level issues (eg. arterial pathways and foot-bridges which benefit a number of villages). Again, each RJC elects a **zetoo** and a **secretary**, and any matter on which the VJC feels unauthorised to make a decision may be referred to the regional or village jirgas. Thus, the RJC also takes its authority from the customary institution of the jirga, and decisions taken therefore reflect local **consensus**.

2.2.6 CBO Participation in Rehabilitation Works

In a period of 2 years following their establishment, VJCs and RJCs **mobilised well over 10,000 man-days of labour**, reconstructing over 45 irrigation channels and 12 watermills. HJP provided basic training to the VJC secretaries to keep registers of labour, and provided simple tools for construction based on local technologies. On completion of each mill and channel, HJP verified the VJC register against visible work done and the original cost estimate, and determined the payment to be made. Payment was made to each VJC by setting up an HJP-VJC joint bank account for each VJC; funds were withdrawn by VJC zetoos and secretaries and paid

to village labour according to the verified register.

Infrastructure works have proved a useful catalyst for the establishment of community organisations, and ongoing works, including the construction of suspension foot-bridges and of remaining channels and mills, provide a continuing catalyst. HJP is now securing community participation in the construction of suspension foot-bridges. HJP has secured with VJCs a number of **foot-bridge agreements** (within the framework of the Bar Palas Rehabilitation Agreement) detailing terms of partnership, including the responsibilities and contributions of each side.

2.2.7 Participation in Agricultural Development

With the immediate needs of relief and rehabilitation addressed, HJP has begun to address some of the development priorities identified in the June 1992 PRA. HJP has implemented a number of agricultural development initiatives (maize seed varietal and multiplication trials, fruit tree orchards and nurseries) in **direct partnership with individual farmers**, selected through the jirgas. Again, detailed terms of partnership specifying HJP and farmer responsibilities and contributions have been agreed.

3 THE PCDP STRATEGY FOR COMMUNITY ORGANISATION AND PARTICIPATION

3.1 Rationale

Community organisation and participation constitutes the most fundamental component of the PCDP. The PCDP will build upon the achievements and approach of the HJP, the key elements of which are: **dialogue, mediation and negotiation**, which ensure a sensitivity to local social and political realities and link the project into local decision-making processes; **participatory planning, monitoring and evaluation**, which enable local communities to assume greater control over the project cycle, and so nurture a sense of ownership vital to sustainability; and **community organisation**, which provides the local institutional platform for sustained activity. In addition, developmental initiatives - related to natural resources (Annex 3), infrastructure (Annex 4) and basic health (Annex 5) - provide the necessary **incentives** for organisation and participation, and the **physical activities** through which organisations are strengthened, skills imparted and income generated.

The potential efficiency of such an approach to local development, and the opportunities it affords for a degree of cost-sharing, can make it extremely cost-effective, reducing developmental costs and minimising recurrent costs.

3.2 Dialogue, mediation and negotiation

Though participatory methodologies provide a powerful set of tools for pro-active dialogue in Palas, the Project will continue to make effective use of **conventional fora and methods for dialogue and decision-making**. This is of particular importance in view of the vital role to be

played by the Project in the **mediation and negotiation** of agreements (see in particular Annex 3). Mediation and negotiation require an array of oratorical, rhetorical and political skills quite separate from those of participatory methodologies.

The **sensitivity** of the HJP's response to the Palas flood disaster gained the Project local credibility, goodwill, and a reputation for having 'its ears to the ground'. The PCDP must maintain this sensitivity if it is to keep abreast of change in Palas and to maintain credibility and goodwill. This will require continual **dialogue** with, *inter alia*: individuals and small groups through the informal channels of the hujra, mosque, wayside and PCDP field office; the more formal fora of jirgas, jirga committees and CBOs; and elected representatives and their workers.

3.3 Participatory Planning, Monitoring and Evaluation

3.3.1 Participatory Rural Appraisal (PRA)

Participatory rural appraisal (PRA) is one of an expanding family of participatory approaches known as Participatory Inquiry. PRA provides a 'basket of tools' for participatory planning, monitoring and evaluation. These tools help local communities to critically analyse their problems, constraints, opportunities for development, and progress. PRA is widely recognised in Pakistan as a powerful approach, and the experience of the HJP suggests that it is appropriate in the Palas context. The application of PRA under the PCDP will be developed in a concerted manner but flexible manner; staff will be given sufficient freedom to innovate, experiment, perhaps fail, to learn and adapt their approaches to specific conditions, and to develop appropriate alternatives methods where necessary.

3.3.2 Composition of PRA Teams

A PRA field team will consist of 4-8 PCDP staff, from Programme Officers to Community Facilitators. In addition, one or more outside professionals may be involved - particularly in Topical PRAs, eg. PRA trainer, sociologist, agronomist, forester, agronomist, rangeland specialist, health worker.

Every team should include at least two women. It is clear that women's participation is a sensitive issue in Palas, and finding 'entry points' for working with women is a major challenge for the PCDP. However, health, nutrition and sanitation have already been identified as a potential entry point (Annex 5) and a PRA was carried out on this subject in December 1994 by a team including four women.

PRA provides an ideal selection and training ground for Village Activists. Each PRA should aim to include one or more potential Activists, nominated by their communities and trained in the concepts and methods of PRA before fieldwork begins. The more promising of these nominees may be taken on as Activists, supported by the project.

3.3.3 Training in Participatory Methodologies

Effective application of participatory methodologies requires that all project staff first be trained in participatory approaches, social organisation and gender awareness (in addition to their area specialisation). Experience suggests that effective **training in participatory methodologies should be 'tailor made'** and conducted within the institutional context of the project. The benefits of training can be enhanced through support activities including: collating training materials and practical examples (slides, videos, reports and other materials) of PRA applications; developing 'training of trainers' courses; and organising regional meetings of practitioners of participatory approaches for cross-fertilisation and information exchange. Annex 6 provides further details of training options.

3.3.4 Village PRAs and Topical PRAs

The PCDP anticipates carrying out two basic kinds of PRA:

- i) *Village PRAs.* A Village PRA is carried out in a particular village, and seeks to cover the whole range of socio-economic, environmental and institutional issues for that village. Examples are PRAs carried out by HJP in Bar Ser and Shuki Ser. Village PRAs initially have two objectives: **to stimulate, in the villagers, critical analysis** of local problems and constraints, capacities and priorities; and **to provide baseline studies, establishing 'milestones' (process targets) and indicators** that can be used in monitoring and evaluating the effectiveness of subsequent activities.
- ii) *Topical PRAs.* A Topical PRA is carried out in one or more 'representative' villages, and seeks to investigate in greater depth a particular issue. An example is the PRA on health and sanitation carried out by HJP in Shalkhanabad and Karat. The objectives of a Topical PRA are the same as for Village PRAs, with the additional objective of **refining strategies for each of the PCDP's four main components** - community organisation, natural resource management, development of infrastructure, and basic health and sanitation.

3.3.5 Crystallising Development Priorities

Both villagers and the PCDP will need time to digest the information generated and issues raised by PRA. This should be done in a process of **sharing** of PRA outputs between the Project and the community, leading to gradual crystallisation of development objectives, and the detailing of expected outputs, activities, roles and responsibilities, inputs and schedules. This sharing process cannot be rushed, but is crucial if CBOs are to own, and thereby wish to sustain, those development initiatives generated by PRA. The following guidelines should also be borne in mind while crystallising development initiatives: **start small and keep it simple**; do not promise more than can be delivered; set realistic objectives; make sure everyone accepts and fulfils their assigned roles and responsibilities; and allocate enough time and resources to meet the goals.

3.3.6 Caution Regarding PRA

PRA must be applied with care. PRA is intensive and potentially intrusive, demands a lot of

time from villagers, and can arouse conflict and heighten expectations - both within villages and among project staff. The participatory approach will demand new capabilities from community organisations, beyond their current primary functions of conflict resolution and response to prescriptive development efforts. The Project must take particular care to ensure that the community understand the purpose of PRA before fieldwork begins. An appropriate approach would be to brief villagers on the principles and objectives of the PRA, and seek jirga approval for the PRA to go ahead. **PRAs can also require a heavy investment of staff time and energy** - not least in the vital analysis and `sharing' of the results. To keep costs to an acceptable level, the PCDP will need to distil from experience a **standardised methodology** that balances the need for efficiency with the need for sensitivity. Finally, PRA is only the beginning of the participation process: **the success of a PRA cannot be judged in isolation, but only in relation to the level of sustained development activity it generates.**

3.3.7 PRA Targets

Following training, the PCDP field team will carry out a number of Village PRAs and Topical PRAs in Palas. The time, energy and cost invested in each PRA should not be underestimated. If community confidence and participation is to be sustained, it is vital that each PRA leads to considered follow-up development activities without unreasonable delay. To ensure this, it seems realistic to target no more than **four PRAs (3 Village PRAs and 1 Topical PRA) in the first year of the PCDP.** Larger and more progressive villages should initially be targetted to maximise impact. During years two to five of the PCDP, it is anticipated that increasing numbers of Village PRAs can be carried out, such that at the end of five years most of the total of about 40 villages (in both Bar Palas and Kuz Palas) will have been reached.

3.3.8 Documenting the PRA Process

Thorough and timely documentation of each PRA, and of the entire participatory process, is vital: to provide baseline information against which performance may be monitored; to allow comparison between villages, and analyses of regional change; to provide a document as an advocacy tool for use with other agencies; and to ensure a good institutional memory.

3.4 Participatory Implementation through Community Organisation

3.4.1 Appropriate CBOs in Palas

The PCDP will continue to establish, activate and strengthen CBOs for participatory implementation of development initiatives. CBOs will be of several kinds:

- i) an **All-Palas CBO** (or All-Palas Jirga Committee) to address valley-level issues such as the management of common property resources (eg. forests) and open access resources (eg. wildlife); a focus on the support and development of this all-Palas CBO will underlie much PCDP activity and justifies the need for a range of professional PCDP staff and local consultancies to help build Palasi capacities;

- ii) **village CBOs** (building on the existing VJCs) in all villages in Palas, to address issues that fall within the purview of the village - such as the development of agricultural, livestock and local infrastructure;
- iii) **special interest CBOs** for particular issues such as the collection and marketing of NTFPs (eg. morel mushrooms) or to ensure that the poorest and marginalised are not omitted from project activities; special interest CBOs often prove more active as they form around issues that matter to them;
- iv) **women's CBOs** - the formation of women's CBOs will be approached with care and a particular sensitivity to local conventions.

3.4.2 *Establishing and Strengthening CBOs*

The PCDP will seek to **catalyse and strengthen organisations** through the participatory implementation of development initiatives in natural resource management, infrastructure, and basic health. The proposed steps in this process vary for the different kinds of CBOs, and are outlined below.

All-Palas CBO: establishment and strengthening of an All-Palas CBO is closely linked to the PCDP's natural resource management strategy; the proposed steps are described in Annex 3.

Village CBOs: i) village PRA to identify village development priorities; ii) crystallisation of development initiatives with village jirga; preparation and agreement of cost estimate with village jirga; iii) inauguration of Village CBO, according to PCDP principles (written agreement); iv) development of terms of partnership between Village CBO and PCDP for the prioritised development initiative, specifying local and PCDP contributions (including PCDP grant ceiling), mechanisms for implementation, and arrangements for payment of PCDP grant (in instalments); v) advance of first instalment of PCDP grant and commencement of work under the management of the Village CBO, with PCDP technical assistance; vi) training of CBO members in appropriate organisational and technical skills; vii) monitoring of progress and payment in instalments against work done; viii) finalisation of work, and agreement on next development priority, etc., etc.

The development of an item of basic infrastructure provides an ideal first development initiative around which to catalyse Village CBOs. The PCDP budget makes an indicative provision for small infrastructure works which serves as a budgetary ceiling for PCDP grant aid to CBOs.

Special interest CBOs: i) identification of special interests in Palas (eg. collecting, processing and marketing of morel mushrooms; growing and marketing of fruit, apiculture); ii) topical PRA with community representatives having special interest (eg. morel mushroom collectors, fruit growers, bee-keepers) to identify problems, constraints and opportunities relating to development of the special interest; iii) agreement of development priorities relating to the special interest with local representatives; iv) technical feasibility studies for development of the special interest; v) inauguration of the Special Interest CBO, according to PCDP principles (written agreement); vi) development of terms of partnership between Special Interest CBO for prioritised development

initiatives, specifying local and PCDP contributions (including PCDP grant ceiling), mechanisms for implementation, and arrangements for payment of PCDP grant (in instalments); vii) advance of first instalment of PCDP grant and commencement of work under the management of the Village CBO, with PCDP technical assistance; viii) training of CBO members in appropriate organisational and technical skills; ix) monitoring of progress and payment in instalments against work done; x) finalisation of work, and agreement on next development priority for the special interest, etc., etc.

Women's CBOs: establishment and strengthening of Women's CBOs is closely linked to the PCDP's basic health strategy; the proposed steps are described in Annex 5.

3.4.3 *Sustaining Community Organisation and Participation*

While catalysing community organisation and participation is relatively easy, the greater challenge is to sustain it. Experience on other participatory projects in Pakistan (such as AKRSP and its spin-offs) has identified three 'pillars' of sustainable community development. These are: the **organisation** of communities; the development of community **skills**; and the development of community **capital**. The PCDP will adapt these principles to the Palas context.

The strengthening of community organisation, and the development of community skills, will rely heavily upon the PCDP training programme (Annex 6). Building community capital as collateral for credit (to support community development initiatives) is more problematic given local religious sentiment against the concept of interest. However, it has been seen that Palasi communities have already established community bank accounts, while (informal) credit is already widely utilised (by individuals) in Palas. The problem of interest on loans may be avoided if instead the credit agency applies service and/or handling charges. The PCDP will prioritise the development of options for community savings through dialogue with both the people of Palas and local credit institutions (such as the Agricultural Development Bank of Pakistan at Dassu). In the longer-term, a savings and credit approach to the financing of local development will increase local control of the development process and reduce any dependency on grant assistance.

Pending establishment of a savings and credit programme, the PCDP will aim to **share costs** of development with the local community. Though the primary aim of participation is to enable and empower local communities, the minimisation of recurrent costs to the project and the government is also an important objective; the PCDP approach will not be sustainable or replicable if recurrent costs prove to be high. To catalyse participation, the first development activity (identified through the PRA process) in each village will be supported by limited **grant** aid from the PCDP. This, however, must be matched by a **community contribution** in kind (labour, local materials, land, etc.), amounting to 20-50% of the total cost of the work. HJP has set a useful precedent in this regard; the community contribution to watermills amounted to c.50% of total cost, to irrigation channels c.25%, and to foot-bridges c.20%.

3.5 **Participatory Monitoring and Evaluation**

PRA has a key role to play in monitoring progress of the PCDP (See B, 11, V: Monitoring and Evaluation). It is anticipated that villagers who have been through the PRA process will have identified indicators by which they measure progress, and a way to report on this. This may be done in periodic 1-2 day sessions with PCDP staff. Such participatory monitoring could be an integral part of the annual monitoring mission.

The proposed Project evaluation in year 4 of the PCDP should include a **workshop for review of the strategy for community organisation and participation**. The workshop would provide a forum to assess progress and problems encountered, introduce new methods or innovations from elsewhere, and recommend any strategic adjustments that may be needed.

Annex 3

Natural Resource Management

ANNEX 3

NATURAL RESOURCE MANAGEMENT

1 OBJECTIVE

To safeguard biodiversity and optimise the flow of local, national and global benefits from the management and sustainable use of natural resources.

2 BACKGROUND

2.1 Importance of Forests and Biodiversity in Palas

2.1.1 Biodiversity

Some of the world's greatest wealth is contained in natural forests [and]...mountain...habitats. These biological resources are the physical manifestation of the globe's biological diversity, which simply stated is the variety and variability among living organisms and the ecological complexes in which they occur. Effective systems of management can ensure that biological resources not only survive, but in fact increase while they are being used, thus providing the foundation for sustainable development and for stable national economies.¹

¹

J.McNeely, (1988). *Economics and Biological Diversity: Developing and Using Economic Incentives to Conserve Biological Resources*. IUCN, Gland, Switzerland.

The forests of the western Himalaya - particularly the temperate forests - have been reliably identified, on the basis of avian endemism, as a 'biodiversity hotspot', a global priority for the conservation of biodiversity. Intensive and systematic ornithological surveys by BirdLife International and the NWFP Wildlife Department between 1987 and 1995 leave little doubt that **the Palas forests represent Pakistan's most outstanding remaining tract of temperate forests.** Over 140 bird species have been recorded in Palas, including seven of the eight 'restricted range' west Himalayan species. Palas contains at least four of Pakistan's six pheasant species, including the world's largest known population of the globally threatened western tragopan *Tragopan melanocephalus*.

Palas also contains **many rare and/or threatened mammal species** of the western Himalaya, including Kashmir grey langur *Presbytis entellus*, brown bear *Ursos arctos*¹, black bear *Selenarctos thibetanus*, wolf *Canis lupus*¹, snow leopard *Panthera uncia*¹, common leopard *Panthera pardus*¹, leopard cat *Felis bengalensis*, musk deer *Moschus chrysogaster* and markhor *Capra falconeri*. Many other species occur, many in abundance, including: rhesus macaque *Macaca mulatta*, red fox *Vulpes vulpes*, jackal *Canis aurea*, Himalayan ibex *Capra ibex*², grey goral *Naemorhedus goral*, stone marten *Martes foina*, yellow-throated marten *Martes flavigula*, stoat *Mustela erminea*, white-footed (altai) weasel *Mustela altaica*, small Kashmir flying squirrel *Eoglaucomys (=Hylopetes) fimbriatus*, giant red flying squirrel *Petaurista petaurista*, Royle's pika *Ochotona roylei*, Indian crested porcupine *Hystrix indica*, long-tailed marmot *Marmota caudata*, black rat *Rattus rattus*, Turkestan rat *Rattus turkestanicus*, house mouse *Mus musculus*, wood mouse *Apodemus wardi (=sylvaticus)*, birch mouse *Sicista concolor*¹, burrowing voles *Hyperacrius fertilis* and *H. sp.*³, shrew *Crocidura guldenstadtii*, voles *Alticola roylei*, *Sorex thibetanus*¹, and at least two species of bat *Pipistrellus spp*². Palas probably contains the richest mammal faunas found anywhere in Pakistan.

Though the Himalayan herpetofauna is not particularly rich, and the Pakistan amphibian fauna is relatively impoverished, Palas appears to contain most if not all expected species of reptiles and amphibians. At least 3 species of amphibian and 6 of reptile are so far confirmed. No work has yet been done of the fish of Palas; a mixture of south asian and central asian species, and a number of species endemic to the High Asian sub-region can be expected.

Work on the invertebrate fauna of Palas has barely begun, but a high diversity of insects, spiders and mites, molluscs, annelid worms, etc. can also be expected. Work on butterflies (Lepidoptera) and dragonflies (Odonota) has so far confirmed at least 20 species of the former and 8 of the latter (7 Anisopterans and a Coenagridae Zygopteran).

IUCN identify the western Himalaya as a region of high floral endemism. Surveys by HJP in

1 Occurrence in Palas expected and/or reported locally, but not yet confirmed.

2 Occurrence in Palas expected and/or reported, but not yet confirmed.

3 Observed, species to be confirmed.

collaboration with Pakistan's National Herbarium 1991-1994 have indicated that **Palas is also an area of outstanding botanical importance**. By virtue of its location, the Palas flora shows affinities to no fewer than four phytogeographic realms. The wide altitudinal range in Palas (c.800 m to c.5550 m) supports a great diversity of plant communities, including: subtropical woodlands and scrub; deciduous, coniferous and mixed temperate forests; sub-alpine birchwoods; alpine scrub and meadows; rock, scree and permanent snowfields; a rich variety of wetland habitats including glacial outflow and wet alpine meadows, fast-flowing streams and rivers, lakes and waterfalls. Many of these plant communities remain relatively undisturbed by human activity.

Documenting such a diverse flora is an immense task. However, HJP has so far identified and collected herbarium specimens of over 400 species of flowering plants and ferns. These include three species new to science (*Delphinium* sp., *Jasminum* sp., and *Pseudomertensia* sp.), species otherwise known from only one or two type-specimens (eg. *Rhamnellus gilgitica*), threatened 'red data book' species, species listed under CITES and other rarities, and many remarkable extensions of range. Rarities include a naturally reproducing population of the globally threatened West Himalayan Elm *Ulmus wallichiana*, a tree species of potential economic importance as a furniture wood and ornamental tree. In addition to flowering plants and ferns, a great diversity of other lower plants (mosses, liverworts, etc.) and fungi is also expected. The total number of plant species in Palas probably exceeds 600.

2.1.2 Non-timber Forest Products (NTFPs)

The Palas forests provide a wide range of NTFPs with subsistence or cash value. Firewood, torchwood, medicinal and food plants are all critical to local livelihoods. In a PRA exercise (see Annex 2), **villagers ranked NTFPs as a more important source of income than agriculture, livestock or timber harvesting**. An estimated PRs 7.5 million per year is earned from just five selected NTFPs in Bar Palas alone: these are the morel mushroom *Morchella* spp. (PRs 5.5 million), three species of medicinal plant (PRs 1 million) and honey (PRs 1 million).

Preliminary ethnobotanical surveys have so far listed over 130 plant species having customary uses among the Palasis. Of these, almost 70 are said to have medicinal properties; the remainder are valued for a wide range of uses including food, 'tea', animal fodder, firewood and tinder, 'chewing gum', cosmetics, attracting honeybees, 'paper' and dye. A number of those species said to have medicinal properties are well known for their medicinal properties in the 'alternative' Ayurvedic and Unani medicine of India and Pakistan, and/or in western medicine, eg. *Geranium wallichianum*, *Paeonia emodii*, *Aconitum* spp., *Valeriana jatamansii*, *Podophyllum hexandrum*. Palas also contains a large population of the threatened west Himalayan yew *Taxus baccata*, of economic importance for taxol, which is used against cancer. **Many of these plants may have potential for sustainable economic development**, but are threatened by unsustainable commercial timber harvesting. Morels, *Geranium wallichianum* and *Valeriana jatamansii* together generate an estimated Rs 6 million/annum from Bar Palas alone.

2.1.3 Grazing, Browsing and Fodder

Livestock are a critical component of the traditional Palasi socio-economy. With only c.5% of land in Palas suitable for cultivation, and only one cropping season per year, it is not possible to live by agriculture alone. The traditional transhumant agro-sylvo-pastoral economy of the Palasis makes good use of the montane environment. Livestock provide a vital connecting link between the natural forest and rangeland ecosystems and the cultivated agro-ecosystems of Palas. Through the consumption of grass and foliage and the production of farm-yard manure, they cycle nutrients and energy from the natural (strictly, 'semi-natural') forests and rangelands into the agricultural system. The temperate forests provide vital **browsing** for cattle, sheep and goats, particularly during the early summer and early autumn migrations. The alpine rangelands provide summer **grazing**. Foliage from the subtropical oak *Quercus* forests provides vital **winter fodder** for stall-feeding. A wide variety of grass, herb, shrub and tree species are utilised.

2.1.4 Timber

The temperate forests of Palas are an important and, potentially, a silviculturally sustainable source of timber - deodar *Cedrus deodara*, silver fir *Abies pindrow*, spruce *Picea smithiana* and blue pine *Pinus wallichiana* - for Pakistan's construction industry. However, **current timber harvesting practices are not silviculturally sustainable**. (see 2.2.1) The Palas forests are currently managed under the Revised Working Plan for Palas Forests (RWP), which divides the forested area of 400.43 sq km into 235 compartments. Of these, 101 compartments comprising 42.5% of the area are placed in Selection Working Circle and 134 compartments comprising 57.5% of the area in Improvement Working Circle (there is no Protection Working Circle in Palas). The RWP prescribes a total annual yield of 812,000 cft over a 15 year period (1988-89 to 2002-2003), based on calculation of yield by Austrian Formula (less local requirement). At current market prices, this prescribed annual yield of is worth c. Rs 162 million per year. However, costs are high in relation to this return, particularly for the more remote compartments, and particularly if the adverse impact of timber harvesting on non-timber forest values (both direct and indirect values) is properly included in the analysis.

2.1.5 Watershed Protection

The Palas forests provide important watershed protection against soil erosion, landslides, river siltation and flooding. This protection has **substantial economic and environmental security implications for Pakistan**. The Palas watershed drains into the River Indus. Tarbela reservoir, Pakistan's largest and a major source of power generation, is just 180 km downstream from Palas. The Forest Sector Master Plan states:

'...siltation of the Tarbela Reservoir reduces its holding capacity, power generation efficiency and working life... Much of the erosion is part of the natural geological evolutionary process. Nevertheless, deforestation...has accelerated runoff, erosion and flash flooding... Preserving forest cover is vital for protecting watersheds.'

If forests are lost, the cost of reforestation can be high. The Tarbela-Mangla Watershed

Management Project Phase II is spending Rs 700 million on afforestation and erosion control.

The *local* impact of watershed deforestation can also be economically and socially damaging. Deforestation in the neighbouring valley of Kaghan is thought to have exacerbated severe landsliding, with high social and economic costs, during the heavy rains of September 1992. Severe landsliding of this kind was not experienced in Palas, where dense forest cover is thought to have provided protection. As global warming is expected to lead to an intensification of monsoon rains in the western Himalaya, protective watershed forests will become all the more valuable.

Kohistan is prone to earthquakes (eg. December 1974). Studies show that watershed forests helped mitigate damages and loss of life in Palas by reducing landslides and rockfalls.

2.2 Problems and Threats Relating to Forests and Biodiversity in Palas

2.2.1 *Unsustainable Commercial Timber Harvesting*

Unsustainable commercial timber harvesting is **the most immediate and tangible problem** in natural resource management in Palas, and of all the natural resource management problems in Palas presents **the greatest observed threat to forests and biodiversity**. By comparison, the kind of forest degradation often attributed to increasing human and livestock populations elsewhere in NWFP is of less concern in Palas (see below).

Unsustainable commercial timber harvesting is **driven by external demand for timber, the 'rent-seeking' activity of both state and private enterprise, and by socio-economic change**. In regard to the latter, the resolution of long-standing tribal disputes over forest ownership, retention of forest shares by an increasing number of non-resident Palasis, increasing importance of income from wage labour relative to cash and subsistence income from NTFPs, increasing uncertainty of agricultural production (with declining maize seed quality, increasing pests and diseases and declining soil fertility due to the maize mono-culture) and the need for cash income (due to increasing bride-prices, the increasing sophistication and cost of weaponry, increases in the cost of living index and widespread poverty and debt) **are some of the important factors which tend to increase the demand for income from commercial timber harvesting, while undermining any nascent interest in sustainable use of the forest resource**.

The **sale of timber rights** is a simple way for forest owners to raise urgent cash, analagous to the cashing in of shares. Private enterprise is only too ready to oblige with cash down-payments. Forest users who are not owners - the poorer, more marginalised groups - stand to suffer most, as they will suffer the effects of forest degradation without the attendant benefits of cash income.

The unsustainability of commercial timber harvesting is **further exacerbated** by:

- * the conflict between customary and statutory forest management regimes, reflected in statutory forest planning and management processes which give little effective participation to the forest owners in forest planning and management, and in the cursory

attention given to domestic demands on forest resources given in the Working Plan;

- * the technical inadequacy of forest inventory on which the calculations of sustainable annual yield are based, the out-dated primacy given to timber harvesting over other forest functions (such as biodiversity conservation and watershed protection), the use of wasteful harvesting systems, and the inadequacy of controls on timber harvesting operations.
- * the failings of the customary common property regimes (CPRs) and institutions (which, until as recently as the mid 1970s, operated in complete isolation from the outside world) in the face of rapid socio-economic change (since the construction of the Karakorum Highway), and their lack of organisation, skills and capital for commercial timber harvesting;
- * conflict over forest ownership, which encourages families or tribal sub-groups to maximise short-term gain from the forest resource, rather than act cooperatively for the common good.

Commercial timber harvesting is prescribed under the Forest Department's Working Plan for Palas Forests. Under the First Working Plan, harvesting was *much lower* than prescribed, apparently due to local disputes over forest ownership. And while substantial harvesting has taken place under the Revised Working Plan since 1988, **most Palas forests remain as yet intact. However, in some Palas compartments cut since 1990, overcutting has caused substantial degradation of the remaining resource.** Figures for the rate of deforestation in Palas are not available, but figures for the neighbouring valley of Siran suggest that there is good cause for concern; the Siran forests lost 45% of their stock in a period of just 9 years (1979 to 1988).

While non-owning forest users stand to lose most, the owning Shin also realise a small fraction of the value of their timber. **The current harvesting system (pathroo and scant) is very wasteful** and out-turn is only 40-45% (the remainder is wasted in conversion); and though 80% of this out-turn legally belongs to the forest owners in Palas (20% is the government share), the advance sale of felling rights results in their receiving only c. 20% of the market price; consequently, they realise as little as $(40 \times 0.8 \times 0.2 =) 5\%$ of the value of their timber. The owners additionally **miss out on income from the management and execution of timber harvesting**, which is mostly done by outsiders, and miss out on the opportunity to develop their own forest processing industries.

More seriously, harvesting often leaves the forests in such poor condition that the potential for regeneration and sustained timber harvesting is greatly reduced. While it is probable, as in other parts of NWFP, that the prescribed volume itself may be as much as 50% too high (due to inadequate inventory), contractors often cut in excess of the prescriptions, concentrate fellings in more accessible parts of the compartment, and ignore felling rules relating to species selection, minimum dbh and the protection of seed trees.

Though all commercial timber harvesting in Palas is subject to the provincial timber harvesting ban, **timber harvesting is certain to accelerate if and when the ban is lifted**, in the face of uncertainty over possible future bans - much as uncertainty over *any* investment will lead to accelerated liquidation. It follows that **the forests and biodiversity of Palas can only be saved by credible moves to safeguard the certainty of future returns to the investors - the Shin of Palas.**

Once liquidated, natural capital such as biodiversity and natural forests cannot be regained; the loss is local, national, and global. At their most benign, current commercial timber harvesting practices cause significant changes in forest structure and species` composition, with an **adverse impact on NTFPs and biodiversity.** The preferential selection of deodar over fir and spruce, and of fir and spruce over pine, alters the relative abundance of these species. Cutting in excess of the prescriptions, and heavy collateral damage to remaining trees caused by non-directional felling, leaves few seed trees, and renders remaining trees vulnerable to disease and wind-blow. The opening of the forest canopy, together with the flush of nutrients from logging debris, alters the micro-environment for tree regeneration, and encourages rank, nitrophilous herbs (generally common and cosmopolitan species) at the expense of rarer plants and species diversity.

2.2.2 *Other Problems and Threats*

The Palas forests are generally *not* subject to the acute *local* pressures for domestic use observed in many other parts of NWFP. Although official data sources are conflicting, the human population of Palas does not appear to be growing rapidly. The birth rate appears to be balanced by migration to urban areas and the departure (for better economic opportunity elsewhere) of non-landowning families. Livestock populations are also not excessive. Resident livestock populations appear to have declined; as the Palasis increasingly turn to wage labour, they can no longer maintain their traditional transhumant lifestyle, and so abandon animal husbandry. Moreover, the Palasis forbid nomads and their numerous livestock from entering the valley. Indeed, some areas of Bar Palas have experienced an apparent *decline* in human and livestock populations, and forest are recolonising once cleared land. The size of the remaining forest resource in Palas appears more than sufficient to sustain the domestic needs of current and foreseeable densities of human and livestock populations. However, the following problems and threats are notable:

- * *Over-hunting.* **A number of key species are threatened by over-hunting.** These include most of the large mammals and pheasants. Big predators - snow leopard, leopard and wolf - are persecuted for preying livestock. Macaque, porcupine and black bear are persecuted for damaging the staple maize crop. Black bear cubs are captured for sale. Musk deer are shot for musk, markhor, ibex and goral for sport and meat. Stone marten and the big cats (snow leopard, common leopard, leopard cat) are shot for skins, pheasants, snowcock and partridges for sport, meat and skins. Golden eagles and falcons are caught for sale for falconry.

- * *Over-grazing.* Though livestock pressures in Palas are low, some Palas rangelands are

degraded by a history of poor rangeland management, leading to **severe, localised sheet and gully erosion**. Rangeland productivity is reduced by the invasion of *Pteridium* and other unpalatable species.

- * *High domestic use of timber*. In some localities high **domestic demand for timber** for houses and mosques damages the forest resource. The vernacular architecture makes heavy use of timber, with a single building requiring as many as 100 poles or more. Damage is most evident around the larger Kuz Palas villages, and certain Bar Palas summer camps where regeneration is prevented by uncontrolled grazing.
- * *Possible unsustainable use of NTFPs*. Data on sustainable levels of harvest of NTFPs is not available, but it is possible that the current **harvest of some medicinal plants, and of morel mushrooms *Morchella* spp. in Palas may not be sustainable**. Collection of 'dindasa', the rootbark of wild walnut *Juglans regia*, appears to be unsustainable and threatens the species in Palas. There is no current evidence of collection of taxol from the Himalayan yew *taxus baccata* in Palas, but Himalayan yews are coming under increasing pressure in this regard. Trade in NTFPs is driven by external demand.
- * *Commercial sale of firewood*. In some of the more accessible parts of Kuz (Lower) Palas, on or near roads, Oak *Quercus baloot* is subjected to heavy lopping and even to felling for commercial sale as firewood. However, this threat appears generally to be well controlled by mechanisms under the existing common property regime. Domestic use of firewood is *not* a critical threat.
- * *Inappropriate road-building*. Two roads are currently under construction in Palas - the Pattan-Ziarat road and the Sherakot-Sharial road. These roads threaten to open up previously inaccessible forests to unsustainable commercial timber harvesting and commercial fuelwood extraction. They are not part of any considered 'opening up' plan, and no environmental impact assessment has been made. Alignments and construction methods take no account of the importance of the Palas forests and biodiversity, and no provision is made to minimise negative environmental impacts.
- * *Introduction of exotic tree species*. The Forest Department is beginning to plant a number of **exotic species** along roadsides in Kuz Palas, including *Ailanthus*, *Robinia* and *Eucalyptus*. Exotic species are not desirable in an area of importance for its native diversity. However, the impact is so far small.

2.3 Agriculture, Livestock and Rangelands in Palas: Problems and Constraints

2.3.1 Agriculture

There is a paucity of systematic base-line data on crop varieties, yields and farming system in Palas. The diversity of agro-ecological conditions (altitude, aspect, soil nutrient deficiencies, moisture, etc.) are as yet poorly mapped and described. However, PRA and technical appraisals by the HJP have identified the following problems and constraints.

Palas is not self-sufficient in food. Crop varieties are unimproved and yields very poor. The range of crops grown is very limited. Cropping practices and agricultural implements are primitive. Knowledge of improved crop production is very poor.

Maize is the primary arable source of food and fodder, but varieties grown are mostly unimproved or degenerate. They are low yielding, late maturing, and tall, often lodging before maturity. This may be due to poor seed selection practices (selection of maize seed from the threshing floor instead of from the standing crop causes later maturity).

For most crops, there is a lack of seed (and other planting materials) of improved varieties. Vegetables and pulses are under-utilised. Wheat and rice, previously grown in the area, are no longer grown. Fruit trees are not cultivated despite considerable potential. There is also potential for developing non-arable fodder production on fallow agricultural land and village margins.

No or very little nitrogenous and no phosphatic fertilisers are used; farmers use only urea and ammonium sulphate. In most maize areas, fixation of phosphate is a problem, with low concentrations of soil phosphates. Farmyard manure (FYM) is not properly stored but is added fresh to the soil. No protection measures are currently used in maize or any other crop in Palas and pests such as cutworm and stem-borer are common. Maize is grown in a near mono-culture compounding problems of disease and soil fertility. Very primitive agricultural implements are used. A lack of modern agricultural knowledge extends to most aspects of crop production, including agronomic practices, maintenance and multiplication of quality seed (and other planting materials), plant protection, post-harvest management, and FYM preservation and care. Farmers are therefore unable to resolve most crop production problems for themselves.

Agricultural support services are almost non-existent. Palas has largely been passed over by national, regional and international agricultural initiatives and there is no current research, development or extension infrastructure in the region. Poor access and rugged terrain make the import of agricultural inputs costly and difficult. There are no formal rural credit systems, and informal systems are generally exploitative.

Palas presents a challenging physical and social environment for agricultural development. A population of 30-40,000 people is scattered in diffuse villages over 1300 sq km of some of the world's most rugged and remote mountain terrain. Many villages lie two or more days' trek from the road-head. Transhumance (the seasonal movement of the entire population) and a prevalence of violent disputes (mostly over land) complicate training and extension. Agro-ecologically, higher altitude crop-lands in Palas present difficulties for the introduction of improved crop varieties. While a wide range of improved varieties are available for lower altitudes, those available for higher altitudes, particularly above 2000 m, are limited.

2.3.2 Livestock and Rangelands

The keeping of livestock is an integral part of the farming system of Palas. Livestock provide

security against uncertainty in crop production. Though there is no accurate census of livestock numbers in Palas, most households keep goats, sheep, buffalo, cows, bullocks and poultry, as well as mules and donkeys for transportation.

Livestock diseases are common and include: ecto- and endoparasites; pleuro pneumonia, haemorrhagic septicaemia, foot-and-mouth, mange and diarrhoea. Local chickens lay only c.50-60 eggs per year, and among the problems with poultry, Newcastle's disease is devastating. There is currently no government or private veterinary service. Government services are unlikely to be extended to a remote area like Palas.

In some areas of Palas, particularly in and around the major summer pastures (Ledi, Ganja, Moru), poor rangeland management practices have led to a reduced productivity of palatable species, localised gulleying, and the suppression of forest regeneration through browsing and trampling.

2.4 Natural Resource Management under the HJP

HJP has established initial momentum for biodiversity conservation and natural resource management (NRM) in Palas. Key components of this process are described below.

2.4.1 Community Organisation and Participation for NRM

HJP has initiated processes of community organisation and participation for NRM in Palas (for details, see Annex 2, 2.2). Grass-roots dialogue and village PRAs have focussed on local problems, constraints and opportunities for NRM. Emergency relief following disastrous floods in late 1992 provided an entry point for the Project to work in partnership with the people of Palas, established the Project's local credibility and won local goodwill. Through the instrument of a written Agreement with the people of Bar (Upper) Palas, the Project was able to link the provision of rehabilitation assistance to the need for more sustainable management of natural resources; the people of Bar Palas agreed to formal dialogue on forest management, to undertake certain activities jointly, and to curtail hunting of protected species. This agreement provides a useful precedent and framework for ongoing dialogue on NRM in Palas.

2.4.2 Research on Biodiversity

Information of the biodiversity importance of Palas (2.1.1) is based on survey work carried out under the HJP. The HJP has carried out surveys on birds, mammals and plants of Palas and gathered incidental data on some other taxa. The HJP has also begun work on the description and mapping (using satellite imagery) of the various habitats in Palas. This work has been carried out in collaboration with relevant national and international institutions including the National Herbarium (NARC), Pakistan Museum of Natural History, BirdLife International, World Pheasant Association, World-Wide Fund for Nature, Royal Botanic Garden, Kew (UK), etc. As a result, the biodiversity of Palas is probably better documented than any other single natural area in NWFP. Reliable data on the biodiversity of Palas, particularly on the status and distribution of key species, is vital if the PCDP is to safeguard this biodiversity.

2.4.3 Forest Management Research and Planning

The HJP has carried out useful preliminary studies (using both PRAs and technical studies) on existing forest management systems in Palas, including: customary ownership and property management regimes; legal status and statutory measures for forest management in Palas; customary uses of forest products including NTFPs; current commercial timber harvesting systems and the sale of forest royalties; comparison of costs and benefits of current and alternative forest management scenarios; options for sustainable use of NTFPs (eg. morel mushroom).

The HJP has held workshops, attended by senior foresters and forestry CTAs, resulting in tentative recommendations for forest management in Palas. The HJP has secured recognition of the importance of the Palas forests in key policy documents including the Forestry Sector Master Plan and Sarhad Provincial Conservation Strategy (SPCS). The HJP has established a seat on key forestry fora in NWFP including the Forestry Donor Coordination Group, the Forestry CTA Round Table and the Forestry Extension Network.

2.4.4 Agricultural Research and Development

HJP has carried out technical appraisals of crop production systems in Palas, and initiated a number of agricultural trials, including varietal and seed multiplication trials for the staple maize crop, and fruit tree nurseries and demonstration orchards. HJP has established linkages with the FAO, the National Agricultural Research Centre (NARC), the Commonwealth Agricultural Bureau-International Institute for Biological Control (CAB-IIBC), Agricultural University Peshawar and other relevant institutions for sustainable agricultural development.

3 THE PCDP STRATEGY FOR NATURAL RESOURCE MANAGEMENT (NRM)

3.1 General Rationale

...it has become fashionable to take it for granted that social justice and sustainable economic development are necessary preconditions for conservation and that biodiversity conservation...is *de facto* compatible with sustainable economic development. But simply to assume that people will be more inclined to conserve local biodiversity if their living standards improve or that there are always ways to improve local incomes without depleting biodiversity is, at best, naive.¹

¹

M. Wells, in: Perrings et al. (eds.) 1994. *Biodiversity Conservation: Problems and Policies*. Kluwer Academic Publishers, Dordrecht, The Netherlands.

Palas is entering the 'downward spiral' of poverty and environmental degradation which reduces the potential for biodiversity conservation and sustainable economic development.

Though living standards in Palas are unquestionably low (District Kohistan is ranked 61 out of the 64 Districts of Pakistan in terms of standard development indicators), Palas as yet retains a remarkable biodiversity and natural forest cover. However, poverty and the attendant need for income is now driving the local community to sell off their rights to timber, with consequent damage to the forest resource and loss of biodiversity. **Any attempt to safeguard the forests and biodiversity of Palas must therefore simultaneously address the problem of local poverty.**

Palas exhibits considerable potential for the improvement of local incomes and welfare through the sustainable development of timber harvesting, non-timber forest products, livestock and animal husbandry, crops and cropping systems, basic health and sanitation. **The challenge for the NRM strategy is to ensure that any social and economic development undertaken is compatible with safeguarding biodiversity.** This requires the establishment of locally meaningful linkages between biodiversity conservation and sustainable development in Palas, and close monitoring of the environmental impacts of development activities.

The project area constitutes an integral unit for NRM in that the *physical* boundaries of the Palas watershed (including those adjacent watersheds of Gaber, Sherakot and Kunsher) mostly coincide with the *property* boundaries (both customary and legal) of the Palasis (the one exception is the disputed Chor pastures). **The NRM strategy involves a *process* approach to NRM, in which a number of cross-sectoral elements serve to integrate the management of the various natural resources - biodiversity, forests, crops and croplands, livestock and rangeland - of Palas** (an elaborate management *plan* or 'blueprint' is *not* required or intended). These cross-sectoral elements are outlined below (3.2).

It is important in adopting a process approach to identify key activities and '**milestones**' ('process targets') against which progress can be monitored. A number of key activities and milestones relating to the cross-sectoral elements of the NRM strategy are therefore outlined under the **sectoral programmes** for biodiversity conservation and environmental awareness, community forest management, livestock and rangeland management, and sustainable agriculture (3.3).

3.2 Cross-Sectoral Elements of the NRM Strategy

3.2.1 Community Participation in NRM

Community organisation and participatory methodologies (see Annex 2) will aim to ensure the participation of all owners and users of natural resources (including women and marginal groups) in NRM.

The PCDP recognises the complementary importance of the **indigenous knowledge** of the Palas communities, and of **technical and scientific understanding**, for NRM planning in Palas. **PRA**

methodologies will allow the PCDP to access indigenous knowledge, practices and values relating to natural resources; village and topical PRAs (Annex 2) will assess the extent, type and condition of resources, customary property regimes, current usage and related problems and constraints, village- and valley-level NRM priorities. **Applied technical and scientific studies** will develop a more conventional inventory of natural resources, establish base-line data against which to monitor environmental impacts, assess the national and global values attached to these resources, and assess the feasibility, sustainability and likely environmental impact of the various technological options for development priorities identified through PRA.

Together, PRA and applied scientific and technical studies will allow the PCDP to establish an informed **dialogue** - a two-way information flow - with the community on NRM in Palas, and in particular to integrate environmental perspectives into the planning process. As far as possible, NRM objectives defined as being of high priority by both PRA and technical and scientific studies will be **integrated**. However, some **trade-offs** may be needed where local and national objectives conflict, and/ or where there is conflict between local interest groups. Care must be taken to ensure as far as possible that development initiatives are compatible with conservation.

To enable local communities to make **informed choices** about conservation and sustainable development options, the PCDP will implement a **coherent communications and environmental awareness programme**. The programme will adopt appropriate methodologies and technologies including dialogue, PRA, workshops, tours, and the use of audio-visual equipment.

Local agreement on conservation and development initiatives will require **dialogue, mediation and negotiation**. Implementation of NRM initiatives will then be through the **appropriate community-based organisations** (Annex 2).

3.2.2 Incentives, Instruments and Mechanisms

Local dialogue, PRA and applied technical and scientific studies will identify sustainable development initiatives, and community organisation will provide the local institutional platform for implementation. However, these processes must be supported by an appropriate and comprehensive **package of incentives**, developed through local dialogue, mediation (between government and community) and negotiation, and responsive to local social and economic forces, if the wider PCDP objective of biodiversity conservation is to be achieved. This will include both **positive and negative incentives** which encourage conservation and sustainable use, and the **removal of `perverse' incentives** which encourage environmental degradation. An appropriate package of incentives must secure in local perceptions the vital linkages between conservation, sustainable development and poverty alleviation, and thereby secure the local political will and commitment to act. Only by securing these linkages will it be possible to establish whether development initiatives have had a positive or negative impact on biodiversity.

A locally appropriate, supportive **`basket' of instruments and mechanisms** will be required to formalise, activate and sustain this local political will and commitment. Again, these should be developed through local dialogue, mediation (between government and community) and

negotiation. Possible instruments and mechanisms include: 'gentlemen's agreements', legally binding agreements, and mechanisms for enforcement and self-enforcement.

3.2.3 *Strengthening of Support Institutions for NRM*

The PCDP organisational structure itself will demonstrate the value of a single multi-disciplinary agency treating a watershed as an integral unit for NRM. Staff, consultancies and linkages with relevant institutions, will provide necessary skills and expertise to integrate all aspects of natural resource management in Palas.

The PCDP will associate existing **Forest Department** staff in forest management planning, and implementation of the plan, and will provide necessary training and re-orientation. The PCDP will also establish and strengthen a **Kohistan Wildlife Unit** for the extension of participatory and integrated natural resource management to other areas of highest importance for biodiversity in District Kohistan (for details see 11.7.5). The PCDP will also support capacity-building of WWF-Pakistan and/or other environmental NGOs as support agencies for participatory natural resource management (11.7.6).

The testing of these institutional arrangements in Palas will contribute to, and benefit from wider provincial initiatives to integrate NRM - including legal, policy and institutional developments. In particular, the PCDP will support the development of 'joint forest management' in *guzara* forests, (including the establishment of community-based forest management organisations and the training of local petty contractors) and a **forest fundtion** approach to forest management (ie. adapting forest management to the prioritised function of a particular forest area - whether it be biodiversity conservation, sustainable use of non-timber forest products, timber production, etc.).

3.3 **Sectoral NRM programmes**

3.3.1 *BIODIVERSITY CONSERVATION AND ENVIRONMENTAL AWARENESS*

Rationale

Activities in this sector will focus on identifying the local, national and global values of the biodiversity of Palas, and on determining priorities for conservation action and opportunities for sustainable use. Given that the **costs** of biodiversity conservation will mostly be borne locally, while the **benefits** will mostly accrue nationally and globally, it is probable that this sector will require greater consideration of incentives (positive, negative and 'perverse'), instruments and mechanisms than any other sector of PCDP activity in Palas. The most appropriate positive incentives would be related to increased income generation through sustainable NRM; cash compensation is considered a last resort.

Indicative Activities

Key activities under the sectoral programme for biodiversity conservation and environmental awareness include:

- * contribution to the **legislative and policy framework for people's participation in biodiversity conservation** in NWFP;
- * development of a **package of positive and negative incentives** for biodiversity conservation, with supporting instruments and mechanisms, and identification and **reduction of `perverse' incentives** which encourage unsustainable use of biodiversity;
- * support for the **establishment and strengthening of a Kohistan Wildlife Unit** as a model for the extension of a participatory approach to biodiversity conservation (Annex 6);
- * **monitoring of the Western Tragopan** population and research on the value of pheasants as indicators of forest biodiversity;
- * **surveys of other key species**, and the development and implementation of recovery plans for those with depleted populations;
- * research of the **impacts of forest use on biodiversity**;
- * development and implementation of **approaches for managing crop and livestock depredation by wildlife, and controlling hunting**;
- * **completion of a floral inventory** and herbarium collections, with an analysis of phylogeographic affinities and levels of endemism;
- * **completion of an ethnobotanical inventory and identification of opportunities for the sustainable use of plant resources**;
- * **preparation of a habitat map** based on the ecological analysis of plant communities, panoramic and aerial photography, and satellite imagery (providing a base map for overlays of forest uses, development interventions, etc.);
- * development and implementation of **plant species/genetic conservation plans** through studies of the status and distribution of key plant species (new species, rarities, species of economic importance).

3.3.2 *PARTICIPATORY FOREST MANAGEMENT*

Rationale

A ban on commercial timber harvesting was imposed following the disastrous floods of 1992. It is anticipated that a decision to lift the ban in NWFP will *not* be made until a number of

preconditions have been fulfilled¹. These preconditions relate to **organisational reform, sound forest management planning, and improvements in the harvesting system**. The PCDP will seek to fulfil these preconditions in Palas, in line with wider provincial initiatives², *in so far as they are compatible with the Project's wider objectives of biodiversity conservation and poverty alleviation*.

To achieve this aim, it is essential that the PCDP is delegated the necessary jurisdiction and authority for the planning and implementation of its NRM objectives. This includes jurisdiction and authority for forest management planning and implementation within the project area.

Indicative Activities

i) Strengthening CBOs for Forest Management

While it is generally acknowledged that the abolition of the Forest Cooperative and Forest Harvesting Societies was justified, the poor record of these societies should not discredit the idea of participatory forest management. The challenge for the PCDP will be to make local communities' ownership of the forests more 'effective' - to secure their participation in forest planning, management, and marketing, through the provision of the necessary organisation, skills and capital.

The PCDP will seek to **strengthen the existing organisations of forest owners in Palas - the Harvesting Societies and the Bar Palas and Kuz Palas Forest Committees³** - as common property institutions ('special interest CBOs') for participatory forest management, within the framework of the proposed all-Palas CBO (Annex 2). The PCDP will strengthen the management of these institutions, in particular in regard to forest planning, management (including harvesting and regeneration), marketing of forest products and administration. In the early years of the PCDP, the Project will focus on promotion and organisation of these institutions, on raising local awareness of the various forest functions, and on participatory planning. As participatory forest management takes off, the Project will assume a training and service role, with the provision of technical and financial assistance, and ultimately a controlling and monitoring function. These functions may be ultimately devolved to the local (Palasi) community organisations, or to emerging District level organisations (as proposed under the GTZ Guzara Forest Development Project), or retained within the Forest Department, as appropriate.

1 GTZ consultant team. (June 1995) *Summary results and recommendations: evaluation of the performance and the future of the Forest Cooperative Societies and the Forest Development Corporation*.

2 It is anticipated that GTZ will finance a Guzara Forest Development Project for NWFP under Phase 2 of the ongoing Siran Forest Development Project.

3 These Committees include representatives of all owning tribes, including representation of emigrant Palasis (who retain rights to forest resources in Palas) and are therefore representative of all Palasis, both resident and emigrant.

ii) Participatory Forest Management Planning

Participatory forest planning will require the **resolution of conflicts between customary and statutory forest management regimes** through the integration of PRAs with technical studies, and a process of dialogue, mediation and negotiation between the 'key players' - local communities, forestry contractors and government.

One possible scenario for forest management in Palas that could meet the objective to safeguard biodiversity and optimise benefits, involves the **division of the Palas forests according to the three primary forest functions of biodiversity conservation, NTFP production, and timber production**. Those areas of forest identified as having the primary function of biodiversity conservation and/or NTFP production would be set aside from commercial timber harvesting as *core zones*. The remainder, identified as having the primary function of timber production, would be managed for sustainable timber harvesting as *sustainable use zones*. **Zonation would have to take into account the existing pattern of ownership, and should aim to ensure the equitable distribution of benefits from both timber and NTFP exploitation among the owning tribes.**

iii) Improving the Harvesting System

The most probable technological option for sustainable timber harvesting in Palas involves the 'opening up' of the *sustainable use zones* with a carefully planned system of valley-bottom roads, and the use of skyline cranes¹. This allows the extraction of whole logs, doubling the out-turn per tree in comparison with the wasteful 'pathroo-and-scant' system². When operated through local trained 'petty contractors', the system provides local employment, while directional felling and extraction by skyline reduce damage to the remaining forest resource. This system has been tested by the Kalam Integrated Development Project, and costings derived from KIDP experience provide a budgetary ceiling for forestry-related infrastructure and capital equipment under the PCDP (Annex 10).

Preliminary cost-benefit analysis suggests that, compared with the current forest management systems, the proposed alternative forest management scenario (no logging in 'core zones', sustainable harvest of timber and NTFPs in 'use zones') and harvesting system (skyline crane, valley-bottom road and petty contractor) would enhance the flow of local, national and global benefits communities.

¹ An alternative, or possibly complimentary, approach would be to raise local benefits by adding local value through local processing (cutting logs into planks, with portable sawmills or band saws, and perhaps making basic construction inputs such as door and window frames in Palas). The demand side of this scenario is open to question however, and Palas communities would need to be linked directly to particular buyers).

² A skyline crane system involves a log carriage system attached to a wire suspended between poles, pulled by a winch. The logs are transported on the skyline from the point of felling to a landing - where band saws can cut the logs into basic forms. The type of band saw made in Lahore is cheaper than imports, can be dismantled and locally repaired. The winch and carriage for the skyline will need to be imported. If planks can be suitably marketed, they can be cut and evacuated from Palas by mule, if suitable bridle-paths are developed. If basic processing is not viable, there will be a need for an adequate valley bottom road, and a tractor or basic skidder for log or 'scant' loading. In either case, the enterprise will need one truck at minimum. Capitalization of a community enterprise of this type could be 'repaid' from profits over time, perhaps to an 'all-Palas sustainable development trust fund' managed by the All-Palas CBO.

iv) Protecting Felling Rights

In certain areas, Palasi communities have sold felling rights to contractors for some years in advance (a form of money lending by contractors). This effectively excludes participatory forest management in these areas, until the rights are regained or bought back. The PCDP will seek **government action to forestall the continuing sale of felling rights**, and will seek appropriate legal assistance as necessary to regain/'buy back' felling rights.

Indicative Phasing

The development of a new system of participatory forest management in Palas will take time, and the exact steps and sequence of activities must be adapted as the process of participatory planning, community organisation, dialogue, mediation and negotiation, and final implementation evolves. The following is an indicative phasing of some of the more probable key activities:

YEAR 1

- * **Alignment of PCDP initiatives for participatory forest management with provincial initiatives** for organisational reform, improved forest management planning and improvements in the harvesting system.
- * Promotion and formalisation of a **Kuz Palas Agreement**, similar to the existing Bar Palas Agreement, recognising the need for an improved system of forest management, and providing for formal dialogue between the people of Palas and the PCDP on forest management.
- * **Community (Grand Jirga) proclamations** on the values of their forests, on community intentions to sustain these values, and inviting partners (ie. contractors and government) to help them in joint initiatives.
- * Development and formalisation of **all-Palas consensus** on the need for and objectives of a new participatory forestry management system, and formalisation of a **working relationship** between Palasi forest organisations and the PCDP.
- * **Topical PRA and technical studies**, including surveys of forest extent, type and condition, customary property regimes, extent of sale of property rights, current and potential uses, and related problems and constraints.

YEAR 2

- * **Local dialogue on forest management options for biodiversity conservation and the optimisation of community benefits**, including the proposal to divide the forest according to **forest functions**, with consequent identification of **core zones** (logging exclusion zones for biodiversity conservation and sustainable use of NTFPs) and

sustainable use zones (for sustainable timber harvest).

- * **Feasibility studies on options for participatory forest management**, including: the use of local 'petty contractors' (trained forest workers); sustainable use of NTFPs; introduction of sky-line cranes and valley bottom roads; local wood processing (planks, frames, etc.).
- * **Participatory zoning** of forest functions, delineation of *core zones* and *sustainable use zones* and **development of guidelines/rules** for the management of each zone.
- * Dialogue on the **better use of forest royalties**, prevention of the continuing sale of felling rights, and a legal assessment of the options to 'regain/buy back' felling rights where they have been sold.
- * Dialogue, mediation and negotiation on **compensation to the community for income foregone** from logging exclusion zones.
- * **Development of opening up plans for sustainable use zones**, including the alignment of valley-bottom roads, and realignment and improved construction methods of roads already under construction; and the **development of a bridle path network for access to villages in core zones** (Annex 4).
- * **Finalisation and approval of Joint Forest Management Plan** for Palas Forests.

YEAR 3

- * **Sustainable development of NTFPs** with increased local incomes, through the organisation of special interest CBOs and the introduction of improved techniques (eg. solar drying instead of smoking of morel mushrooms, improved beekeeping).
- * **Strengthening of existing community mechanisms for regulation** of forest resource use (checking contractor coupes, felling and extraction methods, regulating NTFP collection, patrolling illegal logging, collection of NTFPs, and hunting).
- * **Documentation** of the participatory forest planning process viz-a-viz the conventional approach of the Forest Working Plan.

YEARS 4 & 5 (possible options)

- * Training of local petty contractors/trained forest workers and **capitalisation of community enterprises** for timber harvesting and marketing.
- * **Selection of contractors** for possible joint management.
- * **Establishment of trust fund** for compensation payments and/or developmental use of

income derived from sustainable timber harvesting.

- * **Regain/ buy back' timber felling rights** where previously sold by communities.

3.3.3 SUSTAINABLE AGRICULTURE

Rationale

Sustainable development of agriculture offers great potential for income generation in Palas. A number of priorities have been identified through PRA and technical studies (see below), some of which are already being addressed under the HJP; the PCDDP will build upon these. Flexibility is retained to allow additional priorities to be identified through further studies. However, with limited staff, new initiatives must be phased in gradually. Activities will generally **prioritise nutrition over income generation**, and will aim to reduce the risks of crop failure rather than maximise production.

To avoid the creation of dependency upon external assistance, there will be a strong emphasis on **training** of village-based agricultural extension workers and of progressive farmers enabling them to resolve problems themselves. Training will raise awareness and develop skills in relation to the various programme interventions. The programme requires limited inputs for demonstration purposes (seed, planting materials, fertilisers and pesticides, tools and implements), and support for training courses and for agricultural workers; no high-cost capital items are involved.

Indicative Activities

- i) Introduction, evaluation and multiplication of improved crop varieties

The high potential of quality seed and planting materials of improved varieties, well adapted to local conditions and needs, is well established for mountain environments like Palas. The identification of crops best adapted to local environmental conditions and to local human needs requires the introduction and evaluation of improved seed. HJP has already begun this process for the staple maize crop, successfully testing five improved varieties in various agro-ecological conditions in Palas, and multiplying locally preferred varieties on farmer-managed plots. Improved cultivars of other crops are now required, including a broad range of food, fodder, forage and cash crops, both traditionally grown and crops new to Palas. As research and development on seed and other planting material in Pakistan focuses almost exclusively on lowlands, there may be a need to search overseas for varieties adapted to the highland conditions of Palas. For some crops, varieties appropriate to the environmental conditions of Palas (altitude, pest and diseases, etc.) may not exist. The PCDDP will keep abreast of developments in plant breeding, and seek to identify, evaluate and multiply varieties which are more disease resistant, tolerant and/or otherwise better adapted to local conditions than those presently available. Dependency on external sources will be minimised through local maintenance, multiplication and security of high quality seed and planting material, as far as possible through

farmer-managed plots. Care will be taken not to destroy any important existing crop genetic diversity in Palas; collection and breeding of local landraces is a possibility.

ii) Establishment of fruit tree orchards and nurseries

The Palas environment offers potential for production of a variety of fruits including apple, pear, plum, cherry, almond, apricot, persimmon, walnut, pecan and cobnut. The PCDP will continue the initiatives of the HJP in the establishment of nurseries and orchards to demonstrate and multiply improved and adapted varieties for extension to family orchards and field-edge plantings throughout Palas.

iii) Trials to increase cropping intensity and crop rotation

A longer cropping season at lower altitudes offers potential for double-cropping without disrupting existing cropping systems and crop/livestock interactions. Trials will explore the potential for winter-hardy fodder crops (eg. barley, vetch, oats) to be harvested before the staple maize crop is planted in late May, and for late season crops (carrots, turnips, etc.) be planted after the maize harvest in early October. Trials in crop rotation will seek to resolve problems of disease and soil fertility caused by maize mono-cropping.

iv) Integrated pest and disease management

An IPDM programme will be developed and implemented. Given the ecological importance of Palas, preference will be given to cultivation measures - such as crop rotations and field flooding - rather than the use of pesticides. Pests and diseases of all crops grown in Palas will be monitored in order to design appropriate integrated pest and disease management regimes.

v) Women's agricultural extension

Women's agricultural extension is vital because women are responsible for many agricultural tasks, and because joint training of men and women is culturally unacceptable. A cautious approach is required, with male approval for the programme a precondition. The objectives will be **to improve household nutrition, improve women's productivity and reduce women's workloads**. This programme will be linked closely to the PCDP health, nutrition and sanitation component (Annex 5).

Training will be imparted through village and household-based training sessions by female agriculturalists working in the local Shina language. Since the majority of women are illiterate, teaching methods will rely on oral communication, audio and visual aids. Priority areas for training include: kitchen-gardening of vegetables (warm and cold season); improved backyard poultry production including trials with more productive, scavenging poultry birds ('Fayoumi') for increased egg production; animal health; fodder production and storage; demonstration of improved tools; land preparation; pests and diseases of field crops; grain storage. In addition, specialised skills training is planned for 1-2 women from each village, eg: in vaccination of chickens against Newcastle's disease, and improved poultry management techniques.

vi) Agricultural enterprise development

The PCDP will analyse the current enterprise situation and aim cautiously to facilitate improved access to credit. Specialised advice may be provided in business development, quality control etc., and in developing the linkages between producers and buyers.

vii) Introduction of efficient tools, implements and simple machinery

The introduction, demonstration and maintenance of appropriate tools, implements and simple machinery (eg. maize shellers) can enhance the efficiency of cultivation, increasing productivity and reducing costs. In particular, it can reduce the workload of women, who are responsible for many agricultural activities.

vii) Agro-ecosystems analysis and base-line studies

PRA and technical studies will describe and analyse agronomic conditions and provide base-line data on yields and production. Meteorological data will also be collected.

3.3.4 Livestock and Rangeland Management

Rationale and Indicative Activities

Participatory planning is expected to generate a variety of livestock and rangeland management priorities. Two initial priorities for PCDP action have already been identified through a combination of PRA and technical studies: to **reduce the incidence of livestock disease and mortality** and so reduce losses to family income; and to **improve rangeland management** and so increase productivity. A possible additional area of activity is the improvement of livestock quality, which may ultimately lead to community agreements to reduce stock numbers. The creation of dependence on outside expertise will be avoided by developing necessary skills within the community.

Reduction of animal disease and mortality will be achieved through the training of **village-based veterinary workers**, and the **training of larger numbers of farmers in animal health and nutrition**, such that their technical knowledge and problem-solving capabilities are enhanced. The following approach to the training of village-based veterinary workers has been successful in the Aga Khan Rural Support Programme, which operates in similar social and physical environments to Palas.

- each village (or cluster of villages) nominates one person for 1 month's training in livestock diseases and management;
- each village provides a room for the setting up of a dispensary;

- the PCDP provides a one-off grant to equip the dispensary with an adequate quantity of medicines and vaccines to the successful trainees;
- the PCDP provides the trained worker with a nominal stipend for a maximum of 1 year, so that he can establish himself as his community's veterinary worker;
- trained veterinary workers charge fees for their services, according to rates fixed by the community organisations;
- the cost of medicines and vaccines recovered from farmers provides the basis of a revolving fund for further purchases by the community organisation.

This approach is cost effective because it uses the existing organisational framework of the Palas community, trains local people to provide a sustainable veterinary service, and does not create dependency on a government service.

Improvement of rangeland management is likely to involve the development of **community rotational grazing agreements and possible exclusion zones** to enhance rangeland productivity and to speed the natural recovery/ regeneration of rangeland and forest.

Annex 4
Rehabilitation & Development of
Basic Infrastructure

ANNEX 4

REHABILITATION AND DEVELOPMENT OF BASIC INFRASTRUCTURE

1 OBJECTIVE

To foster the local economy and facilitate natural resource management through the rehabilitation and development of basic infrastructure.

2 BACKGROUND

2.1 Existing Infrastructure in the Palas Valley

2.1.1 Communications Infrastructure: Roads, Paths and Bridges

No roads as yet penetrate interior Palas. Three approach roads exist: Pattan-Taghi, c. 17 km, Pattan-Sherakot, c. 10 km and Pattan-Kolai c. 10 km. C&W Department is currently working on the extension of the Pattan-Taghi road to Ziarat (Paro) and of the Pattan-Sherakot road to Sharial. Most settlements in Palas remain between one and three days' walk from the road-head, with bridle-ways, footpaths and foot-bridges providing the only access. Given the high cost of road construction in such terrain and the wide dispersal of small settlements in Palas, bridle-ways

and footpaths are likely to remain the only means of access for most villages.

Bridle-ways, footpaths and foot-bridges are essential: they allow the seasonal movement of people and livestock which is central to the traditional lifestyle; they provide access to goods and services including construction materials, agricultural inputs, food commodities, clothing and medicines; and they allow the export and sale of local produce, including forest products, livestock and livestock products and agricultural produce. Existing pathways, including the arterial Bar Palas pathway, are mostly in poor condition, arduous and often perilous. Few are suitable for pack animals, so most goods must be carried by the people themselves. The Musha'ga and main tributaries are too wide and strong to be forded. Foot-bridges in Palas are traditionally cantilever structures of wood and stone, built by the community. The length of a cantilever bridge is limited to c. 100' by the length of available tree trunks. Such bridges are often perilous for people and livestock, particularly when the rivers are in full spate (which coincides with the early summer migration). Bridges are often swept away by seasonal floods and must be seasonally rebuilt.

2.1.2 Agricultural Infrastructure: Irrigation Channels and Watermills

Agriculture in Palas is almost wholly dependent on irrigation because of low summer rainfall. An **irrigation channel** may supply a small settlement of two or three households, or a large settlement of 150+ households; in either case, the channel is equally essential for the survival of the settlement. Local topography determines the location of the intake (which must be adequately protected against normal summer floods) and alignment of the and channel.

Watermills - traditional structures in which the mill-stones are turned by means of a water-powered side-shot mill-wheel - are vital for milling of the staple maize crop in Palas. Mills are necessarily located near to the river, from which water is taken along a mill-race (or channel) to power the mill downstream. Local topography determines the location of the intake (which must be adequately protected against normal summer floods), alignment of the mill-race (which often has to negotiate steep slopes, screes and cliff-faces, for distances of 1 km or more) and siting of the mill.

2.2 Damages to Infrastructure in the 1992 Flood

In September 1992, the Palas Valley was hit by natural disaster as Pakistan suffered its worst floods this century. Palas received half its normal annual rainfall in a period of just three days. With a catchment of over 1000 sq km, the Musha'ga (the main Palas river) flooded to unprecedented levels, moving an estimated one million tonnes of rock - a major geomorphological event. Damages were mostly confined to the valley floor (the forested slopes were mostly unscathed) in Bar Palas. Two people died. Two villages were almost entirely destroyed and others lost houses and land.

All foot-bridges and a 40 km stretch of the principle Bar Palas footpath were destroyed. The destruction of bridges and paths doubled journey times, halved the portable load, interrupted herding of livestock and exacerbated local grazing pressures. It greatly added to women's burden

of work, which includes carriage of foodstuffs and domestic possessions, collection of forest products and herding. Temporary bridges and some paths have since been re-built by the local people. However, traditional cantilever structures are no longer adequate where floods widened the valley floor, and are now more vulnerable than before to seasonal floods; indeed, renewed floods in 1993 and 1994 destroyed most rebuilt bridges.

The floods damaged and/or destroyed almost every irrigation channel in Bar Palas. Channels with their in-take on the main river (Musha'ga) or main tributaries suffered most damage. The deepening of valley floors destroyed in-takes, while erosion undermined many channels.

Twenty-eight (70%) of the 40 watermills of Bar Palas were destroyed, together with their intakes, races, and in many cases the entire locality. Villagers - predominantly women - consequently had to trek long distances carrying heavy loads of grain and flour, to and from remaining mills.

2.3 Rehabilitation and Development of Infrastructure under the HJP

Following emergency relief work, the HJP developed flood rehabilitation programme in November 1992. The government provided a helicopter to drop engineering teams at three locations (Bar Paro, Bar Ser, Pichbela), enabling all Bar Palas villages to be visited. Village meetings were held at each site and a final jirga was held by each team to agree with the community priority needs. These were identified as the construction of 22 suspension foot-bridges, 54 irrigation channels, 40 km of footpaths and 20 watermills.

In June 1993, HJP signed with the Bar Palas Jirga a Rehabilitation Agreement providing a framework for HJP-community partnership in implementing the rehabilitation programme. Each village in Bar Palas established a Village Jirga Committee (community-based organisation) to work with the HJP. In the 2 years to June 1995, these VJCs mobilised well over 10,000 man-days of labour to complete most of the irrigation channels and watermills (the remainder are expected to be completed prior to the PCDP).

Foot-bridge construction has proven more time-consuming than planned. All 22 footbridges were originally planned to be completed prior to the PCDP; 4 have been completed and a further 3 are under construction. It is now expected that a total of 10 bridges will be completed prior to the commencement of the PCDP, leaving a balance of 12 bridges to be constructed during the PCDP.

3 THE PCDP STRATEGY FOR REHABILITATION AND DEVELOPMENT OF INFRASTRUCTURE

3.1 Rationale

The experience of HJP and similar projects in the region is that construction works provide a useful *entry point* for community organisation and participation. Communities are required to

reach consensus on the work of highest priority, and to organise themselves to work together for a relatively long period of time, during which skills may be imparted and capital accumulated, and the results are clear and tangible to all. For the PCDP, the timely achievement of *physical targets* is less critical than the *process* of construction and, in particular, *local participation* in that process. Consequently, **most construction works will be carried out by the Project in partnership with local communities, rather than through contractors**, even where this entails delays in meeting physical targets; only where necessary skills are not locally available will specific components of the work be contracted out.

The identification, prioritisation and planning of infrastructural works will be carried out through local dialogue and PRA, supported by technical feasibility studies and the development of detailed designs, bills of quantities and cost estimates. Some works have already been identified, prioritised and planned under the HJP (eg. suspension foot-bridges) and these works will be implemented under the PCDP. Other priorities remain to be identified, but are likely to include bridle-ways and footpaths, irrigation channels and watermills. The PCDP will **not** construct roads, unless proven essential to sustainable forest management.

Implementation of each work will be carried out under an agreement between the PCDP and the community detailing terms of partnership. These terms will require a *community contribution*, usually in kind. Cost sharing enhances community ownership of the work, and reduces the risk of creating local dependency on external assistance. The extent of cost sharing will vary according to a number of factors including: the ratio of local materials and labour to extraneous materials and external labour; whether the work is one of rehabilitation, or of development; the ability of the community to contribute; precedents set elsewhere in Palas. As a guideline, under the HJP, community contributions varied from 15-20% of the total cost in the case of foot-bridges (which entail high costs of extraneous materials and external labour) to 50-75% in the case of watermills (which entail few extraneous materials or external labour).

3.2 Indicative Activities

The PCDP budget provides *indicative* targets as follows:

- * 12 suspension foot-bridges;
- * 100 km bridle-ways and footpaths;
- * irrigation channels and other small items of infrastructure.
- * 15 km valley-bottom road;

The *indicative* nature of these targets allows for adjustment to be made as and where priorities identified through the participatory planning process differ. Targets will be detailed in annual work plans.

The PCDP will also construct a number of buildings for project use, including a Project Headquarters and several basic Rest Houses in Palas (see PART B, 11.4.10).

3.2.1 *Foot-bridges*

Foot-bridge locations have already been broadly determined by HJP with the participation of the local community. Most are located on the Musha'ga, providing crossing points for the arterial Bar Palas footpath. Designs prepared by HJP engineers take into account that the bridges must be of sufficient span to withstand high flow during snow melt, and of sufficient strength to bear the weight of livestock (and, in winter, several feet of snow). HJP has tested both conventional suspension bridges (with reinforced steel towers) and hanging-type bridges.

Following final site selection and agreement of terms of partnership with the user community, the Section Head Infrastructure will be responsible to select the most appropriate bridge-type and to finalise the design, bill of quantities and cost estimate for each site, according to a locally appropriate schedule of rates.

Procurement of materials (cement, iron bars, cables, fabricated parts) will be arranged through direct purchase procedures. Blasting and wood cutting will be carried out under petty contracts under adequate supervision. PCDP will arrange the provision of local materials through the community organisations. Timber will be provided from local community forests, with dry trees being cut on selection system. Coarse aggregate and sand are freely available on site.

Materials will be transported by metalled road to Pattan, by 'kacha' road to the road-head and to site by porter. Carriage to the roadhead will be arranged by the PCDP through direct agreements with local jeep-drivers. The PCDP will generally *not* appoint contractors for portage and construction. Instead, portage from road-head to site, and skilled and unskilled labour for construction, will be arranged through the community organisations. Site Supervisors will secure skilled labour from elsewhere if not available in Palas. While working directly with the community, rather than through contractors, may cause some delays, it will ensure that the foot-bridge programme contributes to the strengthening of community organisation and construction skills. It is moreover the HJP experience that contractors are not able to work efficiently within the difficult physical and social environment of Palas. For each bridge, HJP will enter into an Agreement with the relevant community organisation, detailing terms of partnership. Once the Agreement is signed, Zetoos (community-nominated activists) will be responsible to ensure community commitments of materials and labour are provided on time.

Construction will be supervised in the field by the Section Head assisted by Site Supervisors. Occasional visits will be made by consulting engineers and/or the Management Team. Store Clerks will keep records of all movement of materials. Community-nominated Site Clerks will be responsible to keep records of community labour inputs. Payment to the community labour will be made periodically in arrears against work completed, based on the records of the Site Clerks and on measurements verified by the Section Head. All requests for payment will be verified by the Section Head and submitted to the Management Team.

Original HJP costings were under-estimated and, based on experience, an average cost of 25,000 ecu (c.Rs 960,000) is now budgeted in the PCDP for each bridge. This takes into account the high costs of carriage of materials for the more remote bridge locations, some of which are 3 days' walk from the roadhead. The community contribution will usually be in the form of carriage of converted timber from forest to site, collection of local materials (sand and gravel) and/or other carriage work. All other costs including engineering and site supervision, extraneous materials (cement, iron bars, cables, fabricated parts), transport of extraneous materials to site, blasting, cutting and conversion of timber, and payment of construction labour, will be borne by the project. The community will be responsible to select and organise the unskilled labour - both for carriage of materials to site and for construction - to ensure timely collection of local materials and carriage of timber from forest to site, and to ensure that work is not obstructed. The employment of cost-conscious engineers, and the community contribution to the works, will ensure cost-effectiveness.

3.2.2 Bridle-ways, footpaths, irrigation channels and other infrastructure

Since the floods of 1992, parts of the main Bar Palas footpath are still not suitable for pack animals. Upgrading of this and some other key stretches of footpath to **bridle-way**, and improvement of other footpaths, will provide important economic opportunities to the Palasis. Further support for **irrigation channel** development is needed. The construction of larger and more secure irrigation channels will support future improvement of agriculture. Attention will be given to the protection of intakes. Other small infrastructure, such as watermills and river defence works (gabions) may be developed if prioritised by local communities and technically and economically feasible within the budgetary ceiling for this component.

Implementation will proceed in steps similar to those described for foot-bridges. Thus, the PCDP will: work directly with CBOs in the setting of priorities, selection of sites, and implementation of the works under agreed terms of partnership; utilise local labour as far as possible; secure a community contribution in kind; and provide technical assistance and extraneous materials free of cost.

3.2.3 Roads

Government-funded road construction, independent of the HJP, is proceeding at slow pace on the Pattan-Ziarat road (to Bar Palas) and rather more rapidly on the Sherakot-Sharial road (Kuz Palas). In time, these roads are expected to reach the interior of Bar and Kuz Palas respectively.

While these roads are of potential economic benefit to the Palasis, current construction methods are environmentally damaging, and may lead to more destructive timber harvesting. The PCDP will assess the social, economic and environmental impact of these roads, seek to improve construction methods and, in the case of the Sherakot-Sharial road, seek a re-alignment so as to optimise its potential value for a sustainable timber harvesting system (see Annex 3). A budget is provided to allow the PCDP to on construction of this road itself if necessary (unit costs are

higher than usual because of the particular need for environmental protection measures in the Palas context); these funds can otherwise be used for other forest-related infrastructure.

Annex 5

Health, Nutrition & Sanitation

ANNEX 5

HEALTH, NUTRITION AND SANITATION

1 OBJECTIVE

To develop and sustain improvements in health, nutrition and sanitation, particularly among women and children.

2 BACKGROUND

2.1 Women in Palas

2.1.1 Social Status

The women of Palas display remarkable resilience in the face of harsh physical conditions and significant social constraints.

Contact between men and women in Palas is closely circumscribed by the system of `purdah' (literally, `veiling', but more broadly a code of conduct). While purdah in Palas is relatively relaxed compared to some Pashtoon areas of NWFP and Afghanistan (eg. Palasi women never wear `burqa', the head-to-toe veil), it strictly proscribes intimacy between men and women outside of their own families. Transgression of this code insults a family's honour, and if observed may be punished - in extreme cases, by the death of both parties - to uphold family honour. For the same reason, a woman may be killed where rape (or incest) leads to pregnancy. Purdah also defines the space within which women (and men) are free to move. Women in Palas have considerable freedom to move within their houses and fields and to the forests and pastures to carry out their daily work. However, longer journeys must be discussed and arranged in advance with the men of the family, and may not be possible without a male chaperone.

Formal women's groups do not exist in Palas, and both purdah and the high workload make it difficult for women to meet together. However, women are often brought together by daily chores, and at some seasons have particular opportunity to gather. For example, during the summer, women may meet in the alpine villages, or go together to the forests to gather vegetables, grass or fodder - often in groups of ten or more. Similarly, in winter, they may sit together in the riverside settlements, usually in the open on roof-tops or near a house. Most women can meet frequently with members of their own family, but this may be curtailed where some dispute exists between the two families. In such cases, but less so than in the past, a married woman may receive cruel treatment from her mother-in-law.

Communication between husbands and their wives in Palas may be limited, particularly immediately following marriage. The wife enters the household of the husband, and a period of several months may elapse before the husband feels free to address his new wife in front of his own parents. It remains the norm that a husband and wife do not address one another in public. The relationship between a wife and her husband's family is usually good if she bears sons, but may deteriorate if she bears only daughters or is childless. She may be beaten by her husband

and in-laws, or even be sent away. It is not unusual in such cases for a man to take a second wife in his desire for a son. There may however be other reasons for taking a second wife, eg. a man is obliged to marry his brother's wife should his brother die.

Almost all women in Palas are illiterate and monolingual, speaking only the local dialect of Shina, although some have knowledge also of Pattani or Pashtu or Hindko, like their husbands. There are currently no operative girls' schools in Palas as there are no available local women teachers. It is difficult to assess how many families would encourage their daughters to go to school; elsewhere in Kohistan where local women teachers are present (eg: Pattan, Dasu), some girls do attend school.

2.1.2 Work roles

It has been estimated that women contribute 40% of total labour to agriculture and livestock in Palas. Women are **solely** responsible for: milking livestock, rearing poultry; preparing and applying farmyard manure to fields, breaking soil clods with a mallet, weeding and thinning field crops; and most household tasks, including fetching drinking water, cooking, cleaning and child care. Other tasks are shared with men. Their workload may be greater than that of male family members. Women's work loads become particularly heavy if a violent feud erupts. In such cases, the men are no longer able to leave the protection of the house, and women have to take on all tasks outside the house. It is not clear to what extent women are decision-makers, or can make choices about how to perform tasks. Table 1 gives an indication of the division of labour between men and women.

2.1.3 Health, Nutrition and Sanitation

The people of Palas, and women and children in particular suffer serious problems of health, nutrition and sanitation. Child mortality is high and female reproductive health is precarious.

Palasi women in general do not eat enough, nor enough of the right foods. The monotonous diet based on maize bread can be indigestible, and many women complain of loss of appetite and stomach pains. Women often drink insufficient fluids (because there are no latrines) and urinary infections are common. They do not wash adequately or often enough because of limited privacy, with many family members living under one roof.

Home birth deliveries are the rule. The birth is usually assisted by the mother-in-law, who generally lacks the necessary skills, particularly in dealing with breech presentations. Babies in this position usually die.

Health problems common to men, women and children in Palas include: tuberculosis; skin problems - parasitic worm infestations, scabies, fungal infections, deeply cracked skin on feet as a result of walking barefoot; in winter, coughing (caused by upper respiratory tract infections, dry air, smoky and dusty air in the house); and in summer, diarrhoea caused by Giardia and Amoebic dysentery.

Some of the problems specific to women include: infertility and goitre caused by iodine deficiency; problems related to delivery; bone deformities caused by osteomalacia (Vitamin D deficiency); muscle and joint pains connected with osteomalacia, caused by carrying heavy loads on the head, and carrying children on the flanks; painful ribs often due to pleuritis (as a result of tuberculosis); psychological problems related to the social pressure for male children, and/or ill-treatment received from husbands or in-laws; depression.

2.2 Existing Facilities for Health, Nutrition and Sanitation in Palas

Existing facilities for Health, Nutrition and Sanitation in Palas are minimal. There are three Basic Health Units in Kuz Palas (Sharial, Sherakot and Shalkanabad), three in Bar Palas (Paro, Shared and Pichbela), but none are fully staffed; professional medical staff are reluctant to live and work in the difficult physical and social environment of Palas. Only at 2-3 of the units are dispensers regularly present, whereas each unit should have a medical officer, a medical technician, a midwife, a dispenser and three Class 4 staff (caretakers etc). Further, only c. 50% of the essential medicines were found to be available in operating units. Villagers express a reluctance to visit them because of the high cost of the medicines.

Consequently, the people of Palas must walk 2 or 3 days to receive medical attention in Pattan. Pattan has a government hospital, and also the Kohistan Medical Assistance Project (KMAP) Clinic, run by a German mission. Women must be accompanied by male family members if they need medical assistance. Palasi men commonly bring their women to the KMAP Clinic in cases of problems related with delivery (obstructed labour, unsuccessful breech delivery, retained placenta resulting in severe bleeding, and spontaneous abortions). In the case of prolonged bleeding after delivery, many women do not survive the journey to Pattan.

Given the local lack of understanding of modern medicine, the costs of conventional medical treatment, and the general absence of conventional medical services, the people of Palas continue to make use of traditional medicines based predominantly on plants. A preliminary survey indicates that at least 70 plant species are used, some of which are well known in western and/or Ayurvedic medicine. The efficacy of these plants has not been studied in Palas; some may prove to contain beneficial active principles, others may prove to be toxic.

2.3 Action for Health, Nutrition and Sanitation under the HJP

The HJP has initiated the planning process for a programme in health, nutrition and sanitation in Palas. This has included a review of local health problems as experienced by the Kohistan Medical Assistance Project, and a detailed PRA on health, nutrition and sanitation. Analysis of the results of the PRA is in progress. The outline strategy below is based on these studies.

3 AN OUTLINE STRATEGY FOR HEALTH, NUTRITION AND SANITATION

3.1 Rationale

A health, nutrition and sanitation (HNS) programme is regarded as the most appropriate

`entry point' to enhance the social status of women in Palas. It is anticipated that it will also provide an entry point for working with women on natural resource management - a necessity in that women traditionally play a key role in NRM in Palas. The HNS programme will strengthen women's capabilities to deal with the most basic problems themselves, and link them to other (non-PCDP) programmes in the health sector. It will provide opportunities for women to meet, and will enable them to act for the benefit of themselves and their families.

The novelty of working with women in District Kohistan will necessitate particular care and flexibility. Though the HJP has worked with local women in PRAs, it has not previously attempted to implement development activities directly with women. Local (male) concerns regarding contact between the project and local women represent a potential risk to the project as a whole; sensitivity and caution must therefore be exercised in introducing this component of the PCDP. Indeed, the acceptance and approval of Palasi men is a precondition. This will require dialogue and agreement with the (all male) jirgas, supported by a motivational and educational programme. Materials and messages for health, nutrition and sanitation must be sensitively framed in the light of local cultural norms. Activities must be phased in gradually as community acceptance and confidence is established.

Initial priorities identified through participatory planning under the HJP may be refined through further analysis, and further studies carried out to refine the programme and provide base-line data and indicators for monitoring and evaluation. Care must simultaneously be taken that other project activities do not have an adverse impact on women, eg. greater agricultural productivity may increase the workload of women, while reducing the workload of women may mean merely that they are `free' to work harder in other ways; improved income levels for men may lead to the purchase of more firearms and increased conflict.

The emphasis on training and self-reliance, and the strengthening of linkages to other (non-PCDP) health programmes, should mean that the programme is cost effective. No major capital costs are anticipated; Child Care Centres will be provided by the community. The main costs to the Project are linked to training, provision of one-off grants to equip Child Care Centres and to support newly trained Health Workers, demonstration of appropriate low-cost technologies, and support to Mobile Health Clinics.

3.2 Indicative Activities

3.2.1 Female Health Workers and Child Care Centres

One or two mothers from each village (or village cluster) will be selected for training as Health Workers, to attend to basic health, nutrition and sanitation needs, particularly of women and children; older women will be trained as traditional birth attendants. Trainees will be selected from both landowning (Shin) and marginalised (non-Shin) groups. Each village (or village cluster) will be asked to construct a building for establishment of a Child Care Centre, in which the trained Health Worker can provide health, nutrition and sanitation services to children, mothers and women in general. A nominal focus on children (as opposed to women) may make the concept more culturally acceptable. The PCDP will assist in the design of the Centre, to

include model hygiene and sanitation facilities (including latrine, smoke-free *chollah* and adequate ventilation and sunlight). The PCDP will provide a one-off grant to equip each centre with first aid and safe delivery facilities, and provide the Health Worker with a nominal stipend for one year, during which period she can establish herself. The Health Worker charges fees for her services, according to rates fixed by the local CBO or women's organisation. The cost of medicines and vaccines, etc., will be recovered from users providing the basis of a revolving fund for further purchases. Child Care Centres may possibly be linked to Basic Health Units.

3.2.2 Nutrition

Improvement of family nutrition will be approached through i) an agricultural extension programme for women, including kitchen-gardening and improvement of backyard poultry and egg production (see Annex 3), and ii) removal of deficiencies by dietary supplementation (eg. of iodine, calcium, iron) and encouraging greater exposure to sunlight (to reduce Vitamin D deficiency).

3.2.3 Hygiene, Safety and Sanitation

Improvements in home hygiene, safety and sanitation will be approached through awareness programmes and demonstration of simple corrective practices and appropriate technologies. Priorities include: provision of clean drinking water; the design and introduction of appropriate low-cost latrines (separate for men and women); improvements in household design and construction to reduce dampness, increase light and reduce smoke, such as the design and introduction of appropriate ventilation structures (taking into account the need to maintain household security - open flues are vulnerable to gunfire in times of enmity) and of appropriate smoke-free *chollahs* (cooking stoves); improvement of personal and domestic hygiene to prevent skin infections and pest infestations; prevention of burns to children.

3.2.4 Mobile Clinics and Immunization

To provide additional health care beyond the skills of local Health Workers, periodic mobile clinics may be arranged. Elsewhere in South Asia, mobile clinics have been successful in taking health care to communities who cannot or will not travel to obtain health care due to physical, cultural or economic reasons. Mobile clinics may be linked to, and strengthen, the existing immunization programme (EIP).

For **Indicative Phasing**, see Table 2. Because activities may be refined through further participatory planning, the table should be seen as *indicative* only.

Table 1: Division of Labour between Women and Men

TASKS	WOMEN	MEN
<i>Construction</i>		
Cutting and carriage of timber		x
Construction of houses, mosques and mills		x
Plastering of roofs and walls	x	
Construction of irrigation channels and terraces		x
<i>Agriculture</i>		
Collection and preparation of farmyard manure (FYM)	x	
Field application of FYM	x	
Ploughing fields		x
Breaking soil clods in field	x	
Planting crops	x	x
Weeding field crops	x	
Irrigating field crops		x
Thinning field crops (maize)	x	
Harvesting crops	x	x
Threshing maize cobs	x	x
Grain milling at water-mills	x	x
Marketing of agric products		x
<i>Animal husbandry</i>		
Taking animals to pasture	x	x
Stall feeding and milking	x	x
Backyard poultry-keeping	x	
Cutting grass/foilage for fodder		x
Carrying fodder for storage	x	x

Household

Defence of family property				X
Protection of family honour				X
Child care	X			
Lopping fuelwood	X			
Carrying fuelwood	X		X	
Collecting drinking water	X			
Cooking and food preparation	X			
Washing clothes	X			
Shopping and carrying food from market	X			

Table 2: Indicative Phasing of Health, Nutrition and Sanitation Programme

ACTIVITY	YEAR				
	1	2	3	4	5
<i>Programme Planning and Preparation</i>					
Collection of base-line data through PRA	X	X			
Motivatate jirgas for acceptance	X	X			
<i>Health Workers and Child Care Centres</i>					
Training of Health Workers		X	X	X	X
Establishment of Child Care Centres			X	X	X
<i>Nutrition</i>					
Kitchen gardening and poultry keeping		X	X	X	X
Dietary deficiency mitigation measures		X	X	X	X
<i>Hygiene, Safety and Sanitation</i>					
Demonstration of improved ventilation		X	X	X	X
Demonstration/introduction of smoke-free chollahs		X	X	X	X
Hygiene awareness programme		X	X	X	X
Clean water supply**			X	X	X
Hygiene, safety and sanitation programme			X	X	X
<i>Mobile Clinics and Immunization</i>					
Coordination with immunization programme	X	X	X	X	
Ante/postnatal care for women				X	
Child development programme				X	
Initiate water supply and latrines prog.				X	X
Initiate village basic health assistant programme					X
Annual review of health and sanitation		X	X	X	X

- * linked to PCDP Agriculture and Livestock Programmes
- ** linked to GoNWFP Social Action Programme

Annex 6

Job Descriptions - Senior PCDP Staff

ANNEX 6

JOB DESCRIPTIONS - SENIOR PCDP STAFF

1 PCDP PROJECT DIRECTOR (Government of NWFP)

Responsible to: Project Steering Committee;
Conservator Wildlife NWFP (general administrative and technical supervision);

Represented by: PCDP Co-Director and Programme Officers

The Project Director (PD) will be appointed by the Government of NWFP by transfer or recruitment; his/her appointment will be approved by the Project Steering Committee.

RESPONSIBILITIES

The PD has joint responsibility with the Co-Director for steering the interdisciplinary, strategic aims of the project, for recruitment of contract staff and for coordinating workplans. In addition, he has primary responsibility for coordinating government inputs in line with project workplans, and for preparing budgets, technical and financial reports as required by the government. In his/her **additional charge as DFO (Wildlife) Kohistan**, he/she will also take lead responsibility for day-to-day administration of the Kohistan Wildlife Unit.

Project management will be through a **partnership** between the PD and the Co-Director; important management decisions will be shared, and staff (including government staff) will report to both. This arrangement requires commitment to a consensus-based approach. The Management Team will prepare Annual Workplans to be reviewed and approved by the Project Steering Committee. The Annual Workplans will accommodate the evolving priorities which emerge from the participatory planning process and detail activities, 'milestones', a rigorous schedule of implementation and annual budgets.

DUTIES

1. Act as managerial and technical counterpart to the PD, involving regular weekly meetings and joint planning and financial management;
2. Coordinate the development of PCDP strategy and Annual Workplans through the use of goal oriented project planning and based on participatory planning processes;
3. Assume and exercise with the Co-Director necessary jurisdiction for natural resource management planning (including forest management planning) in Palas;
4. Set up and manage administrative procedures necessary for the smooth running of the project and according to government requirements, in agreement with the Co-Director;
5. Work with the Co-Director in development of staff job descriptions and recruitment according to specified procedures, and provide technical guidance and supervision to PCDP staff and to the staff of the Kohistan Wildlife Unit, including ensuring orientation to project objectives, components and methodologies, and training where necessary;
6. Ensure that government inputs into the PCDP are in line with priorities identified through participatory planning and Annual Workplans;
7. Report, jointly with the Co-Director, to the Project Steering Committee, and as required to the Project Executive Committee.

FINANCIAL AUTHORITY

The PD will draw on funds received through the government treasury, in accordance with annual workplans and the financial rules of the GoNWFP, and will submit accounts in the normal manner. The PD will also draw on funds from PCDP bank account (EC grant) according to approved annual budgets and with the joint signature of the Co-Director.

MINIMUM REQUIREMENTS

1. Senior officer (BPS 18) with 5+ years of management experience in conservation and rural development projects, particularly among traditional tribal communities in upland

NWFP;

2. An excellent postgraduate qualification (MSc) in the management of the natural environmental - preferably in ecology and conservation;
3. A proven commitment to biodiversity conservation;
4. A commitment to, and understanding of, participatory approaches to conservation and development in Pakistan.
5. Leadership skills with an ability to inspire confidence and trust among rural communities, an aptitude for team work, and an adaptive learning approach.
6. A willingness and physical fitness to work for extended periods in a challenging physical and social environment, including frequent long-distance trekking.

2 PCDP Co-Director (BirdLife/EC)

Responsible to: Project Steering Committee (Pakistan)
BirdLife International (UK)

Represented by: PCDP Project Director and Programme Officers

The Co-Director will be appointed by BirdLife International with EC approval.

RESPONSIBILITIES

The Co-Director has joint responsibility with the Project Director (PD) for steering the interdisciplinary, strategic aims of the project, for recruitment of contract staff, for coordinating workplans. In addition, he has primary responsibility for the use of the technical assistance funds, including the appointment of short-term consultants, and for preparing budgets, technical and financial reports as required by the EC.

Project management will be through a **partnership** between the Co-Director and the PD;

important management decisions will be shared, and staff (including government staff) will report to both. This arrangement requires commitment to a consensus-based approach. The Management Team will prepare Annual Workplans to be reviewed and approved by the Project Steering Committee. The Annual Workplans will accommodate the evolving priorities which emerge from the participatory planning process and detail activities, 'milestones', a rigorous schedule of implementation and annual budgets.

DUTIES

1. Act as managerial and technical counterpart to the PD, involving regular weekly meetings and joint planning and financial management;
2. Coordinate the development of PCDP strategy and Annual Workplans through the use of goal oriented project planning and based on participatory planning processes;
3. Assume and exercise, with the PD, necessary jurisdiction for natural resource management planning (including forest management planning) in Palas;
4. Supervise community organisation and the participatory planning process in the project area, and establish working relationships with partner organisations in this sector;
5. Coordinate and supervise participatory and project monitoring systems and make administrative arrangements for independent annual monitoring and evaluation;
6. Coordinate the project's technical and scientific research,
7. Ensure that all developmental initiatives under the PCDP are compatible with the project's conservation objectives;
8. Prepare detailed terms of reference for short-term consultants and advisers, and procure according to the terms of the EC-BirdLife technical assistance contract;
9. Work with the PD in development of staff job descriptions and recruitment according to specified procedures, and provide technical guidance and supervision to PCDP staff, including ensuring orientation to project objectives, components and methodologies;
10. Plan and coordinate training activities for the project;
11. Ensure that BirdLife/EC inputs into the PCDP are in line with priorities identified through participatory planning and Annual Workplans;
12. Report, jointly with the PD, annually to the Project Steering Committee, and as required to the Project Executive Committee;
13. Keep BirdLife and the EC apprised of progress through quarterly narrative and financial

reports.

FINANCIAL AUTHORITY

The Co-Director will draw upon the EC technical assistance funds managed by BirdLife, according to the terms of technical assistance contract between the EC and BirdLife. The Co-Director will also draw on funds from the PCDDP bank account (EC grant) according to approved annual budgets and with the joint signature of the PD.

MINIMUM REQUIREMENTS

1. Five or more years of senior management experience in integrated conservation and rural development - preferably among traditional tribal communities in montane Pakistan - with proven conceptual, planning, reporting and communication skills;
2. An excellent postgraduate qualification (MSc) in the management of the natural environment - preferably in land management and conservation, and an honours degree (BSc/BA) in a subject related to natural resources and/or rural development;
3. A proven commitment to biodiversity conservation;
4. A proven commitment to participatory approaches, with strong skills in community organisation and participatory methodologies;
5. Leadership skills with an ability to inspire confidence and trust among rural communities, an aptitude for team work, and an adaptive learning approach;
6. A willingness and physical fitness to work for extended periods in a challenging physical and social environment, including frequent long-distance trekking.
7. Nationality in Pakistan or an EC country.

3 PROGRAMME OFFICERS

The following job descriptions and minimum requirements are *indicative* and are to be developed by the Management Team and approved by the Project Steering Committee. All POs will work under the direction and guidance of the Management Team.

*General responsibilities common to all POs (except PO/C&M) include: assisting the Management Team in developing the PCDDP Strategy and Annual Workplan, particularly in regard to their own area of expertise; * assisting in the recruitment and management of Community Facilitators and Support Staff, and the coordination of training, relating to their own area of responsibility; * assisting in the identification of consultancy and advisory support needed; * networking with agencies involved in similar activities; * monitoring sectoral progress*

and providing periodic progress reports; * assisting PO (C&M) in developing and implementing a locally appropriate communications and monitoring programme. Responsibilities specific to each position are given below.

Minimum requirements common to all POs (except PO/F&A) include: * a commitment to project objectives of biodiversity conservation, sustainable use of natural resources, and poverty alleviation; * personnel management experience; * an aptitude for team work; * an adaptive learning approach; * a willingness and physical fitness to work for extended periods in a challenging physical and social environment, including frequent long-distance trekking; * fluency in spoken and written Urdu and English, and preferably in Shina and/or Pashto; * good report-writing skills (in English) and computer literacy. Additional minimum requirements specific to each position are given below.

i) **PO Senior Community Facilitator - PO/SCF**

Specific responsibilities: to take **lead responsibility for field implementation of CO&P** under the PCDDP, including: * incorporation of the 'Palasi perspective' into PCDDP Strategy and Annual Workplans; * dialogue, mediation and negotiation; * participatory planning, monitoring and evaluation; * establishing and strengthening appropriate community-based organisations; * day-to-day representation of the Project among the people of Palas; * field translation (Shina-Urdu-English) for Co-Director.

Additional minimum requirements: * 4 years' experience in community participation in conservation and/or rural development projects; * an established position of integrity and impartiality within Palasi society; * proven leadership, mediation and conflict resolution skills, in the context of Palasi decision-making processes; * substantial practical experience of PRA and GOPP; * proven academic skills in a relevant social science; * proven experience in formulation and implementation of community organisation programmes; * experience in the preparation of awareness, educational and extension materials; * fluency in spoken Shina (Palas dialect) and excellent skills as a field translator.

ii) **PO Community Organisation and Participation - PO/CO&P**

Specific responsibilities: to take **lead responsibility for conceptual development, standardisation of methodology, and documentation of CO&P** under the PCDDP, including: * developing the PCDDP Strategy and Annual Workplan for CO&P; * developing standard methodologies for participatory planning, monitoring and evaluation, and for community organisation; * documenting the CO&P process.

Additional minimum requirements: * 4 years' experience in strategic planning, monitoring, evaluation and training for CO&P in conservation and/or rural development projects; * a good masters degree (MA) and/or excellent honours degree (BA) in relevant social sciences; * a proven commitment to poverty alleviation, with broad practical experience of participatory methodologies for project planning, monitoring and evaluation; * excellent working knowledge of the CO&P network in Pakistan and the region; * experience in the formulation and

coordination of CO&P training programmes * experience in the preparation of awareness, educational and extension materials; * excellent report-writing skills.

iii) **PO Biodiversity Conservation - PO/BC**

Specific responsibilities: to take **lead responsibility for biodiversity conservation** under the PCDP, including: appropriate environmental awareness programmes; * floral and faunal inventory and detailed habitat mapping; * development and implementation of species recovery plans; * development of options for sustainable use of NTFPs; * managing wildlife depredation of crops and livestock; coordinating longer-term biodiversity research programmes.

Additional minimum requirements: * 4+ years of management experience in biodiversity conservation, preferably in montane ecosystems in NWFP; good postgraduate (MSc) and/or excellent graduate (BSc) qualification in ecology, environmental conservation or a closely related subject; a proven commitment to biodiversity conservation; a commitment to, and working knowledge of, modern participatory approaches to biodiversity conservation.

iv) **PO Participatory Forest Management - PO/PFM**

Specific responsibilities: to take **lead responsibility for participatory forest management** under the PCDP, including: * implementing participatory appraisals and technical surveys for forest management planning; * mapping forest functions and zones; * identifying opportunities to integrate conservation and development objectives; * identifying and resolving areas of conflict between customary and statutory forest management regimes; * developing technological options for improved commercial timber harvesting; * developing options for local value-added processing of timber and improved marketing; * developing options to halt the sale of royalties.

Additional minimum requirements: * 8+ years of practical and managerial experience in upland forest planning and management in NWFP, including the introduction of participatory forest planning and of improved harvesting technologies; * MSc in forestry; * a commitment to sustainable NRM; * a commitment to, and working knowledge of, modern participatory approaches to forestry.

v) **PO Agriculture, Livestock and Rangeland - PO/ALR**

Specific responsibilities: to take **lead responsibility for sustainable agriculture, livestock and rangeland management** under the PCDP, including: * implementing participatory appraisals and technical studies for ALR planning; * the introduction, evaluations and multiplication of improved and adapted cereal, vegetable and fruit tree crops; * conducting trials and demonstrations in increasing cropping intensity and improving crop cultivation and rotation; * introducing an integrated pest and disease management programme; * demonstrating more efficient implements; coordinating training in animal health and nutrition; * developing improved rangeland management. The PO/ALR will also assist in PO/HSN in the development and implementation of a women's extension programme including kitchen-gardening and

backyard poultry production.

Additional minimum requirements: * 8+ years of practical and managerial experience in sustainable agriculture and/or livestock and rangeland management in upland Pakistan; * MSc in agriculture, horticulture or animal husbandry; * a commitment to sustainable NRM; * a commitment to, and working knowledge of, modern participatory approaches to ALR.

vi) **PO Infrastructure - PO/I**

Specific responsibilities: to take **lead responsibility for the rehabilitation and development of basic infrastructure** (RDI) under the PCDP, including: * implementing participatory appraisals and technical studies for the planning of RDI; * to coordinate the construction of 12 suspension footbridges, 100 km of bridle-ways and footpaths, other basic infrastructure including irrigation channels, and possibly of 15 km of valley-bottom road; * to coordinate construction of a PCDP/CBO headquarters in Palas; * to ensure construction in partnership with CBOs.

Additional minimum requirements: * 8+ years of practical and managerial engineering and site supervision experience in the rehabilitation and/or development of basic infrastructure in montane environments, with particular emphasis on suspension foot-bridges, mountain trails and irrigation channels * MSc in engineering; * a commitment to, and working knowledge of, modern participatory approaches to development.

vii) **PO Health, Nutrition and Sanitation - PO/HNS**

Specific responsibilities: to take **lead responsibility for the health, nutrition and sanitation programme** (HNS) under the PCDP, including: * implementing participatory appraisals and technical studies for the planning and monitoring of HNS; training female Health Workers and establishing community Child Care Centres; * developing and implementing programmes to improve nutrition and reduce dietary deficiencies; * developing and supervising programmes for the provision of clean water and sanitation, and improvement of the home environment; * organisation of mobile health clinics.

Additional minimum qualifications: * Female; * 5+ years of practical and managerial experience in health, nutrition and sanitation programmes in remote rural areas; * a good degree in a health related subject * a commitment to social welfare * a commitment to, and working knowledge of, modern participatory approaches to health, nutrition and sanitation.

viii) **PO Finance, Administration & Personnel - PO/FAP**

Specific responsibilities: to take **lead responsibility for the project finance and administration**, including: developing financial management systems, preparing and managing budgets, maintaining accounts, managing bank accounts and petty cash, and maintaining security and rigour in financial management; office administration, including development of office management systems (for personnel management, data management, communications, etc.), procurement and maintenance of premises, vehicles, furniture and fittings, capital equipment;

personnel management including supervision of office support staff; representation of the project in relation to these administrative and financial responsibilities.

Additional minimum requirements: 5+ years' experience in finance and administration with national and/or international NGOs and donor agencies; a relevant first class Masters degree; substantial analytical skills and experience in relation to the planning and implementation of financial management systems and office management systems; substantial experience in procurement and maintenance of premises, vehicles and capital equipment, with demonstrated cost-consciousness; substantial experience in representation in relation to finance and administration, including knowledge of, and ability to deal with, relevant government departments, development agencies and other NGOs; excellent computer literacy; excellent cross-cultural communication skills including good report-writing skills in English and Urdu; a proven commitment to social and/or environmental work in the non-governmental sector; proven professional and financial integrity; an ability and willingness to work under high pressure and to urgent deadlines, including a flexibility to work out of normal office hours when necessary.

Annex 7

PCDP Budgets

[INDICATIVE]

NOTES TO BUDGET TABLES 1, 2, 4 & 5 (EC COMPONENT)

Conversion rate: ECU 1 = PRs 42

a) TECHNICAL ASSISTANCE (Tables 1, 2)

- * **Long-term international consultant:** covers cost of BirdLife/EC Co-Director including associated overheads of BirdLife.
- * **Short-term international:** @ c.ECU 500/day = 160 days (yr 1), 160 days (yr 2), 170 days (yr3), 170 days (yr4), 170 days (yr5); see indicative breakdown of consultancies (Table 7).
- * **Short-term national consultants:** ECU 2500/month for 38 man-months (yr1) 38 mm (yr2), 32 mm (yr3), 32 mm (yr4), 28 mm (yr5); see indicative breakdown of consultancies (Table 7).
- * **Annual monitoring mission:** 2 consultants for 15 days @ ECU 500/day = ECU 15,000. No annual monitoring mission in years 3 and 5 due to mid-term (yr3) and final (yr5) EC monitoring missions.
- * **Allowances/per diem:** calculated at c.30% of above consultancy costs.
- * **Local travel:** covers local road and air travel of all consultants.

b) CONTRACT STAFF (Tables 1, 2, 4, 5)

Contract staff unit costs include salary and all associated costs including allowances, per diem, insurance, etc. (@ c.35% of salary), and are pitched at a competitive market level taking into account the difficult working conditions:

- * **Programme Officers:** 8 @ PRs 35,000/month;
- * **Assistant Programme Officers:** 3 @ PRs 20,000/month;
- * **Community Facilitators:** 6 in year 1, 11 in year 2, 16 in years 3-5, @ PRs 13,000/month;
- * **Site Supervisors:** 3 @ PRs 6500/month;
- * **Other infrastructure staff:** 6 @ PRs 4250/month;
- * **Office Assistant:** 1 @ PRs 10,000/month;
- * **Drivers:** 3 in year 1, 5 in years 2-5 @ PRs 5250/month;

- * **Chowkidars:** 3 @ PRs 3250/month;
- * **Field Hut Chowkidars:** 1 in year 1, 3 in year 2, 6 in years 3-5 @ PRs 3250/month;
- * **Zetoos/Village Activists** (non-staff); 5 in year 1, 10 in year 2, 15 in year 3, 20 in year 4, 40 in year 5; honoraria paid @ PRs 1000/month;
- * **Daily paid labour** (non-staff): c.1400-1700 days of labour per year @ PRs 100/day.

c) PROJECT RUNNING COSTS (Tables 1, 2, 4, 5)

- * **Office rent, services:** cost of rent for Islamabad liaison office, and services for both project offices including electricity, gas, water & utilities, office maintenance.
- * **Generator running:** cost of running back-up generator for PCDDP HQ, Palas (no reliable electricity mains supply).
- * **Post, telecommunications:** includes postal and courier services, operation of fax, IDD and STD calls, operation of satellite telecommunications system.
- * **Office supplies:** stationery, etc.
- * **Reference materials:** bibliographic services, books, journals, etc.
- * **Photographic film/audio tape:** costs of film and tapes for recording project activities.
- * **Printing & publications:** for project reports, newsletters, etc.

d) VEHICLES (Tables 1, 2, 4, 5)

- * **4WD Jeeps/pick-ups:** 5 vehicles @ ECU 25,000 each including costs of importation and delivery; one of these vehicles will be allocated to the Kohistan Wildlife Unit.

e) O&M VEHICLES (Tables 1, 2, 4, 5)

The following O&M costs apply to 6 vehicles in year 1 and 8 in years 2-5:

- * **Running costs:** fuel, oil, etc. @ PRs 32,900 per vehicle/year.
- * **Maintenance and insurance:** includes per vehicle per year: insurance PRs 55,000 (insured at full duty-paid cost, 40% no claims policy); maintenance and repairs @ PRs 50,000; full set of tyres Rs 27,500.

f) PHYSICAL INPUTS (Tables 1, 2, 4, 5)

Sectoral inputs

Allocations under this sub-head are for inputs under the sectoral programmes for community organisation and participation, natural resource management, and health, nutrition and sanitation. Inputs for the development of basic infrastructure are given separately under the 'Infrastructure' sub-head. The costs of consultants and advisers (including trainers) for the sectoral programmes are provided under the TA budget.

- * **Mediation & negotiation costs (jirgas, etc.):** costs of providing hospitality for large jirgas, etc.
- * **Savings & credit programme:** seed funds for establishment of village savings for c.40 villages @ c.Rs 16,500/village.
- * **Helicopter hire:** for VIPs, emergencies, carriage of heavy machinery; 10 hrs flying time per year @ ECU 1000/hr.
- * **Habitat restoration:** for restoration of biodiversity in degraded forest and rangelands, including costs of erosion control measures, control of invasive plant species, propagation and plantation of native species.
- * **Conservation of key species:** implementation of key species recovery programmes, including special protection measures such as compensation for loss of crops and livestock to wildlife.
- * **Ethnobotanical programme:** for programmes to enhance local income from the wild harvest and cultivation of useful plants.
- * **NTFP programme:** for improvements in the sustainable collection, marketing and processing of non-timber forest products (morel mushrooms, honey, etc.)
- * **Ecotourism:** support for local nature guides.
- * **Forest trust fund:** block allocation for possible legal action/re-purchase of forest royalties and/or payment of `compensation' for setting aside of forests from commercial timber harvest, etc.
- * **Planting materials, fertilisers, fencing:** for seed, fruit tree budwood and rootstock and other planting materials, fertilisers and fencing materials for varietal trials and multiplication.
- * **Agricultural tools, implements & machinery:** for demonstration of improved tools and implements and simple machinery.
- * **IPDM programme:** material inputs and field costs for integrated pest and disease management programme for crops.

- * **Livestock and rangeland programme:** costs of disease control (immunization, etc.), rangeland improvement measures, and possible introduction of improved breeds.
- * **Health, nutrition, sanitation:** establishment of Child Care Centres, medicines, demonstration smoke-free stoves and simple ventilation systems, medicines and vaccines, mobile clinics, etc.
- * **Appropriate technology:** for demonstration of various other low-cost appropriate technology, eg. improved bee-hives, fruit-drying units, etc.
- * **Training placements:** training cost other than trainers (who are covered under TA); includes placement on short training courses, and overseas placement on MSc courses (one yr2, one yr3).

Capital Equipment

- * **Generator:** for supply & fitting of Perkins 3-cylinder water-cooled 30 KVA diesel generator and alternator (large enough to provide power to PCDP HQ in Palas)
- * **Solar/mini hydel electricity generation equipment:** based on import cost of equipment sufficient for PCDP HQ Palas.
- * **Computers, printers, accessories:** for eight 486 computers, two printers (one laser), and accessories.
- * **Communications equipment:** estimated cost of satellite communications system.
- * **Audio-visual equipment:** includes projector, screen, video, amp and speakers, etc.
- * **Cameras, binoculars, scopes, other scientific equipment:** includes 3 SLR cameras @ Rs 10,000; 4 binoculars @ Rs 11,500; 2 spotting scopes @ Rs 32,000; 2 tape machines/mikes @ Rs 27,500.
- * **GIS & GPS equipment & satellite imagery:** costs of hardware (including: 3 GPS units @ ECU 4000 each, IBM compatible Pentium computer with high-powered graphics card, 2 large hard disks, CD-ROM reader, magneto-optical drive @ ECU 7500; 9-track drive @ ECU 3750; A1 size digitiser @ ECU 3000; A1 size plotter @ EU 2250; A3 size dye-sublimation colour printer @ ECU 4500; A4 size laser printer @ ECU 1500), software (TNT-MIPS map and image processing GIS @ ECU 6000; CorelDRAW! @ ECU 750; Database package @ ECU 750), satellite imagery @ ECU 9000/yr, and equipment maintenance @ ECU 2250/yr.
- * **Camping equipment/field gear:** includes tents, rucksacks, sleeping bags, boots, etc. for mountain conditions

- * **Office furnishing and fittings:** includes furniture, fittings, ACs, heaters, photo-copier, etc.

Infrastructure

- * **Project HQ Palas Valley:** includes purchase of land and all costs of design and construction.
- * **Suspension foot-bridges:** 12 suspension or hanging-type bridges, average length 65 metres, costed @ PRs 850,000 each on the basis of actual costs on bridges built under the HJP; note that costs of carriage are high, as bridge sites are up to 3 porter-days from road-head.
- * **Irrigation channels and other small infrastructure:** lump sum for irrigation channels, river defence works, watermills, and other small infrastructure as prioritised through participatory planning processes.

g) PROJECT MONITORING (Tables 1, 2, 4, 5)

For EC mid-term and final evaluation missions - as costed by EC Brussels.

i) CONTINGENCIES (Tables 1,2, 4, 5)

To cover unforeseen costs, available for expenditure on prior request and approval - as costed by EC Brussels.

NOTES TO BUDGET TABLES 3, 6 (GoNWFP COMPONENT)

Conversion rate: ECU 1 = PRs 42

a) PAY & ALLOWANCES

Pay and allowances for Project Director and Kohistan Wildlife Unit (KWU) staff calculated at standard government rates.

b) RUNNING COSTS

Running costs for KWU activities.

c) VEHICLES

Motorcycles for KWU staff.

d) O&M VEHICLES

O&M costs for motorcycles and for one 4WD jeep/pick-up to be donated to the KWU by the project.

e) PHYSICAL INPUTS

Sectoral inputs

* **Forest management planning:** costs of field support for DFO Working Plans, c.45,470

acres @ c.Rs 10/acre.

- * **Implementation of forest plan:** block allocation for implementation of the forest management plan. The sum allocated is equivalent to the cost of building 15 km valley-bottom road (@ Rs 350,000/km) and installing 2 sky-line crane systems (@ Rs 3,500,000 each) with 1 truck (Rs 1,000,000), 1 tractor (Rs 650,000) and 4 band saws (@ Rs 25,000 each). However, this block allocation may be used for other forest management activities if the introduction of sky-line cranes and valley-bottom roads is found inappropriate.
- * **Forest nurseries & plantation:** 2 acres nurseries @ PRs 30,000/acre/year; afforestation @ Rs 90,000/year.

Capital equipment

- * **Typewriter** for KWU.

Infrastructure

- * **Field Rest Houses:** 6 rest houses @ PRs 400,000 each, includes cost of purchase of land.
- * **Land for 2 residences:** residences for KWU Range Officers, 2 kanal land @ Rs 450,000/kanal.
- * **Construction of 2 residences:** residences for KWU Range Officers, 3000 sft @ Rs 400/sft, to be built in years 1 & 2.
- * **Bridle-ways and footpaths:** c.100 km of bridle-way and footpath @ 1500 ECU/km.

TABLE 7
INDICATIVE BREAK-DOWN OF CONSULTANCIES

	Man-months
International long-term	
Project Co-Director	60
International short-term	
Project planning, management, monitoring & communications	4
Community Organisation and Participation	4
Natural Resource Management	
Biodiversity & Environmental Awareness	3
Participatory Forestry	5
Agriculture	3
Livestock & Rangeland	2
Infrastructure	3

Health, Nutrition & Sanitation	4
TOTAL	28

National short-term consultancies

Project planning, management, monitoring & communications	24
Community Organisation and Participation	24
Natural Resource Management	
Biodiversity & Environmental Awareness	18
Participatory Forestry	30
Agriculture	18
Livestock & Rangeland	12
Infrastructure	18
Health, Nutrition & Sanitation	24
TOTAL	168

NB: c. 50% of short-term international and national consultancies are intended for the appointment of trainers and extension specialists; the remainder are required for various technical inputs relevant to the sectoral strategies.

Annex 8

HJP Budget 1991-1995 Summary of Income & Expenditure

Annex 9
Maps & Figures