NEPAL COPPICE REFORESTATION PROJECT

FIRST ANNUAL PROGRESS REPORT

(2044/45)

HMG / Ministry of Forest & Soil Conservation
Department of Forest / USAID / Argonne National Lab

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FIRST ANNUAL PROGRESS REPORT

(SHRAWAN - ASHAD)

(July 16, 1987 - 15 July 1988)

SUBMITTED TO

MINISTRY OF FOREST & SOIL CONSERVATION

DEPARTMENT OF FOREST

AND

S. A.I.D. / NEPAL

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INTRODUCTION

The following is the annual report of Nepal Coppice Reforestation Project for the Fiscal Year 2044/45. The period covered is from Shrawan 2044 to Ashad 2045 (July 16, 1987 to July 15, 1988), of a three and a half year project.

With consistent support from His Majesty's Government in project establishment and development the project has been able to develop activities at three sites this year. On 12th August, 1987 the Nisikot site in the Dhading District was made available for project activities, a site in Rosnalu, Ramechhap on 16th April, 1988) and a third site in Bhiman, Sindhuli on 28th April, 1988.

This report will summarize progress for the year. Information presented in this report is preliminary and for illustration purposes only. For further details quarterly progress reports should be consulted. Progress at the three sites for the following programs is presented: (i) Propagation, (ii) Community Participation, (iii) Development of Nursery and Research site, and (iv) Development of Demonstration sites.

MINISTRY OF FOREST AND SOIL CONSERVATION

DEPARTMENT OF FOREST

US AID

NEPAL COPPICE REFORESTATION PROJECT

ANNUAL PROGRESS REPORT (2044-45)

No.	Program	Weight	Unit	ANNUAL		Weigh-Tage	Progress Against Target	Progress	Remarks
				Physical Target	Physical Progress				
I	Propagation	17	%	To collect, transplant, transport & propagate 12000 plants. 100	Collected seed from 723 parent trees of 48 species, processed seed & cutting to propogate 56000 seedlings for this season, there are many more being held for next season. Nurseries have been developed at all 3 sites with seed sown in all.	17	100	17	
	Community Participation	17	%	To develop project community interaction at project sites. 100	Completed tree preference survey of Dhading, Sindhuli & Ramechhap project site areas. Completed preliminary socioeconomic surveys of 3 sites. Completed revised design of sociocultural study plan and programs.	17	100	17	
	Development of Primary Site	41	%	To construct a greenhouse & outhouse & necessary physical infra-structure for research and demonstration. 100	Deferred Green house. Constructed headhouse, completed office building upto first floor level, RCC water tank completed upto foundation. Developed initial 2 1/2ha to capacity, developing Additional 4 ha. through planning and layout.	41	97	39.77	
	Development of Demonstration Sites	25	%	To indentify demonstration sites, develop necessary infra-structure and start plantations. 100	Identified demonstration sites in Ramechhap and Sindhuli. They are surveyed at12.2 & 8.9 ha. respectively. Established offices,nurseries, and prepared 1 ha. for demonstration as well as prepared fencing for 2ha.	25	83	20.75	
	TOTAL	100	%			100		94.52	

Annual Progress: $\frac{94.52 \times 100}{100}$

= 94.52%

नेपाल कपास । एफ । एस्टेरान प्रोजेक्ट

आर्थिक वर्ष २०४४।२०४५

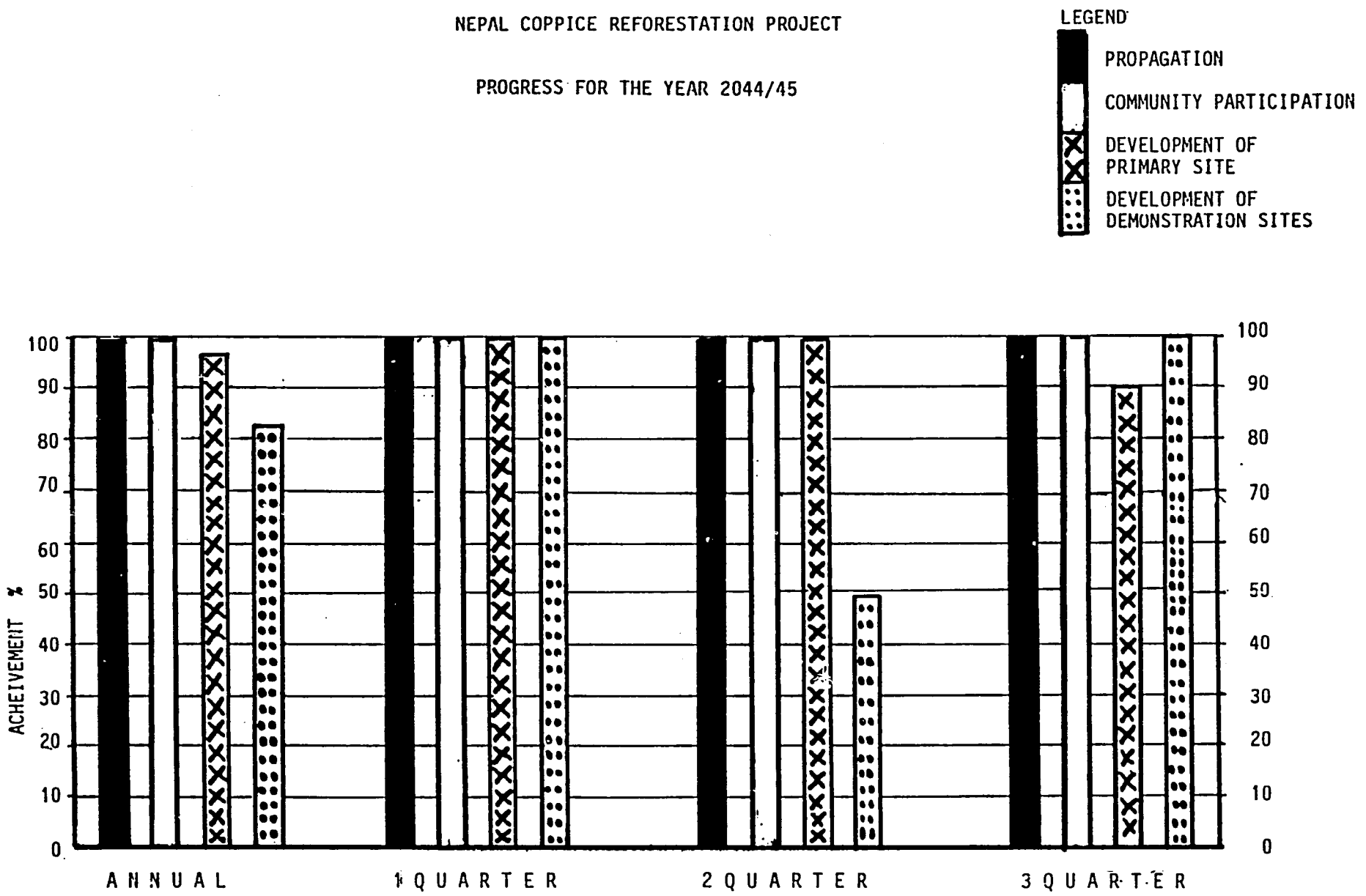
तृतीय चौमासिक कार्यक्रम

सि. नं.	कार्यक्रम	मार	एकाई	वार्षिक भौतिक लक्ष्य	तृतीय चौमासिक		चौमासिक मार	लक्ष्यको अनुपात प्रगति	मध्यको प्रगति	कैफियत
					भौतिक लक्ष्य	भौतिक प्रगति				
१.	विरुवा हुर्काउने	१७	%	१२ हजार विरुवा जम्मा गर्ने रोप्ने, उमार्ने र सार्ने हुर्काउने ।	रुख विरुवाहरु संकलन गरी लगाउने कार्य जारी राख्ने ८००० क्लमी उत्पादन गर्ने (कपिसिड०) कार्यहरु जारी राख्ने र बृद्धि दरको तथ्याङ्क संकलन गर्ने जाने ।	१७००० कटिंग्स संकलन गरी रोप्ने कार्य गरियो । विभिन्न जातका रुखको परिक्षण एवं उपचारविधि को परीक्षण गरियो । ५००० रुख विरुवाहरुको बृद्धि दरको तथ्यांक संकलन गरियो ।	५.६५	१००	५.६५	
२.	सामुदायिक सहभागीता	१७	%	योजना साइटमा सामुदायिक सहभागितालाई बढावा दिने कार्यको विस्तार गर्ने ।	सामुदायिक मान्यता पए नमएको निर्धारण गर्ने र आवश्यक मएमा यस प्रक्रियालाई परिमार्जित गर्ने ।	रामेछाप र सिन्धुलीमा सामाजिक आर्थिक सर्वेक्षण प्रारुप सम्पन्न गरियो । सामाजिक-सांस्कृतिक अध्ययन योजना पुनरावलोकन गरी संशोधन गरियो	५.१०	१००	५.१०	
३.	नर्सरी तथा अनुसन्धान साइटको विकास	४१	%	अनुसन्धान तथा विरुवा हुर्काउने कार्यको लागि ग्रिन हाउस, कार्य भवन तथा आधार भूत निर्माण कार्यहरु गराउने ।	ग्रिज हाउस तथा अन्य कार्य भवन को निर्माण कार्य पूरा गर्ने, पानी वितरण सुधार कार्य सुरु गर्ने, साइटलाई थप ४० रोपनी विस्तारित गर्ने र थप प्रदर्शन स्थल स्थापना गर्ने ।	दुई तल्ला मध्ये एक्तला साईट अफिस कार्यालय भवन निर्माण, आर. सी. सी. टयांकको लागि ठेक्कापट्टा दिने कार्य, मईरहेको पर्खालाई थप सुधार गर्ने कार्य सम्पन्न भयो । प्रदर्शनकोलागि ४ हेक्टर जग्गा तयार गरियो। ग्रीनहाउस निर्माण कार्य स्थगित भयो।	१६.४	६०	१४.७६	
४.	प्रदर्शन साइटको विकास	२५	%	उपयुक्त प्रदर्शन साइटको छनौट गर्ने र आवश्यक आधारभूत निर्माण कार्य गर्ने र विरुवा रोप्ने कार्य शुरु गर्ने ।	फिल्ड सर्वेहरु संचालन गर्ने, रिपोर्ट तैयार गर्ने र कार्यान्वयनको लागि निर्णय लिने प्रदर्शन स्थल स्थापना कार्य शुरु गर्ने ।	रामेछाप र सिन्धुलीमा साईट कार्यालयको स्थापना गरी कार्य भवनको निर्माण कार्य शुरु गरियो नर्सरीको स्थापना गरी विउ छर्ने कार्य शुरु गरियो ।	८.७५	१००	८.७५	

तृतीय चौमासिक प्रगति = $\frac{३४.५६}{३६.२०} \times १०० = ६५.४७$ %

NEPAL COPPICE REFORESTATION PROJECT

PROGRESS FOR THE YEAR 2044/45



1. PROPAGATION

Propagation work is being carried out at all three project sites, Dhading (Nisikot), Ramechhap (Rosnalu), and Sindhuli (Bhiman).

The work at the Nisikot Nursery began in September 1987. The nursery has grown through several phases as noted in prior quarterly reports. This nursery produced over 56,000 trees for out planting this season. (Appendix A). There remain many seedlings, germinates, and recently sown seed that will be utilized next season.

(Photo of Nisikot Nursery with lots of trees)

Seed collection is an important part of propagation. To ensure trees of high quality, seed must be collected properly. This requires much attention to detail both biologically and administratively. To accomplish this, a select tree register and manual have been developed. Seed must be collected at the proper time (ripeness), be processed carefully and handled properly to ensure good germination and later good quality seedlings. To ensure that the trees grown from this seed are well adapted to the environment requires that the appropriate trees are planted in the proper area. Seed was collected from known locations but most of the parent trees are on private land and currently not protected. Collection of seed and cuttings is not as simple a process as might be expected (as noted in the next section) and a system for protecting trees for subsequent collections is being developed. Labeling and record keeping throughout the process ensures the systems and trees will be evaluated properly. Seed was collected and the location recorded from 723 parent trees of 48 species. Seed collection was focused on species specifically noted in the Agreement (February 11, 1987) while seed from other MPTS of local interest were collected to ensure meeting needs of the farmers (Appendix B). Seed collection processes have developed rapidly, and will continue to improve as staff skills improve.

Photo of Ramechhap Nursery

There are nurseries at all three sites due to the sites remote locations and inherent transportation difficulties. The demonstration sites at Ramechhap and Sindhuli have both constructed nursery beds, headhouse and a simple water system.

Local seed collection from the surrounding area started immediately following establishment. This seed along with seed previously collected has been sown. (see below). This seed will produce trees to be planted next season. Trees from the same seed will be grown at all three sites to accurately evaluate systems, and site interactions. Many other species of seed are currently being collected by crews from all three sites and will be sown at the appropriate times.

SEED SOWN AT SINDHULI AND RAMECHHAP

Scientific Name	Nepali Name	Sindhuli	Ramechhap
Artocarpus lakoocha	Badahar	19	7
Bassia butyracea	Chiuri	2	-
Dendrocalmus strictus	Bans	2	-
Verano stylo	-	*	x
Desmodium green leaf	-	*	x
Desmodium silver leaf	-	*	x
Endeavour stylo	-	*	x
Setaria	-	*	x

* Beds prepared (seed sown by 1/8/88) x Broadcast
Number represents number of lots or parent trees seed came from.

Nursery beds to left of headhouse
Bishnu Tripathi Research Assistant

2. COMMUNITY PARTICIPATION

With the goal of directing the Project activities to meet the local needs and increasing local participation, information has been collected and initiatives started.

Preliminary Baseline Survey

A preliminary baseline survey of all three sites has been completed. This survey, though cursory, has helped to delineate the local environments. A more detailed household survey for all three sites is underway.

Survey Of Multi Purpose Tree Systems (MPTS)

A survey of use, benefits and functions of multipurpose trees has been completed for the area adjacent to the Nisikot site, Dhading district. The survey was conducted by one of the Project technicians using a formal interview technique. Questionaires were prepared and tested beforehand.

More Water For All

An improved local water system in the Nisikot Project area was developed in collaboration and consultation with the local farmers. As a result more water is available for all irrigation needs. This interaction has benefitted both the project and the local farmers.

Informal Meetings And Discussions

In the past year several meetings and discussions have been held. The meetings have been with government officials, both at the central and local levels, as well as national and international experts involved in community forestry projects. Such meetings and discussions have been very instructive for the Project's future involvement with the local people.

Field Visits

A number of community forestry projects with strong community participation components have been visited and their techniques have been observed.

Socioeconomic surveys were made in Ramechhap and Sindhuli prior to site selection. This information is being used by the project in understanding local conditions in these districts.

Staff Development

Staff development has been an integral part of Nepal Coppice Reforestation Project activities. Special effort has been made to develop sociocultural sensitivity among Project staff towards the local people. To this extent various formal/informal trainings have been held. NCRP staff members have attended workshops, and seminars which have broadened their understanding of problems in community participation. Equal opportunity at all

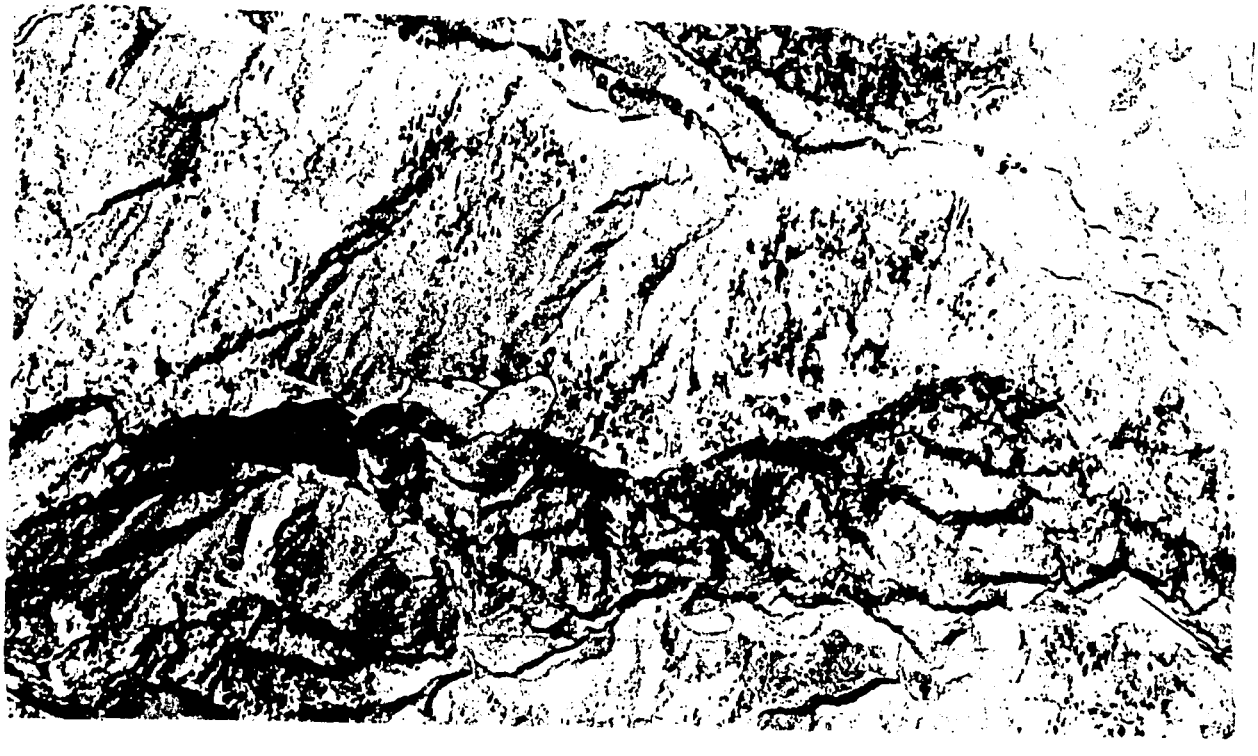
levels in the project has enhanced project effectiveness in dealing with all the local people.

Community Involvement

Informal meetings with community members, local officials, and other concerned people to develop community relations and to let people understand project activities . A plan is evolving to establish a small community forest.

Other projects in staff development include addressing sociocultural situations encountered while carrying out project activities. One area involves developing a manual to assist field workers in overcoming some of the constraints encountered while collecting seed.

To evaluate geography around the Nisikot site an aerial photo was used. A portion of the photo is reproduced below.



Aerial Photo of Nursery Site

Attempts were made to use this aerial photo to derive land use information around the Nisikot site. Detailed work was not possible at this scale, so aquisition of a better scale photo is underway.

A household survey of Bhiman village Panchayat Ward Number three has been completed. This preliminary survey notes a total population of 952 in this ward. This general survey indicated a large number of landless households in the local area. Some of the information gathered is presented on the next page.

Household Survey of Bhiman Village Panchayat
Ward Number Three

Population Information

(1)	Total number of households	168
(2)	Total population	952
(3)	Percentage of men	52.63%
(4)	Percentage of women	47.37%
(5)	Percentage of unemployed people	17.12%
(6)	Percentage of household having unemployed people	11.87%

Land Ownership

(1)	Landless household	66
(2)	Number of household having less than 5 kata of land	24
(3)	Number of household having 5-<10 kata of land	24
(4)	Number of household having 10-<15 kata of land	23
(5)	Number of household having 15-<20 kata of land	11
(6)	Number of household having 20-<25 kata of land	5
(7)	Having 25-<30 kata of land	6
(8)	Having more than 30 kata of land	9

1 kata = 338.6 sq. meters or 3645 sq. fee

PLANNING

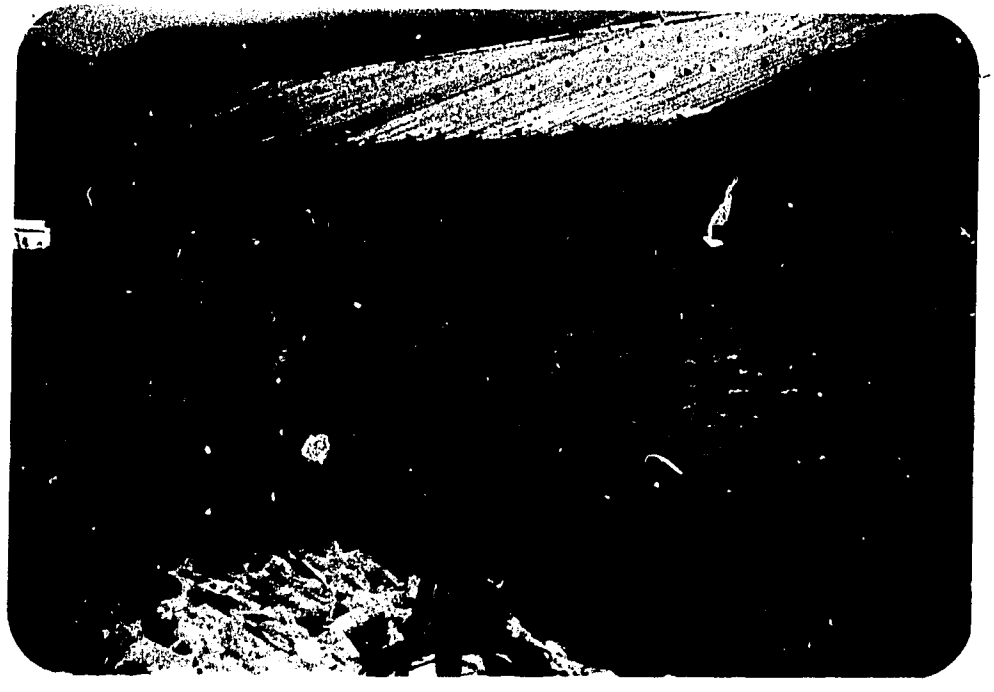
The past year saw the development of an evolutionary sociocultural plan. This plan has been developed with input from surveys, extensive field visits, consultations with government officials, and other projects, as well as dialogue within the project.

3. DEVELOPMENT OF NURSERY AND RESEARCH SITE

This year saw approval of the Nisikot site for project activities on August 12, 1987. Work commenced on August 14, 1987 with construction of a guard house and the beginning of fencing (See quarterly reports for details).

All data collectors and labor are from the local area. Need for labor is seasonal with as many as 80 people required during busy times. Much effort is made to impart skills and provide opportunities for local people to improve their self sufficiency. Informal training for these people has been undertaken.

The infrastructure of this site is well developed. The water situation at the site has shifted development priorities from a greenhouse to a water system. To develop this system cooperation of local landowners and water users has evolved. This water system includes an intake, plastic piping, open (cement pointed) rock ditches, pressure release tanks, a siltation tank, a siphon, and a reservoir tank. All original access to the water has been maintained, and an improved flow of water due to fewer leaks is a benefit to all. This reservoir tank will supply the nursery by gravity and allow storage of water for up to two months allowing more water for local use during the dry season. The improved headhouse is now completed and the office is well under way. The improvements to the headhouse will allow work in inclement weather, while the office will improve conditions for the paperwork essential to efficient management.



Improved Headhouse

The two and one half hectares nursery that was fenced during the first quarter is full. A demonstration area of about four hectares has been laid out and work has begun on terracing, brushing, and fencing. Demonstrations of contour hedgerows, short rotation demonstrations at various spacings, growth and survival plots, natural forest plantings, as well as appropriate local systems are planned.

Appendix D is a map that includes details of the water system, the fence line of the original 2 1/2 hectare nursery area, the stream that is the water source, expansion area, and other features of the site area.

Plans for the expansion area are detailed in Appendix E. This map shows the areas being developed for growth and survival plots, contour hedgerow and short rotation demonstrations, as well as other important features.

Data Collectors measuring Bakaino (Melia Azedarach)

Data has been collected from all the trees planted last year, as well as from the nursery. To collect this data special forms were created. These forms will simplify entry and later analysis of the information on a computer. In the first step a large scale (form) map of an area is made to show the relationship of all trees in that area (see Appendix F). For this example a form (map) is made from a surveyed map of the terraced area on the south side of the nursery. This area was planted with the 17 species of trees listed on the next page.

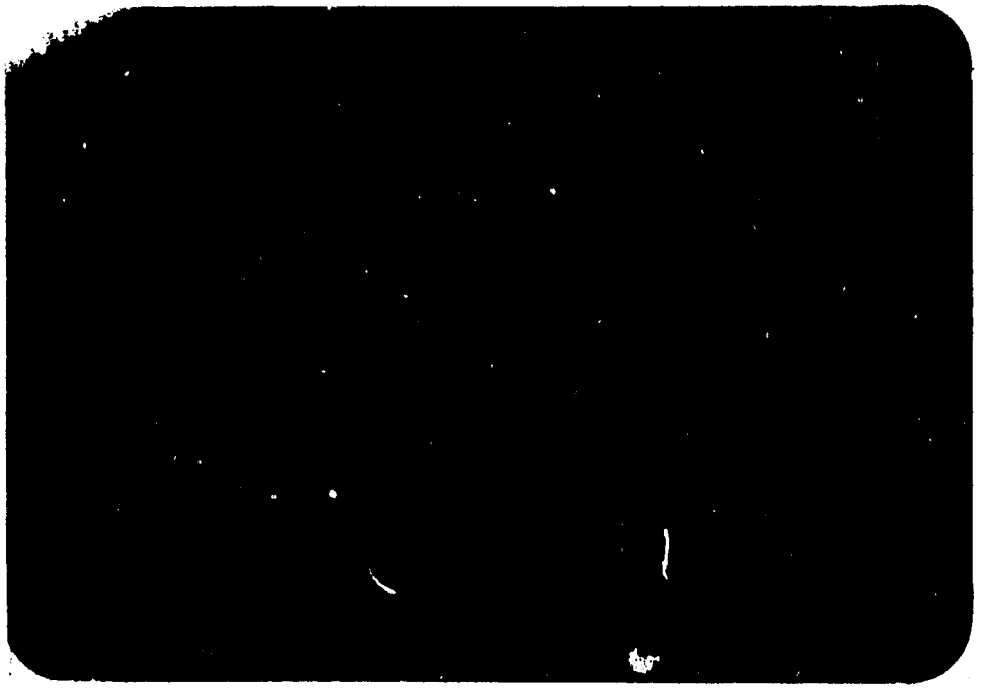
Albizia procera	Leucaena leucocephala
Alnus nepalensis	Litsea polyantha
Bassia butyracea	Melia azedarach
Bauhinia purpurea	Populus deltoides
Eucalyptus comaldulensis	Prunus ceresoides
Ficus lacor	Quercus leucotrichophora
Ficus roxburghii	Quercus glauca
Ficus virens	Populus (Hybrids)
Grevillea robusta	

Each block on the form represents an individual tree and the numbers are row numbers (usually 2 trees per row). These are used to assign each tree a discreet number that the tree can be identified by.

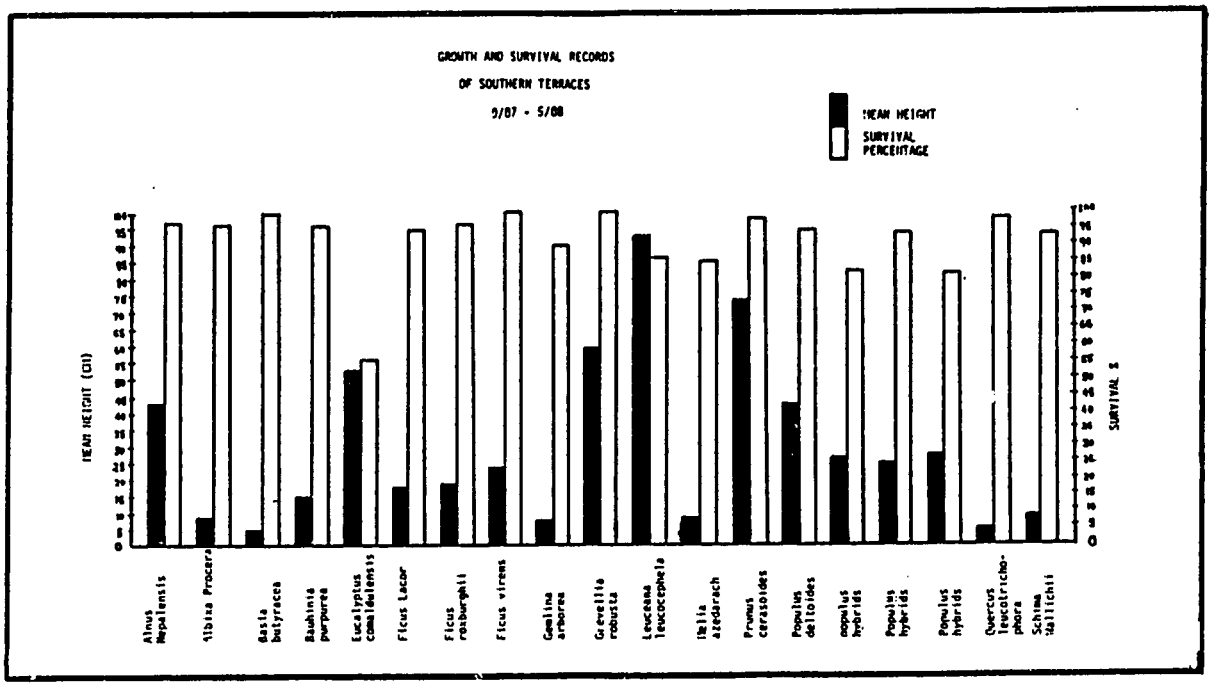
The next step is to use smaller scale data collection forms, these are used to collect information from each tree (see Appendix G). This system allows collection of any type of data and for the monitoring of each individual tree over time using a predefined or user defined coding system. This will allow for more accurate evaluation of the appropriate systems.

The trees on these terraces have all been evaluated for growth and survival. The photo below shows the terraces on the south side of the nursery with local people cutting the grasses in between the trees.

Nisikot Terraces D in Appendix K

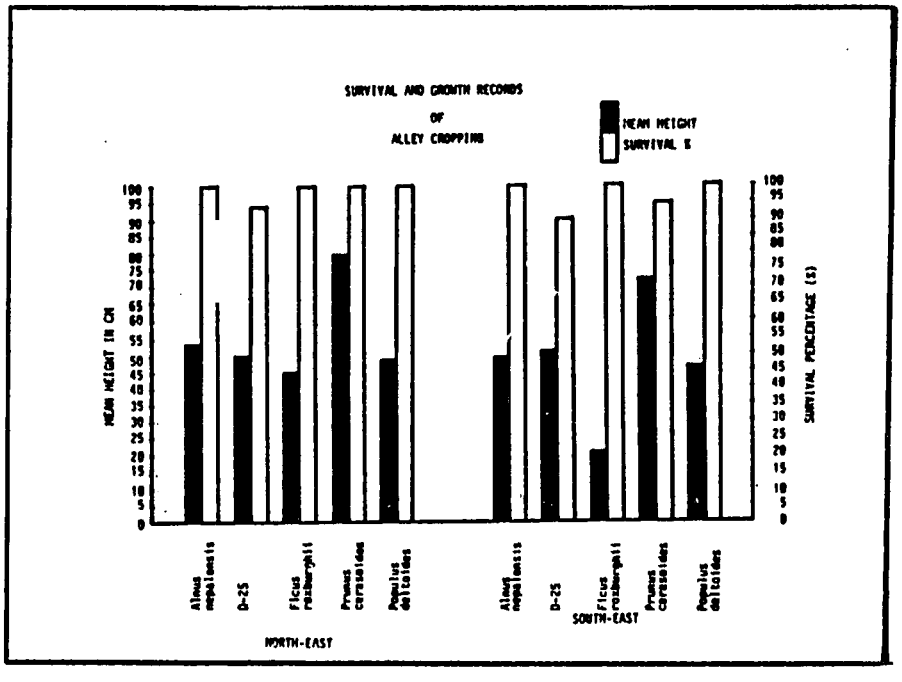


The data on growth and survival of the trees on these terraces for the first year is summarized below.

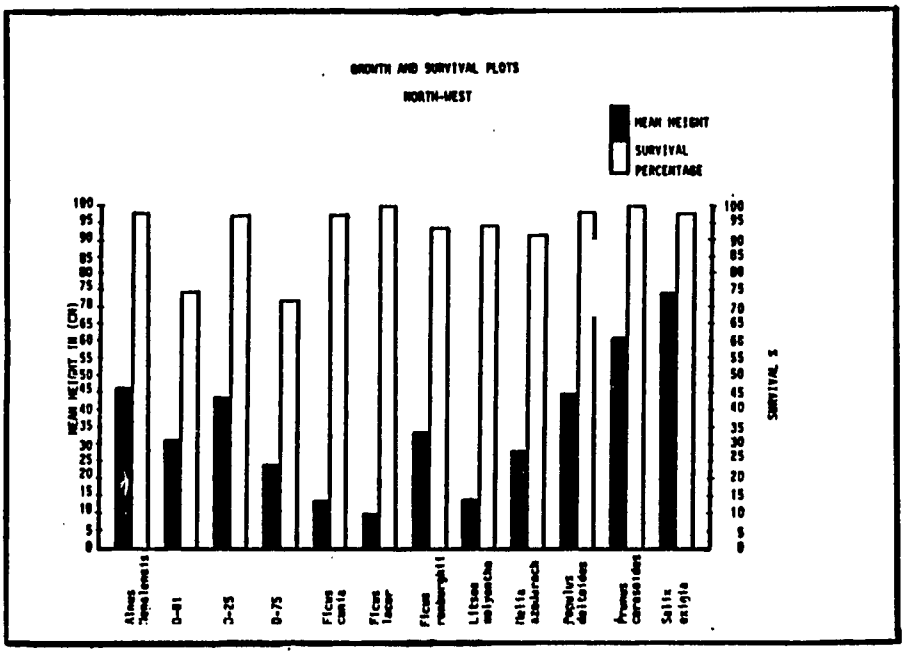


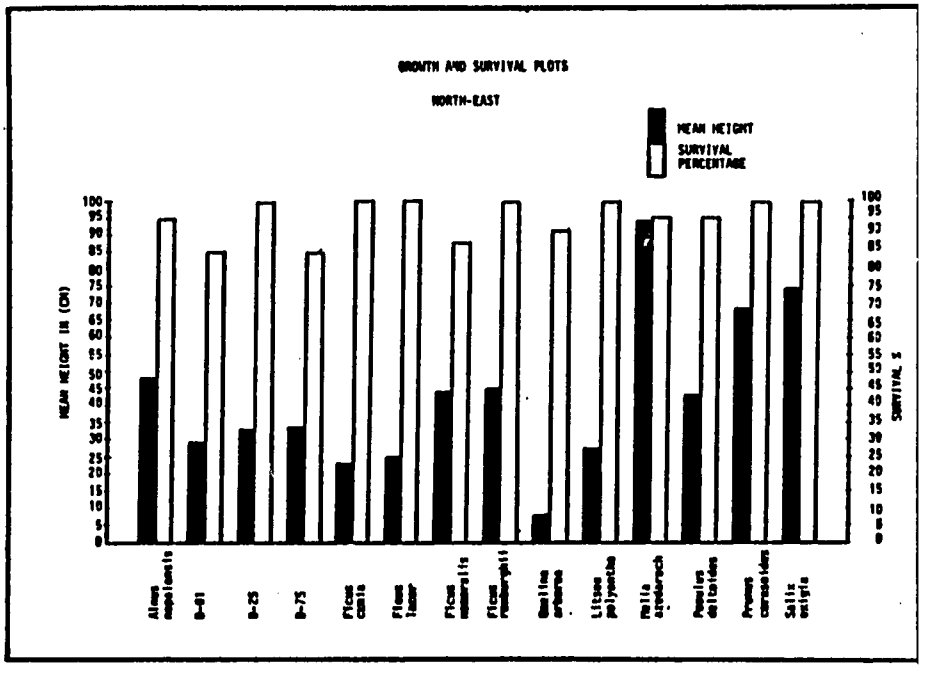
These species showed excellent survival yet height growth was quite variable.

A small alley cropping demonstration was established. Trees were spaced at two meters between rows and one meter within rows. These rows of trees will serve as wind protection for the stooling bed. The following chart summarizes growth and survival of the five species used in this demonstration. (B in appendix H)



Growth and survival plots planted in a random complete block design on two exposures in the nursery area were evaluated. The chart below indicates slightly different growth rates between the two exposures (C in appendix H). Growth this year will accentuate these differences as there is a visual difference in growth between the two plots.





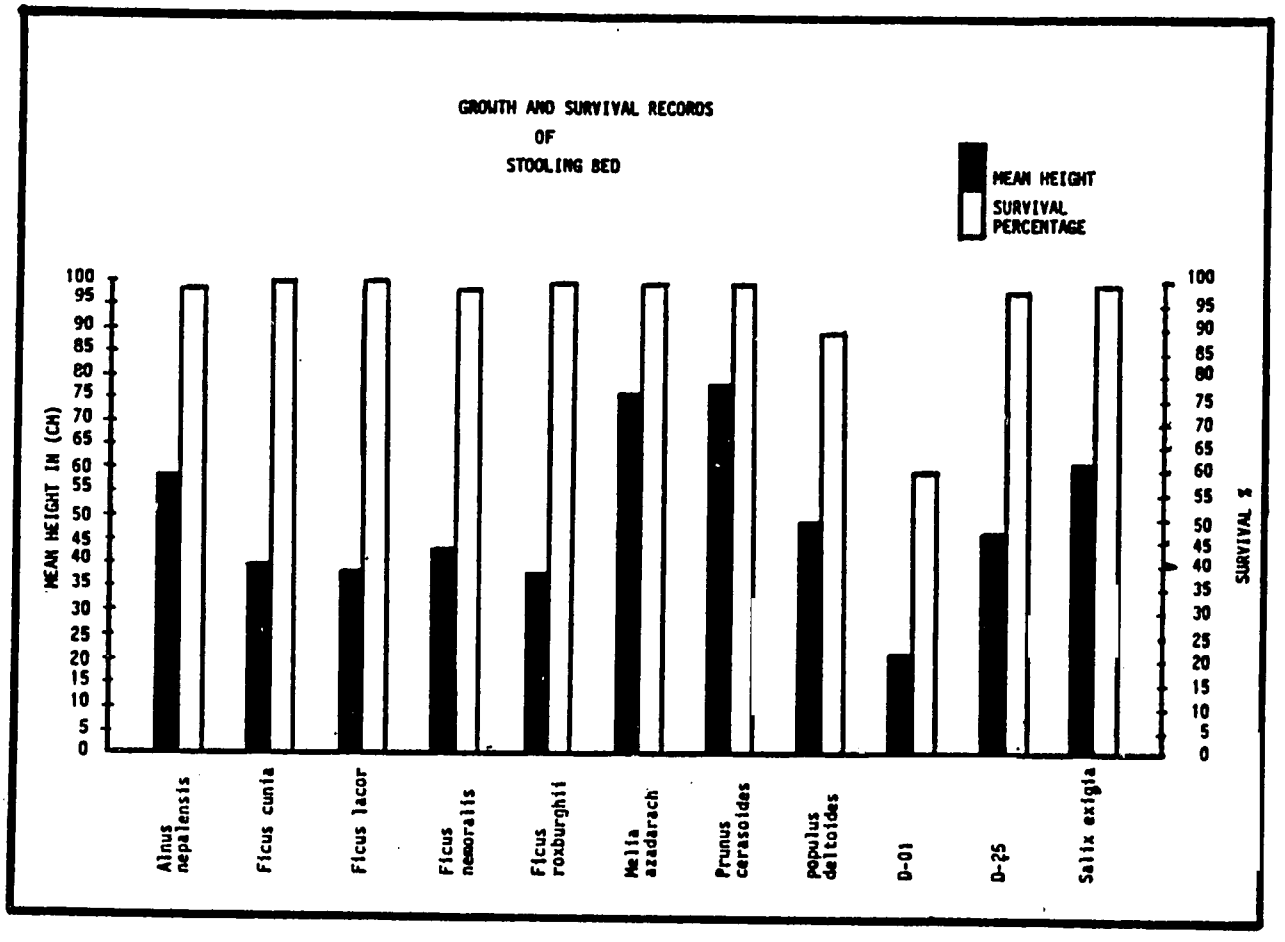
The nursery was developed to evaluate different techniques and practices. Evaluation of potting mixtures, bed densities, bed types, size of poly bags, and other variables are currently underway.

Note seedling size difference

The stooling bed established last year was not utilized this year for cuttings as the trees were small and their diameter not large enough for use. They have been allowed to grow and will provide cuttings for next season. Growth and survival of the trees in these beds are summarized on the next page.

An overall survival of over ninety seven per cent for all trees planted last season was excellent. Height growth was satisfactory. Growth measurements for this season have not been made, yet many trees are over two meters tall.

GROWTH AND SURVIVAL RECORDS OF STOOLING BED



4. DEVELOPMENT OF DEMONSTRATION SITES II

The Department of Forest was of great assistance in identifying and making available sites for Nepal Coppice Reforestation Project activities. The site in Ramechhap is in Rosnalu panchayat in Ward Nos. 5 and 6 and the Sindhuli site is in Bhiman Panchayat Ward No. 3. Sites were selected in April and May with work beginning in May and June, and progressing rapidly to date.

Topographical survey maps at a scale of one inch equals one mile for Ramechhap and Sindhuli were obtained. These maps with one hundred foot contour intervals were used to assess potential site areas and were useful in planning site selection works. The site selection process involved developing and assessing selection criteria for many area's in Ramechhap and Sindhuli. The following chart summarizes information on sites that were selected.

Site Selection Criteria MO= Must Do = 15 points SD= Should Do =10points NTD=Nice To Do= 5points	Nisikot			Ramechhap			Sindhuli		
	MD	SD	NTD	MD	SD	NTD	MD	SD	NTD
Elevation (600 meter +)	15			15			15		
Accessibility	15			10			15		
Water Supply			5			5			0
Aspect		10			10			10	
Availability of land		5			10			10	
Potential Pest Problems			5			5			5
Seed Crops			0			0			5
Previous Extension Work in area		10			10			10	
Use of MPTS by local People		10			10			10	
Local Peoples Ability to Assimilate New Ideas			0			0			0
Existing Social Cleavages			5			5			5
Educational Facilities in Local Area			0			0			5
Availability of Local Nursery Materials									
	30	35	15	25	40	15	30	40	20
		80			80			90	

KEY:	met criteria	nearly met criteria	did not meet criteria
MD	15points	10 - 15	0
SD	10points	5	0
NTD	5points	0	

Numerous visits were made by NCRP staff, evaluating potential area's, consulting with local officials, and residents in Ramechhap and Sindhuli. Assistance from the Department of Forest and local District Forest Controllers in locating suitable government land enabled the project to begin activites at both field sites this season.

Soil samples were collected at all three sites. The analysis has been helpful in evaluating local conditions. There were seven composite samples taken from different plots at the Nisikot site and one composite sample each from Ramechhap and Sindhuli. What immediately stands out is the consistently acid soils at all sites. This indicates that the essential elements in the soil are relatively unavailable for use by plants and caution must be used with common nitrogen fertilizers as this will further increase the acidity of the soil. Additional samples have been taken and are being processed.

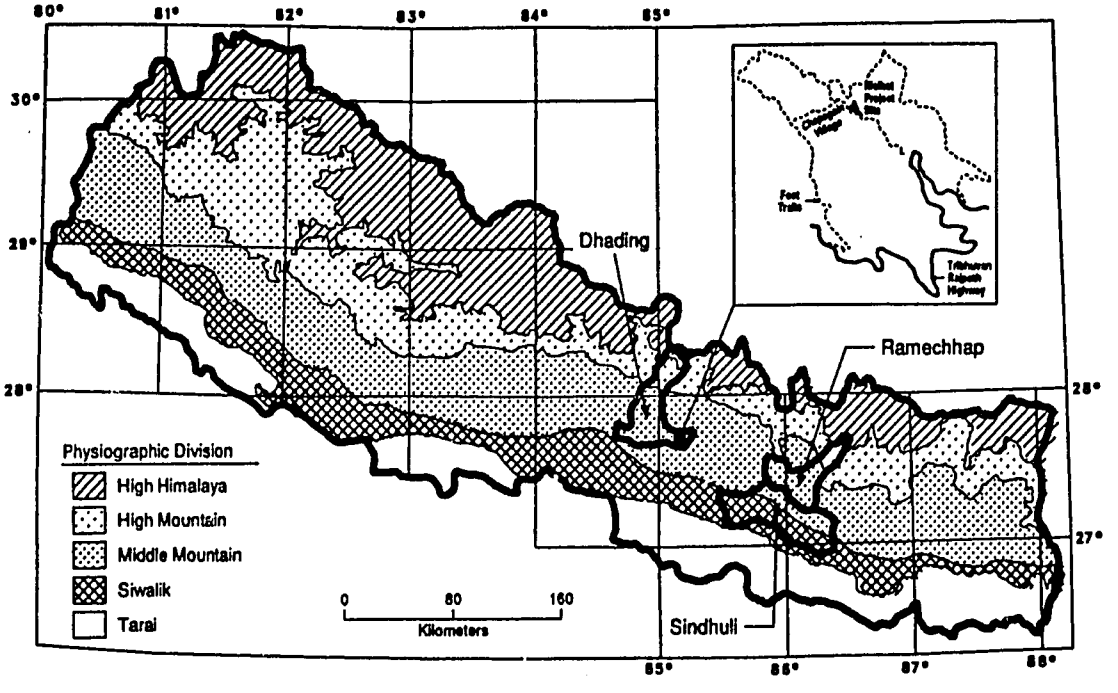
Sample Location	pH	Nitrogen %	Phosporus kg/ha	Potassium kg/ha	Organic matter %
Nisikot, Dhading 4000'	4.5	0.18	57.7	580.6	5.30
Nisikot, Dhading 4000'	5.2	0.12	26.8	177.4	3.42
Nisikot, Dhading 4000'	5.4	0.11	26.8	306.4	3.15
Nisikot, Dhading 4000'	5.4	0.09	8.2	129.0	2.21
Nisikot, Dhading 4000'	5.5	0.06	10.3	102.1	1.27
Nisikot, Dahding 4000'	5.3	0.11	10.3	150.5	2.75
Nisikot, Dhading 4000'	5.2	0.06	12.4	107.5	1.81
Bhiman, Sindhuli 1300'	5.0	0.10	20.6	139.7	1.25
Rosnalu, Ramechhap 5800'	5.0	0.20	48.1	182.7	4.22

Nitrogen is somewhat deficient in all cases but as might be expected there is twice as much in Ramechhap than the Sindhuli site.

LOCATION

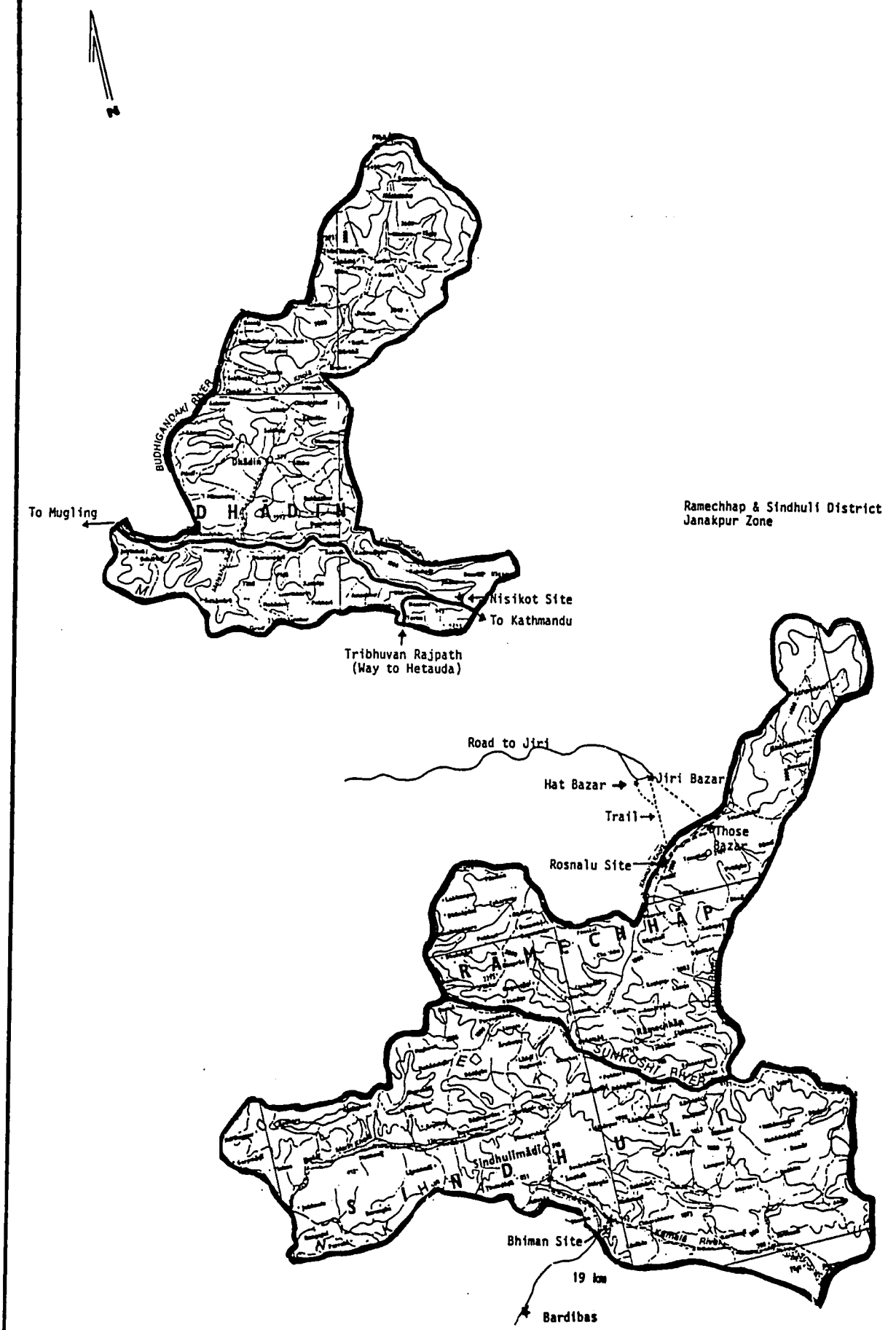
Ramechhap and Sindhuli lie within the central development region, and stradle the mid hills of Nepal along with the Dhading District. The map below shows the relative locations of the three districts.

Map of Ramechhap and Sindhuli



Physiographic Map of Nepal Showing Locations of Project Sites

The detailed maps that follow show the relative location of the sites within the districts.


Dhading District
Bagmati Zone
BUDHIGANDAKI RIVER
Dhadin
D H A D I N
To Mugling
Nisikot Site
To Kathmandu
Tribhuvan Rajpath
(Way to Hetauda)
Ramechhap & Sindhuli District
Janakpur Zone
Road to Jiri
Hat Bazar
Jiri Bazar
Trail
Those Bazar
Rosnalu Site
R A M E C H H A P
SUNKOSHI RIVER
Sindhulimadi
S I N D H U L I
Bhiman Site
19 km
Bardibas

RAMECHHAP

This site in Rosnalu Panchayat was identified on 16th April, 1988 and work began on 30th May, 1988. Mr. Prakash Pyakuryal site manager is developing many project activities. This site is at 5800' (1,856 m), faces generally Northwest and is surveyed at 12.2 hectares. An area of the site that is open meadow, and covered with banmara is being developed first. An office has been established near the site.

Rosnalu,Ramechhap
Nepal Coppice Reforestation Project Office
(left to right: Mr. Prakash Pyakuryal, Site Manager;
Mr. Bhubaneswor Dhakal, Research Technician with other NCRP staff

Currently access to the site is from Jiri "Hat", the route heads south and crosses the Khimti Khola on a suspension bridge.

Bridge on trail to site in Rosnalu

The route takes about three to four hours to walk. A road from Jiri to Dharapani, and eventually to Those will improve access by allowing us to use a better bridge at Digi. (currently washed away)

Information on MPTS species in the local area has been collected (see Appendix C). Precipitation for the area exceeds 2,000 mm annually with cloud cover over 120 days per year.

An area has been terraced, nursery beds have been constructed and seed sown. A small headhouse has been constructed.

Populus planting in Ramechhap

SINDHULI

The site in Bhiman panchayat ward number 3 of the Sindhuli district was made available for project use on 28th April, 1988.

Mr. Bissu Babu Tiwari, site manager began project work on 19th June. Work started with preparations for a nursery and overall site layout.

This site, located in the Siwalik hills is low lying and potentially prone to flash floods. Rainfall information for the local area is not currently being collected but is less than 1,000 mm per year with half the number of cloudy days as our site in Ramechhap (about 60).

The Siwaliks are a tertiary sediment composed of sandstone, mudstone and conglomerate. The soils of these hills are thin and heavy rain causes sheet run off, this results in flash situations.

These forests are protected yet are heavily exploited with little understory and the remaining trees widely spaced. Work is underway building diversions to prevent flooding from the intermittent streams that flow onto the site from the west.

Photo of fence post making at Bhiman site

A fence is being erected around 2 hectares for work this year and is nearly complete. Terracing for the nursery and grass seed production beds is progressing rapidly. Nursery beds have been prepared and seed sown. Two thatch buildings have been constructed for storage, working area and protection from the elements.

Bamboo is not strictly a multipurpose tree but is a multipurpose grass in high demand by the local villagers. The supply of bamboo in the Bhiman area is limited and the demand is very high. A demonstration of the use of bamboo "cuttings" to reproduce bamboo plants for domestic use as well as erosion control is underway.

Bans growing in beds at Bhiman site

TRAINING ASSESSMENT

This year a contract was developed to assess training needs in Multipurpose Trees. This assessment will look at all levels of need from rural farmers, local technicians, to professional foresters. Sociocultural criteria are evalauted at all levels to determine needs. This information will be essential in the next phase of developing training materials for the training area of project activity, as well as information for further evolving our sociocultural plan.

The primary objectives of this task are to:

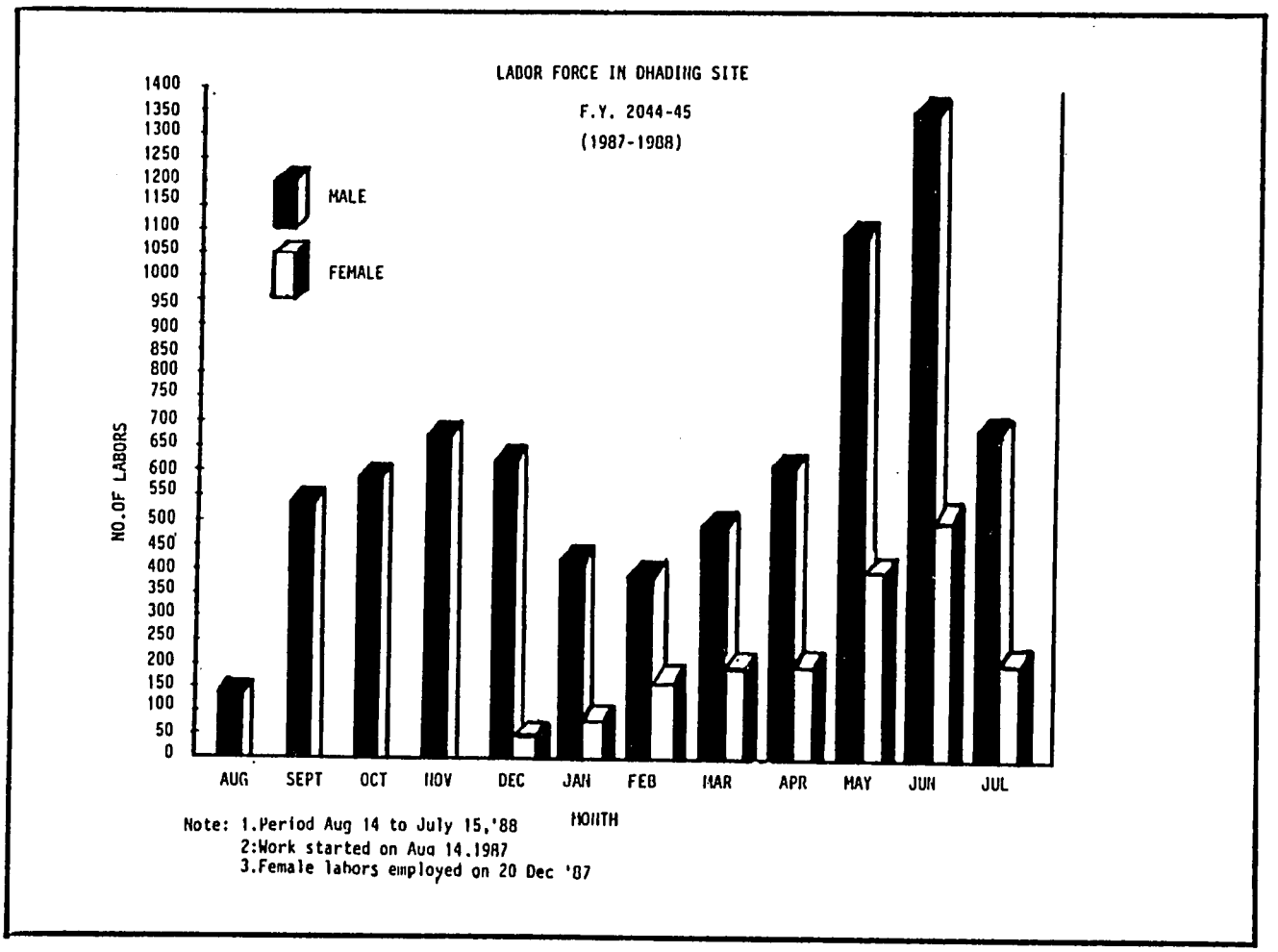
a: to assess the institutional environment for existing and possible training programmes.
b: to identify training needs in the area of Multipurpose tree systems with particular emphasis on coppicing at the community, technical, and professional levels.
c: to develop the specific curriculum and design training materials for each level of the training program
d: to formualate instruction strategy

The major components of this assessment will review the institutional environment, other projects, social factors, and to identify training needs and methods at the community, technical and professional levels. This will give us an understanding of attitudes regarding MPTS and coppicing techniques as well as information on existing practices around the communities. This will also give us a picture of the user's view of the priority of biomass production versus other needs. We will also gain a perspective of various socio-economic elements that will affect their views and practices.

A training need can be defined as a deficiency, imbalance, lack of adjustment or gap between what is the existing understanding and the practices performed by the field staff and the local farmers regarding MPTS and what is required to improve the deficiencies in the existing production systems. Understanding these differences provides the actual training needs in MPTS. The information gathered above will be documented, compiled, and evaluated. From these differences, a global picture of training needs for MPTS will emerge. Based on this assessment, the curriculum, training plans, and training materials can be developed.

Status of Employee

S.No.	Name	Position	Appointment Date
1	Babu Kaji Maharjan	Gardener	1 February, 1987
2	Bhai Dangol	Messenger	1 February, 1987
3	Sanu Maharjan	Mimeo Operator	25 April, 1987
4	Khem B. Gurung	Security Guard	4 June, 1987
5	Bikesh Shrestha	Procurement	8 June, 1987
6	Deepak Pandey	Security Guard	15 June, 1987
7	Sanu Maharjan	Driver	26 July, 1987
8	Mahesh Chapagain	Nursery Asst.	1 August, 1987
9	Madhav B. Sharma	Admn. Officer	5 August, 1987
10	Gopal Silwal	Foreman	21 August, 1987
11	Ram U. Mandal	Nursery Tech.	4 September, 1987
12	Teg Malla	Admn. Asst.	9 September, 1987
13	Gopal Maharjan	Driver	1 December, 1987
14	Dhana B. Thapa	Security Guard	16 December, 1987
15	Jeevan Maharjan	Overseer	23 December, 1987
16	Bishnu Tripathi	Research Asst.	27 December, 1987
17	Hari Chapagain	Data collector	5 January, 1988
18	Sambhu Chapagain	Data collector	5 January, 1988
19	Krishna Pathak	Security Guard	8 January, 1988
20	Shanti K. Rai	Extension & Education	8 February, 1988
21	Bhubaneswor Dhakal	Agroforestry Field Research	28 March, 1988
22	Bishnu Thapa	Security Guard	1 April, 1988
23	Ram B. Khulal	Security Guard	1 April, 1988
24	Bekha Maharjan	Driver	14 April, 1988
25	Ananda Shrestha	Accountant	9 May, 1988
26	Madhuri Mathema	Sociologist	1 June, 1988
27	Bissu Babu Tiwari	Site Manager	5 June, 1988
28	Ram Hari Koirala	Data collector	1 July, 1988
29	Santosh Giri	Data collector	1 July, 1988
30	Pradeep Mathema	Computer Operator	1 July, 1988
31	Prakash Pyakuryal	Site Manager	15 July, 1988
32	Buddhi lal Shrestha	Foreman	20 July, 1988
33	Man Maya Karki	Office Helper	24 July, 1988
34	Indra B. Thapa	Security Guard	27 July, 1988


LABOR FORCE IN DHADING SITE
F.Y. 2044-45
(1987-1988)
MALE
FEMALE
NO.OF LABORS
1400
1350
1300
1250
1200
1150
1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
AUG
SEPT
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
MONTH
Note: 1.Period Aug 14 to July 15,'88
2:Work started on Aug 14.1987
3.Female labors employed on 20 Dec '87

MILESTONE (CUMULATIVE)

11th February, 1987

Agreement between His Majesty's Government of Nepal and the United States of America.

30th April, 1987

In-country project manager, Kran Kilpatrick and a team from Argonne National Laboratory arrived in Kathmandu.

23rd July, 1987

Letter from Ministry of Forest and Soil Conservation regarding first site (Dhading).

12th August, 1987

Dhading DFO Mr. Raj Shrestha visits site at Nisikot.

14th August, 1987

Work began at Dhading site in the Naubise village panchayat.

15th August, 1987

His Majesty's Government approved Kran Kilpatrick as project manager.

13th September, 1987

Planting work begun at Dhading site.

22nd October, 1987

US AID director Mr. Wilson and staff visited the site.

6th November, 1987

US Ambassador Mr. Weil visited the site.

9th November, 1987

Mr. Ono, Resident Representative of JICA, Kathmandu visited site with staff.

12th November, 1987

An officer from DOF, Dhading DFO, T. Kadorev from FAO, and representatives of JICA have visited the site.

8th December, 1987

Chief Conservator Mr. G. R. B. Mathema and Deputy Chief Conservator Mr. U. B. Shrestha visited the Nisikot site.

21st January, 1988

Nepal Coppice Reforestation Project made an agreement with the panchayat representative and local people to trap water from Kharka Khola and develop a water system for local use.

22nd January, 1988

Acting Ambassador Mr. Lewis MacFarlane visited the Nisikot site.

13th February, 1988

Mr. John Pielemeier, Director Office of South Asian Affairs (US AID Washington) visited Nisikot site with Mr. George Taylor (US AID), and Kran Kilpatrick (NCRP).

20th February, 1988

Mr. Don Johnson, Program Manager (ANL), arrived in Kathmandu to participate in Coordinating Committee Meeting.

26th February, 1988

Project Coordinating Committee meeting under the chairmanship of Mr. B. N. Khujeli, Secretary, Ministry of Forest and Soil Conservation was held.

3rd March, 1988

Charles Hash, US AID Dhaka visited Nisikot to overview progress.

8th March, 1988

Mr. Gary Williams, Rural Sociologist, ANL arrived in Kathmandu.

18th March, 1988

John Hudson, Team Leader, Forestry Research Project; visited Nisikot site with two Nepalese officials and two British people.

21st March, 1988

Project manager, Mr. Kran Kilpatrick participated in a five day workshop on MULTIPURPOSE TREE SPECIES NETWORK trials at the Hotel Himalaya organized by Winrock's F/FRED program.

25th March, 1988

K. G. MacDicken, Winrock; F. B. Cady, F/FRED; P. A. Huxley, Nairobi, Kenya; Shams-ur-Rehman, Pakistan Forest Institute, Peshwar; J. S. Rawat, Bharathi Dasen University; Iqbal Hussain, Senior Scientific Officer, Rajasthan Agriculture University, India; Kenneth L. McNabb, Winrock, Pakistan; Chin Ong, Principal Agronomist, Crops Research Institute for the Semi-Arid Tropics; Raziuddin Ansari, Principal Scientific Officer, Atomic Energy Agricultural Research Center, Pakistan visited the Nisikot site.

4th April, 1988

Collect letter from Department of Forest for making land available to Nepal Coppice Reforestation Project for sites at Ramechhap and Sindhuli.

12th April, 1988

Mr. Sagendra Tiwari, District Forest Controller, Mr. Raj Swartha Shah for Ramechhap District Forest Controller and a team from Nepal Coppice Reforestation Project went to Ramechhap with the purpose to find a suitable site for NCRP to work at Ramechhap.

16th April, 1988

A suitable site in Rosnalu panchayat, Ward No. 5 and 6 was made available for use by the project.

19th April, 1988

Dr. Donald Dickman, Michael Gold, Foresters Michigan State University; Tara Nath Battarai, Ministry of Forest and Soil Conservation; and Tom Callerson, Consulting Forester Associates in Rural Development visited the Nisikot site.

26th April, 1988

Project manager and Administrative Officer, Nepal Coppice Reforestation started for Sindhuli to evaluate area and specify a project site. Met Central Regional Director of Forest Mr. I. S. Thapa and briefed project activities.

28th April, 1988

After reviewing several potential sites, Forest Officer of Sindhuli made available a site of about 12 hectares area at Korang Khola Ward No. 3 of Bhiman Village Panchayat.

10th May, 1988

Marcus Robbins, Advisor National Tree Seed Project visited Nisikot site.

13th May, 1988

Milton Frank, Ambassador, United States of America; David M. Wilson, Director, US AID/NEPAL; Raj Bahadur Shrestha, District Forest Controller, Dhading; Ramsaran Uprety, Pradhan Pancha, Naubise inspected Nisikot site.

30th May, 1988

Work at Rosnalu site in Ramechhap district is started.

5th June, 1988

Mr. Bissu Babu Tiwari is appointed site manager to the Bhiman Sindhuli site.

17th June, 1988

Bhiman site is established, work at the site begins on 19th June.

21st June, 1988

Project staff visited Sindhuli District Panchayat Chairman Mr. Krishna Burma; Chief District Officer Mr. Krishna Murari Sharma and Pradhan Pancha Mr. Purusotam Paudyal and briefed them on the objectives and norms of the project.

28th June, 1988

(a) Secured the service of a qualified Entomologist to evalaute and report on insect populations, potential insect problems and prescribe control measures.

(b) Results of soil analysis for the Ramechhap and Sindhuli sites have been received from Khumaltar. This information will be useful in detailed planning of research and demonstration plots.

9th July, 1988

Dr. Gilbert Fechner, Department of Forest and Wood Sciences, Colorado State University arrived in Nepal. Dr. Fechner is an advisor to Nepal Coopice Reforestation Project.

14th July, 1988

Forester Mr. Bruce Young, Argonne National Laboratory, Chicago, Illinois arrived in Nepal. He will assist Project manager in development of training plans and other project works.

15th July, 1988

Site Manager for Rosnalu Mr. Pyakuryal is appointed.

Appendix A

Trees for outplanting at Nisikot, 1988

Species Number	Species	Nepali Name	Total Number of Seedlings
007	Acacia catechu	Khayer	366
012	Acacia melanoxylon	Blackwood	18
045	Albizzia mollis	Rato siris	362
047	Albizzia procera	Seto siris	407
060	Alnus nepalensis	Utis	12981
072	Artocarpus lakoocha	Badahar	151
150	Bassia butyracea	Chiuri	111
151	Bauhinia purpurea	Tanki	2298
152	Bauhinia veriegata	Koiralo	142
175	Boehmeria rugulosa	Dar	2
225	Chorospondias axillaris	Lapsi	447
229	Dendrocalmus strictus	Bans	152
246	Dalbergia sissoo	Sissoo	7
266	Eucalyptus camaldulensis	Masala	126
407	Ficus benghalensis	Bar	13
408	Ficus clavata	Gedilo	341
409	Ficus cunia	Khanayo	61
412	Ficus lacor	Kavro	304
413	Ficus nemoralis	Dudhilo	115
415	Ficus roxburghii	Nevaro	48
425	Fraxinus floribunda	Lankuri	430
441	Grewia subinaequalis	Seyalphusre	5
500	Leuceania leucocephala	Ipil Ipil	632
535	Melia azedarach	Bakaino	11559
542	Morus alba	Kimbu	4986
547	Phyllanthus emblica	Amala	1742
586	Plantus occidentalis	N/A	1700
604	Populus deltoides	Lahare pipal	1055
625	Prunus ceresoides	Painyu	11627
640	Quercus glauca	Phalant	1308
643	Quercus leucatrichophora	Sano banjh	66
661	Rhus javanica	Bhaki amilo	3019
662	Rhus succedanea	Bhalayo	48
725	Sapindus mukorossi	Ritha	469
730	Saurauia nepaulensis	Gogan	26
732	Schima wallichii	Chilaune	330
		TOTAL	57670

Appendix B

Seed Lots

Species Number	Scientific Name	Local Name	Nisikot	Sindhuli	Ramechhap	Total Lots
007	Acacia catechu	Khayer	2			2
045	Albizia mollis	Rato siris	6			6
046	Albizia lebbeck	Kalo siris	1			1
047	Albizia procera	Seto siris	8			8
060	Alnus nepalensis	Utis	118			118
072	Artocarpus lakoocha	Badahar	28	19		47
150	Bassia butyracea	Chiuri	2	3		5
151	Bauhinia purpurea	Tanki	22			22
152	Bauhinia variegata	Koiralo	6			6
184	Brassaiopsis glomerulata	Kalo chuletro	1			1
192	Buddleja asiatica	Bhimsenpati	1			1
197	Cassia fistula	Raj briksha	10			10
225	Chorospondias axillaris	Lapsi	2			2
231	Cryptomeria japonica	Dhupi salla	3			3
254	Dendrocalamus strictus	Bans	2	3		5
266	Eucalyptus camaldulensis	Mashala	2			2
408	Ficus clavata	Gedilo	49	2	1	52
409	Ficus cunia	Khanayo	75	18	3	96
410	Ficus glaberrima	Pakhure	2			2
411	Ficus hispida	Khasreto		14	1	15
412	Ficus lacor	Kavro	1			1
413	Ficus nemoralis	Dudhilo	5			5
415	Ficus roxburghii	Nimmaro	16	22	7	45
419	Ficus glumerata	Dumri	3			3
425	Fraxinus floribunda	Lankuri	2			2
438	Grevillea robusta	Kangivo	3			3
441	Grewia subinaequalis	Syal phusre	1			1
500	Leucaena leucocephala	Ipil Ipil	18	3		21
528	Litsea cubeba	Siltimur	2		2	4
529	Litsea polyantha	Kutmero	14			14
535	Melia azedarach	Bakaino	71			71
541	Misa chisa	Bilaune	3			3
542	Morus alba	Kimbu	8			8
552	Pinus patula	Paula salla	1			1
616	Premina integrifolia	Gindari		1	1	2
625	Prunus cerasoides	Painyu	83			83
640	Quercus glauca	Phalant	1			1
642	Quercus lanata	Banjh	1			1
643	Quercus leucotrichophora	Sano banjh	1			1
725	Sapindus mukorossi	Ritha	6			6
730	Saurauja nepaulensis	Gogan	4			4
732	Schima wallichi	Chilaune	25			25
745	Shorea robusta	Sal	4			4
751	Syzygiam cumini	Banj amun		1		1
765	Terminalia alata	Saj	1			1
767	Terminalia belerica	Barro	5			5
769	Terminalia chebula	Harro	1			1
782	Tsuga dumosa	Gobre salla	1			1
		TOTAL	622 lots	86 lots	15 lots	723lots

A Lot is seed from an individual tree. The number of seed per lot varies.

MULTIPURPOSE TREE SPECIES IN THREE DISTRICTS

Species Number	Scientific Name	Common Name	Nisikot *	Ramechhap *	Sindhuli *
007	Acacia catechu	Khayer	x	x	x
012	Acacia melanoxylun	Black wood		x	
045	Albizia mollis	Rato siris	x	x	
046	Albizia lebbeck	Kalo siris	x		
047	Albizia procera	Seto siris	x		
060	Alnus nepalensis	Utis	x	x	
072	Artocarpus lakoocha	Badahar	x		x
078	Arundinaria intermedia	Nigalo		x	
150	Bassia butyracae	Chiuri	x		x
149	Bassia latifolia	Mahuwa		x	
151	Bauhinia purpurea	Tanki	x		x
152	Bauhinia variegata	Koiralo	x		
184	Brassaiopsis spp.	Chuletro		x	
192	Buddleja asiatica	Bhimsenpati		x	x
197	Cassia fistula	Raj bricksha	x		
208	Castanopsis	Katus		x	
225	Choerospondias axillaris	Lapsi	x	x	
231	Cryptomeria japonica	Dhupi salla	x		
259	Dendrocalanus Strictus	Bans	x	x	
264	Erythrina arborescens	Faledo		x	
266	Eucalyptus camaldulensis	Masala	x	x	
400	Eurya acuminata	Jhingane		x	
408	Ficus clavata	Gedilo	x		
409	Ficus cunia	Khanayo	x	x	x
410	Ficus glaberrima	Pakhure	x		
411	Ficus hispida	Kharseto			x
412	Ficus lacor	Kabro	x	x	x
413	Ficus nemoralis	Dudhilo	x	x	
414	Ficus religiosa	Pipal		x	
415	Ficus roxburghii	Nirmaro	x	x	x
425	Fraxinus floribunda	Lankhuri	x	x	
430	Garuga pinnta	Dabdabe			x

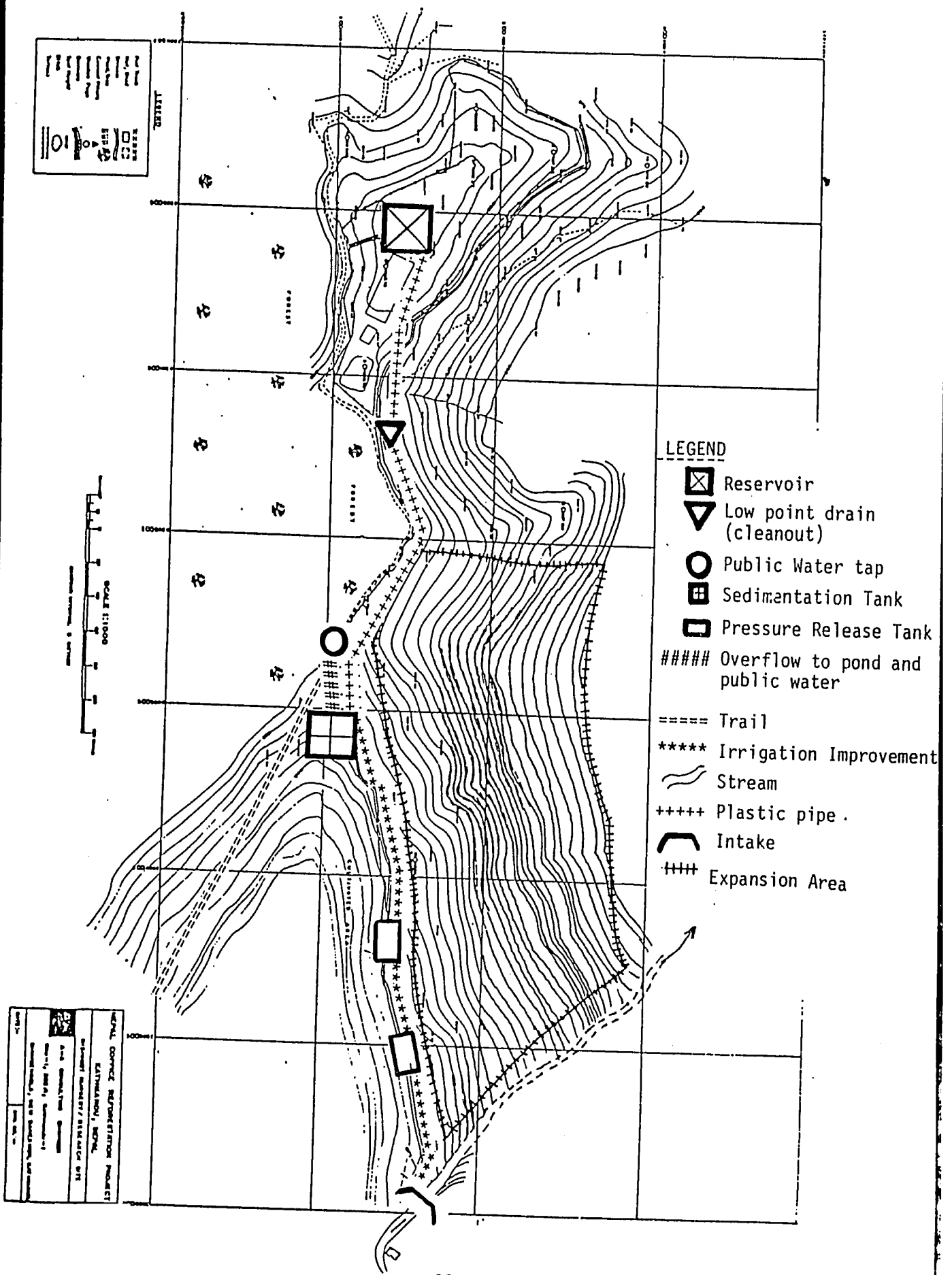
MULTIPURPOSE TREE SPECIES IN THREE DISTRICTS

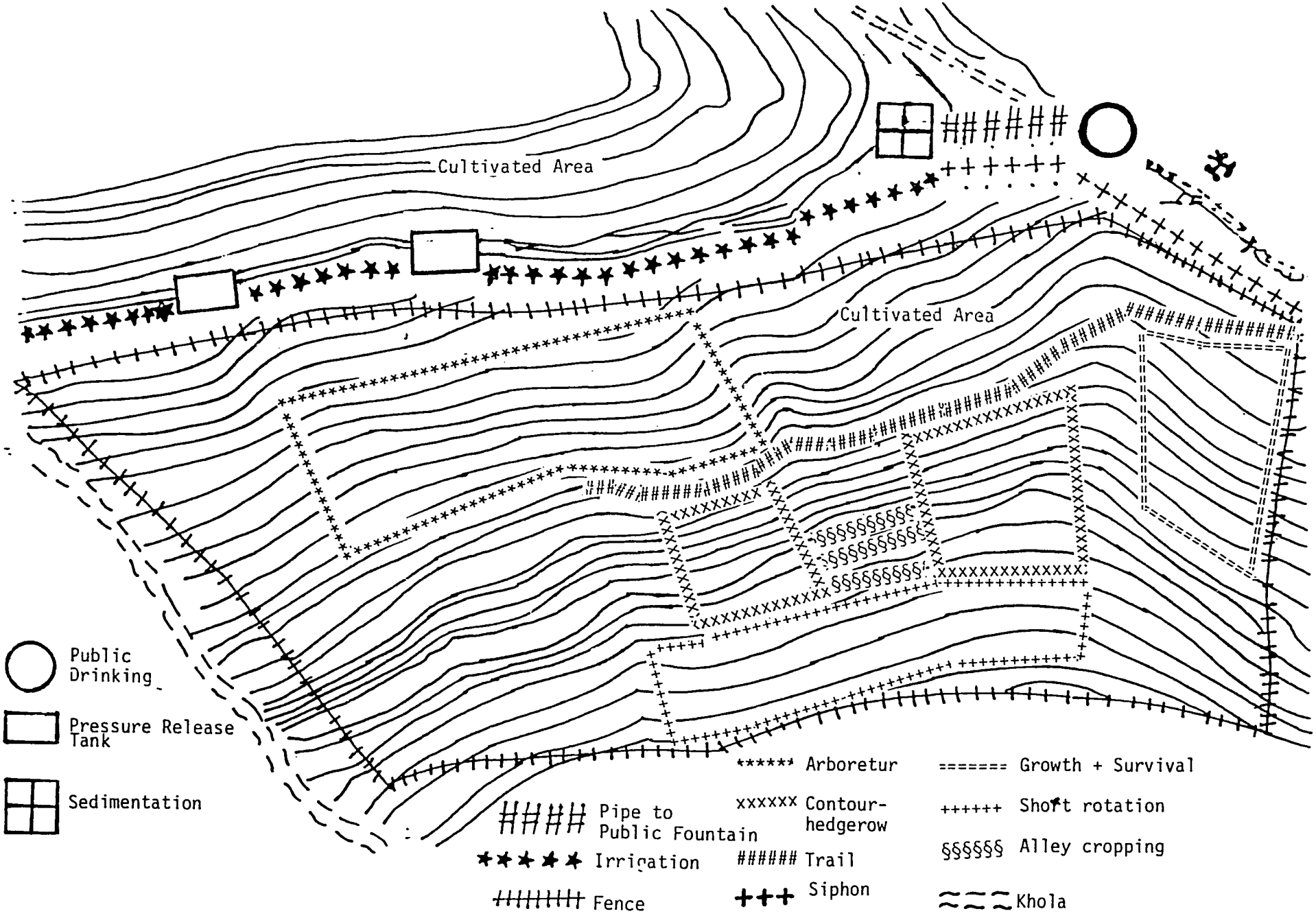
Species Number	Scientific Name	Common Name	Nisikot *	Ramechhap *	Sindhuli *
	Grewia oppositicolia	Shyal phusre	x	x	
441	Grewia subinaequalis	Phosro, Shayal phusre		x	x
462	Lagerstroemiaparviflora	Asare		x	
500	Leucaena leucocephala	Ipil Ipil	x	x	x
636	Lithocarpus fenestrata	Arkhalo		x	
528	Litsea cubeba	Siltimur	x	x	
529	Litsea polyantha	Kutmero	x	x	x
525	Luucosceptrum canum	Ghormiso		x	
531	Machilus odoratissima	Kaulo		x	
535	Melia azedarach	Bakaino	x		
540	Michelia chmpaca	Champ		x	
541	Misa chisa	Bilaune	x		
542	Morus alba	Kimbu	x		
547	Phyllunthus emblica	Amala	x		
	Pinus species	Salla		x	
552	Pinus patula	Patulla salla	x		
604	Populus deltoides	Lahare pipal		x	
616	Premina integrilfolia	Gindari		x	x
625	Prunus ceresoides	Painyu	x	x	
	Pyracantha crenulata	Ghangaru		x	
630	Pyrus pashia	Mel		x	
640	Quercus glauca	Phalant	x	x	
641	Quercus lamellosa	Bangset		x	
642	Quercus lanata	Banjha	x	x	
646	Quercus semecarpifolia	Khasru		x	
661	Rhus javanica	Bhake amilo	x	x	
662	Rhus succedanea	Bhalayo		x	
725	Sapindus mukorossi	Ritha	x		
730	Saurauja nepaulensis	Gogan	x	x	
732	Schima wallichi	Chilaune	x	x	
767	Terminalia belerica	Barro	x		
769	Terminalia chebula	Harro	x		
771	Terminalia tomentosa	Saj	x		
786	Wrightia antidy centrica	Khirro		x	
791	Zizyphus incurva roxb.	Hade bayar		x	

* These are MPTS in use in the local areas around our sites.

Appendix D

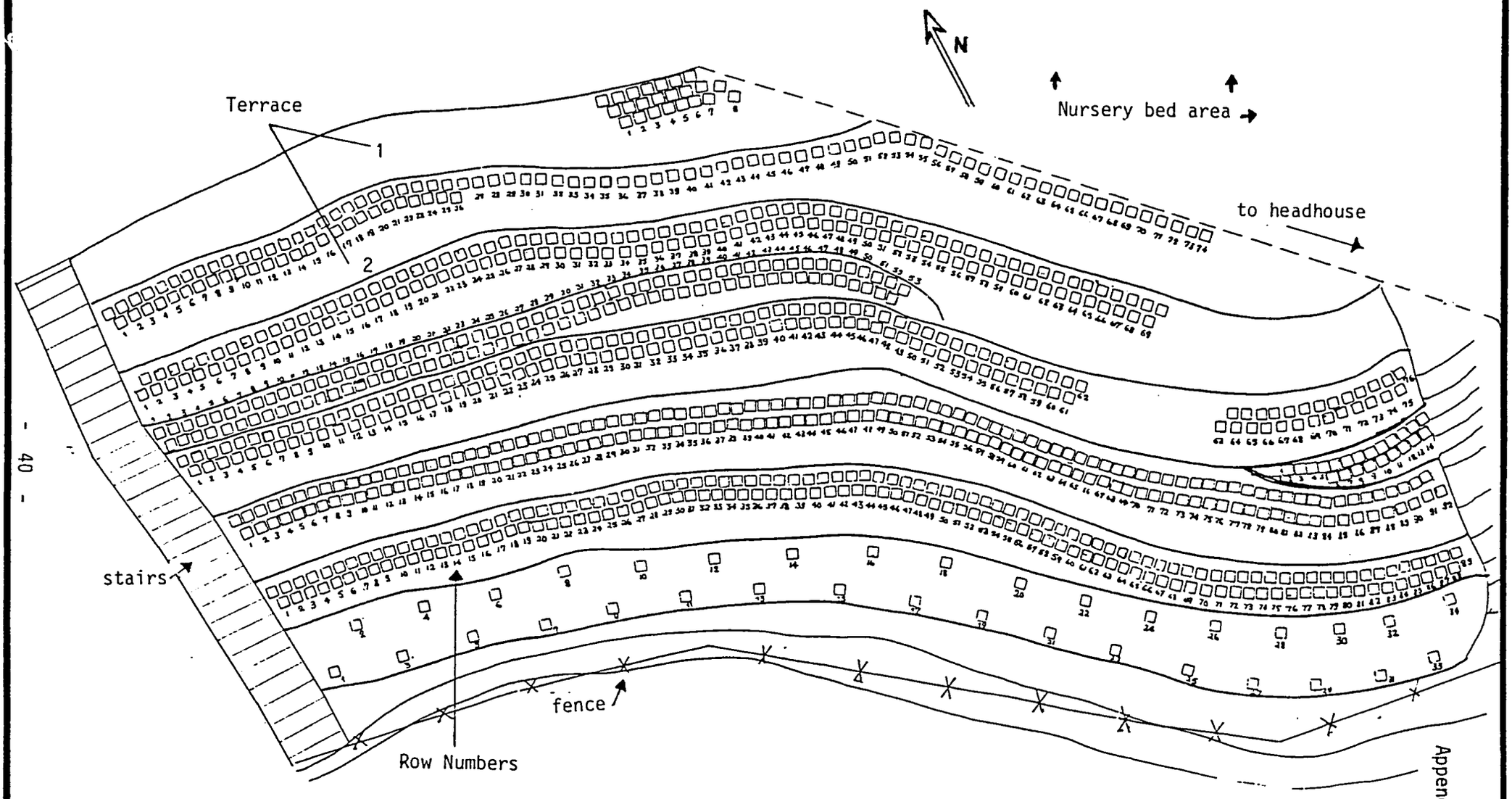
MAP OF NISIKOT SITE





NISIKOT EXPANSION AREA

Appendix E



SOUTH SIDE TERRACES

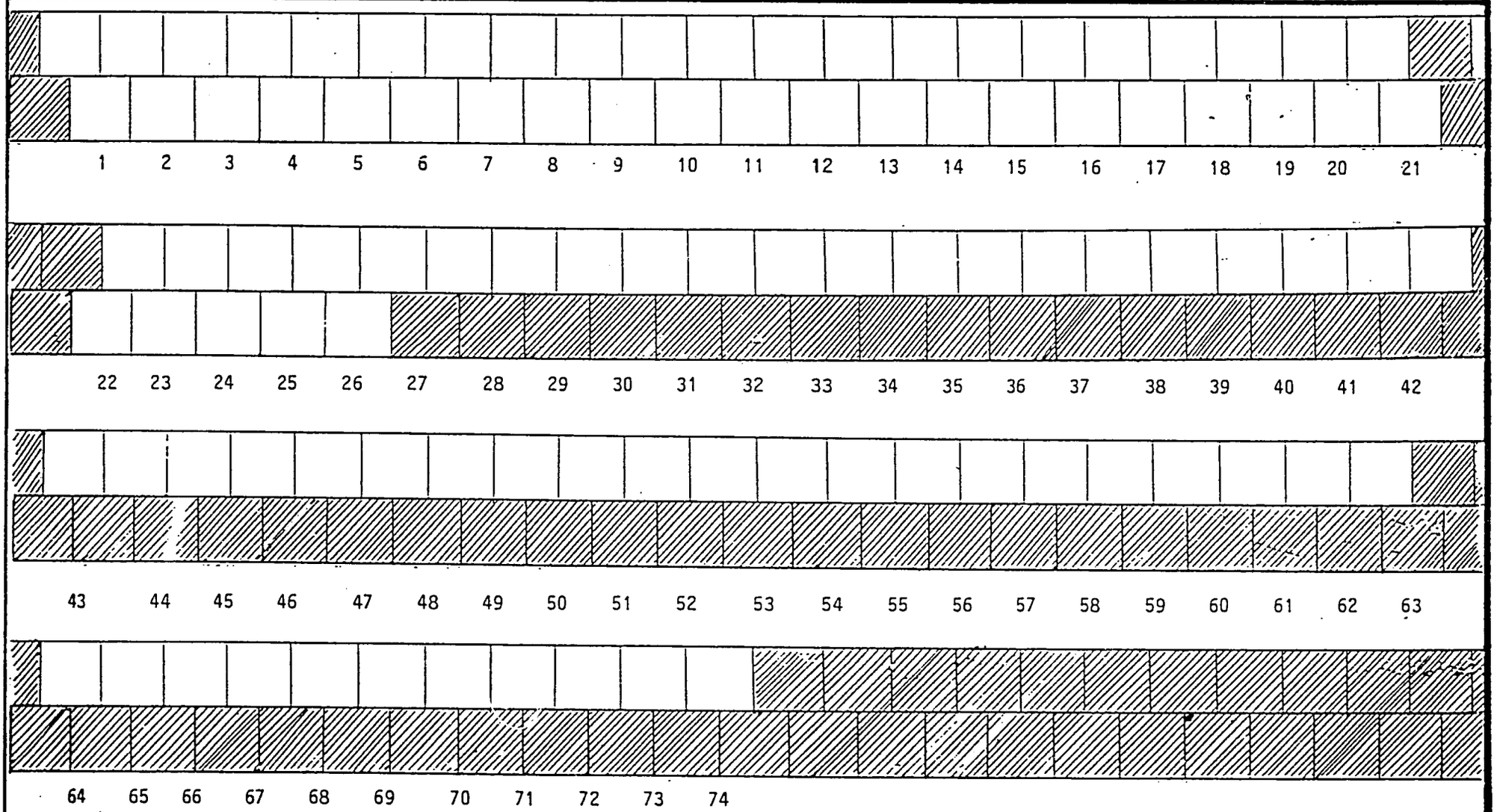
□ Each Block Represents a tree.

NISIKOT

SITE: NISIKOT,DHADING
(South Side)
TERRACE: 2

NEPAL COPPICE REFORESTATION PROJECT

DATE
RECORDER (NAME'S)

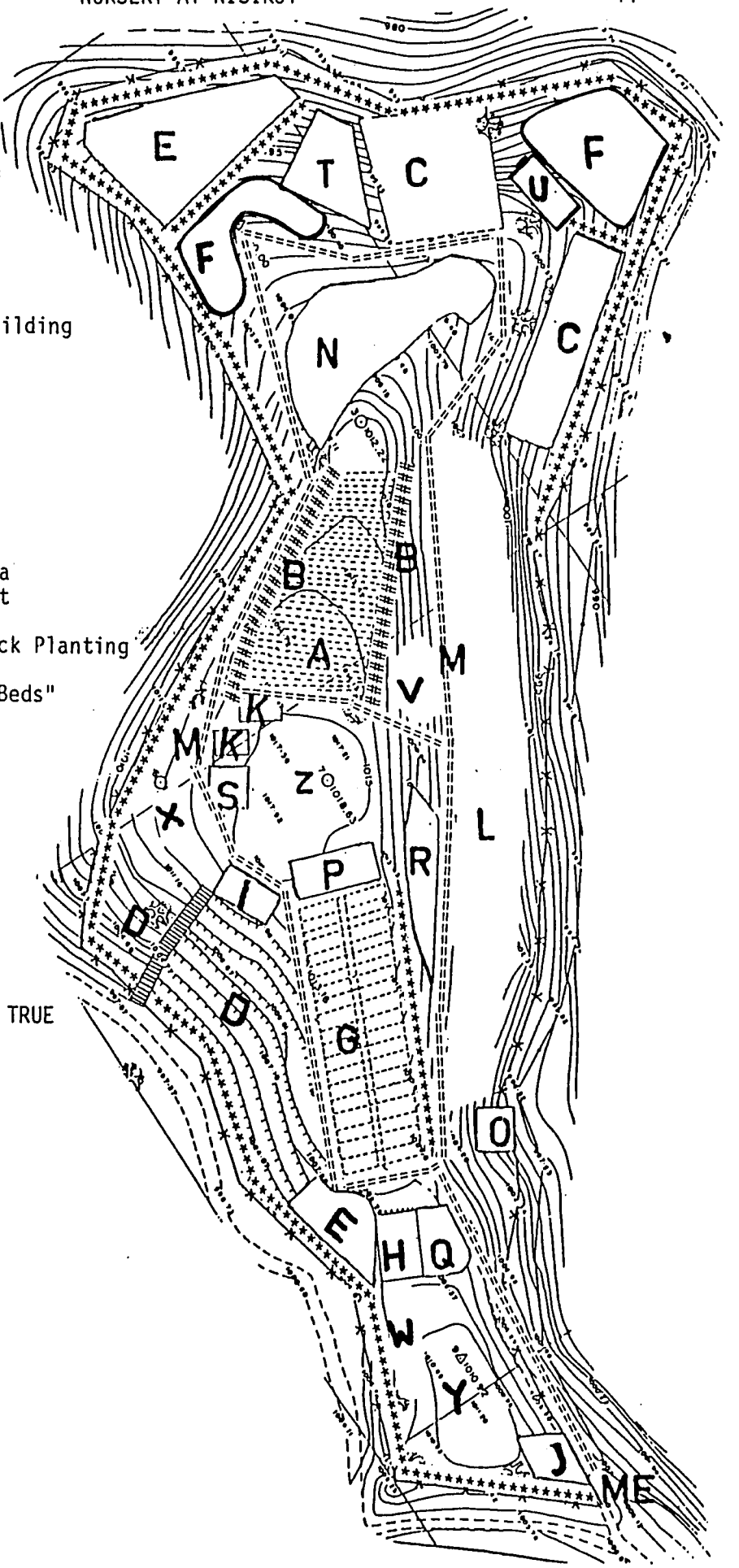


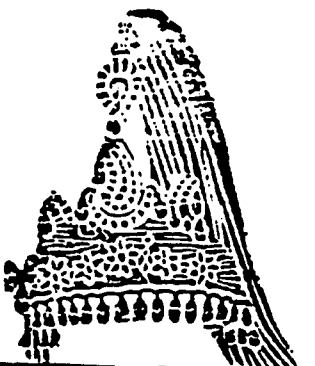
NURSERY AT NISIKOT

KEY

A	Stooling Beds
B	Alley Cropping ###
C	Growth & Survival
D	Terraced Area
E	Block Plantings
F	Grass Seed Beds
G	Main Nursery
H	Headhouse Site (Building Completed)
I	Greenhouse Site
J	Office Building
K	Storage
L	Nursery N Side
M	Ring Trail
N	Nursery North
O	Outhouse
P	Water Storage Tank
Q	Headhouse Work Area
R	Short Rotation Plot
S	Scales Area
T	Short Rotation Block Planting
U	Compost Pit
V	"Farmers' Nursery Beds" Demonstration
W	Compost Storage
X	Gabion Fabrication
Y	Materials Storage
Z	Ban Devi
***	Wind Barrier
x-x	Fence
o	Wooden Posts
△	Cement Markers
ME	Main Entrance

ELEVATIONS RELATIVE, NOT TRUE





नेपाल राजपत्र

श्री ५ को सरकारद्वारा प्रकाशित

खण्ड ३७)काठमाडौं, कात्तिक ३० गते २०४४ साल (संख्या ३०

भाग ५

श्री ५ को सरकार

कानून तथा न्याय मन्त्रालयको सूचना

श्री ५ को सरकार, नेपाल र संयुक्त राज्य अमेरिका सरकारबीच सम्पन्न भएको Reforestation Project सम्बन्धी सम्झौता सर्वसाधारणको जानकारीको लागि प्रकाशित गरिएको छ ।

Dated: February 11, 1987

AGREEMENT
BETWEEN
HIS MAJESTY'S GOVERNMENT OF NEPAL
AND
THE UNITED STATES OF AMERICA
FOR
REFORESTATION PROJECT

His Majesty's Government of Nepal (hereinafter referred to as "HMG/N")

And

The United States of America, acting through the Agency for International Development ("A.I.D.").

Whereas, A.I.D. and HMG/N ("The Parties") have agreed in principle to a project to promote reforestation activities in Nepal;

Whereas, in consequence of that agreement A.I.D. has obligated grant funds to finance the project through a separate Participating Agency Service Agreement ("PASA") with Argonne National Laboratory ("Argonne"), a division of the U. S. Department of Energy ("D. O.E.");

Whereas, Argonne pursuant to the PASA will implement and manage the project;

Whereas, the Parties now wish to confirm their understandings with regard to the project and provide for its implementation;

The Parties hereto agree as follows:

Article 1: **The Agreement**

The purpose of this agreement is to confirm the understandings

of the Parties referred to above and provide for the implementation of the projcet.

Article 2: **The Project**

SECTION 2.1. **Definition of Project.** The purpose of the project is to promote a balanced approach to reforestation in Nepal that will help meet Nepal's needs for fuel and fodder production, soil and water resource conservation and, where appropriate, commercialization of wood products. The project will have research, demonstration and training components. The description of the project is amplified in the project description prepared by Argonne in consultation with HMG/N. The amplified project description is incorporated into this agreement as Annex 1.

SECTION 2.2. **Modification or Amendment of Project.** If HMG/N and Argonne propose any substantive deviation from the amplified project description, such deviation is subject to prior notice to and concurrence by A.I.D. A.I.D. concurrence may be obtained by written agreement of the authorized representatives of the Parties named in Section 8.2., without formal amendment of this agreement.

Article 3: **Financing**

SECTION 3.1. **Amount.** A.I.D. will provide up to Two Million Two Hundred Eighty Thousand United States (U.S.) Dollars (2, 280,000) in grant funds to finance the foreign exchange and local currency costs of the project. The Grant amount includes amounts expended prior to the signing of this agreement in connection with initial assessment visits to Nepal, development of the work plan and other project activities.

SECTION 3.2. **Project Assistance Completion Date.** The activities financed under the project will be completed over a four year period, ending on June 30, 1990, unless the completion date is extended by the Parties in writing.

Article 4: **Special Covenants**

SECTION 4.1. **Trainees.** HMG/N will provide appropriate persons for training to support project activities. HMG/N will also provide for roundtrip travel costs for all HMG/N participants to the

point nearest to the place of training to which Royal Nepal Airlines Corporation (RNAC) flies. HMG/N will take reasonable steps to ensure that after the completion of training each trainee's skills will be properly utilized in Nepal reforestation activities.

SECTION 4.2. **Land Sites.** HMG/N will provide appropriate land sites to conduct project activities.

SECTION 4.3. **Project Evaluation.** A.I.D. will receive copies of all reports prepared pursuant to the evaluation plan set forth in the amplified project description. If A.I.D. determines at its discretion to conduct an independent evaluation of the project, HMG/N will cause its officers and employees to give full cooperation and assistance to A.I.D. in connection therewith. Any such evaluation by A.I.D. will be financed with project funds.

SECTION 4.4. **Exemption From Contract Tax.** Contract funds provided for project activities pursuant to the A.I.D. Grant are exempt from the assessment, withholding, collection or payment of the Nepal contract tax under Standard Provision B.4 of the Standard Provisions Annex to this Agreement. HMG/N will not assess, withhold, collect or require payment of contract tax on contracts funded under this agreement. HMG/N will include a clause in procurement documents and contracts executed or administered by HMG/N Ministries and agencies for all contracts funded hereunder that the contract is exempt from the withholding, assessment, collection and payment of contract tax and that contractors' bids and vouchers shall not include amounts for the contract tax.

Article 5 : **Procurement Source**

Commodities financed by A.I.D. under the project shall have their source and origin in Nepal or in countries included in A.I.D. Geographic Code 941 except as A.I.D. may otherwise agree in writing, and except as provided in the Standard Provisions Annex(Annex 2 to this Agreement) with respect to marine insurance. The suppliers of commodities or services shall have Nepal or countries included in A.I.D. Geographic Code 941 as their place of nationality, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree

in writing, be financed only on flag vessels of Nepal or Code 941 countries.

Article 6. **Procurement**

Procurement of goods and services required for project activites, including the rules governing competition and notification of suppliers, shall be subject to the normal procurement rules of D.O.E. and/or Argonne as they may be modified by separate agreement between Argonne and HMG/N, and as specified in the Standard Provisions Annex to this Agreement.

Aritcle 7: **Disbursement**

Disbursement of Grant funds in support of project activities will be made by A.I.D. to Argonne pursuant to the A.I.D. Argonne PASA, or in such other manner as the Parties may agree.

Article 8: **Miscellaneous**

SECTION 8.1. **Communication.** Any notice, request, document, or other communication submitted by either party to the other under this Agreement will be in writing or by telegram or cable and will be deemed duly given or sent when delivered to such party at the following addresses:

To HMG/N:

Mail and Cable Address: Additional Secretary
Foreign Aid Coordination Division
Ministry of Finance
His Majesty's Government
Bagh Durbar
Kathmandu, Nepal

To A.I.D. :

Mail and Cable Address: Director
U.S. Agency For International Development
c/o American Embassy
Kathmandu, Nepal

All Such communications will be in English, unless the parties otherwise agree in writing. Other ddresses may be substituted for the above upon the giving of notice.

SECTION 8.2. **Representatives.** For all purposes relevant to this Agreement, HMG/N will be represented by the individual holding or acting in the office of Secretary or Additional Secretary, Ministry of Finance, and A.I.D. will be represented by the individual holding or acting in the office of Director, USAID/Nepal, each of whom, by written notice, may designate additional representatives for all purposes other than exercising the power under Section 2.2 to revise elements of the amplified project description in Annex 1. HMG/N hereby designates ex officio both the Secretary of the Ministry of Forest and Soil Conservation and the Chief Conservator, Department of Forest, as additional representatives of HMG/N for this project, who may by written notice designate other additional representatives The names of the representatives of HMG/N, with speciment signatures, will be provided to A.I.D., which may accept as duly authorized any instrument signed by such representatives in implementation of this Agreement, until receipt of written notice of revocation of thier authority.

SECTION 8.3. **Standard Provisions Annex.** A "Project Grant Standard Provisions Annex," as amended (Annex 2) is attached to and forms part of this Agreement.

In witness whereof, His Majesty's Government of Nepal and the United States of America, each acting through its duly authorized representative, have caused this Agreement to be signed in their names and delivered as of the day and year first above written.

On behalf of His Majesty's Government of Nepal	On behalf of The United States of America
BY: Lok Bahadur Shrestha	BY: David M. Wilson
TITLE: Secretary Ministry of Finance	TITLE:Director USAID/Nepal

Annex 1
Nepal: Reforestation Project
A.I.D. Project No. 367-0156

AMPLIFIED DESCRIPTION OF PROJECT

PURPOSE AND OBJECTIVES

The purpose of this four year research/demonstration project is to introduce into Nepal more efficient methods of producing fuelwood, fodder and other tree products by establishing a program on coppice forestry production systems using fast-growing, multipurpose trees. The long-term goal is to increase the standard of living for the rural poor. The project will focus on the mid-hills region of the country.

SCOPE/APPROACH

The project consists of three major components:

1. A permanent, multipurpose tree nursery primarily for the production of planting stock, but also as a facility for conducting applied experimental work on plant propagation, nutrient and water requirements, nursery practices, outplanting techniques and on species, provenance, and clone trials. In addition, the nursery will be used to transfer appropriate technology through the training of Nepali technicians, farmers, and Students.

2. A research and demonstration program that will evaluate and demonstrate several high-yield production systems for tree products, methods for the maintenance and management of these systems, and their economics and cost-effectiveness.

3. A program of technology transfer and technical assistance that will be aimed at increasing employment and income in the forestry sector through the training of technicians, farmers, and students in the use and management of multipurpose tree production systems.

Costs and levels of the technical assistance involved in the proposed Reforestation project will be reviewed jointly by representatives of the Argonne National Laboratory, USAID/N, The Ministry of Forests and Soil Conservation and The Ministry of Finance. The details of timing and method for carrying out this review will be set down in an implementation letter within sixty (60) days of the signing of the project agreement.

The purpose of the review will be to ascertain the appropriate levels of technical assistance required for prudent management of the project, while at the same time respecting His Majesty's Government's overall policy to reduce the technical assistance components and increase the operational components of all donor-aided projects. The porduction systems to be evaluated are:

1. Alley Cropping—A subset of agroforestry in which parallel rows of trees are planted along contours of hilly terrain or in straight rows on level areas. The "alleys" between rows, 2 to 6 m. wide, are planted with agricultural crops, medicinal plants or shade-tolerant grasses for livestock. Due to frequent coppicing of the trees, the "alleys" would be useable and productive most of the time.

2. Contour Hedgerow—A form of alley cropping but restricted to hilly terrain. Contour "hedges" (two to three rows of trees per hedge) are coppiced frequently. The material is either used for fuel or fodder or is left in place to form barriers to downslope soil movement. The areas between hedges are reserved for permanent agriculture.

3. Ultra-Short Rotation-Plantations of closely spaced plants that are coppiced at six-month or one-year intervals, with plant spacings on the order of 15 to 30 cm.

4. Short Rotation—Plantations of high-yield tree species that are harvested for tree products at 2-6 year intervals. This system also allows for concurrent use of harvest methods such as pollarding, lopping, and hedging. Coppicing species when harvested at short intervals does not require replanting after each harvest.

The project will consist of eight primary tasks.

TASK 1: SITE SELECTION

The objective of this task is to select appropriate field sites for the project. Site-specific factors such as climate, topography, soil, physical and chemical characteristics, and local needs and preferences for tree products will determine the tree species, propagation methods, and management techniques to be studied.

Demonstration sites and the necessary nursery facilities to service the sites will be established in Sindhuli and Remechhap districts during

the project period. Assuming technical feasibility, these two districts will be the locations for any future plantation effort that may arise from the project should funding become available.

A nursery/research facility and adjecent research demonstration site will be selected on the basis of the technical criteria (availability of water, suitable soils and easy accessibility to the project office in Kathmandu) as specified in the Project Paper and in consultation with the Department of Forest.

TASK 2: SOCIAL FACTORS

The objective of this task is to determine the social factors that would affect the success of adopting new high-yield coppice production systems. To do this, the social soundness of the project will be determined. The social factors to be evaluated include:

(A) Area of private and community owned land.
(B) Economic surplus of individual farms.
(C) Social structure of the community.
(D) Role and importance of trees and roles of men and women in the agricultural production system.
(E) Past experience of the community in adopting innovations. Differential acceptance of innovation by social class and gender.
(F) Existing social cleavages.
(G) Extent of animal ownership and importance of animals.
(H) Requirements and preferences of the community for forage, fuelwood, and other tree products.

Baseline social data will be collected after site selection. Social analyses will be performed throughout the project period.

TASK 3: SPECIES SELCTION.

The objective of this task is to perform a preliminary screening of species from a prepared list of 91 potential candidates. Species from the initial screening will be field tested. A final selection of species to be used in the production systems will be based on field trials and will take into account the variability in local preferences among rural people in the mid-hills.

The Department of Forest and ANL have mutually agreed upon 15 species to include in the preliminary screening. The primary criterion considered was adaptability to the mid-hills region and to an elevation range of 1200 to 1800 meters. The species chosen are:

Native Species	Exotic Species
Alnus Nepalensis	Salix species
Artocarpus lokoocha	Populus deltoides
Ficus roxburghii	Populus hybrids
Ficus remoralis	Eucalyptus comaldulensis
Ficus cunia	Robinia pseudoacacia
Ficus lacur	Platanus occidentalis
Ficus clavata	
Melia azedarach	
Prunus cerasoides	

Additional species may be included for field trials depending upon unique site characteristics and/or local preferences that may occur in the specific areas selected for the project.

TASK 4 : NURSERY/RESEARCH FACILITY

The objective of this task is to establish a permanent tree nursery facility with provision for conducting species-screening studies and other applied research. Other temporary nurseries may be established, if necessary.

The facility will include (1) a small greenhouse; (2) a headhouse for storage, soil analyses, seed preparation, germination tests, etc. ; (3) a shadehouse and an open area for growing nursery stock; (4) seedbeds for the production of planting stock; (5) a cultivated area for screening promising species and clones; (6) a simple meteorological station for measuring precipitation, evaporation, temperature, and humidity; (7) an office; (8) a small classroom; and (9) an area for future expansion. The facility will require an area of 4 to 5 hectares and will be designed for an initial production capacity of 100,000 seedlings and cuttings per year; this capacity will eventually be expanded.

TASK 5 : RESEARCH/DEMONST RATION FACILITY

Subtask 1: Research Plots

The objectives of this task are to (1) determine species-site interactions, (2) evaluate management methods for different production systems, (3) determine fuelwood and fodder yields as related to species and silviculture, (4) analyze economics of production systems, (5) analyze social implications of adopting high-yield tree production systems, and (6) analyze environmental effects.

This facility is expected to be located on or adjacent to the permanent nursery site. It will be used to evaluate and demonstrate promising production systems for selected species. The production systems studied will reflect the methods most likely to be used by farmers, private landowners, and local panchayats.

Subtask 2 : Demonstration Facility

The demonstration component of this task will establish a community coppice production system to evaluate social acceptance and the impacts and benefits for a typical mid-hills community.

This effort includes (1) social surveys and analyses, (2) project design and organization, (3) initiation of community contracts, (4) procurement of materials, (5) preparation of planting areas, (6) planting, (7) supplemental planting as needed, (8) monitoring, (9) data analysis, and (10) report preparation.

TASK 6 : APPLIED RESEARCH STUDIES AND MONITORING

The objective of this task is to conduct applied research on coppice culture and short rotation production systems at each of the field sites. Data will be generated that is appropriate for, and can be used in, the technology transfer component of the project. The research will include areas such as species evaluation and spacings appropriate for various production systems. Harvesting frequency, harvest methods, and site fertility will also be studied.

TASK 7 : TRAINING AND TECHNOLOGY TRANSFER

The objectives of this task are to (1) conduct training courses on high-yield coppice production systems at the technical and professional level and (2) arrange training visits to the U.S. and/or other countries to study such systems. Three, two-week short course workshops will be given in Nepal. The instructors will be Nepalese professionals and teachers supplemented by experts from the region and

U.S. professionals. The participants will be professional and technical foresters/agricultural scientists, extension workers, and administrators. Topics to be covered include

(A) Biology and ecology of high-yield species and multipurpose production systems.
(B) Species selection.
(C) Plant propagation and nursery practices.
(D) Plantation establishment, management and maintenance.
(E) Tree product utilization.
(F) Social aspects of high-yield production systems.
(G) Soil and water conservation relationships.
(H) Worldwide case studies.
(I) Field demonstrations.

Approximately five, short-term training visits to the United States and other countries by selected personnel will be arranged by ANL in consultation with HMG. Selection will be made among those who will contribute to increasing production of tree products through short-rotation and coppice tree culture. The visits will include tours of sites where such culture is practiced and of institutions that develop and manage these systems.

TASK 8 : EVALUATION

All components of the project will be evaluated by comparing goals with accomplishments. Evaluation efforts will be rigorous and will focus on the following :

(A) Evaluate the survival, growth, and production of plantings and potential costs under normal (nonresearch) operations.
(B) Determine social preference of selected species and production systems within the project districts.
(C) Establish coppice production systems in terms of Nepalese needs and preferences.
(D) Analyze alternative methods of propagation and evaluate future costs of these methods.
(E) Establish cost of producing planting stock.
(F) Determine effectiveness of the training program in terms of number of trainees participating, evaluation of courses by trainees and observers.

(G) Determine level of interest shown by local farmers and panchayats in acquiring planting stock from the project nursery.

(H) Evaluate participation by private farmers in the use of fodder produced by the project. Evaluation parameters will include level of interest in the results of feeding trials and assistance in data gathering.

(I) Evaluate quality of fodder in terms of general effects on health, weight of livestock, and milk production by those animals lactating during the feeding trails.

ADMINISTRATION, COORDINATION, AND REVIEW

The Department of Forest is responsible for overall guidance to ensure maximum benefit from the project in accordance with national planning and in particular with the Master Plan of the Forestry Sector. The Department of Forest is also responsible for carrying out, with technical assistance from ANL, training sessions for professional and technicians on coppice forestry. ANL is responsible for implementing and managing the project under a Participating Agency Service Agreement (PASA) between AID and the U.S. Department of Energy.

A Project Coordinating Committee comprised of representatives from HMG/N, AID, Department of Forest, and ANL will be the central point for administrative coordination and key decisions on project directions and priorities. The committee will meet annually.

The project will also be coordinated on a day-to-day basis between the Department of Forest and ANL by the in-country ANL project manager. Quarterly reviews of the project components will be held between the Department of Forest and ANL. Both organizations will make presentations at the annual project coordination and policy direction meeting.

In each November of the project (prior to the project coordination annual meeting), a joint review team comprised of a representative each from the U.S. and Nepal will conduct an in-depth field review of the project. Data generated from the project monitoring and evaluation system will be made available to assess project performance. This evaluation will also consider the question of additional donor

funding to support high priority national reforestation efforts. ANL will work closely with the Department of Forest in actively seeking the additional funding for this effort.

BUDGET SUMMARY

Category	U.S. Dollars Foreign Exchange	Local Currency
Personnel		
Professional/Technical	—	117,200
Nontechnical/labor	—	212,490
Technical Assistance		
Salaries	426,020	—
Fringe	117,000	—
Capital		
Vehicles, Equipment, etc.	66,500	5,100
Furnishing	—	5,000
Structures	—	40,000
Rental	—	17,500
Training	123,000	48,560
Materials and Supplies		
Supplies	—	22,000
Planting Stock	5,000	100,000
Utilities and Operation	—	30,000
Travel		
International	90,000	—
Local	15,000	19,500
Per diem	182,000	44,500
Project Evaluation	—	10,000
Management Overhead	238,000	—
Contingency	106,000	82,930
TOTAL*	1,368,520	754,280

* Budget Total for project implementation plus dollar 157,000 project development cost totals dollar 2,280,000 Life of Project Funding.

Annex 2
(A. I. D. Project No. 367-0156)

Project Grant Standard
Provisions Annex (Amended)

Definitions : As used in this Annex. the "Agreement" refers to the Agreement to which this Annex is attached and of which this Annex forms a part. Terms used in this Annex have the same meaning or reference as in the Agreement.

Article A: Project Implementation Letters

To assist His Majesty's Government of Nepal (HMG/N) in the implementation of the Project, A I.D., from time to time, will issue Project Implementation Letters that will furnish additional information about matters stated in this Agreement. The Parties may also use jointly agreed-upon Project Implementation Letters to confirm and record their mutual understanding on aspects of the implementation of this Agreement. Project Implementation Letters will not be used to amend the text of the Agreement, but can be used to record revisions or exceptions which are permitted by the Agreement, including the revision of elements of the amplified description of the Project in Annex I.

Article B: General Covenants

SECTION B.1. **Consultation.** The Parties will cooperate to assure that the purpose of this Agreement will be accomplished. To this end, the Parties, at the request of either, will exchange views on the progress of the Project, the performance of obligations under this Agreement. the performance of any consultants. contractors. or suppliers engaged on the Project. and other matters relating to the Project.

SECTION B. 2. **Execution of Project.** HMG/N will:

(a) Carry out the Project or cause it to be carried out with due diligence and efficiency, in conformity with sound technical. financial, and management practices, and in conformity with those documents, plants, specifications. contracts. schedules or other

arrangements, and with any modifications therein, approved by A. I. D. pursuant to this Agreement; and

(b) Provide qualified and experienced management for, and train such staff as may be appropriate for the maintenance and operation of the Project, and, as applicable for continuing activities, cause the Project to be operated and maintained in such manner as to assure the continuing and successful achievement of the purposes of the Project.

SECTION B. 3. **Utilization of Goods and Services.**

(a) Any resources financed under the Grant will, unless otherwise agreed in writing by A. I. D. , be devoted to the Project until the completion of the Project, and thereafter will be used so as to further the objectives sought in carrying out the Project.

(b) Goods or services financed under the Grant, except as A. I. D. may otherwise agree in writing, will not be used to promote or assist a foreign aid project or activity associated with or financed by a country not included in Code 935 of the A. I. D. Geographic Code Book as in effect at the time of such use.

SECTION B. 4. **Taxation.**

(a) This Agreement and the Grant will be free from any taxation or fees imposed under laws in effect in the territory of Nepal

(b) To the extent that (1) any contractor, including any consulting firm, any personnel of such contractor financed under the Grant, and any property or transaction relating to such contracts and (2) any commodity procurement transaction financed under the Grant, are not exempt from identifiable taxes, tariffs, duties or other levies imposed under laws in effect in the territory of Nepal. HMG/N will, as and to the extent provided in and pursuant to Project Implementation Letters, pay or reimburse the same with funds other than those provided under the Grant.

SECTION B. 5. **Reports. Records. Inspections. Audit.**

HMG/N will:

(a) furnish A. I. D. such information and reports relating to the Project and to this Agreement as A. I. D. may reasonable request;

(b) maintain or cause to be maintained, in accordance with generally accepted accounting principles and practices consistently applied, books and records relating to the Project and to this Agreement, adequate to show, without limitation, the receipt and use of goods and services acquired under the Grant. Such books and records will be audited regularly, in accordance with generally accepted auditing standards, and maintained for three years after the date of last disbursement by A.I.D.; such books and records will also be adequate to show the nature and extent of solicitations of prospective suppliers of goods and services acquired, the basis of award of contracts and orders, and the overall progress of the Project toward completion; and

(c) afford authorized representatives of a Party the opportunity at all reasonable times to inspect the Project, the utilization of goods and services financed by such Party, and books, records, and other documents relating to the Project and the Grant.

SECTION B.6. **Completeness of Information.** HMG/N confirms:

(a) that the facts and circumstances of which it has informed A.I.D., or caused A.I.D. to be informed, in the course of reaching agreement with A.I.D. on the Grant, are accurate and complete, and include all facts and circumstances that might materially affect the Project and the discharge of responsibilities under this Agreement;

(b) that it will inform A.I.D. in timely fashion of any subsequent facts and circumstances that might materially affect, or that it is reasonable to believe might so affect, the Project or the discharge of responsibilities under this Agreement.

SECTION B.7. **Other Payments.** HMG/N affirms that no payments have been or will be received by any official of HMG/N in connection with the procurement of goods or services financed under the Grant, except fees, taxes, or similar payments legally established in the country of Nepal.

SECTION B.8. **Information and Marking.** HMG/N will give appropriate publicity to the Grant and the Project as a program to which the United States has contributed, identify the Project site, and mark goods financed by A.I.D., as described in Project Implementation Letters.

Article C: **Procurement Provisions**

SECTION C.1. **Special Rules.**

(a) The source and origin of ocean and air shipping will be deemed to be the ocean vessel's or aircraft's country of registry at the time of shipment.

(b) Premiums for marine insurance placed in the territory of Nepal will be deemed an eligible Foreign Exchange Cost, if otherwise eligible under Section C.4 (a.)

(c) Any motor vehicles financed under the Grant will be of United States manufacture, except as A.I.D. may othrewise agree in writing.

(d) Transportation by air, financed under the Grant, of property or persons, will be on carriers holding United States certification, to the extent service by such carriers is available. Details on this requirement will be described in a Project Implementation Letter.

SECTION C.2. **Eligibility Date.** No goods or services may be financed under the Grant which are procured pursuant to orders or contracts firmly placed or entered into prior to the date of this Agreement, except as the Parties may otherwise agere in writing.

SECTION C.3. **Shipping.**

(a) Goods which are to be transported to the territory of Nepal may not be financed under the Grant if transported either: (1) on an ocean vessel or aircraft under the flag of a country which is not included in A.I.D. Geographic Corde 935 as in effect at the time of shipment, or (2) on an ocean vessel which A.I.D., by written notice to HMG/N, has designated as ineligible; or (3) under an ocean or air charter which has not received prior A.I.D. approval.

(b) Costs of ocean or air transportation (of goods or persons) and related delivery services may not be financed under the Grant, if such goods or persons are carried: (1) on an ocean vessel under the flag of a country not, at the time of shipment, identified under the paragraph of the Agreement entitled "Procurement Source: Foreign Exchange Costs," without prior written A.I.D. approval or on a non U.S. flag air carrier if a U.S. flag carrier is available (in accordance

with criteria which may be contained in Project Implementation Letters) without prior written A.I.D. approval; or (2) on an ocean vessel which A.I.D., by written notice to HMG/N, has designated as ineligible; or (3) under an ocean vessel or air charter which has not received prior A.I.D. approval.

(c) Unless D.O.E. and/or Argonne determine that privately owned United States-flag commercial ocean vessels are not available at fair and reasonable rates for such vessels, (1) at least fifty percent (50%) of the gross tonnage of all goods (computed separately for dry bulk carriers, dry cargo liners and tankers) financed by A.I.D. which may be transported on ocean vessels will be transported on privately owned United States-flag commercial vessels, and (2) at least fifty percent (50%) of the gross freight revenue generated by all shipments financed by A.I.D. and transported to the territory of Nepa on dry cargo liners shall be paid to or for the benefit of privately owned United States-flag commercial vessels. Compliance with the requirements of (1) and (2) of this sub-section must be achieved with respect to both any cargo transported from U. S. ports and any cargo transported from non-U.S. ports, computed separately.

SECTION C.4. **Insurance.**

(a) Marine insurance on goods financed by A.I.D. which are to be transported to the territory of Nepal may be financed as a Foreign Exchange Cost under this Agreement provided (1) such insurance is placed at the lowest available competitive rate, and (2) claims thereunder are payable in U.S. dollars or, as A.I.D. may agree in writing in the currency in which such goods were financed or in any freely convertible currency. If HMG/N by statute, decree, rule, regulation, or practice discriminates with repsect to A.I.D. financed procurement against any marine insurance company authorized to do business in any State of the United States, then all goods shipped to the territory of Nepal financed by A.I.D. hereunder will be insured against marine risks and such insurance will be placed in the United States with a company or companies authorized to do a marine insurance business in a State of the United States.

(b) Except as A.I.D. may otherwise agree in writing, HMG/N will insure. or cause to be insured, goods financed under the Grant

imported for the Project against risks incident to their transit to the point of their use in the Project; such insurance will be issued on terms and conditions consistent with sound commercial practice and will insucre the full value of the goods. Any indemnification received by HMG/N under such insurance will be used to replace or repair any material damage or any loss of the goods insured or will be used to reimburse HMG/N for the replacement or repair of such goods. Any such replacements will be of source and origin of countries listed in A.I.D. Geographic Code 935 as in effect at the time of replacement, and , except as the Parties may agree in writing, will be otherwise subject to the provisions of the Agreement.

SECTION C.5. **U.S. Government-Owned Excess Property.** HMG/N agrees that wherever practicable, United States Government–owned excess personal property, in lieu of new items financed under the Grant, should be utilized. Funds under the Grant may be used to finance the costs of obtaining such property for the Project.

Article D: **Termination: Remedies**

SECTION D.1. **Termination.** Either Party may terminate this Agreement by giving the other Party 30 days written notice. Termination of this Agreement will terminate any obligations of the Parties to provide financial or other resources to the Project pursuant to this Agreement, except for payments which they are committed to make pursuant to non–cancellable commitments entered into with third parties prior to the termination of this Agreement. In addition, upon such termination A.I.D. may, at A.I.D.'s expense, direct that title to goods financed under the Grant be transferred to A.I.D. if goods are from a source outside Nepal, are in a deliverable state and have not been off loaded in ports of entry of Nepal.

SECTION D.2. **Refunds.**

(a) In the case of any disbursement which is not supported by valid documentation in accordance with this Agreement, or which is not made or used in accordance with this Agreement, or which was for goods or services not used in accordance with this Agreement, A.I.D., notwithstanding the availability or exercise of any other remedies under this Agreement, may require HMG/N to refund the amount of such disbursement in U.S. Dollars to A.I.D. within sixty (60) days after receipt of a request therefor.

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(b) If the failure of HMG/N to comply with any of its obligations under this Agreement has the result that goods or services financed under the Grant are not used effectively in accordance with this Agreement, A.I.D. may require HMG/N to refund all or any part of the amount of the disbursements under this Agreement for such goods or services in U.S. Dollars to A.I.D. within sixty days after receipt of a request therefor.

(c) The right under subsection (a) or (b) to require a refund of a disbursement will continue, notwithstanding any other provision of this Agreement, for three years from the date of the last disbursement under this Agreement.

(d) (1) Any refund under subsection (a) or (b), or (2) any refund to A.I.D. from a contractor, supplier, bank or other third party with respect to goods or services financed under the Grant, which refund relates to an unreasonable price for or erroneous invoicing of goods or services, or to goods that did not conform to specifications, or to services that were inadequate, will (A) be made available first for the cost of goods and services required for the Project, to the extent justified, and (B) the remainder, if any, will be applied to reduce the amount of the Grant.

(e) Any interest or other earnings on Grant funds disbursed by A.I.D. to HMG/N under this Agreement prior to the authorized use of such funds for the Project will be returned to A.I.D. in U.S. Dollars by HMG/N.

SECTION D.3. **Nonwaiver of Remedies.** No delay in exercising any right or remedy accruing to a Party in connection with its financing under this Agreement will be construed as a waiver of such right or remedy.

SECTION D.4. **Assignment.** HMG/N agrees, upon request, to execute an assignment to A.I.D. of any cause of action which may accrue to HMG/N in connection with or arising out of the contractual performance or breach of performance by a party to a direct U.S. Dollar contract with A.I.D. financed in whole or in part out of funds granted by A.I.D. under this Agreement.

आज्ञाले,
उदय नेपाली श्रेष्ठ
उपसचिव

श्री ५ को सरकारको छापाखाना, सिंहदरबार, लाजनाँचामा मुद्रित ।

Meeting at the Department of Forest on August 25,1988

Attendees:

Mr. G.R.B.Mathema, Chief Consevator
Mr. Ek Raj Sharma, Chief FSRO
Mr. W. Finlayson, Acting Chief of Party, ODA
Mr. Kran Kilpatrick, Project Manager NCRP

When all members were present Mr. Mathema opened the meeting by calling for discussions on more effective communication between these two projects that are in the Department of Forest. He then briefly summarized ODA and NCRP project activities, highlighting differences in approach, but emphasizing the need for regular communication and exchange of information. He then requested Mr. Kilpatrick to summarize project goals and activities.

Mr. Kilpatrick summarized the systems, contour hedgerow, alley cropping, short rotation, ultra short rotation, natural forest, and other systems appropriate to Nepal. These systems that are more appropriate need to be developed by learning what the farmers are already doing and then adapting new idea's to these existing systems. to do this our sociological component will be looking at these, training, as well as other factors that will continue to evolve as the project matures.

Learning how to manage these systems effectively from the nursery though the plantation phase for maximum biomass production. There will be demonstrations and training involved in disseminating any information that is learned from project activities. Work is under way at three sites one each in Dhading, Ramechhap, and Sindhuli.

Mr. Finlayson then briefly summarized the ODA involvement and project goals of FSRO. Including basic research into some species of Fodder trees natural forests, silvicultural , pathological as well as soils work. He notes that they are not doing any work to link their work with the

Mr. Mathema noted that improved coordination would be beneficial to both projects as they are both under the Department of Forest. He then noted that although there were differences maybe they could publish together or maybe there was an opportunity for soils work.

Mr. Finlayson pointed out that they have a publicationa called Banko Jaakari, that would welcome articles he added that they have good people in experimental design, and that they have a good soils testing facility that is available.

Mr. Mathema noted that there should be frequent meetings, maybe once a month. He then emphasized the need for exchange of information, but that physical proximity is not important.

Mr. Finlayson concurred and suggested exchange of information by attending their bi-montly staff meetings. He noted that their soils Laboratory and that their expertise in experimental design, as well as library facilities are available. He also said that Ian Thompson as well as Ek Raj Sharma are both experienced inexperimental design, and that Dick Pawsey and his assistant Madhuri Thapa (who will arrive in October) are experienced with the problems of pests and diseases.

Mr. Mathema then closed the meeting by noting that this meeting will lay the groundwork for further coordination between these two projects.

MINUTES OF THE FIRST MEETING

OF

THE PROJECT COORDINATING COMMITTEE

[NEPAL COPPICE REFORESTATION PROJECT]

1. The first meeting of the Project Coordinating Committee, as stipulated in Reforestation Project Agreement, was held on February 26, 1988 (Falgun, 14 2044) under the chairmanship of the Secretary of the Ministry of Forest & Soil Conservation, Mr. Birendra Nath Khunjeli.

2. Following dignitaries who are also the member of the Committee attended the meeting:

Mr. Govinda Ram Bhakta Mathema, Chief Conservator, Department of Forest

Mr. David M. Wilson, Director, USAID, Kathmandu

Dr. Donald O. Johnson, Program Manager, Nepal Coppice Reforestation Project, A.N.L., Chicago

3. Following officials participated in the meeting:

Mr. Rabi B. Bista, Chief Planning Officer, MFSC
Mr. Bharat B. Thapa, Under Secretary, MFSC
Mr. George F. Taylor II, Acting Chief, Office of Agriculture & Rural Development, USAID, Kathmandu
Mr. Kran Kilpatrick, Project Manager, NCRP, Kathmandu
Mr. Madhab Bhakta Sharma, Admin Officer, NCRP

4. The meeting was held at the meeting hall of the Ministry from 3.00 PM to 4.20 PM.

5. Agenda of the meeting was as follows:

1. Progress Review
2. Progress Assessment
3. Program FY 2045-46 [July 1988-July 1989]
4. Miscellaneous
5. Concluding Remarks

6. Discussion & Decissions:

6.1 After the chairman called the meeting to order, he welcomed all and said that it was his pleasure to be the chairman of this Committee.

Mr. Bista, on behalf of the Ministry, briefed the Committee on the overall strategy of forest management and, on the Forestry Master Plan. Mr.Bista pointed out the importance of the project in the context of evolving more effective management of the forest resources of Nepal.He emphasised the importance of project sustainability and noted that once the project starts its work in the districts it should take special pain to work closely with the DFCs. He enquired if the project is facing any major constraints in implementing its tasks.

Finally he requested project representative of the Argonne National Laboratory Dr. Johnson to proceed with his presentation of project overview.

6.2 Dr.Johnson started his presentation by thanking His Majesty's Government, in particular the Ministry of Forest & Soil Conservation and the Department of Forest, as well as the United States Agency for International Development for their supports advices and guidance to the project without which, he stressed, it would not have been possible to achieve the progress.

In course of his presentation he highlighted the importance of the project in the context of tremendous increase in fuel and fodder demand due to increased population. He stressed the need to adopt to more intensive management of high yield multipurpose trees either in conjunction with agriculture or as an element of the management of natural forest system or both. One of the output of the project, he continued, would be to find effective ways and means in the use multipurpose trees for soil conservation.

He ended his presentation with a plea that although the project, as it stands now, is of short duration, its relevance and the impact it would generate will go far beyond the three years period.

With the permission of the chairman he asked Mr. Kilpatrick to proceed with his presentation of the progress to date.

6.3 Mr. Kilpatrick started his presentation with an overview of the progress achieved so far within the framework of the Annual Program. In course of his presentation, he explained physiographic characteristics of Nisikot, Dhading where the Primary Nursery and Demonstration Plot is located. He maintained that, inspite of its small size, the Primary Site does provide a unique mixture of topographical and orientation features thereby facilitating field research at varied environmental conditions. As the primary objective of the project is to identify high yield multipurpose species which can be grown within given natural and manmade constraints as well as to find an adoptable management system for wider application, he emphasised that field research must be closely controlled and monitored to ensure accurate & reliable conclusions. The nursery established at Nishkot and those that will be established at other two sites at Ramechhap and Sindhuli will provide such opportunities. He pointed out for the consideration of the Committee that the Project Document has a strong emphasis on

the social aspect of the project in the sense that its success is largely determined by the extent to which research output can be assimilated in the real life situations.

Referring to the chart showing major features of the progress to date, Mr. Kilpatrick presented a detailed informations on the physical targets achieved. Given the nature of the job, he pleaded for cautions in expecting immediate results. He also maintained that it might take more than the stipulated time to bring the field research to a successful conclusion.

Mr. Kilpatrick presented the program for the coming fiscal year of 2045-46.

In response to Mr. Bista's quiry, he expressed satisfaction with, and appreciation of persistent help and advice rendered by Dhading DFC Mr. Raj Bhadhur Shrestha. He also assured the Committee that the project appreciate the importance of working in close collaboration with the DFCs of Ramechhap and Sindhuli.

Mr. Mathema enquired about the delays in developing demonstration sites at Ramechhap and Sindhuli. In response, Mr. Kilpatrick explained that it was necessary to analyze topographical and locational features of potential sites in accordance with site selection criteria on one inch to one mile maps of the districts and compliment such analysis with several site visits. Now that this phase has been completed and necessary contacts have been made with District Forest Office at Sindhuli, he assured the Committee that work will begin soon at these districts.

6.4 At the call of the chairman, Chief Conservator Mr. Mathema pointed out that given the importance of the work under this project, he wished to see more frequent contacts between this and other research projects. At present the project is running somewhat in isolation, he noted. In this context, he suggested that one personnel from DOF's Research Section be attached to this project on a periodic basis. With this arrangement in place he hoped the project will have wider access to other research works thereby avoiding any possible duplication. He noted that exotic species such as poplar are probably more appropriate for the Terai but wanted to know if it has the same applicability in the Hills. Given the wide range of local species, it might be beneficial to go into a third site. He also explained the importance of minimizing external technical assistance so that more local experts could be hired for the project work. Given the resource constraints, Argonne should assist the Department in developing training package under the project and implementing the same, he added. He also suggested that the project should report to DOF periodically and informations on financial spending should be submitted to the Department on a regular basis.

At the end, he observed that four years is not enough to conduct all the tasks stipulated in the Agreement. Therefore, he continued, it might be necessary to think of project extension at an early stage.

6.5 With reference to the proposed program, Mr.Bista pointed out that it would be necessary to breakdown the program according to the three sites. He also assured that standard program formats will be made available to the project by the Ministry. Mr.Mathema wanted the program to be reviewed by the Department before it gets submitted to the Ministry.

6.6 Director Mr. Wilson expressed satisfaction in the progress of the project and commended all those who made this possible. He also suggested that at appropriate time DFCs should be invited to observe what has been done and its relevance to their work. He proposed that discussions on future funding be left until next year when the project had had a chance to become fully operational.

Mr. George Taylor emphasised that the project should coordinate with other donor projects, particularily the forestry research programs being supported by ODA in areas of vegetative propogation, fodder trees and natural forest management. With reference to Mr. Bista's remark on NCRP's relevance to forest management, he wondered if project fund would support this "new direction". Dr. Johnson responded that the Agreement called for a system approach thereby indicating, in its spirit, the need to see this project in the context of forest management. His understanding of the task was concurred by chairman Mr.Khunjeli, Mr. Bista and Mr. Mathema.

6.7 Chairman Mr.Khujeli drew the attention of all those present in the meeting to think of the future once the project comes to a successful conclusion. He observed that foresty work, by necessity, is long term and its rlevance to daily life of the people is so great that, unlike many capital projects, it demands sustainability in greater degree. In this context, he stressed, intensive coordination and communication with the DFCs should receive high priority in implementing the project tasks.

Director Mr. Wilson concurred with the opinion of the chairman and suggested that DFCs should be involved in implementing the project.

Dr. Johnson assured the members that the project is keen to work in close collaboration with the district units of the Department so as to ensure its continuity.

Mr.Bista assured that necessary arrangement will be made to make advice and coordination available to the project in a continuous basis.

6.8 Chairman Mr.Khunjeli invited all those present in the meeting to make final observations.

Director Mr.Wilson expressed satisfaction on the progress of the project and offered thanks to His Majesty's Government for all support rendered to the project.

Mr.Bista expressed the view of the Ministry that this project is a management-oriented research project and, as such, would fit well with the proposed Foresty Master Plan and HMG's overall investment program.

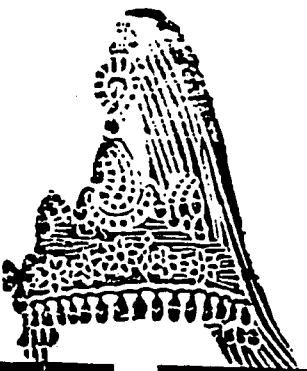
Mr.Mathema expressed full support of the Department to the project.

Dr.Johnson suggested that a monthly report showing major progress achieved should be submitted to the Ministry and the Department.

6.9 Summing up the discussion, chairman Mr.Khunjeli directed all those related with the implementation of the project to probe upon issues which are critical to the management of forest resources of Nepal. In this connection the project has wider bearing as it is expected to address to problems associated with the supply of fodder and fuelwood - the two most important causes of the destruction of forest.

Concluding the meeting, he expressed satisfaction on the progress to date. He suggested that the existing institutional set up and modalities of implementation should be left as it is, and by the end of the current year we ought to be able to scrutinize these in greater details. He wished the project a success and thanked all the members for the contributions they made in the deliberations of the meeting.

The meeting was adjourned at 4.20 P.M.



नेपाल राजपत्र

श्री ५ को सरकारद्वारा प्रकाशित

खण्ड ३७)काठमाडौं, कात्तिक ३० गते २०४४ साल (संख्या ३०

भाग ५

भाग ५

श्री ५ को सरकार

कानून तथा न्याय मन्त्रालयको सूचना

श्री ५ को सरकार, नेपाल र संयुक्त राज्य अमेरिका सरकारबीच सम्पन्न भएको Reforestation Project सम्बन्धी सम्झौता सर्वसाधारणको जानकारीको लागि प्रकाशित गरिएको छ ।

Dated: February 11, 1987

AGREEMENT
BETWEEN
HIS MAJESTY'S GOVERNMENT OF NEPAL
AND
THE UNITED STATES OF AMERICA
FOR
REFORESTATION PROJECT

His Majesty's Government of Nepal (hereinafter referred to as "HMG/N")

And

The United States of America, acting through the Agency for International Development ("A.I.D.").

Whereas, A.I.D. and HMG/N ("The Parties") have agreed in principle to a project to promote reforestation activities in Nepal;

Whereas, in consequence of that agreement A.I.D. has obligated grant funds to finance the project through a separate Participating Agency Service Agreement ("PASA") with Argonne National Laboratory ("Argonne"), a division of the U. S. Department of Energy ("D. O.E.");

Whereas, Argonne pursuant to the PASA will implement and manage the project;

Whereas, the Parties now wish to confirm their understandings with regard to the project and provide for its implementation;

The Parties hereto agree as follows:

Article 1: **The Agreement**

The purpose of this agreement is to confirm the understandings

of the Parties referred to above and provide for the implementation of the projcet.

Article 2: **The Project**

SECTION 2.1. **Definition of Project.** The purpose of the project is to promote a balanced approach to reforestation in Nepal that will help meet Nepal's needs for fuel and fodder production, soil and water resource conservation and, where appropriate, commercialization of wood products. The project will have research, demonstration and training components. The description of the project is amplified in the project description prepared by Argonne in consultation with HMG/N. The amplified project description is incorporated into this agreement as Annex 1.

SECTION 2.2.. **Modification or Amendment of Project.** If HMG/N and Argonne propose any substantive deviation from the amplified project description, such deviation is subject to prior notice to and concurrence by A.I.D. A.I.D. concurrence may be obtained by written agreement of the authorized representatives of the Parties named in Section 8.2., without formal amendment of this agreement.

Article 3: **Financing**

SECTION 3.1. **Amount.** A.I.D. will provide up to Two Million Two Hundred Eighty Thousand United States (U.S.) Dollars (2, 280,000) in grant funds to finance the foreign exchange and local currency costs of the project. The Grant amount includes amounts expended prior to the signing of this agreement in connection with initial assessment visits to Nepal, development of the work plan and other project activities.

SECTION 3.2. **Project Assistance Completion Date.** The activities financed under the project will be completed over a four year period, ending on June 30, 1990, unless the completion date is extended by the Parties in writing.

Article 4: **Special Covenants**

SECTION 4.1. **Trainees.** HMG/N will provide appropriate persons for training to support project activities. HMG/N will also provide for roundtrip travel costs for all HMG/N participants to the

point nearest to the place of training to which Royal Nepal Airlines Corporation (RNAC) flies. HMG/N will take reasonable steps to ensure that after the completion of training each trainee's skills will be properly utilized in Nepal reforestation activities.

SECTION 4.2. **Land Sites.** HMG/N will provide appropriate land sites to conduct project activities.

SECTION 4.3. **Project Evaluation.** A.I.D. will receive copies of all reports prepared pursuant to the evaluation plan set forth in the amplified project description. If A.I.D. determines at its discretion to conduct an independent evaluation of the project, HMG/N will cause its officers and employees to give full cooperation and assistance to A.I.D. in connection therewith. Any such evaluation by A.I.D. will be financed with project funds.

SECTION 4.4. **Exemption From Contract Tax.** Contract funds provided for project activities pursuant to the A.I.D. Grant are exempt from the assessment, withholding, collection or payment of the Nepal contract tax under Standard Provision B.4 of the Standard Provisions Annex to this Agreement. HMG/N will not assess, withhold, collect or require payment of contract tax on contracts funded under this agreement. HMG/N will include a clause in procurement documents and contracts executed or administered by HMG/N Ministries and agencies for all contracts funded hereunder that the contract is exempt from the withholding, assessment, collection and payment of contract tax and that contractors' bids and vouchers shall not include amounts for the contract tax.

Article 5 : **Procurement Source**

Commodities financed by A.I.D. under the project shall have their source and origin in Nepal or in countries included in A.I.D. Geographic Code 941 except as A.I.D. may otherwise agree in writing, and except as provided in the Standard Provisions Annex(Annex 2 to this Agreement) with respect to marine insurance. The suppliers of commodities or services shall have Nepal or countries included in A.I.D. Geographic Code 941 as their place of nationality, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree

in writing, be financed only on flag vessels of Nepal or Code 941 countries.

Article 6. **Procurement**

Procurement of goods and services required for project activites, including the rules governing competition and notification of suppliers, shall be subject to the normal procurement rules of D.O.E. and/or Argonne as they may be modified by separate agreement between Argonne and HMG/N, and as specified in the Standard Provisions Annex to this Agreement.

Aritcle 7: **Disbursement**

Disbursement of Grant funds in support of project activities will be made by A.I.D. to Argonne pursuant to the A.I.D. Argonne PASA, or in such other manner as the Parties may agree.

Article 8: **Miscellaneous**

SECTION 8.1. **Communication.** Any notice, request, document, or other communication submitted by either party to the other under this Agreement will be in writing or by telegram or cable and will be deemed duly given or sent when delivered to such party at the following addresses:

To HMG/N:

Mail and Cable Address: Additional Secretary
Foreign Aid Coordination Division
Ministry of Finance
His Majesty's Government
Bagh Durbar
Kathmandu, Nepal

To A.I.D. :

Mail and Cable Address: Director
U.S. Agency For International Development
c/o American Embassy
Kathmandu, Nepal

All Such communications will be in English, unless the parties otherwise agree in writing. Other ddresses may be substituted for the above upon the giving of notice.

SECTION 8.2. **Representatives.** For all purposes relevant to this Agreement, HMG/N will be represented by the individual holding or acting in the office of Secretary or Additional Secretary, Ministry of Finance, and A.I.D. will be represented by the individual holding or acting in the office of Director, USAID/Nepal, each of whom, by written notice, may designate additional representatives for all purposes other than exercising the power under Section 2.2 to revise elements of the amplified project description in Annex 1. HMG/N hereby designates **ex officio** both the Secretary of the Ministry of Forest and Soil Conservation and the Chief Conservator, Department of Forest, as additional representatives of HMG/N for this project, who may by written notice designate other additional representatives The names of the representatives of HMG/N, with speciment signatures, will be provided to A.I.D., which may accept as duly authorized any instrument signed by such representatives in implementation of this Agreement, until receipt of written notice of revocation of thier authority.

SECTION 8.3. **Standard Provisions Annex.** A "Project Grant Standard Provisions Annex," as amended (Annex 2) is attached to and forms part of this Agreement.

In witness whereof, His Majesty's Government of Nepal and the United States of America, each acting through its duly authorized representative, have caused this Agreement to be signed in their names and delivered as of the day and year first above written.

On behalf of His Majesty's Government of Nepal	On behalf of The United States of America
BY: Lok Bahadur Shrestha	BY: David M. Wilson
TITLE: Secretary Ministry of Finance	TITLE:Director USAID Nepal

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Annex 1
Nepal: Reforestation Project
A.I.D. Project No. 367-0156

AMPLIFIED DESCRIPTION OF PROJECT

PURPOSE AND OBJECTIVES

The purpose of this four year research/demonstration project is to introduce into Nepal more efficient methods of producing fuelwood, fodder and other tree products by establishing a program on coppice forestry production systems using fast-growing, multipurpose trees. The long-term goal is to increase the standard of living for the rural poor. The project will focus on the mid-hills region of the country.

SCOPE/APPROACH

The project consists of three major components:

1. A permanent, multipurpose tree nursery primarily for the production of planting stock, but also as a facility for conducting applied experimental work on plant propagation, nutrient and water requirements, nursery practices, outplanting techniques and on species, provenance, and clone trials. In addition, the nursery will be used to transfer appropriate technology through the training of Nepali technicians, farmers, and Students.

2. A research and demonstration program that will evaluate and demonstrate several high-yield production systems for tree products, methods for the maintenance and management of these systems, and their economics and cost-effectiveness.

3. A program of technology transfer and technical assistance that will be aimed at increasing employment and income in the forestry sector through the training of technicians, farmers, and students in the use and management of multipurpose tree production systems.

Costs and levels of the technical assistance involved in the proposed Reforestation project will be reviewed jointly by representatives of the Argonne National Laboratory, USAID/N, The Ministry of Forests and Soil Conservation and The Ministry of Finance. The details of timing and method for carrying out this review will be set down in an implementation letter within sixty (60) days of the signing of the project agreement.

The purpose of the review will be to ascertain the appropriate levels of technical assistance required for prudent management of the project, while at the same time respecting His Majesty's Government's overall policy to reduce the technical assistance components and increase the operational components of all donor-aided projects. The porduction systems to be evaluated are:

1. Alley Cropping—A subset of agroforestry in which parallel rows of trees are planted along contours of hilly terrain or in straight rows on level areas. The "alleys" between rows, 2 to 6 m. wide, are planted with agricultural crops, medicinal plants or shade-tolerant grasses for livestock. Due to frequent coppicing of the trees, the "alleys" would be useable and productive most of the time.

2. Contour Hedgerow—A form of alley cropping but restricted to hilly terrain. Contour "hedges" (two to three rows of trees per hedge) are coppiced frequently. The material is either used for fuel or fodder or is left in place to form barriers to downslope soil movement. The areas between hedges are reserved for permanent agriculture.

3. Ultra-Short Rotation-Plantations of closely spaced plants that are coppiced at six-month or one-year intervals, with plant spacings on the order of 15 to 30 cm.

4. Short Rotation—Plantations of high-yield tree species that are harvested for tree products at 2-6 year intervals. This system also allows for concurrent use of harvest methods such as pollarding, lopping, and hedging. Coppicing species when harvested at short intervals does not require replanting after each harvest.

The project will consist of eight primary tasks.

TASK 1: SITE SELECTION

The objective of this task is to select appropriate field sites for the project. Site-specific factors such as climate, topography, soil, physical and chemical characteristics, and local needs and preferences for tree products will determine the tree species, propagation methods, and management techniques to be studied.

Demonstration sites and the necessary nursery facilities to service the sites will be established in Sindhuli and Remechhap districts during

the project period. Assuming technical feasibility, these two districts will be the locations for any future plantation effort that may arise from the project should funding become available.

A nursery/research facility and adjecent research demonstration site will be selected on the basis of the technical criteria (availability of water, suitable soils and easy accessibility to the project office in Kathmandu) as specified in the Project Paper and in consultation with the Department of Forest.

TASK 2: SOCIAL FACTORS

The objective of this task is to determine the social factors that would affect the success of adopting new high-yield coppice production systems. To do this, the social soundness of the project will be determined. The social factors to be evaluated include:

(A) Area of private and community owned land.
(B) Economic surplus of individual farms.
(C) Social structure of the community.
(D) Role and importance of trees and roles of men and women in the agricultural production system.
(E) Past experience of the community in adopting innovations. Differential acceptance of innovation by social class and gender.
(F) Existing social cleavages.
(G) Extent of animal ownership and importance of animals.
(H) Requirements and preferences of the community for forage, fuelwood, and other tree products.

Baseline social data will be collected after site selection Social analyses will be performed throughout the project period.

TASK 3: SPECIES SELCTION.

The objective of this task is to perform a preliminary screening of species from a prepared list of 91 potential candidates. Species from the initial screening will be field tested. A final selection of species to be used in the production systems will be based on field trials and will take into account the variability in local preferences among rural people in the mid-hills.

The Department of Forest and ANL have mutually agreed upon 15 species to include in the preliminary screening. The primary criterion considered was adaptability to the mid-hills region and to an elevation range of 1200 to 1800 meters. The species chosen are:

Native Species	Exotic Species
Alnus Nepalensis	Salix species
Artocarpus lokoocha	Populus deltoides
Ficus roxburghii	Populus hybrids
Ficus remoralis	Eucalyptus comaldulensis
Ficus cunia	Robinia pseudoacacia
Ficus lacur	Platanus occidentalis
Ficus clavata	
Melia azedarach	
Prunus cerasoides	

Additional species may be included for field trials depending upon unique site characteristics and/or local preferences that may occur in the specific areas selected for the project.

TASK 4 : NURSERY/RESEARCH FACILITY

The objective of this task is to establish a permanent tree nursery facility with provision for conducting species-screening studies and other applied research. Other temporary nurseries may be established, if necessary.

The facility will include (1) a small greenhouse; (2) a headhouse for storage, soil analyses, seed preparation, germination tests, etc. ; (3) a shadehouse and an open area for growing nursery stock; (4) seedbeds for the production of planting stock; (5) a cultivated area for screening promising species and clones; (6) a simple meteorological station for measuring precipitation, evaporation, temperature, and humidity; (7) an office; (8) a small classroom; and (9) an area for future expansion. The facility will require an area of 4 to 5 hectares and will be designed for an initial production capacity of 100,000 seedlings and cuttings per year; this capacity will eventually be expanded.

TASK 5 : RESEARCH/DEMONST RATION FACILITY

Subtask 1: Research Plots

The objectives of this task are to (1) determine species-site interactions, (2) evaluate management methods for different production systems, (3) determine fuelwood and fodder yields as related to species and silviculture, (4) analyze economics of production systems, (5) analyze social implications of adopting high-yield tree production systems, and (6) analyze environmental effects.

This facility is expected to be located on or adjacent to the permanent nursery site. It will be used to evaluate and demonstrate promising production systems for selected species. The production systems studied will reflect the methods most likely to be used by farmers, private landowners, and local panchayats.

Subtask 2 : Demonstration Facility

The demonstration component of this task will establish a community coppice production system to evaluate social acceptance and the impacts and benefits for a typical mid-hills community.

This effort includes (1) social surveys and analyses, (2) project design and organization, (3) initiation of community contracts, (4) procurement of materials, (5) preparation of planting areas, (6) planting, (7) supplemental planting as needed, (8) monitoring, (9) data analysis, and (10) report preparation.

TASK 6 : APPLIED RESEARCH STUDIES AND MONITORING

The objective of this task is to conduct applied research on coppice culture and short rotation production systems at each of the field sites. Data will be generated that is appropriate for, and can be used in, the technology transfer component of the project. The research will include areas such as species evaluation and spacings appropriate for various production systems. Harvesting frequency, harvest methods, and site fertility will also be studied.

TASK 7 : TRAINING AND TECHNOLOGY TRANSFER

The objectives of this task are to (1) conduct training courses on high-yield coppice production systems at the technical and professional level and (2) arrange training visits to the U.S. and/or other countries to study such systems. Three, two-week short course workshops will be given in Nepal. The instructors will be Nepalese professionals and teachers supplemented by experts from the region and

U.S. professionals. The participants will be professional and technical foresters/agricultural scientists, extension workers, and administrators. Topics to be covered include :

(A) Biology and ecology of high-yield species and multipurpose production systems.
(B) Species selection.
(C) Plant propagation and nursery practices.
(D) Plantation establishment, management and maintenance.
(E) Tree product utilization.
(F) Social aspects of high-yield production systems.
(G) Soil and water conservation relationships.
(H) Worldwide case studies.
(I) Field demonstrations.

Approximately five, short-term training visits to the United States and other countries by selected personnel will be arranged by ANL in consultation with HMG. Selection will be made among those who will contribute to increasing production of tree products through short-rotation and coppice tree culture. The visits will include tours of sites where such culture is practiced and of institutions that develop and manage these systems.

TASK 8 : EVALUATION

All components of the project will be evaluated by comparing goals with accomplishments. Evaluation efforts will be rigorous and will focus on the following :

(A) Evaluate the survival, growth, and production of plantings and potential costs under normal (nonresearch) operations.
(B) Determine social preference of selected species and production systems within the project districts.
(C) Establish coppice production systems in terms of Nepalese needs and preferences.
(D) Analyze alternative methods of propagation and evaluate future costs of these methods.
(E) Establish cost of producing planting stock.
(F) Determine effectiveness of the training program in terms of number of trainees participating, evaluation of courses by trainees and observers.

(G) Determine level of interest shown by local farmers and panchayats in acquiring planting stock from the project nursery.

(H) Evaluate participation by private farmers in the use of fodder produced by the project. Evaluation parameters will include level of interest in the results of feeding trials and assistance in data gathering.

(I) Evaluate quality of fodder in terms of general effects on health, weight of livestock, and milk production by those animals lactating during the feeding trails.

ADMINISTRATION, COORDINATION, AND REVIEW

The Department of Forest is responsible for overall guidance to ensure maximum benefit from the project in accordance with national planning and in particular with the Master Plan of the Forestry Sector. The Department of Forest is also responsible for carrying out, with technical assistance from ANL, training sessions for professional and technicians on coppice forestry. ANL is responsible for implementing and managing the project under a Participating Agency Service Agreement (PASA) between AID and the U.S. Department of Energy.

A Project Coordinating Committee comprised of representatives from HMG/N, AID, Department of Forest, and ANL will be the central point for administrative coordination and key decisions on project directions and priorities. The committee will meet annually.

The project will also be coordinated on a day-to-day basis between the Department of Forest and ANL by the in-country ANL project manager. Quarterly reviews of the project components will be held between the Department of Forest and ANL. Both organizations will make presentations at the annual project coordination and policy direction meeting.

In each November of the project (prior to the project coordination annual meeting), a joint review team comprised of a representative each from the U.S. and Nepal will conduct an in-depth field review of the project. Data generated from the project monitoring and evaluation system will be made available to assess project performance. This evaluation will also consider the question of additional donor

funding to support high priority national reforestation efforts. ANL will work closely with the Department of Forest in actively seeking the additional funding for this effort.

BUDGET SUMMARY

Category	U.S. Dollars	
	Foreign Exchange	Local Currency
Personnel		
Professional/Technical	—	117,200
Nontechnical/labor	—	212,490
Technical Assistance		
Salaries	426,020	—
Fringe	117,000	—
Capital		
Vehicles, Equipment, etc.	66,500	5,100
Furnishing	—	5,000
Structures	—	40,000
Rental	—	17,500
Training	123,000	48,560
Materials and Supplies		
Supplies	—	22,000
Planting Stock	5,000	100,000
Utilities and Operation	—	30,000
Travel		
International	90,000	—
Local	15,000	19,500
Per diem	182,000	44,500
Project Evaluation	—	10,000
Management Overhead	238,000	—
Contingency	106,000	82,930
TOTAL	1,368,520	754,480

* Budget Total for project implementation plus dollar 157,000 project development cost totals dollar 2,280,000 Life of Project Funding.

Annex 2
(A. I. D. Project No. 367-0156)

Project Grant Standard
Provisions Annex (Amended)

Definitions : As used in this Annex. the "Agreement" refers to the Agreement to which this Annex is attached and of which this Annex forms a part. Terms used in this Annex have the same meaning or reference as in the Agreement.

Article A: Project Implementation Letters

To assist His Majesty's Government of Nepal (HMG/N) in the implementation of the Project, A I.D., from time to time, will issue Project Implementation Letters that will furnish additional information about matters stated in this Agreement. The Parties may also use jointly agreed-upon Project Implementation Letters to confirm and record their mutual understanding on aspects of the implementation of this Agreement. Project Implementation Letters will not be used to amend the text of the Agreement, but can be used to record revisions or exceptions which are permitted by the Agreement, including the revision of elements of the amplified description of the Project in Annex I.

Article B: General Covenants

SECTION B.1. **Consultation.** The Parties will cooperate to assure that the purpose of this Agreement will be accomplished. To this end, the Parties, at the request of either, will exchange views on the progress of the Project, the performance of obligations under this Agreement, the performance of any consultants, contractors, or suppliers engaged on the Project, and other matters relating to the Project.

SECTION B. 2. **Execution of Project.** HMG/N will:

(a) Carry out the Project or cause it to be carried out with due diligence and efficiency, in conformity with sound technical, financial, and management practices, and in conformity with those documents, plants, specifications, contracts, schedules or other

arrangements, and with any modifications therein, approved by A. I. D. pursuant to this Agreement; and

(b) Provide qualified and experienced management for, and train such staff as may be appropriate for the maintenance and operation of the Project, and, as applicable for continuing activities, cause the Project to be operated and maintained in such manner as to assure the continuing and successful achievement of the purposes of the Project.

SECTION B. 3. **Utilization of Goods and Services.**

(a) Any resources financed under the Grant will, unless otherwise agreed in writing by A. I. D. , be devoted to the Project until the completion of the Project, and thereafter will be used so as to further the objectives sought in carrying out the Project.

(b) Goods or services financed under the Grant, except as A. I. D. may otherwise agree in writing, will not be used to promote or assist a foreign aid project or activity associated with or financed by a country not included in Code 935 of the A. I. D. Geographic Code Book as in effect at the time of such use.

SECTION B. 4. **Taxation.**

(a) This Agreement and the Grant will be free from any taxation or fees imposed under laws in effect in the territory of Nepal

(b) To the extent that (1) any contractor, including any consulting firm, any personnel of such contractor financed under the Grant, and any property or transaction relating to such contracts and (2) any commodity procurement transaction financed under the Grant, are not exempt from identifiable taxes, tariffs, duties or other levies imposed under laws in effect in the territory of Nepal, HMG/N will, as and to the extent provided in and pursuant to Project Implementation Letters, pay or reimburse the same with funds other than those provided under the Grant.

SECTION B. 5. **Reports, Records, Inspections. Audit.**

HMG/N will:

(a) furnish A. I. D. such information and reports relating to the Project and to this Agreement as A. I. D. may reasonable request;

(b) maintain or cause to be maintained, in accordance with generally accepted accounting principles and practices consistently applied, books and records relating to the Project and to this Agreement, adequate to show, without limitation, the receipt and use of goods and services acquired under the Grant. Such books and records will be audited regularly, in accordance with generally accepted auditing standards, and maintained for three years after the date of last disbursement by A.I.D.; such books and records will also be adequate to show the nature and extent of solicitations of prospective suppliers of goods and services acquired, the basis of award of contracts and orders, and the overall progress of the Project toward completion; and

(c) afford authorized representatives of a Party the opportunity at all reasonable times to inspect the Project, the utilization of goods and services financed by such Party, and books, records, and other documents relating to the Project and the Grant.

SECTION B.6. **Completeness of Information.** HMG/N confirms:

(a) that the facts and circumstances of which it has informed A.I.D., or caused A.I.D. to be informed, in the course of reaching agreement with A.I.D. on the Grant, are accurate and complete, and include all facts and circumstances that might materially affect the Project and the discharge of responsibilities under this Agreement;

(b) that it will inform A.I.D. in timely fashion of any subsequent facts and circumstances that might materially affect, or that it is reasonable to believe might so affect, the Project or the discharge of responsibilities under this Agreement

SECTION B.7. **Other Payments.** HMG/N affirms that no payments have been or will be received by any official of HMG/N in connection with the procurement of goods or services financed under the Grant, except fees, taxes, or similar payments legally established in the country of Nepal.

SECTION B.8. **Information and Marking.** HMG/N will give appropriate publicity to the Grant and the Project as a program to which the United States has contributed, identify the Project site, and mark goods financed by A.I.D., as described in Project Implementation Letters.

Article C: **Procurement Provisions**

SECTION C.1. **Special Rules.**

(a) The source and origin of ocean and air shipping will be deemed to be the ocean vessel's or aircraft's country of registry at the time of shipment.

(b) Premiums for marine insurance placed in the territory of Nepal will be deemed an eligible Foreign Exchange Cost, if otherwise eligible under Section C.4 (a.)

(c) Any motor vehicles financed under the Grant will be of United States manufacture, except as A.I.D. may othrewise agree in writing.

(d) Transportation by air, financed under the Grant, of property or persons, will be on carriers holding United States certification, to the extent service by such carriers is available. Details on this requirement will be described in a Project Implementation Letter.

SECTION C.2. **Eligibility Date.** No goods or services may be financed under the Grant which are procured pursuant to orders or contracts firmly placed or entered into prior to the date of this Agreement, except as the Parties may otherwise agere in writing.

SECTION C.3. **Shipping.**

(a) Goods which are to be transported to the territory of Nepal may not be financed under the Grant if transported either: (1) on an ocean vessel or aircraft under the flag of a country which is not included in A.I.D. Geographic Corde 935 as in effect at the time of shipment, or (2) on an ocean vessel which A.I.D., by written notice to HMG/N, has designated as ineligible; or (3) under an ocean or air charter which has not received prior A.I.D. approval.

(b) Costs of ocean or air transportation (of goods or persons) and related delivery services may not be financed under the Grant, if such goods or persons are carried: (1) on an ocean vessel under the flag of a country not, at the time of shipment, identified under the paragraph of the Agreement entitled "Procurement Source: Foreign Exchange Costs," without prior written A.I.D. approval or on a non U.S. flag air carrier if a U.S. flag carrier is available (in accordance

with criteria which may be contained in Project Implementation Letters) without prior written A.I.D. approval; or (2) on an ocean vessel which A.I.D., by written notice to HMG/N, has designated as ineligible; or (3) under an ocean vessel or air charter which has not received prior A.I.D. approval.

(c) Unless D.O.E. and/or Argonne determine that privately owned United States-flag commercial ocean vessels are not available at fair and reasonable rates for such vessels, (1) at least fifty percent (50%) of the gross tonnage of all goods (computed separately for dry bulk carriers, dry cargo liners and tankers) financed by A.I.D. which may be transported on ocean vessels will be transported on privately owned United States-flag commercial vessels, and (2) at least fifty percent (50%) of the gross freight revenue generated by all shipments financed by A.I.D. and transported to the territory of Nepa on dry cargo liners shall be paid to or for the benefit of privately owned United States-flag commercial vessels. Compliance with the requirements of (1) and (2) of this sub-section must be achieved with respect to both any cargo transported from U. S. ports and any cargo transported from non-U.S. ports, computed separately.

SECTION C.4. **Insurance.**

(a) Marine insurance on goods financed by A.I.D. which are to be transported to the territory of Nepal may be financed as a Foreign Exchange Cost under this Agreement provided (1) such insurance is placed at the lowest available competitive rate, and (2) claims thereunder are payable in U.S. dollars or, as A.I.D. may agree in writing in the currency in which such goods were financed or in any freely convertible currency. If HMG/N by statute, decree, rule, regulation, or practice discriminates with repsect to A.I.D. financed procurement against any marine insurance company authorized to do business in any State of the United States, then all goods shipped to the territory of Nepal financed by A.I.D. hereunder will be insured against marine risks and such insurance will be placed in the United States with a company or companies authorized to do a marine insurance business in a State of the United States.

(b) Except as A.I.D. may otherwise agree in writing, HMG/N will insure. or cause to be insured, goods financed under the Grant

imported for the Project against risks incident to their transit to the point of their use in the Project; such insurance will be issued on terms and conditions consistent with sound commercial practice and will insucre the full value of the goods. Any indemnification received by HMG/N under such insurance will be used to replace or repair any material damage or any loss of the goods insured or will be used to reimburse HMG/N for the replacement or repair of such goods. Any such replacements will be of source and origin of countries listed in A.I.D. Geographic Code 935 as in effect at the time of replacement, and , except as the Parties may agree in writing, will be otherwise subject to the provisions of the Agreement.

SECTION C.5. **U.S. Government-Owned Excess Property.** HMG/N agrees that wherever practicable, United States Government–owned excess personal property, in lieu of new items financed under the Grant, should be utilized. Funds under the Grant may be used to finance the costs of obtaining such property for the Project.

Article D: **Termination: Remedies**

SECTION D.1. **Termination.** Either Party may terminate this Agreement by giving the other Party 30 days written notice. Termination of this Agreement will terminate any obligations of the Parties to provide financial or other resources to the Project pursuant to this Agreement, except for payments which they are committed to make pursuant to non–cancellable commitments entered into with third parties prior to the termination of this Agreement. In addition. upon such termination A.I.D. may, at A.I.D.'s expense, direct that title to goods financed under the Grant be transferred to A.I.D. if goods are from a source outside Nepal, are in a deliverable state and nave not been off loaded in ports of entry of Nepal.

SECTION D.2. **Refunds.**

(a) In the case of any disbursement which is not supported by valid documentation in accordance with this Agreement, or which is not made or used in accordance with this Agreement, or which was for goods or services not used in accordance with this Agreement, A.I.D., notwithstanding the availability or exercise of any other remedies under this Agreement, may require HMG/N to refund the amount of such disbursement in U.S. Dollars to A.I.D. within sixty (60) days after receipt of a request therefor.

(b) If the failure of HMG/N to comply with any of its obligations under this Agreement has the result that goods or services financed under the Grant are not used effectively in accordance with this Agreement, A.I.D. may require HMG/N to refund all or any part of the amount of the disbursements under this Agreement for such goods or services in U.S. Dollars to A.I.D. within sixty days after receipt of a request therefor.

(c) The right under subsection (a) or (b) to require a refund of a disbursement will continue, notwithstanding any other provision of this Agreement, for three years from the date of the last disbursement under this Agreement.

(d) (1) Any refund under subsection (a) or (b), or (2) any refund to A.I.D. from a contractor, supplier, bank or other third party with respect to goods or services financed under the Grant, which refund relates to an unreasonable price for or erroneous invoicing of goods or services, or to goods that did not conform to specifications, or to services that were inadequate, will (A) be made available first for the cost of goods and services required for the Project, to the extent justified, and (B) the remainder, if any, will be applied to reduce the amount of the Grant.

(e) Any interest or other earnings on Grant funds disbursed by A.I.D. to HMG/N under this Agreement prior to the authorized use of such funds for the Project will be returned to A.I.D. in U.S. Dollars by HMG/N.

SECTION D.3. **Nonwaiver of Remedies.** No delay in exercising any right or remedy accruing to a Party in connection with its financing under this Agreement will be construed as a waiver of such right or remedy.

SECTION D.4. **Assignment.** HMG/N agrees, upon request, to execute an assignment to A.I.D. of any cause of action which may accrue to HMG/N in connection with or arising out of the contractual performance or breach of performance by a party to a direct U.S. Dollar contract with A.I.D. financed in whole or in part out of funds granted by A.I.D. under this Agreement.

आज्ञाले,
उदय नेपाली श्रेष्ठ
उपसचिव

श्री ५ को सरकारको छापाखाना, सिंहदरबार, लाठनाडौंमा मुद्रित ।

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