



PROJECT KAZIRANGA

First Meeting

CALCUTTA
Friday, 9th July, 1993

WORLDWIDE FUND FOR NATURE - INDIA
EASTERN REGION

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PROJECT KAZIRANGA

Thank you for attending this meeting under the kind chairmanship of Mr. R.K. Krishna Kumar.

We are all aware of the importance of Kaziranga, a jewel in the crown of the state of Assam. The 470 sq. km. area of Kaziranga National Park is a tiny remnant of the great grasslands which once stretched the length and breadth of Assam to the Himalayan foothills. There is no other viable population of the Indian Rhino and preservation of this Park is the only chance for the Great Indian Onehorned Rhino to be saved from extinction.

Over the years this unique Park has become increasingly vulnerable, and there are now grave threats to the survival of the Indian rhino. The latest census conducted by the Forest Department in April 1993 shows a current figure of 1164 rhinos.

As the value of rhino horn products escalate in the illegal markets of China, Taiwan and Korea and rhinos in Africa ^{are} decimated, the noose tightens around the rhinos of Kaziranga. Extremists from neighbouring Nagaland need funds for arms and rhinos are being poached at the rate of one or two a week to raise money for this purpose. The gangs move in with sophisticated weapons and forest guards are not equipped to fight them.

In the meantime, militant ULFA & Bodo groups in Assam continue to take priority with law and order authorities. However, these groups are known to support the preservation of the rhino and have on several occasions assisted in catching poachers.

PROJECT KAZIRANGA aims to assist the Government of Assam in its dedicated work to save the rhino and preserve the National Park. Government funds for wildlife protection are limited and it will only be with support from Assam's enlightened business world and local people that this can be achieved.

This proposal contains five projects :

- a] Requirements of the Field Staff
- b] Reward Scheme
- c] Eco-development programme for public awareness and rural development to encourage the inhabitants of fringe villages to protect the Park.
- d] Repair/Replacement of the existing Wireless System.
- e] Courses for maintenance of existing guns and purchase of new guns with ammunition.

We enclose PROJECT KAZIRANGA for your consideration and support.

Anne Wright

NOTE: All donations received by WWF-INDIA for the project will be entitled to I.T. Exemptions under Sec. 80G of the I.T. Act, 1961.

July 6, 1993



GOVERNMENT OF ASSAM

OFFICE OF THE
CHIEF CONSERVATOR OF FORESTS
WILDLIFE ASSAM

From : R. N. Hazarika, I.F.S.,
Chief Conservator of Forests,
Wildlife, Assam.

Rajgarh Rd ~~Rohok~~: Guwahati-2. 3.

Gram : CHIEFWILD
(Off.) : ~~25588~~ 45588
(Res.) : ~~62233~~ 61544

D.O.No.WL/FG.1/8(II),
Dt.Guwahati,the 29th Mar., '93.

Dear Mrs Wynn,

Sub : Proposal for assistance from World Wildlife Fund.

Ref : Your telephonic query on 24.3.93.

Thank you for appreciation of our difficulties and continued concern for the welfare of the Kaziranga National Park. As intimated over phone, I am to say that the list of articles as assessed by the Director, Kaziranga National Park had already been sent to the Government of Assam. I am enclosing herewith a list of the same for favour of your perusal for the present.

We had also proposed to the Government that the W.W.F. be requested to :

- a) Take up Eco-Development programmes in villages surrounding the Kaziranga National Park. To start with, you may select one or two villages as a Pilot Project so that other villages can aspire to obtain benefits from such a programme and be brought under the network of participatory assistance towards containment of the poachers' activities.
- b) Launching of Public Education and Awareness programmes.
- c) Initiate a system of awarding rewards to the Informers and Staff of Kaziranga National Park leading to arrest/detection of poachers, at say Rs. 15,000 - 20,000/- per case and about

Contd.....P/2



GOVERNMENT OF ASSAM

OFFICE OF THE
CHIEF CONSERVATOR OF FORESTS
WILDLIFE ASSAM

Rehabari : Guwahati-8.

- 2 -

Gram : CHIEFWILD



(Off.) : 45588

(Res.) : 62253

Rs. 5,000/- for cases leading to detection with illegal possession of Rhino Horn or during the process of disposal of Rhino horn.

With warm regards

To

Mrs. Anne Wright, M.B.E.,
Member Indian Board for Wildlife,
Founder Trustee W.W.F. for Nature - India,
Tollygunge Club,
120 D.P. Sasmal Road,
Calcutta - 700 033.

Yours Sincerely,

(R. N. Hazarika).

K A Z I R A N G A

PROJECT NO. 1

REQUIREMENTS OF THE FIELD STAFF

REQUIREMENT OF THE FIELD STAFF IN KAZIRANGA
NATIONAL PARK

Kaziranga National Park has a total staff strength of 462 members. Of this number, 430 members are field staff under the following categories:

Field Staff Category A : 300 Forest Staff

Category B : 80 Home Guards & Battalion staff.
50 additional staff stationed
in the 4 nos. Range Offices.
Sometimes they do field duty.

This categorization has been done for the purpose of distribution of items.

Items recommended for distribution;

- | | | |
|------------------|---|-------------------|
| 1. Hunting Boots | - | 1 pr. per person |
| 2. Stockings | - | 2 prs. per person |
| 3. Rain coat | - | 1 set per person |
| 4. Khukri | - | 1 No. per person |
| 5. Torch | - | 1 No. per camp |
| 6. Tarpaulin | - | 1 No. per camp |
| 7. Tent | - | 2 Nos. per Range |
| 8. Mosquito Net | - | 1 No. per camp |
| 9. Binoculars | - | 5 Nos. |
| 10. Blankets | | |
| 11. Pullover | | |

Item Nos. 1 to 5 are items that are received by a person as a personal item and hence it will be carried away by him if or when he is transferred. For the time being item Nos. 10 and 11 are not being recommended for distribution.

I T E M	TOTAL REQUIREMENTS	PRICE PER ITEM	TOTAL COST
Hunting Boots	430 prs.	Rs. 100/-	Rs.43,000/-
Stockings	860 prs.	Rs. 50/-	Rs.43,000/-
Rain coat	430 Nos.	Rs. 200/-	Rs.86,000/-
Khukri	300 Nos.	Rs. 80/-	Rs.24,000/-
Mosquito Net	380 Nos.	Rs. 140/-	Rs.53,200/-
Tarpaulin	106 Nos.	Rs. 600/-	Rs.63,600/-
Torch	106 Nos.	Rs. 130/-	Rs.13,780/-
Tents (4 bedded)	8 Nos.	Rs.4,500/-	Rs.36,000/-
Binoculars	5 Nos.	Rs.1,100/-	Rs. 5,500/-
			Rs.3,68,080/-

4. KHUKRI:

Khukri or hunting knife with its leather case which has a loop for being attached to a belt is a requirement for only Category A Field Staff. These need not be given to the Home Guards and Battalion staff.

5. MOSQUITO NET:

The requirement for mosquito net is for Category A Field Staff. However, most field staff have a mosquito net. Our suggestion is to supply a good quality mosquito net per camp. This net becomes the property of the camp itself. Again its initial distribution will help us to fill up the requisition slips for all camp members.

6. TARPAULIN

Thatched roofed camps require mending yearly but this never gets done. We recommend a tarpaulin of size 16' x 20' in all camps.

7. TORCH:

Torch (dry cell battery run torch) are required by all Category A Field Staff. However, torches get misplaced, stolen or broken. Besides dry cell battery needs to be supplied regularly. We recommend that torch should be distributed as per camp basis. Also rechargeable torches should be supplied. Initially 20 camps (five in each range) should be distributed. The torch must be preferably recharged by us.

8. TENTS:

Tents are required whenever special camps are set up in the hills when migration of animals take place during floods. Also in river char during winters when the river island get linked up with the main Park. Tents must be provided only on request and must be returnable.

APPROXIMATE TOTAL COST

Funds required for this scheme will be approximately Rs. 3,68,080/- plus management expenses incurred by WWF India, E.R. and NGI/NGOs - 7% of costs.

The items will be sent as per the following schedule :

I T E M	FIRST DESPATCH	SECOND DESPATCH	THIRD DESPATCH	TOTAL REQUIREMENT
Hunting Boots	100	230	100	430 prs.
Stockings	200	460	200	860 prs.
Rain coat	150	200	80	430 prs.
Khukri	106	150	44	300 Nos.
Mosquito Net	106	150	124	380 Nos.
Tarpaulin	40	33	33	106 Nos.
Torch	20	46	40	106 Nos.
Tent	4	4	-	8 Nos.
Binoculars	5	-	-	5 Nos.

Notes on the items and suggested mode of distribution:

1. HUNTING BOOTS:

A pair each is required by both Category A & B of the Field Staff. Initially we will have a stock of 100 hunting boots (50 Nos. size 7 and 50 Nos. size 6). After having the stock with us, word regarding its availability will be communicated. Field Staff will have to sign a register once they receive the item. Also those having different sizes will fill up a requisition slip. Sometimes these can be distributed in the camp itself (once the requisition slip is received).

2. STOCKINGS

Same as above.

3. RAIN COAT:

Rain coat with cap is required by every member of both Category A & B of the Field Staff. Initially we suggest that 150 are sent. When we distribute the 100 hunting boots and stockings, we expect to distribute 100 rain coats to the recipients of the hunting boots. We hope to distribute an additional 50 to those who come with requisition slips duly filled.

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BREAK-UP/COST OF DESPATCHES

I T E M	TOTAL REQUI- REMENT	PRICE PER ITEM Rs.	DES PATCHES	COST	TOTAL
Hunting Boots	430	100/-	i] 100 -	Rs. 10,000	43,000/-
			ii] 230 -	23,000	
			iii] 100 -	10,000	
Stockings	860	50/-	i] 200 -	10,000	43,000/-
			ii] 460 -	23,000	
			iii] 200 -	10,000	
Rain coat	430	200/-	i] 150 -	30,000	86,000/-
			ii] 200 -	40,000	
			iii] 80 -	16,000	
Khukri	300	80/-	i] 106 -	8,480	24,000/-
			ii] 150 -	12,000	
			iii] 44 -	3,520	
Mosquito Net	380	140/-	i] 106 -	14,840	53,200/-
			ii] 150 -	21,000	
			iii] 124 -	17,360	
Tarpaulin	106	600/-	i] 40 -	24,000	63,600/-
			ii] 33 -	19,800	
			iii] 33 -	19,800	
Torch	106	130/-	i] 20 -	2,600	13,780/-
			ii] 46 -	5,980	
			iii] 40 -	5,200	
Tents	8	4,500	i] 4 -	18,000	36,000/-
			ii] 4 -	18,000	
Binoculars	5	1,100/-	i] 5 -	5,500	5,500/-
Cost of First despatch				: Rs. 1,23,420	Rs. 3,68,080/-
Cost of Second despatch				: Rs. 1,62,780	
Cost of Third despatch				: <u>Rs. 81,880</u>	
				Rs. 3,68,080	

APPROXIMATE TOTAL COST: _____

Funds required for this scheme will be approx.
Rs. 3,68,080/- plus management expenses incurred
 by WWF-India, E.R. and NGI/NGOs - 7% of costs.

K A Z I R A N G A

PROJECT NO. 2

REWARD SCHEME

REWARD SCHEME TO APPREHEND POACHERS

Description of Schemes & Approximate costs

- (a) Genuine informer giving first hand information about the location of a rhino horn leading to its recovery and seizure will receive - Rs.5,000/-.
- (b) This amount to be enhanced by Rs.25,000/-if this leads to a conviction in the courts.
- (c) Information leading to the interception and apprehension of any armed member of a raiding party before the death of rhino - Rs.25,000/-.
- (d) Cost of printing pamphlets, erection of hoardings on National Highway, and posters.
- (e) Management expenses incurred by WWF India, E.R. and NGI/NGOs - 7% of costs.

The Reward money will be distributed by a member of a Panel to the informer after proper verification from Forest Department authorities.

Panel for Reward implementation to consist of :

The Director of KNP
The Divisional Forest Officer
The Range Officer concerned
Representative from W.A.N.T. (NGO)
Nominated non-government individual

The Forest Department will endeavour to keep the name of the informer confidential. The Department will take the responsibility of directing the informer to the members of the Panel for the Reward, when necessary.

Posters, pamphlets and hoardings will be prepared by the donor for wide publicity. Initial drafting of the script and its design and layout, etc. will be done by the Forest Department for approval by the donor. Only members of the general public will be eligible to receive the Reward. No in-service officials will receive the Reward.

APPROXIMATE TOTAL COSTS

This Scheme will operate for two years initially. Funds required for this scheme will be approximately - Rs.3 lakhs/year. plus management expenses incurred by WWF India, E.R. and NCI/NGOs - 7% of costs.

K A Z I R A N G A

PROJECT NO. 3

ECO-DEVELOPMENT PROGRAMME

ECO-DEVELOPMENT PROGRAMME



This is a summary of the reports prepared by Ms. Elizabeth Herbert and Dr. Debal Deb, based on a reconnoitring survey conducted in two pilot villages, namely Kohora No.2 in Kaziranga . mouza, Gulaghat District, and Kuthuri in Duar Bagori mouza. Nagaon District. The former was seleted beause ;

- a] it lies adjacent to Kaziranga National Park, and
- b] it is one of the fringe villages most severely affected by floods and wild animals from the Park.

The other village, Kuthuri was selected chiefly because of its leading position in terms of rural economic prsrperity, and the consequent leading position in opinion building in the region.

The salient problems of eco-development in the villagesand suggstions as to resolve them are as follows.

Need for fuel and construction materials

The Kaziranga National Park is not disturbed by the fringe villagers, because they do not depend for subsistence on the Park resources. However, the ancient forests of Karbi Anglong Hill on the north of the highway are being rapidly decimated under the growing pressure of demand for fuel wood and construction materials from all surrounding villages as well as the roadside dhabas. The highway further offers a number of timer^b merchants an easy access to the forest wealth. Although several socio-religious restrictions on the customary users of forests are still observed by many, particularly the tribal communities, the traditional ethics prove inadequate to maintain an effective control on the regular extraction of wood.

Need-based community afforestation is an essential precondition for the eco-development of the area. Plantation of fast-growing indigenous trees would substantially reduce the pressure on the hill forests. Creation of a forest within the villages would be highly appreciated, particularly if that is managed through community participation along with traditional line of customary usage.

Water, health and hygiene

Gastro-enteric diseases are extremely common in all fringe villages, due to the inevitable contamination of drinking water with pathogens when all the water sources are submerged during floods.

Careful planning for sanitation and safe drinking water facilities is required. For example, a large of deep tube-wells ought to be sunk, with the base elevated enough to keep the mouth well above the high water mark during floods.

The Government run medical dispensaries with poor amenities and scanty supply of medicines are grossly inadequate to cater to the needs of over 42 villages. The State dispensary nearest to Kohora No. 2 is 7 km. away, and is closed in the evening. About 150 out-patients are treated daily in this dispensary, but complicated cases are sent to the State Hospital at Bokaghat, located 25 km. away. A state dispensary in Kuthori has been recently upgraded to Primary Health Centre, but the proposed facilities are not yet available due to the lack of funds.

Both the State Health Department and NGOs may be approached to improve on the existing health facilities.

Education

Consequent upon poverty and lack of awareness of the significance of the rhino, a few villagers in Duar Bagori mouza are known to play accomplice to a group of poachers.

Establishment of primary schools in the villages and incorporation of nature education courses in the curriculum are necessary for an awareness building among the children. Non-formal adult education through audio-visual materials is likely to be popular if the lessons include relevant information about the local flora and fauna.

Crop Damage

Depredation of farm lands by wild animals (elephant, rhino, wild buffalo, wild boar and deer) from the Park causes substantial damage to the crops, in addition to the loss of crops by flood.

Crop protection squads formed by three or four men from the villages are grossly ineffective. With the monocrop agriculture and marginal land holdings, the primary occupation of most of the villagers is agricultural day labour outside of the village. Multiple cropping with improved irrigation facility would contain the village work force sufficient to strengthen the squads.

Budget:

The Budget for the proposed eco-development programme in two pilot villages will be Rs. 3 lakhs a year for a period of 2/3 years. The work will be undertaken by local NGO's under a Committee with WWF India representative and non-government individuals.

- a) Education & Awareness
- b) Crop Protection Squad
- c) Community afforestation in villages to reduce pressure on hill forests.
- d) Tubewells with elevated base.

The Budget includes 10% costs towards administration (WWF-I ER, NGO's, NGI's).

A REPORT ON THE SURVEY IN TWO PILOT VILLAGES
BORDERING ON KAZIRANGA NATIONAL PARK

By Elizabeth Herbert

Objective of the Survey:

Two pilot villages from among the fringe villages surrounding Kaziranga National Park were to be chosen for possible projects to be initiated by WWF. The approach suggested was by way of a socio-economic study of these two villages, detailing the existence of drinking water, education and medical facilities; the source of income for a family through employment and agricultural produce; the extent of flood damage, and crop damage by Park animal to a village household; and the means by which the villager, without exerting pressure on the Park, find year-round grazing and fodder for their animals, firewood and thatching for domestic purposes.

With less than a week to complete the proposed survey, Mr. Achintya Barua of Wildgrass assumed a key role in direction over the villages chosen.

Kohora No.2

The first village selected, Kohora 2 in the mouza Kaziranga, is the third in the line of three villages, running perpendicular to the Park and the highway. It was chosen largely because of its low economic status, with smaller landholding per household than many other fringe villages; and because of its position, suffering high percentage of damage to crops by the Park animals. It is a village which in the past was dependant on the grazing and firewood supplies from Park land.

The village was settled around 1925. One historical cause of the low economic level of the community is that in 1931 there was severe flooding and the village was evacuated. They did not fully resettle until years later and during the following twelve years, the villagers were unable to pay all land revenues due. As a result of this, in 1947 the Government seized a portion of the patta landholding of a number of villagers. The landholding of the village though small, is more than 90% patta land with an average holding of five bighas. There are three landless households in the village. General demographic data of five sample households randomly selected from this village are given in Table I.



The village is low lying and for this suffers flood damage annually. Depending on the monsoon rainfall, a farmer from Kohora 2 may lose between 10% and 100% of his crop because of flooding. Common to all the villages, they are compensated Rs.200/- per household for flood damage by the Government. Dependent on the season, there may be flooding as many as seven times during the monsoon. Each time, the villagers evacuate and take shelter along the highway, in schools or other buildings, for the duration of the water-logging. During this time the Government and some aid organizations provide food and water, as well as fodder for the animals.

Welfare assistance from Baptist Mission:

Exceptional to Kohora 2 is that 90% of the village community are Baptist Christians. As a Baptist community they are associated with Madhya Assam Baptist Sabha, a society based in Golaghat. Through this Association the small Baptist church links up, with a villager Mattan Nayak acting as priest. This man takes instruction from P.C.Gayen, a professor from Jorhat Christian Theology College. The Sabha, involved since 1930, pays 2 or 3 religious/welfare visits per year to Kohora.

Further to this there is a charity mission based in Madras, that gives money to the Sabha to be distributed for relief. In 1988 this mission initially committed to a five year plan of welfare aid to Kohora 2 as well as two other villages (Mopara, Sildubi). This year 1993, the mission has extended their project by a further two years. For this purpose, an assigned project officer visits the village once a month.

The assistance includes the following:

- i] A church primary school which teaches a selected 58 students; the teacher is paid Rs.200/- per month. Cloth for school uniform in 1991, and again in 1993.
- ii] After the flood of 1988, two mosquito nets were given to each household. After every flood each household is given soap, bleaching powder, and two bottles of phenyle disinfectant; also some basic food stuff such as rice, lentils, mustard oil, salt;
- iii] They have been given agricultural assistance which includes: Training - minimum of one lecture per year solely addressing in yield/productivity;
- iv] The facility of Government improved seed - in 1992 20 households of Kohora 2 received wheat and rice seed.
- v] Twenty fishing nets have been given (there are five households of Kohora 2 that derive income from fishing)
- vi] A mobile medical unit treating malaria, cholera, giving injections, etc. visit the village twice a year. They provide transport to Golaghat for medical referral treatment;
- vii] The Madhya Assam Baptist Association is also called for village upsets, personal quarrels, community plans, etc. It plays a large part in the mainstay of the village.

Education

There are two primary schools, one run by the Baptist Church, the other by the Government. Each runs class one through four. The literacy level of the village is very low compared with several of the surrounding villages with approximately 10% only going on to secondary school and reaching class ten. There are children who do not even attend the nursery school, because of poverty and needing to help the family with agricultural or domestic work. In the Government primary school, lessons are held from 10 a.m. to 3 p.m. daily, with an elderly teacher supervising class one through four simultaneously. They have a nature class scheduled for 2.15 - 3 p.m. on Fridays, which covers generally, animals, insects, plants and weather.

Medical Facilities:

Existing medical facilities for the village are at 6-7 km. walk, on the main highway. This is a small state dispensary responsible for 57 surrounding villages. There is one doctor, one pharmacist, and two nurses who are attached to the dispensary; no vehicle, and only three rooms - an office, an examining room, and the dispensary, WHO proposed two extra rooms over one year ago, but no plans have gone further. The facilities are primitive, the medical supplies from the Government extremely limited, they have a fridge, no freezer, and no telephone.



The hours are 8 a.m. to 2 p.m., Monday to Friday; 8 a.m. to 1 p.m. Saturday and Sunday. 150 patients on an average are treated a day during the summer, but only 90 a day during winter. Most of the treatment is for diarrhoea and malaria. Also common is bacterial fever, cholera, glaucoma. The doctor rarely refers patients to Golaghat Hospital, and normally these cases are cerebral, malaria or for surgery.

Every Monday the nurses give injections, boosters, and vitamin A solutions. There used to be a family planning group and sterilization camp, started in 1987, but this was closed about six months ago by the Government.

Drinking Water :

Kohora 2 has three tube wells, and four or five bore wells, therefore, each well is used by 5-8 households. These are all Government installed. The carrying distance for an individual household is not more than 200 m. and even in dry season there is apparently no shortage of water. However, particularly the bore wells carry typical water borne diseases - dysentery, typhoid, etc.

Agriculture :

Agriculturally the villagers are unable to afford fertilizers, and have no irrigation system. Rice, which for most of the villagers, is their sole crop, is only planted once, in monsoon. Only one or two of the farmers then plant mustard seeds in the field where rice has been. Some claim the fault is irrigation, others, despondency because of the defeating battle against the Park animals destroying their crop; and the villages nearby claim it is laziness caused by promises of dole money.



Crop Damage :

While carrying out a survey among some of the households of Kohora 2, a variety of answers were given about the percentage of crop damage suffered by a farmer each year. The estimates given were between 10% and 50% of the expected yield. The main damage is caused by rhino, elephant, wild buffalo, and some wild boar. Looking at the damage done to a farmer's field after a night's invasion by rhino, wild buffalo and elephant, it was possible to believe that a farmer could suffer even higher than 50% loss.

Each farmer has a guard hut and either he or a member of the family stays out to guard during the night. Together with other guards from nearby fields, they attempt to scare off the Park animals with shouts and fire. However, often, in fear of being charged, they remain silent and let the animals take their toll, staying at a safe distance.

A nominal team of six villagers, from the district, are employed casually by the Forestry Department, during the three crucial harvesting months of October, November and December. They act as a "crop protection squad", and their beat stretches about 9 km. However, their pay is only Rs.150/- for the entire period; the area too large to cover; their tools for scaring the animals and for their own defence non-existent; and they are not responsible to the villagers themselves. The "squad" is ineffective.

It is not unknown that when there is no crop in the field, Park animals have charged a villager's home.

At full yield, a farmer can produce 300-350 kg. of rice per bigha, but a farmer from Kohora 2 hopes for a minimum of 80 kg.

Household Income:

Few farmers in Kohora 2 grow enough rice for the year round family needs, and without exception, not enough mustard or vegetables. A minority sell milk or a few chickens or goats, but there are no organized poultries, duckeries or small agricultural industries. As stated five households derive an income from fishing, selling approximately 1 kg. of fish a day to the local market. There was no sign of crafts other than a loom used by one house, but which produces seven to ten pieces of cloth a year, and all of it is used by the family.

Each family derives its primary income from casual or permanent labour. This used to be tea garden dependent income, but now as much casual labour employment is in agriculture as tea-garden. There were few permanent employees from the village, maybe ten in total with the next door villages which each have 35-40 permanent workers.

Livestock & Grazing:

Each villager had either cows or buffalo. Very little fodder is brought in, but year round the animals are taken out to graze. For Rs.10/- per animal per month, a villager would entrust his livestock to a herdsman, who in winter would take them to the hillsides - about 5 km. distance, and in rainy season to the plains, the Park edges, and the wasteland alongside the river. Buffalo and cows can be seen grazing on what appears to be Park land, alongside rhinos and other Park animals. However, this land, coloured on a Kaziranga National Park map used to be village patta land, and is still not strictly Park land.



It is an area set aside to be included in the extension of the Park, however, at present domestic animals graze alongside the Park animals with the agreement of the villagers and the Forest Department.

Fuel :

An average household will use about 20 kg. of firewood each day. This is got from the hillside, which at 5 km. distance is a time consuming activity. Often a male member of the family is responsible for collecting the wood as he may be able to carry as much as 40 kg. each trip. Some of the wood can be obtained from surrounding scrubland and wasteland, depending on the time of the year. The pressure exerted on the hillside areas, by the Kaziranga villages in general, is devastating. It is Forest Department land, and in many areas, now illegal to take produce from. However, unless alternative fuelwood is supplied closer to the village, their choice is limited.

Kuthori

The second village selected is Kuthori. It is strictly a fringe village, as it is set back 1½ km. from the border of the Park. Despite this, the village was chosen for its centrality, and its close relations with many surrounding villages. Within a 1 km. radius, Kuthori area has 6 primary schools, 2 middle schools, and 1 secondary school, with students travelling upto 40 kms. to attend. The central hamlet has 80 homesteads with a population of approximately 500. Other principal facilities

of the village include an auditorium for a capacity of 2000, a hospital, a veterinary sub centre, a post office, a co-operative society helping 39 surrounding villages, a daily bazaar used by labourers and a larger bazaar held twice a week. The relationship between the village and the park is strong.

Included among the villages surrounding Kuthori are the immigrant villages and recent settlements, many of them Muslims. The land-holding of these villages is a mixture of patta and non-patta land. It is among these villages that the poachers are known to take shelter. By using Kuthori as a pilot village, not only could it be considered the most efficient means to access to the greatest number of people, particularly for education projects, but also as the logical centre with its bazaar it could have an indirect reaching towards the villages who support the poaching.

The contacts made with members of the Kuthori community were very strong. Indeed the principal of the secondary school, who has been the leading representative of the mouza is willing to take up any suggestions WWF offers, and has offered his services in all respects.

Another key figure in respect of the Kuthori community is Pradeep Phookan. It was this man's uncle Chandra Phookan who in the 1920's established the village. He had over 1200 bighas of land, with 600 bighas of pineapple alone. He ran a canning factory and numerous other businesses providing the mainstay of the village economy. When he died 20 years ago, he left almost all his land to the Government to be distributed to the landless in the community. For this and many other reasons, he has been thought of as both the patron and protector of Kuthori. The anniversary of his death is celebrated annually with much festivity. His nephew lives with his widow in a the original Phookan house, opposite the secondary school, in the centre of the village. It was through discussion and advice from Pradeep Phookan and the principal that suggestions for possible pilot schemes were made. With no promises made on behalf of WWF these two people nevertheless assured their full personal support and enthusiasm together with the participation of the whole village. They are essential leaders and motivators of Kuthori and should be worked with in this capacity.

The village has an agriculture-based economy. Its centre is Hindu, but integrated with Assamese Muslim households. The village has both a small mosque and a hindu temple. The average land holding is 15 bighas, which is three times as high as Kohora 2, and the villages show a wider spectrum of wealth. There are no landless people within the community, and the landholding is about 90% patta. Table 2 illustrated the pattern of economy of four sample households representing different income groups.

Education

The centre of Kuthori has a literacy rate of more than 30%. The high school running from Class 5 through Class 12 has 500 students and almost 60% finish school. It runs to a Government fixed curriculum. From October 1st - 7th, the Government sponsors Wildlife Week. For this the Government provides paper, pencils, crayons, and other materials. The week revolves around discussions, painting and an essay competition. Considering this, the principal suggested that any WWF education proposals should be organised as extra-curricular activities after school or on weekends.

Auditorium

The auditorium, a spectacular facility, was built by the Forest Department for the Kuthori community and surrounding village to increase the cooperation of the local people with the Park. The initial costing was 7 lakhs but this money did not stretch to cover one side veranda and floor. It took three years to build, and was finished one year ago. However, the keys, intended to be presented to the village committee, are still in the hands of the Forest Department until all work is completed. The Forest Department has not staged any events, but the hall is for use for religious festivities, theatre groups, for music performances, dance, drama, competitions, public meetings, lectures, etc. People come from Bokakhat which was 46 km. away for organised events. In the last year 20-30 events took place but this number is expected to increase. The auditorium has a capacity for 2000 people, with 250 folding chairs provided,

and 50 V.I.P. seats. It has a stage with side entrance, a small catering unit, bathroom facilities etc. The village itself formed a committee for the direction of the auditorium. It has 12 members chaired by the principal of the high school. It is suggested WWF/local NGOs utilize the facilities of the auditorium for slide shows, lectures or other activities.

The co-operative society in Kuthori centre, acts as a Government godown, supplying rice, pulses, seeds, fertilizers, kerosene at government fixed prices. Other facilities include equipment for hire - tractor, spray machine, weeder and other tools, although because of cost, few farmers use these. There are also banking facilities for savings, deposits and loans.

Medical facilities

The 'hospital' in Kuthori was opened in 1943 as a state dispensary, but was upgraded in 1991 to a mini primary Health Centre. However, upgrading the facilities has not been completed; a new building with six rooms has been constructed but not finished due to lack of funds.

The facilities at present comprise a consulting room, dispensary room, store-room and an office; there is a refrigerator and a freezer; a fairly well-stocked medicine counter; there is one doctor, one pharmacist and three nurses. Although this is the central medical facility for the area, there are 4 tiny sub-centres at 5 km. spacings, where the doctor holds a 2/3 hour surgery twice a week. Williamson Magor has provided the Kuthori Health Centre with an ambulance, for which the government provides a driver and basic petrol costs. For house calls, emergencies, etc. the patient must pay the petrol tariff. The surgery is open for 6 hours daily, and treats an average 80-100 patients a day.

The veterinary surgery is a two roomed building with a field assistant attending. There are 2-5 patients daily, most common animal is the cow, then buffalo, goat and other animals. There

are upto 50 cases a year of domestic animals mauled by Park animals. Other treatment is for debility, pneumonia, foot and mouth diseases, worms and others.

Drinking Water

The water supply to Kuthori is through tubewells, and each household has his own. Some of these are government finances, others are privately installed.

Agriculture

The farming practices of Kuthori yield higher produce than Kohora 2, because of its position on higher and fertile ground. The higher economy also means that most farmers are spending more than Rs.150/- a year on fertilizer. The villagers are able to harvest two crops of rice a year and with less irrigation problems, crop like mustard and some cereals can also be grown.

Fuel

Depending on the size of the land-holdings, a high percentage of the Kuthori community grow a large part of their own fuelwood supplies. Supplementary to this the wood can be bought in the daily bazaar at Rs.5/- for 20 kg. The market is supplied by the hill village communities, for the forests are 10-20 km. away from Kuthori, with no road access. This procedure of buying and selling firewood is practised all along the highway.

Livestock & Grazing;

The average number of cattle in each household is greater this village than in Kohora 2.

For grazing animals are led by a herder to waste-land or scrub land between the village and the Park. As with fuelwood, most farmers are able to supplement fodder from their own land. Some even have full grazing space specifically for their own animals. Thatching, also, is produced domestically, 'ker' being an annual crop planted by the farmers.

Crop Damage

Being on higher ground than the Park side, Kuthori suffers less flood damage, and very often escapes it altogether but with severe floods as in 1988, they too suffer and must evacuate. The principal difference in crop damage pattern, between Kohora 2 and Kuthori is that Kuthori suffers almost no damage from wild animals.

Kuthori also has a 'crop protection squad' who play a similar role as the 'squad' working sporadically around Kohora 2. However, the 'squad' for Kuthori are under permanent employment from the Forest Department, earning Rs.700/- per month. The group of six work a 6 km. border with the Park, which is the reason for their low effectiveness. It was suggested by the principal and other member of Kuthori community, that decreasing the patrol area, for the small size 'squad' from 6 km. to 2 km. would be an essential step to increasing the effectiveness.

Discussion

So far this report has simply considered various existing factors of the economic aspects of the two villages around Kaziranga National Park. This information was gathered during a six day visit and some elements should be backed up further by additional study, not just of Kohora 2 and Kuthori, but of other villages. However, from this information and from discussions with the villagers, and key leaders relevant to these two pilot villages, some basic conclusions could be drawn.

Among the fringe villages, and other villages adjacent to Kaziranga National Park, there is a range of economic status. The possibilities for welfare support are enormous. However, it can also be shown, that welfare and dole often do little to improve conditions in the long-term. WWF India as an organisation is primarily involved with the protection of the rhino in Kaziranga and the hollistic nature of approaching this problem. It is not relevant to concentrate on these welfare aspects.

The main antagonism between the Park and the villages, and therefore, a foremost concern, is the crop damage caused by the Park animals. There is no simple solution to this, although propositions put forward have been :

- [a] An increased number of permanent employees in the force of the "Crop Protection Squad". Appropriate numbers suggested were for groups of six men, each group assigned to a border of 2 km. Each man to be paid Rs.700/- per month,

and to be accountable to the villagers in whose interest the employment lies. However, this could only reduce the invasion minimally, for it is also accepted that six men faced with a possible charge of rhino, elephant or buffalo, without any protection, are themselves in danger. Also should this be taken up just for the border areas of two pilot villages, it would increase the pressure on other village farmers' land. Too, the cost would be unremittingly draining with no future in reduction of costs, and would create a dependency on funding.

- [b] Other suggestions include enforcement of the Park border areas with;
- i] electric fencing
 - ii] a large sloping wall
 - iii] ditching

There are two main problems with these suggestions. At present the National Park does not include either hillside, or a corridor for access to the hills, by which the animals may leave the Park during flooding. In this respect it is not possible to contain the animals within the Park boundaries without exposing them to the danger of flood.

The second problem is of the local viability of these methods of fencing. Electric fencing is inappropriate in an area prone to flooding. A large sloping wall may prove to be an ineffective barrier for a herd of elephant, and moreover, the cost would be astronomical. Ditching as employed in Simlipal National Forest and Palamau Tiger Reserve, may be ineffective in an area with such high rainfall. All of these as engineering proposals could be further researched but as stated, cannot be directly relevant until sanctuary necessary to the Park animals is provided under Park jurisdiction.

Considering, therefore, solutions to the problem of crop damage there is no short term answer. Possibly WWF India using its status as an international NGO of reputation, could participate in the catalysing of action to increase the territory of the Park to include the necessary hillside and corridor. This action might be fraught with problems, including the relocation of settled villages, the protection of the forestry land, etc. Yet it must be the long term plan of greatest relevance. Such a grand plan requires interference at each level, village to Government, and a communal effort. Each motivated party acts as a catalyst to this end.

Another possible aspect of involvement for WWF India/NGOs could be in the planting of trees, for fodder and fuelwood supplies, particularly in the areas accessible to villages of lower economic status. It is they, with smaller landholding who have always to resort to collection from the easier available source. This is devastating the hillside forest, that in turn would need careful regeneration to survive, if it is not already too late.

Finally, and most positively the possibilities for WWF India/NGOs/WANT to be involved in the villages, particularly outlining Kohora 2 and Kuthori, are within education, nature groups and relevant entertainment. The primary school teacher in Kohora 2 would welcome additional material for the nature classes, and the facility of the local school could be used for events such as slide shows, etc. for involving the whole village. In Kuthori the auditorium is a facility waiting to be utilized and with a plan that would involve entertainment along with education, a wide audience could be secured. Relevant contacts in both these villages have been established for WWF India/NGOs/WANT.

7th July 1993

BNF

A REPORT ON
THE VISIT TO VILLAGES ON THE FRINGE OF KAZIRANGA NATIONAL PARK
WITH REFERENCE TO THE PROJECT "SAVE THE RHINO"
(13th to 20th JUNE 1993)

DEBAL DEB

This serves to supplement the report prepared by Ms. Elizabeth Herbert, who volunteered to conduct with my assistance a reconnoitring survey in the fringe villages of Kaziranga. A detailed description of the socio-economic aspects of the villages we visited has been given in her report. The following is a brief account of the salient problems encountered by the people living in the fringe villages, and a set of recommendations toward a sustainable ecodevelopment of the area.

A summary of background information

The Park borders on two mouzas, namely, the Kaziranga mouza in Gulaghat district, and Duar Bagari mouza in Nagaon district. There are 42 villages in Kaziranga mouza, of which 16 are situated on the border of the Park, whereas there are only five fringe villages in Duar Bagori mouza. Table 1 gives the list of the villages that are immediately adjacent to the Park.

Table 1. List of the villages fringing on the border of Kaziranga National Park.

Mouza	Village
Kaziranga	(1) Haldibari, (2) Kaziranga NC, (3) Mahpara, (4) Sildubi No. 1, (5) Sildubi No. 2, (6) Kohora No. 2, (7) Dumjan No. 1, (8) Lukhura Kahania, (9) Dumjan No. 2, (10) Gohanibor, (11) Siljhuri, (12) Methoni, (13) Japaripathar, (14) Tamulipathar, (15) Beloguri, (16) Bohikhawa.
Duar Bagori	(1) Kuthori, (2) Bandardubi, (3)

Except for Kaziranga NC, all these villages consist of households that are legitimate Patta-holders entitled to both permanent tenancy, while temporary, renewable tenancy of lands, although a large proportion of the villagers in Bandardubi own non-Patta lands. Kaziranga NC is a relatively new settlement of refugees from East Pakistan (now Bangladesh), who all have encroached on the Govt. revenue lands mainly for habitation.

However, none of the lands encroached by any villager belongs to the forest land under the Park's jurisdiction. On the other hand, a grassland in the immediate vicinity of the Park belongs *de jure* to the village Kohora No. 2, and is used as a common pasture, while it is also being grazed by the wild animals from the Park. The Park authority is keen to cede this land to the sanctuary area, but for its revenue status and the legal title to a few villagers. The fate of the grassland thus remains yet undecided.

Clearly, any and all conservation-oriented programs concerning the Park must address the problems encountered by these villages. With the objective of identifying two target villages for the implementation of the prospective eco-development programmes, we selected the village Kuthori from Duar Bagori mouza and the village Kohora No. 2 from Kaziranga mouza. The selection was made on the basis of information given by Mr. Achintya Barua and the Forest Range Officer of Kaziranga, both well conversant with the locality and the problems concerning rhino poaching.

Development problems

The salient problems that became apparent from the villagers' responses to our questionnaire were the following.

a) The economy of the village households is centred around agriculture, which is entirely rain-fed, traditional and grossly monocrop (rice paddy), supplemented by the Rabi crop of mustard. Vegetables are often grown on the homestead land, and thus takes an insignificant place in household productivity. Most villagers do not grow the winter crop of rice, owing to the paucity of water in the winter. Depredation of the farm lands by wild animals (elephants, rhino, wild buffalo, wild boar and deer) from the Park is frequent, and causes substantial loss of crop every year, in addition to the crop damage by floods. The productivity of the land, and consequently the income level of most of the households, are therefore considerably low.

b) The majority of the villagers consists of poor farmers with marginal landholdings. The primary occupation of these households is agricultural day labour in other villages, and some work as casual labourers in tea estates for half of the year. This results in keeping away a substantial portion of the labour force from the village especially during the season of harvest. Obviously, the villagers cannot afford to give an effective protection of the crops from wild animals, even by forming "crop protection patrols" manned by only 3 or 4 people.

c) The Kaziranga forest is not disturbed by the villagers because they do not depend for subsistence on the Park resources. However, an equally important natural forest ecosystem is regularly being depleted at a rapid pace. The Karbi Anglong Hill

forest, customarily owned by the tribals, is the only source of fuel wood for the entire area. Each village household is wont to gather on average about 20 Kg of fuel wood daily. In addition, the villagers also extract wood and bamboo poles from this forest for structural purposes (construction and agricultural implements). Furthermore, the road-side *dhabas* collect more than a few hundred Kg of fuel wood daily from the hill forest, and the National Highway renders an easy access to the forest wealth for timber merchants.

I would like to draw particular attention to the Karbi hill forest which houses a rich diversity of indigenous plants, and is an abode of a large variety of birds, reptiles and mammals including leopard and civet cat. The customary management of the forest by the Karbi people has until recently been successful in conserving the forest biota. Remarkably, a 10-acre patch of forest in the Panbari Hill is considered a sacred grove, from which no one is allowed to remove any living matter. This socio-religious restriction on the customary users still observed by the indigenous people corroborates the immense importance of sacred groves in conservation over centuries. Also, numerous species of plants and animals are traditionally held sacred and are not killed. However, the traditional conservation ethics prove inadequate under the increasing pressure of the need for fuel from an expanding population in the surrounding area. As a means to controlling the harvest of wood from their forests, the Karbis now impose an annual tax of Rs. 22 on the villagers from the fringe villages.

d) Malaria and gastro-enteric diseases are extremely common in all the fringe villages. Mosquitoes freely breed in the wet savanna, and contamination of drinking water with pathogenic microbes is ensured by the poor sanitary conditions especially during the floods.

The existing state dispensaries have no beds for the treatment of patients, and are located too far from the fringe villages for emergency out-patients to be treated. The level of the treatment is also ineffective for a range of diseases due to scanty supply of medicines. The State dispensary nearest to Kohora No. 2 is 7 Km away, where complicated cases cannot be treated. Patients with severe ailments are sent to a State hospital situated at Bokaghat 25 Km away. The dispensary in Kuthori has in 1991 been upgraded to the status of mini Primary Health Centre, but the proposed facilities are not yet available due to the lack of funds.

e) A few villages in Duar Bagori mouza have won notoreity of making an easy money by playing accomplice to a group of rhino poachers from the outside. Incidentally, these villages are inhabited by Muslim refugees from East Pakistan. Apart from poverty, illiteracy and the consequent lack of awareness of the significance of the rhino seem to play a crucial role in motivating these villagers toward giving aid to poaching.

Recommendations

a) Facility of irrigation to the paddy lands would enhance the income of the villagers; furthermore, cultivation of the winter crop would entail the employment of the most part of the labour force within the village. This in turn would ensure success of crop protection groups, thereby smoothening the interface between the people and the Park.

b) Need-based community afforestation seems to be a *sine qua non* for the ecodevelopment in the area. Plantation of fast growing indigenous species in the village commons would substantially reduce the pressure on the Karbi Hill forests. Interviews with the tea estate tribals revealed that they would highly appreciate creation of a forest at or near their settlements, particularly if the vegetation be managed through community participation along the traditional line of customary usage.

c) Primary hygiene and health facilities must be improved through both govt. and NGO efforts. A mobile para-medical unit with trained personnel may prove helpful.

Water and sanitation in the villages also require good planning. I, for one, would suggest sinking of a few deep tube wells with their base elevated enough to keep the mouth above the high water mark during floods. This would prevent the drinking water from being contaminated with foul matter in the monsoon.

d) Establishment of more primary education centres in the villages is necessary for an awareness building among the children though not sufficient. The teachers ought also to be motivated to teach the pupils about their immediate environment and the relevance of conservation of nature. Non-formal adult education through audio-visual materials is likely to be very popular if the teachings include relevant information about the natural resources regularly used by the local people. Organising non-formal workshops for exchange of experiences between the villagers and development workers would be rewarding.

e) Implementation of the project and monitoring of the prospective ecodevelopment work in the target villages can best be done by one or two local persons who would be familiar with the problems and aspirations of the villagers and also attuned to the objectives of the project.

K A Z I R A N G A

PROJECT NO. 4

REPLACEMENT/REPAIR OF WIRELESS SYSTEM

REPLACEMENT/REPAIR OF WIRELESS SYSTEM

Introduction;

The need for a sound communication system is an essential tool to curb poaching activities. It is, therefore, necessary to equip Forest Department with modern wireless system at Kaziranga National Park.

The Forest Department has already been issued with some wireless sets supplied by WEBEL Telecommunication Industries Ltd. (the exact number of sets consisting of JBS fixed Station VHF FM transreceiver, LTS Mobilophone with VM transreceiver, SXA portophone could not be ascertained from the Forest Department).

Equipment Project by the Forest Department

The following wireless equipment has been projected by the Forest Department of Assam :-

<u>Item</u>	<u>Qty.</u>
a) Repeater Station with barracks	1
b) JBS Fixed Station	15
c) LTS Mobilophone	10
d) SXA Portophone (Walkie Talkies)	94
e) Solar Battery Charger	20
f) Antenna Tower	25

Recommended Wireless Network

MAIN NETWORK:

The main network should consist of five fixed station as follows;

- a) One control located at or around Kohora (being central point)
- b) Four outstations namely the four ranges
- c) A repeater station at control
- d) An extra set for communications with Director at Bokakhat.
- e) 10 Mobile Stations for Director, four range officers, two patrols, one police party and two as reserve.
- f) A fixed station may be provided to the Police Station

SUBSIDIARY NETWORK

There will be four subsidiary networks with each range office as control and camps/foot patrols as outstations. The requirement for each subsidiary network is as follows:-

- a) One fixed station as control
- b) Fifteen SXA Portophone for few selected camps/patrols as outstation

OTHER ACCESSORIES

- a) Solar Battery Charges - one per range and one at control.
- b) Antenna Tower - one at each range, control and Director.

Total Requirement of Wireless Sets (Consolidated)

The requirement works out as follows:

a) JBS Fixed Station	-	10
b) LTS Mobile Station	-	10
c) Portophone (Walkie Talkie)	-	60
d) Solar Battery Charger	-	5
e) Antenna Tower	-	6
f) Repeatr Station	-	1

Range Requirement

Ranges obtained by various wireless sets are as follows:

a) Between two fixed station	-	42 to 45 km.
b) Fixed Station to Walkie Talkie	-	8 to 10 km
c) Between two Walkie Talkies	-	2 km.
d) Mobile station to Fixed Station	-	12 to 15 km.
e) With repeater station, range of fixed station	-	80 km.

Since Kaziranga National Park is mainly plain with mostly grassland, there will be practically no screening effect of the VHF sets and the wireless sets if used efficiently, will provide a sound communication system.

It is recommended that WEBEL be asked to carry out a feasible study to determine the actual quantity of Radio Sets required depending on the physical layout of Kaziranga National Park.

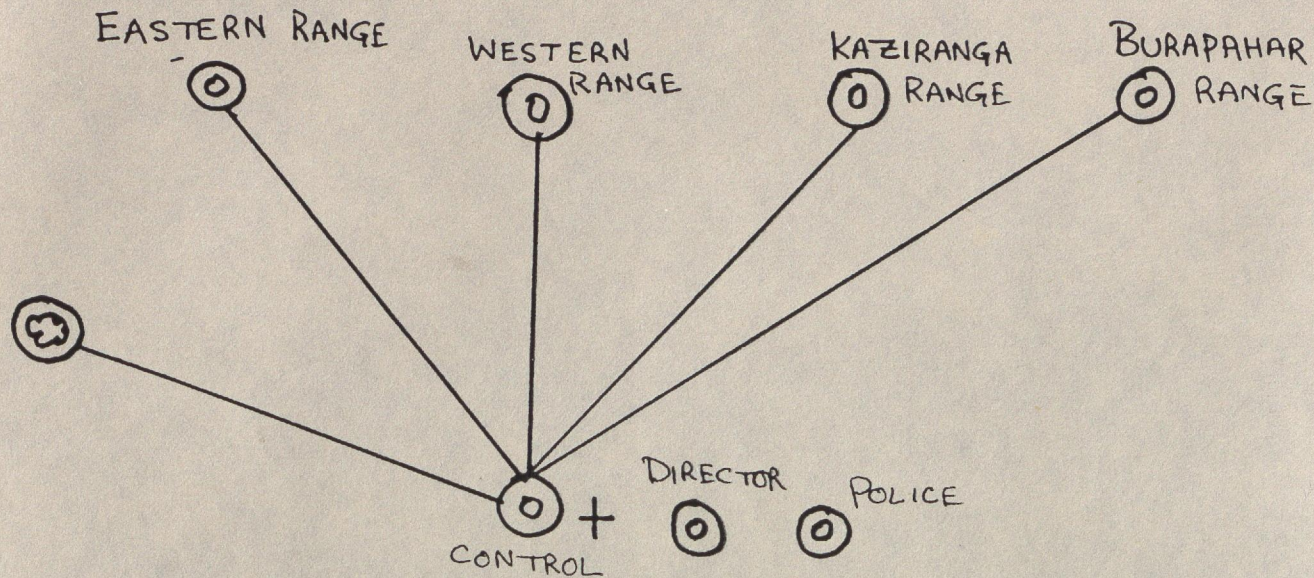
MINIMUM REQUIREMENTS FOR WIRELESS SYSTEM

<u>SL. NO.</u>	<u>SET</u>	<u>NO. REQD.</u>	<u>PRICE PER PC.</u>	<u>TOTAL AMOUNT</u>
1.	Repeated Station	1	40,000	40,000
2.	Fixed Station	5	19,000	95,000
3.	Mobile Station	2	13,500	27,000
4.	Hand Held sets (Walkie Talkie)	50	9,500	4,75,000
5.	Selective Call System	7	12,000	84,000
				<hr/> 7,21,000
			Excise duty 15%	1,08,150
			Central Sales Tax 4% (Being Govt.)	28,840
				<hr/> 8,57,990

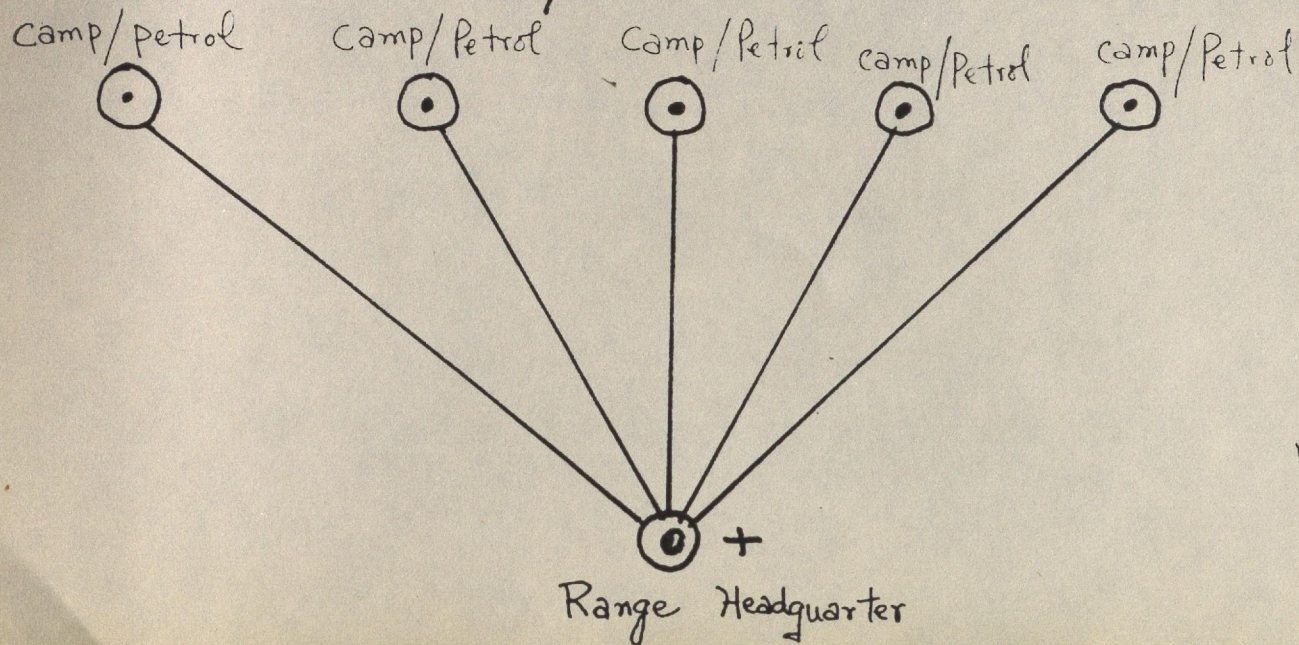
Say 9 lakhs

NETWORK DIAGRAM

MAIN NETWORK



SUBSIDIARY NETWORK



LEGEND

- ⊙ FIXED STATION
- ⊕ MOBILE STATION
- ⊙ PROTO (WALKIE TALKIE)

NOTE: The number of Outstations in a subsidiary network may vary from 15-20.

K A Z I R A N G A

PROJECT NO. 5

REQUIREMENT OF GUNS & AMMUNITION

42

REQUIREMENT OF GUNS AND AMMUNITION

The Forest Guards are ill-equipped and are without any training in the use of firearms. The poachers on the other hand are efficient in the use of their weapons. The weapons that are with the Forest Department are not in serviceable condition and need to be regularly cleaned and maintained. Purchase of new guns are required to replenish the ineffective weapons.

Description & Approximate costs;

- a] The forest staff need training in field craft, minor tactics and use of weapons. Headquarters 4 Corps has already agreed to impart necessary training. Transport and accommodation for four forest personnel to attend a course at Tezpur will approximately cost Rs.8,000/-
- b] The guards take no action to protect their weapons from water, mud and dirt. Headquarters 41 Sub Area located at Jorhat has agreed to train a small group of forest personnel in maintenance of arms and ammunition. The following items for cleaning weapons are required;
- | | | | |
|------|---|-------|--------------|
| i] | Cleaning rod for rifles -
one in each camp and range
10 Nos. @ Rs.65/- each | | Rs. 650.00 |
| ii] | Cleaning rod for 12 bore gun -
one per gun
43 Nos. @ Rs. 50/- each | | Rs. 2,150.00 |
| iii] | Pull through - one per rifle
171 Nos. @ Rs.10/- each | | Rs. 1,710.00 |
| iv] | Adequate flanelette, rifle oil and
linseed oil | | Rs.10,000.00 |
| v] | All the barrels (outer portion) need
to be painted with deaco paint | | Rs. 1,000.00 |
- c] 10 Rifles .315 (Sporting) are required to be purchased, along with 4775 Nos. ammunition. Cost of 10 Rifles bought from the Ordnance Factory will be Rs.1,50,000/- @ Rs.15,000/- per Rifle. Cost of 4775 Nos. ammunition will come to Rs.71,625/- @ Rs.15/- per ammunition.

APPROXIMATE TOTAL COST

The approximate total cost will come to Rs.1,88,510/- plus management expenses to be incurred by WWF India, E.R. and NGI/NGOs - 7% of costs.

REPORT OF MAJOR SR BANERJEE
ON
REQUIREMENT OF ARMS, AMMUNITION
AND
WIRELESS EQUIPMENT
AT
KAZIRANGA NATIONAL PARK

THREAT OF POACHING

1. The general period of poaching of Indian one horned Rhinoceros (*Rhinoceros unicornis*) is between October to April when the sanctuary is dry and the Rhinos are spread throughout the National Park. Since the Rhinos are seen more on the Western part of the park, the cases of poaching is also more on that side. The total incidents of poaching from 1992 onwards as per official figures are as follows :-

- (a) 1992 - 48
- (b) 1993 (upto 10 Jun) - 27

2. The poachers mostly come in small groups of 3 and 4 with one or two persons carrying powerful rifles and the others carrying Khukris/Dahs. They either come from ~~The~~ Northern bank of the Brahmaputra or from Nagaland/Mizoram through ^KKarbi Anglong Hills located ~~on~~ South of the Park. A large number of horns are smuggled through Heidepi Hidusu Village in ^KKarbi Anglong Hills to Dimapur and onwards to Burma.

DRAWBACKS IN COMBATING POACHING

3. The Forest Guards are generally ill equipped and are without any training in the use of firearms. The poachers on the other hand are efficient in use of their weapons.

4. The firearms in possession of Forest Department are as follows :-

- (a) Forest Department
 - (i) .315 rifles - 171
 - (ii) 12 bore DBBL guns - 24
 - (iii) 12 bore SBBL - 23
- (b) Home Guards
 - (i) .303 rifles - 55
- (c) Assam Forest Protection Force
 - (i) .303 rifles - 51

5. State of Maintenance of Arms and Ammunition : I visited Agartoli Range Office (Eastern Range) alongwith Mr PH Barua. I also visited Mohkhuti Camp alongwith Mr Dharmidhar Boro, the Range Officer. I inspected four .315 rifles, two 12 bore DBBL guns and one 12 bore SBBL gun~~y~~ of the Forest Department and three .303 rifles of Home Guards. All the rifles are in pathetic state with corroded barrels filled up with dirt. The wooden portions were infected with fungus. These weapons were not in serviceable condition and need~~s~~ to be regularly cleaned and maintained. None of the guards were able to aim their weapons on to targets. The ammunition ~~are~~^{is} also dirty and needs cleaning.

6. I have personally introduced the Director, Shri SK Sen to ~~with~~ the local Sub Area Commandant, Jorhat, who has promised to carry out a lesson for a group of guards in cleaning and maintenance of weapons. The Director must avail this opportunity and should get cracking at the earliest so that his weapons, including that of Home Guards, and AFPP are kept in serviceable condition.

RECOMMENDATIONS

7. Passive Means : This may be done through eco development of fringe villages, fraternisation and civic action programmes such as providing medical aid and other amenities to local people, screening Wildlife films especially of the Rhinos. However, this does not fall within the scope of this paper.

8. Active Means

(a) Minimum Requirement of Guns : There are at present 49 Foresters, 175 Forest Guard and 45 game watchers totalling ~~to~~ 269. Against these personnel, the Forest Department has 218 weapons (details have been mentioned in paragraph 3). Hence, if all personnel have to be equipped, then the requirement is $269 - 218 = 51$. However, taking the condition of weapons in consideration, a reserve of 19 weapons should be kept in addition in order to replenish the ineffective weapons or to cater for any contingency. (The estimate for Rifles and ammunition and the method to obtain has been attached as Appx 'A'.)

(b) Cleaning/Maintenance of Weapons : A greater emphasis has to be laid on cleaning/maintenance of weapons. The guards take no action to protect their weapons from water, mud and dirt. The following items for cleaning weapons must be held :-

- (i) Cleaning rod for rifles - One in each camp and range.
- (ii) Cleaning rod for 12 bore gun - one per gun.
- (iii) Pull through - One per Rifle
- (iv) Adequate flannelette, rifle oil and linseed oil.
- (v) All the barrels (outer portion) need to be painted with deaco paint (black).

Note : Headquarters 41 Sub Area located at Jorhat has agreed to train a small group of forest personnel in maintenance of arms and ammunition. The Director who has already been introduced to the concerned army officers, should immediately avail necessary assistance.

(c) Similarly, ammunition should be kept cleaned.

(d) Firing. The Director should take action to create an improvised firing range and each individual should fire at least 30 rounds in a period of six months.

(e) Training of Forest Staff : The forest staff needs training in field craft, minor tactics and use of weapons. Headquarters 4 Corps has already agreed to impart necessary training. I have left a note alongwith a recommended draft at the Director's residence on 12 Jun 93. In case the letter has not gone, it must be immediately sent asking for army assistance to provide some basic training to the forest Guards to the following addressee :-

Headquarters 4 Corps (GS/Trg)
C/O 99 APO

contd....4

(f) Use of regular Ambushes : Two to three ambush parties should be created with 6 to 7 persons per ambush party. They should lay ambushes in an irregular pattern on the possible routes followed by the poachers frequently. The ex-servicemen may be used for the purpose.

(g) Creation of Informers : Adequate incentive should be offered to reliable informers.

(h) Recruitment of Ex-servicemen : A policy can be devised to recruit ex-servicemen as foresters and forest guards. However, a team of ex-servicemen should be created as follows :-

(i) One or two ex-Junior Commissioned officers and three ex-Havildars from Infantry for training the forest guards as well as take part in ambushes/anti poaching guards.

(ii) Two ex-armourers (small arms) from the Corps of EME.

(iii) One or two ex-radio mechanics from either Corps of Signals or EME and three to four ex-Radio Operators from the Corps of Signals for maintenance and use of radio sets.

Note : The details of qualitative requirements and method to contact have been attached as an Appendix 'B'.

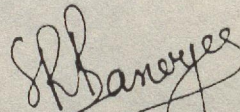
(j) Raising of Morale : There is an immediate requirement to raise the morale of forest staff which is apparently low. The morale can be raised by looking into their personal problems, in situ medical aid, imparting training, providing family accommodation in the park premises, providing suitable rewards for apprehending poachers, providing dresses and equipment and so on.

(k) The forest guards should receive legal protection for inquiry/killing poachers in a confrontation.

Wireless Network

9. The wireless network mentioned in the list of items required for antipoaching activities in Kaziranga National Park seems to be unnecessary. The minimum requirement is that there should be a network of 5 High Frequency sets with 4 ranges as outstations and the Director's office as the control. Each range should have a network of VHF sets depending upon the number of outstations needed. (such as camps, patrols & ambushes).

10. The range offices will act as controls for their own nets in VHF. They will be outstations in the Director's net connected through HF sets. Hence, Director will be able to get through each range office and each range office will be able to communicate with their camps, patrols and ambush parties.



(Major SR Banerjee)
Committee Member
Eastern Region
WWF - India

21 Jun 93

Appendix 'A' (refers to
Paragraph 8 (a))

1. Estimate for Rifle .315 (Sporting)

- (a) Cost of one rifle through Ordnance Factory = Rs.15,000/-
 (b) Cost of twenty rifles =
 $15,000 \times 20 =$ Rs.3,00,000/-

2. Estimate for Ammunition

- (a) Government rate per ammunition through local =
 Rs. 15/- (not available in ordnance factory)
 (b) Cost of 9550 ammunition = Rs.1,43,250/-

Note : After providing 20 rifles, the total number of rifles will be 191. Taking into consideration that practice firing of 30 ammunitions per rifle and 20 ammunitions per rifle be kept with the weapon, the requirement works out to 50 ammunitions per rifle.

3. Total estimate for 20 rifles and 50 cartridges per rifle for 191 rifles = 3,00,000/- + 1,43,250/- = 4,44,000/- (say 4,44,000/-)

Method of indenting

4. The rifles should be indented for Ordnance Factory Board and sent to Mr PS Sodhi, Deputy Director General, Civil Trade, Ordnance Factory Board, 10 Auckland Road, Calcutta - 700 001 by the Govt of Assam (Forest Department). On receipt of the indents, Ordnance Factory will despatch the amount of payment which can be paid by the Financing agency through Demand Draft. Forest Department can collect the weapons thereafter. Ammunition manufactured by Ordnance Factory at Kirkee, Pune can be directly bought from J Biswas & Co. at Calcutta as there are not sold through Ordnance Factory.

ADP/ 1 1 0
Paragraph 8 (h)

DETAILS OF EX-SERVICEMEN REQUIRED TO BE EMPLOYED

Serial No	Ex-Rank	Number	Maximum Permissible age	Office where contact should be made	Qualitative requirements	Remarks
1.	Subedar	2	50	a) Senior Records Officer Assam Regimental Centre Happy Valley, Shillong b) Zila Sainik Boards located in every District of Assam	a) Should be ex-infantry b) Should have been qualified in platoon Commander's Course, Platoon Weapons course and preferably commando course (Army courses).	For training in field tactics, use of weapons firing, laying of ambush etc.
2.	Havildar	4	45	-do-	-do- as serial 1 except platoon Commander's course need not be obligatory.	-do-
3.	Ex-Subedar or Naib Subedar or Havildar or Naik.	2	45 - 50*	-do-	Should be ex-armourers (small arms) from the corps of Electrical Mechanical Engineers.	For repair, maintenance and inspection of weapons.
4.	Ex-Junior Commissioned Officer or Havildar or Naik	2	45-50*	-do-	Should be an Ex radio machanic from either Corps of Signals or the Corps of EME.	For repair and maintenance of wireless sets in situ.
5.	Ex Havildar or Naik	4	45	-do-	Should be ex Radio Operators from the Corps of Signals	For training forest staff in using wireless sets and manning the control and important stations.

Note 1. - In case employing 14 ex-servicemen is difficult at this stage, one person each from Serials 1, 2, 4 and 2 persons from serial 5 may be reduced.

2. - * The maximum permissible age should be 50 years for ex Junior Commissioned officer and 45 years for ex Havildar/Naik.

RECOMMENDED DRAFT TO BE WRITTEN
BY FOREST DEPARTMENT OF ASSAM

From : Chief Conservator of Forest (wild life)
Gauhati
Assam

To : Headquarters 4 Corps (GS/Training)
C/O 99 APO

SUB: PRESERVATION OF WILDLIFE

Sir,

Kaziranga National Park which is located at close proximity to your Headquarters can boast to have approximately 1160 Great Indian one Horned Rhinoceros (*Rhinoceros unicornis*) out of total 1800 found in the wild. However, lately there have been instances of indiscriminate poaching of these animals in an alarming proportion. During the year 1993, we lost 48 animals and during this, we have lost 27 animals.

The major problem we are facing is lack of training in use of weapons and minor tactics to meet the challenge of the poachers. The poachers are on the contrary well trained in use of firearms.

We, therefore, request you to provide some training to our forest Guards so that we are able to combat poaching effectively.

Yours faithfully,

Chief Conservator of Forest (wild life)

Copy to :-

Director
Kaziranga National Park
Bokakhat
Golaghat
Assam

- You are requested to contact
Headquarters 4 Corps for their
assistance.

Major SR Banerjee
NCC Directorate
P 67 Block 'D' New Alipore For information
Calcutta - 700 053

URGENT

ENCLOSED IS A NOTE ON THE RESTORATION OF THE PROTECTION INFRASTRUCTURE OF THE KAZIRANGA NATIONAL PARK

IMMEDIATELY AFTER THE FLOOD WATERS RECEDED IT WAS OF UTMOST IMPORTANCE THAT THOSE ANTI POACHING CAMPS THAT HAD BEEN DESTROYED (AND THE PERSONS THERE EVACUATED) WERE RESTORED.

BUT FUNDS REQUIRED FOR THIS HAS NOT BEEN DISBURSED AND THUS A CONSIDERABLE AREA (around 90—100 sq km) IS FOR ALL PRACTICAL PURPOSE UNPROTECTED

IT HAS BEEN ALREADY OFFICIALLY DECLARED THAT EIGHT CASES OF RHINO POACHING OCCURRED OUTSIDE THE PARK DURING THE FLOOD PERIOD, THIS IS SUFFICIENT INDICATION THAT POACHER GANGS ARE ACTIVE.

THAT FOUR PITS HAS BEEN DISCOVERED IN THE PARK RECENTLY AND TWO RHINO DEATHS DUE TO PIT POACHING IS SUSPECTED REFLECTS THE JEOPARDY TO WHICH THE PARK IS EXPOSED.

THE PARK AUTHORITIES ARE HELPLESS AS NO FUNDS HAVE YET BEEN RECEIVED TO CARRY OUT THE RESTORATION IN A PLANNED MANNER

TILL THE 26TH OF OCTOBER THE RS 50 LACS SAID TO BE RELEASED BY THE REVENUE DEPARTMENT OF THE STATE HAS NOT BEEN RECEIVED BY THE WILD-LIFE DIVISION.

AN URGENT REMINDER TO THE CHIEF SECRETARY OF THE STATE SHOULD BE SENT.

RESTORATION OF THE PROTECTION INFRASTRUCTURE OF KAZIRANGA NATIONAL PARK

FIRST PHASE : (immediate)

I. PLACEMENT OF PERSONS IN THE 15 ODD CAMPS THAT WERE EVACUATED.

(One anti-poaching camp in Kaziranga covers roughly 3 km sq to 4.5 km sq. So roughly an area of 50 km sq is at present unprotected. Poachers are already active. Between period 29th August to 8th September 3 rhinos were killed outside the Park)

This would mean Restoration of the anti-poaching camps that were evacuated.

- a) Cleaning camp and using disinfectant.
- b) minor repair jobs
- c) major repair jobs if any
- d) tube-well repair or re-installation of tube-wells
- e) country boats to be repaired and kept in good condition.
- f) supply of some medicines for possible stomach ailments.

Estimated cost : Rs 7 lakhs (Rupees Seven lakhs only)

This should be made available immediately.

II. CLEARING OF PATROLLING PATHS

(patrolling path is the basic ground infrastructure for anti-poaching. Every year it needs to be cleared after monsoons. Kaziranga National Park has about 600 km of patrolling path. Each anti-poaching camp is in the centre of its own patrol-path-network. Work should start where possible because some areas may still be waterlogged)

It must be borne in mind that actual assessment of loss of wild-life in the floods can be made only after patrol paths are cleared. As a combing operation may have to be undertaken some more areas may have to be accessed and hence the cost may exceed usual annual expenditure under this head.

Estimated cost : Rs. 6 lakhs (Rupees Six lakhs only)

This too should start immediately and will necessarily carry on till November as some areas are still waterlogged.

combing operations for caracass finding for loss assessment is also included.

III. REPAIR OF ALL COUNTRY BOATS AND MAKING NEW ONES

Estimated cost : Rs.4 lakhs (Rupees Four lakhs only)

should be undertaken immediately.

IV. REPAIR AND RESTORATION OF CAMPS OTHER THAN THOSE EVACUATED.

(this is part of the process of camp restoration. A camp is a place for arms, ammunition, wireless sets. A place for the forest staff to sleep between three shifts of duty and a place to cook meals. The anti-poaching camps with its patrolling path is the grass-root protection infrastructure that makes Kaziranga National Park the best protected Park in the country today)

Besides the camps evacuated some 50 odd camps need repair.

Estimated cost : Rs.25 lakhs (Rupees Twenty five lakhs only)

should be undertaken immediately.

SECOND PHASE : (mid October to January)

REPAIRS OF ROADS AND BRIDGES

As only three persons at an average man the camps and the adjoining patrol paths, whenever a shot is heard or encounter takes place or a rhino poached, immediate reinforcement is only possible if the said camp area is accessed by Jeep (carries up to 8 persons).

In the driest phase of winter 80% of the camps can be approached by Jeep. Since 1992 allocation for roads has been insufficient. In this flood, culverts and bridges have been seriously damaged.

Estimated cost : Rs.47 lakhs (Rupees Fourty seven lakhs only)

Works for this should start in October and will continue till January.

THIRD PHASE : (mid Feb to end April)

BUILDING OF RAISED PLATFORMS (artificial highlands)

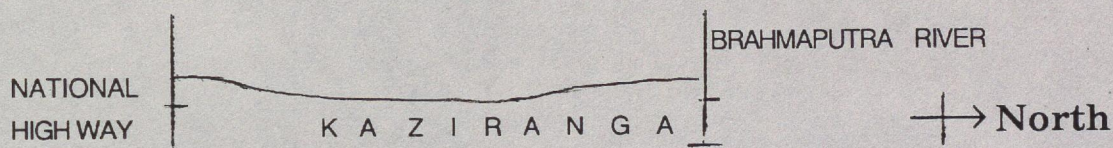
Estimated cost : Rs. 30 lakhs (Rupees Thirty lakhs only)

Work should start not later than mid February and should definitely be completed by end April.

Work should start not later than mid February and should definitely be completed by end April

Explanatory note on raised earthen platforms:

- i) Kaziranga is situated at an average of 65 msl
- ii) The naturally highest portions are at 72 msl
- iii) The National Park is like a basin. as shown below.



The Southern area is higher than the central portion and there is an upward gradient towards the north. The northern area on the banks of the Brahmaputra register around 69-72 msl.

- iv) Concentration of animals are more in the southern part of the Park.
- v) The more powerful swimmers among the ungulates tend to move to the northern reaches when the first flush of inundation takes place, because the northern parts are comparatively higher and do not get submerged initially. Of course the majority of the animals move towards the southern side. However when there is high floods and the northern areas get submerged these animals are marooned and have to swim nearly 18 to 28 km to come to the National Highway and proceed to the Karbi-Anglong foot hills.
The raised earth platforms (i. e. artificial highlands) are spots where the animal escapes from the stress presented in water logged areas. (distinct from totally submerged areas). *Swim, feed and return* is what they do while on raised platforms. However since the raised platform gets crowded there is a competition for the accessible grass. In order to give the animal, sheltered in the highland, more access the artificial highlands should be more in length than breadth.
Longer platforms will give more access to more animals to *swim, feed and return*.
- vii) There should be such artificially raised earth platforms of considerable length in the northern areas which have a comparatively higher mean ground level and where grass could be found because of this.
- viii) Compact raised platforms should be made in areas that have long stretches of low lying area. They will serve as *compact Islands* and save animals from flood. The animal may not be able to feed once the highland gets crowded and water does not recede, but they will not die of floods.

Eco-Development Related Measures to be undertaken in the 45 fringe villages on the southern boundary of the Park.

Flood related :

There are 45 villages (estimated population 65000) in the southern fringe of the park. The flood effected 80% of the homestead lands and 95% of standing paddy crop in the farm lands of these villages.

It must be noted that evacuation of 60% of these villages had to be carried out by the park management with the help of boats belonging to the National Park authorities. This put a lot of pressure on the already overburdened forests personnel.

It is seen that 95% of these villages cultivate one paddy crop a year. In the dry winter season rabi cultivation can not be undertaken as there is no water for irrigation.

Recommendation :

60 nos. shallow tube-well with 10 nos. 5 HP diesel pump-set.

Estimated cost :

Tube-well — Rs. 6000/- for installation = Rs. 3.60 lacs.

Diesel pump-set — Rs. 20,000/- = Rs. 2 lacs.

Future Contingency

For evacuation purpose in the future :

3 nos. boats to be placed with these villages — Rs. 0.80 lacs

Creation of toilet facilities in the schools and other public buildings situated on the south of the N.H. 37 where flood effected people are temporarily housed — Rs. 5 lacs

Agenda No. 1 :

The material input for the management of Protected Areas would have to be continually enhanced if such areas need to remain protected. Governance in the country must take cognisance of such a counsel.

(The IBWL is the apex advisory body of the country and the above counsel should be deliberated, discussed and a resolution taken in the meeting. We all know.

- a) That *general lawlessness* that prevails in the country..... *ultimately takes the toll of forests and wild-life.*
- b) The *dilution of control* that permeates all echelon's of the country's governance due to compromise and vested patronage *effects forest and wild-life Protected Areas the most.*
- c) The human population increase and the consequent *expansion of human settlement exerts the maximum pressure on our forests, wild-life and PAs*

Such lawlessness, dilution of control and expansion of human settlement will keep on increasing.

The management of Protected Areas must have to be continually strengthened and reinforced. This apparatus of Protected Area management must be continually enhanced in perpetuity to cope with the above pressures. Such thinking must permeate the nation's policy with regard to wild-life. The Board should take a resolution on this.

Agenda No 2 :

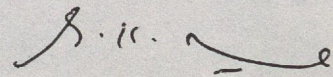
A country is vigilant in its watch of international and internal developments in order to protect its territorial integrity. Good governance entails that it needs to be as watchful and alert about the fragile and vulnerable territory that constitute our Protected Areas, and must take immediate action once it becomes cognisant of threats detrimental to the long-term conservation goals of such Protected Areas.

(Any human-use development works or natural calamity (like floods, drought, fire) may adversely affect the habitat attributes of a Protected Area. It may destroy the protection infrastructure of the PA. It may set in motion ecological process detrimental to the goals for which the PA is managed. Immediate attention and restoration is a must. Protected areas are very fragile eco-systems and once the slide occurs it is very difficult to restore. Hence restoration works should be of as immediate urgency as in the country's combatment with threats to its territorial integrity.

Recently Kaziranga National Park experienced 3 inundations and the last wave completely submerged the entire Park damaging its protection infrastructure. Some of the vital anti-poaching camps had to be evacuated. In order to actually assess the loss of wild-life and conduct an intensive combing operation

patrol paths have to be cleared and anti-poaching camps restored. The State Government has declared that it will sanction Rs. 50 lakhs which is roughly one-third of the requirement for complete restoration of the protection infrastructure. Kaziranga is known for being the most well protected National Park in the country inspite of the fact that the State of Assam is said to be permeated with law and order problems. It is a *World Heritage Site* and the largest undisturbed representative area of Brahmaputra valley flood plains, grassland and forests, having more than 70% of the world's one-horned rhino, eastern swamp deer, Asian water buffalo population. It has a very significant density of tiger population and has over 800 resident Asian elephants. Such a natural calamity that has occurred in Kaziranga should be addressed and the action plan for the restoration of its Protection infrastructure must be immediatety executed.

Natural calamity in National Parks is to be considered
a National calamity.



ACHINTYA K. BARUA

MEMBER,

INDIAN BOARD FOR WILD-LIFE

DATE : 18th September, 1998