



GOVERNMENT OF EAST PAKISTAN

WORKING SCHEME
FOR THE
CENTRAL FOREST DIVISION
D I N A J P U R (1959-60—1969-70)

By

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INTRODUCTION

The tract of Forest areas covered by the Central Division was not considered of much value before the creation of Pakistan as the sal forests in Northern districts of this Division are of scattered nature. The loss of valuable sub-himalayan and terrai forest falling in Indian share of Bengal and scarcity of forest produce within this zone made us think of conserving these forest areas whatever we have.

In the year 1951 Mr. K. K. Ahmed, Assistant Coservator of Forests, was deputed to inspect and submit a report about the possibility of these forests, his report was received in due course and the Government subsequently sanctioned the creation of this Central Division consisting Dinajpur, Rangpur, Rajshahi, Kushtia, Jessore and Faridpur with effect from 1st August, 1952 as per Government Memorandum No. 7417-For. 6M-70/49, dated 16th June, 1952 and on which date the Division was inaugurated.

The writer took charge of the Central Forest Division on the 6th of February, 1959 and in the charge note it was mentioned by his predecessor that a Working Scheme is to be prepared for this Division as soon as possible and be submitted to Government for sanction.

Therefore the compilation of the Working Scheme has taken up, tours made in the winter season to see and examine the forests for the purpose. In the preliminary report forwarded *vide* No. 101/1(2)-C. F. W. C./1W-4, dated 18th April, 1959, the Conservator of Forests suggested 5 Working Circle, but after the inspection of the forest it revealed that there is no need of 2 working circles—firewood and Tendu working circles. So for convenience of management these two working circles have been amalgamated with coppice working circle and afforestation working circle.

No regular survey was undertaken to find out the composition of the crop. The figures adopted in the present scheme are based on areas as per Gazette Notification incorporated in paras. 1-6, plantation journals and the field knowledge of the writer and the local staff. The Survey and Demarcation of newly Acquired and Vested Forests may be taken up as soon as the forest Settlement operations are complete, which operation is expected to complete before a regular working plan is taken up.

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The present scheme envisages a Division of the entire forests in 3 working circles, viz, (i) Conversion working circle with clear felling system followed by artificial regeneration under Taungya system. This working circle also includes coppice and seedling forests, blank and scrubby jungles areas, till their terms come up for clear felling and artificial regeneration (ii) Coppice Working Circle under simple coppice system supplemented by sowing and planting where necessary with fast growing firewood species (iii) Afforestation working circles with artificial regeneration under *taungya* system over waste land of Rajshahi, Rangpur and Dinajpur districts.

The period of working scheme has been kept for 10 years with effect from 1959-60, basing on the consideration that the survey and settlement operation of these vested and acquired forests will take considerable time which may affect the area adopted in the present scheme.

My thanks are due to Mr. Q. G. Ghaus, B. Sc., Conservator of Forests for his valuable suggestions and in preparing the preliminary working plan report of this Division. The writer also wishes to record his appreciation for the subordinate staff especially Forest Ranger, A. J. Khan who worked hard for compilation of data for this working scheme.

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Chapter I

THE TRACT DEALT WITH.

Name and situation—

1. The working scheme is prepared for the forest areas under the management of the forest department in Rangpur, Dinajpur and Rajshahi districts. The forest dealt with consists of sal forest, scrubby jungles and fallow lands. The area lies between 27' and 25' North latitude and 80° and 90° degree to East longitude. The sal forest in its long broad sweep concentrated itself in sizeable patches in south-east portion of Dinajpur district and in Badarganj, Mithapukur and Pirganj of Rangpur district. The forest of Rangpur district are more or less adjacent to forests of Dinajpur. Scrubby jungles and waste lands are situated in north-western border of the district of Dinajpur. In the Rajshahi district a few patches of sal forests exists in Dhamoirhat and Patnitola P. S. near northern boundary of the district. There are considerable areas of unculturable waste land also adjoining these forest areas and in northern parts of Nilphamari subdivision in Rangpur districts.

Configuration of the ground and soil—

2 (a) In general appearance the country is flat and a gentle southwardly slope is suggested by the trend of the river. The natural physical divisions are not traceable in the configuration of the area. Under the working scheme there exists points of difference between the North and South. The forest is very seldom contiguous and are generally intermixed with cultivation and habitation of local and tribal people who are mostly Santals, Khiarya and Palias. In the north there are patches of tree jungles and clumps of bamboos, the cultivated areas are smaller in sizes and the villages consist of scattered homestead lands full of luxuriant vegetation. To the south the country is more open, density of population is higher and the cultivated fields are comparatively large and straight. In the south as well as in the West of Dinajpur the curious formation known as the "Brim" geologically classed as old alluvial, makes its appearance. The characteristic of this is an undulating country interspersed with ravine. Elevation are nowhere worthy of the name of "hills" the highest patch does not exceeds 20' above the surrounding country. This feature is very conspicuous in the forest of Rajshahi district. The ravines vary from shallow stretches of low land suitable for growing paddy to deeper depressions bearing a resemblance to old river beds and sometimes containing water. Old writers have made mentions of large number. of marshes or bills, formed by overflowing of rivers. One of them called Ashular bill in Nawabganj P. S. and the other on the West of Dinajpur-Thakurgaon road near about 24 miles.

Rivers and Streams—

3. General direction of the main rivers is from north to south but in Rajshahi district river flows towards south-east and the ultimate destination of all is the Jamuna. The beds are in general well below the level of the surrounding country but most of the rivers have seriously been silted up due to erosion and consequence blocking up some of the drainage channels. Therefore, there is good reason to suppose that main rivers gradually became shallow

through silting up and caused sluggishness of their current throughout the greater part of the year. Hence most of the rivers and their tributaries are not navigable by any type of boat except during the rainy season, so rivers and streams are of little use for transportation of forest produce and communication.

The river Nagar takes its rise at a place north of Atwari. It takes a south-westerly course and forms the international boundary upto Haripur. Its bed is rocky in the upper reaches but becomes sandy lower down. The principal tributary of the Nagar is the Kulik which rises in a marsh about eight miles west of Thakurgaon, passing near Nekmard and Ranisankhail, it finally enters Bharat before joining the Nagar.

The Tangan raises from the northern-most portion of the district of Dinajpur and flows *via* Thakurgaon through Pirganj and finally into Bharat near Radikapur Railway Station on the Katiher line.

The Atrai enters the district of Dinajpur through the northern boundary and flowing southwards through the thanas of Birganj and Kotwali enters west Dinajpur of Bharat and eventually enters Rajshahi. The important trading centre of Chirirbandar lies on the left bank of this river. A river Dhepa passing through the town of Dinajpur is known by various names at different portions of its length. It originates as a branch of the main stream Atrai from a place between Birganj and Khansama flowing southwards it passes by the famous temple known as Kantaji's Mandir and then by the west of the town of Dinajpur. Here it is known as Kanchan. Then ultimately the river enters Bharat by the name of Punarbhaba about 10 miles south of the town of Dinajpur.

The Jamuna is a small river said to have been one of the original channels of Tista. It enters the district of Dinajpur from Rangpur, some miles north-east of Parbatipur and flowing almost due south passes into Bogra near Hilli.

The Karatoa is one of the old channels of Tista and forms the boundary between the districts of Dinajpur and Rangpur for about 50 miles and finally passing into the latter district at the extreme south-eastern corner of the former. The Karatoa has no important tributaries on the Dinajpur side, but east of Nawabganj it is joined by a considerable stream, the Kharubuja from Ranipur.

The other important streams met within the Rangpur district where the forests are situated are the Jamuneswari and Kharubuja. The river ghagat along with south-west of Rangpur town.

On the whole the rivers are not suitable for floating timber as the water-level in them is unsteady being inspite after a shower and shallow during the dry season.

Geology, Rock and Soil—

4. From the point of view of geology, the tract is extremely uninteresting. The whole area is covered by alluvial deposits of recent formations. Two distinct types are locally recognised in this alluvial soil "Pali" and "Khar". Pali is a light ash coloured sandy loam with varying proportions of sand. It holds moisture and as a result is very fertile. This is common on the northern parts of Dinajpur. The south of Dinajpur the adjacent portion of Rangpur and north of Rajshahi present a marked contrast. Here the soil is a

heavy clay formed from the old alluvium known as the "Khar". A heavy sticky soil when wet, it turns as cement in the dry weather. The main forest areas are in this "Khar" tracts. The yellowish colour of the surface soil is noticeable in the forest areas in higher grounds and pisolitic ferruginous concretions are found occasionally.

Climate—

5(a). The tract lies just outside the tropic of cancer and its climate is on the whole drier than that of the southern and eastern districts of the province. The cold weather may be said to set in early in November and continue until the end of February. Although in a normal year the days begin to be hot from about the middle of February, the nights remain cool till well in April. With the break of monsoon which generally occurs about the middle of June the rainy season commences and continues till the end of September or beginning of October. The heaviest rain usually falls in mid June to mid August. The heat of the hot season is tempered by easterly winds which springs up after the sunset and lowers the temperature during the early portion of the night. As the rainy season advances these winds disappear and the climate from the beginning of August to the middle of October is enervating and depressing. From the middle of October the nights become appreciably cooler though the days remain hot for sometimes longer. The rainy season is rather unhealthy. Little rain falls during the cold weather, with the exception of some light shower about the end of December and a thunder storm or two in February.

(b). During the January and February air movement is from the west forming part of the general drift of dry air from the Gangetic plain. Towards the close of February the westerly current weakens materially and in March the wind are exceedingly variable in direction though considerably stronger than in the first two months. Damp easterly winds appear in April and blow intermittently until the setting in of the monsoon by the middle of June. Then the portion of dry current is deflected westward owing to the action of the Himalayan barrier and the prevailing direction of the air movement during the monsoon period is from the south-west. With the termination of the rains dry northerly and north-easterly winds again set in and hold until the end of the year.

The average maximum temperature is lowest in January when it is about 75° F.H. and highest in April being about 95.0° F. H. giving a variation of 20.0°. F. H. The minimum temperature is highest in July and lowest in January.

6. **Rainfall**—There is a very considerable variation in the rainfall in different parts of the Dinajpur district. The fall getting heavier on the north of the district which is meant as the Himalayan is approached. At Dinajpur town the average rainfall is about 70" inches, while total of 100" inches is recorded at Atwari. About one and half inches fall in the period from November to February, 10" inches from March to May and the rest over 50" inches from June to October. The rainfall in the cold season is exceptionally light and chiefly due to cyclonic storms from the Bay of Bengal and begin in the first and second week of April in an average year. During the rest of April and the beginning of May, the weather is broken and showery. The greater part of May is dry and the rainy season does not usually set in till about the middle of June.

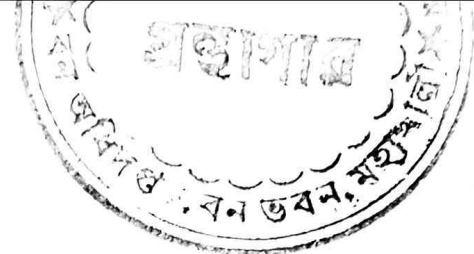
7. **State of Boundaries**—Any bit of land is distinguishable from the cadastral survey plots shown on 16"=1 mile mouza maps. The boundaries of these plots are not, however, demarcated on the ground. It is common that an owner of more than one contiguous plots has removed all demarcating marks from these plots for facilities of his cultivation and it is also very unusual that he has subdivided these areas according to his own convenience. The boundaries of the forest areas though traceable from the maps are not at all demarcated and the position is further aggravated by the act that the forests are comprised of innumerable small plots scattered all over the jurisdiction of the two districts.

8. **Legal position**—List of Notification vesting or acquiring different forests of this division.

District.	Acquired forests.	Vested forests.	Total area.	Notification No. and date.
1	2	3	4	5
Dinajpur ..	12,319·91 acres.	..	12,319·91	10439-LR., dated 20-11-51, 11294, dated 13-12-51, 5562-LR., dated 3-2-1952, Collector Dinajpur case Nos. 27 and 28 of 55-56, 4843-LR., dated 2-4-56.
	..	4024·92	4024·92	7123-For., dated 27-3-53 16249-For., dated 17-12-1953, 3252-For., dated 5-4-1954, 4184, dated 17-5-1954, 6983-For., dated 24-8-1954, 1402-For., dated 10-2-1955.
Total ..	12,319·91	4024·92	16,344·83	
Rangpur ..	1672·31	..	1672·31	4842-LR., dated 2-4-56.
	..	1,738·52	1,738·52	7123-For., dated 27-3-53, 16249-For., dated 17-12-53, 3252-For., dated 5-4-1954, 4184-For., dated 17-5-1954.
Total ..	1,672·31	1,738·52	3,410·83	
Rajshahi ..	375·95	..	375·95	6983-For., dated 28-4-54, 786-For., dated 3-6-58, 4844-LR., dated 2-4-56.
	..	681·22	681·22	785-For., dated 3-6-58, 860-For., dated 14-3-59.
Total ..	375·95	681·22	1057·17	
Total area of the Division ..	14,368·17	6444·66	20,812·83	✓

9. Some portions of forests of Maharaja of Dinajpur in P.S. Birol were leased out to tenants without any established documents before the acquisition of the Estate in the year 1951. The tenants deforsted these forest lands for cultivation. These plot continued to be cultivated even after taking over of the forest by forest department though these have been notified as Acquired as per Notification No. 10439-LR., dated 20th November, 1951. The legal status of these lease holders is still to be determined by the Collectors.

Chapter II THE FORESTS.



COMPOSITION AND CONDITION OF THE CROP.

Composition of the Crop (9)—The forest covered by this plan are situated on flat countryside in the form of isolated blocks surrounded by cultivation. While the patches in some cases extend to 200 to 300 acres there are innumerable dots of forests dwindling to almost nothing. These areas, in many cases, are village grooves lying close to the homestead of villagers.

10. The crop contained in these areas are pure sal and original of sal in these tracts is rather obscure and rather a matter of speculation. These forests do not appear in the description of sal forests of Bengal and Assam in Troup's *Silviculture of Indian trees*. Though there is no doubt that these forests existed during the time when the volumes of Troupe were published in 1921. They probably have been omitted due to their insignificant extent in comparison to the Duard forests of Bengal now included in Bharat. Knowing the fact that sal seed does not retain its vitality for a long time and it, ordinarily cannot invade an area beyond three hundred feet from the mother trees, it is not right to assume that sal has appeared in this areas in process of invasion and succession being situated, as at present, far way from the sal forest of Duars. This leads to the alternative conclusion that the area contained sal as a continuous zone to the Duars sal at a time beyond the memory of the present generation. Slowly but systimatically the forests have been destroyed by man leaving the present remnants in a dwindling stage.

11. The main and the only species of commercial value in these forests is sal (*Shorea robusta*) of different ages. Small trees of many other species seen scattered are Nodha (*Litsea* species), Kurchi (*Holarrhina antidysenterica*), Sonalu (*Cassia Fistula*), Sheora (*Streblus aper*), *grewia* spp. and *melotus* spp. These are noticeable more on the edges of the forest and in a miserable state as a result of uncontrolled grazing. The few patches of sal forest of Rajshahi district in the northern part of Dhamoirhat P.S. are found mixed with tendu (The Indian Bidi). (Indian Bidi) seedlings and pole crop as an understory. The Forest floor contains Bhati (*Clerodendron infortunatum*) and various shrubs and herbs of the genera *cassia* and *cacsalpinæ*. Of the climbers the important are *spathalobus* and *Satmuli* etc., *Mucana Pruriens*, *Acacia Pinnata*, *Vitis* and *Gulanha* (*Tinospora Cordifolia*) Assam lata locally call Banchhatua (*Eupatoruim odoratum*) is abundant on the eges of the forests and on fallow lands. The redeeming feature of these forests is that the natural regeneration is not any problem. Any blank inside the forest or any area outside, within the sphere of influence of a seed tree, is found strewn with seedlings. These seedlings due to continued process of dying back formed a dense mass of whipy shoots. The shooting of seedlings out of this mass stands only a chance and is dependent more on protection from fire and grazing then on anything else.

12. **Condition of the Crop**— The quality of the existing crop is very poor. The trees are barnchy and badly shaped. During last one decade the forests have been very badly cut and clear-felled areas having young coppice growth from bulk of the present crop. Most of the areas around Sahabazpur and Dhanjuri contain coppice shoots of about 10-15 years of age practically useless for any purpose at present. Large areas in Mouza Dharmapur in P.S. Birol under Acquired Estate, of Maharaja of Dinajpur are also of this type. A tree of

about 3'-6" girth stands a reasonable chance of being hollow to a certain extent. These were left out being defective. In the clear-felling coupe in Dharmapur Beat in areas near the Nuniya stream cent percent trees were found hollow and in trees of 2'-6" girth the rot has been found to have gone upto 10 or 12 feet up the stem. But this is an extreme case and there are good areas also.

Injuries to which the crop is liable—

13. **Grazing**—The forests are surrounded by population which maintain large herds of cattle for which there is little sustenance in the dry months. These cattle do a lot of damage by browsing and trampling the young regeneration and the coppice shoots.

14. **Fire**—The whole forest is overrun by ground fire during March-April every year. During the hot months the fallen leaves and everything else become very dry and catches fire with the mildest spark. A good number of cases are of incendiary nature and the rest are deliberate. The owners intentionally put fire to the dried leaves on the floor with a view to clear the ground for new grasses to come up during the beginning of rains. Regeneration does come in also and in the older forest fire does little damage, but the young crop is scroched and burnt. The palnt that survives due to successive fires become knoty and deformed and ususally hollow.

15. **Climber**—The older crop spathalobus roxburghi is the most common climber. Other climbers noticeable are Mucana Pruriens Acacia, Smilax, Vitis and Ichnocarpus.

16. **Weeds**—Eupatorium and ageratum are common weeds which suppress the young sal seedlings.

17. **Insects**—No appreciable damage due to insect has been noticed in the forest. Excepting white ants.

18. **Wind**—The entire tract is liable to suffer owing to cyclonic storm during the end of April, May, and part of June, and does damage in minimising the P. C. of good mature sal seeds during the last part of May when sal seeds usually ripe in this tracts. This sort of damage causes raising of entire plantation unsuccessful for want of adequate ripe seeds of the specials. In addition cyclonic storms damage sporadically standing trees by uprooting.

Chapter III.

UTILISATION OF THE PRODUCE

LOCAL DEMAND

19. Forest produce is scanty in the districts of Jessore, Faridpur, Kushtia, Bogra, Rajshahi and the small quantity available in the sal forest of Rangpur and Dinajpur is too small for the requirement. The demand for forest produce has further increased after the partition due to stoppage of supply from the Duars forest of West Bengal. Demands may be classified as follows:

- (a) House posts and building materials.
- (b) Firewood.
- (c) Thatch and other minor produce.
- (d) Implements of agriculture and cart wheels.

House posts and Building materials—Sal of good size for sawing are needed for better classes of houses but the supply is scanty. Jam, Neem, Mango and Siris grown in villages are therefore used. The sal poles are in almost unlimited demand for house construction due to their strength and durability. There is a good demand of Sisso and Mahoginy for furniture. The East Bengal Railway has an enormous demand for sal sleeper but the trees available for sawing for sleepers are few and far below.

20. **Firewood**—The demand for firewood is extensive and the main consuming centres are Rangpur, Saidpur, Parbatipur, Santahar, Rajshahi and all other district towns and business centres of the neighbouring districts.

21. **Thatch and other Minor Forest Produce**—Thatch for roofing is much in demand. Due to shortage of supply, straw though inferior in quality is used as an alternative. Assamlata locally called Banchhatua is often used for cheap method of fencing the agricultural field.

Demand for Kumbi leaves for wrapping biri is expected to increase enormously in near future.

22. **Implements of Agriculture and Cart wheels**—Sal and Kathal are much in demand for agricultural implements and parts of carts; pieces of 2'-6" girth and 2'-3" length are very much in demand for making plough. Stumps of felled trees with the straight portions underground are often dug out for making plough. For bullock and buffalo carts there exist tremendous demand for timber to make the wheels.

23. **Lines of exports**—Water transport is not available. The forests are well served with cart roads everywhere the bullock and buffalo cart are the most important means of transport for forest produce. The Railway is the only mode of communication for export of forest produce to other places.

24. **Method of exploitation**—The trees are felled by axe or cross cut saw and removed in suitable length by carts. Firewood is also removed by carts.

Cost—

(a) Cost of felling and logging a tree of girth 2'-0" to 4'-0" in on the average—As. 0-12 to 1-4-0.

(b) Sawing planks of small sizes—Rs. 1-8-0 to 2-8-0.

(c) Cart hire at Cft. rate.

Alokdhoti to Chorkai at—As. 8 to 12 cft.

Alokdhoti to Badarganj at—Rs. 1 to 1-12 cft.

Madhyapara to Badarganj at—As. 8 to 12 cft.

Madhyapara to Pholbari at—Rs. 8 to 12 cft.

Bullock—

A cart carries on average 16 cft. per cart.

Buffalo—

A cart carries on average 25 cft. per cart.

There are slight variation according to different localities and hire charges of buffalo cart is usually more than bullock carts by about 25 per cent.

The rates quoted above are prevailing rates at present. The price of essential commodities for a villager is not steady so the rates vary from season to season and year to year.

25. **Past and current prices**—Appendix III gives the current schedule of rates for the Division.

The price of forest produce markedly differ in Dinajpur and Rangpur districts. The following are the current prices—

Name of place.	Sal pole of 2' girth at the thick end per cft.		Sal log per cft.	Sawn timber per cft.
	As.	Rs.	Rs.	Rs.
Dinajpur	6 to 10		5 to 6	10 to 12
Chorkai	10 to 14		5 to 7-8	10 to 12
Rangpur	8 to 12		6 to 8	10 to 14

Chapter IV

STAFF AND LABOUR SUPPLY

26. **The Forest Staff**—The Division is sanctioned temporarily and staff on the permanent cadre are also charged under B2c.

The following are the existing Staff—

- (1) Deputy Conservator of Forests—1
- (2) Forest Ranger—1
- (3) Deputy Rangers—2
- (4) Foresters—7
- (5) Forest Guards—18
- (6) Head Clerk—1
- (7) Clerk-Typists—4
- (8) Boatmen—3
- (9) Peon, Orderly and Darwans—7

27. **Labour Supply**—In the tract under consideration labour is not available easily in numbers for forest work. The labour supply being already limited, there is a great demand for agricultural labour. The busiest months for agricultural are from middle of April to middle of June and it is then that the local labour is greatest in demand. In pahi lands, ploughing and sowing for Jute and Aush paddy, start earlier but the harvesting works begin

with the onset of monsoons. The period from middle of November to beginning of January is again a busy season for harvesting paddy. The months April, May, June and July are also the busiest time for forest plantation purposes.

28. The wages of labour vary from season to season in a year and is dependent on price of the necessities in a particular year. Food is usually supplied to a labourer when employed for agricultural work in the villages. The daily wages of a labour may be Rs. 2 to 2-8 in the cultivation season without food and Rs. 1-12 in the off season. Santal women may be available for forest weeding purpose but it may take time before they can be induced to do forest work as they are always shy, if not afraid to do something which they are not used to do.

Chapter V.

PAST HISTORY OF MANAGEMENT AND THEIR RESULTS

29. **Past history**—Legendary history of the Hindu mythology states that the area was a part of the old Kingdom of Kamrup where the mighty Brahmin King Parashuram lived. There are also legends around the Mahavarata heroes Yudhister, and his four brothers living in concealed exile in this tract which is supposed to have been covered with deep jungles. The name Salti of a mouza suggests that the area was covered with sal at one time which has now been reduced to small patches.

30. The recent history of the sal forest of the zone is an account of excessive fellings with a deliberate aim of getting as much money as could be available in a short time. The big zaminders wanted to reap the maximum before the enactment of the Bengal Private Forest Act, 1945, and then the partition induced the migrating owners to sell as much as they could before they leave Pakistan. As a result, vast areas have been clear-felled in the Zamin-dari of Maharaja of Dinajpur. Since acquired under section 3(2) of East Bengal State Acquisition and Tenancy Act, 1950 in P. S. Birol, The Maharaja also leased out innumerable forest plots in the year 1948-49 contrary to Government order not to transfer any land without sanction from the Collector. The status of these leases is still undecided.

31. The result of this deliberate ruthless felling is obviously exhibited by a young coppice crop of bad formation, mostly utilisable as firewood and cheap posts.

32. This Division was created in 1952 August. Till 1954 no regular working of the forest could be taken up due to preliminary works such as Survey. Posting staff etc. The first clear-felling was made in 1953-54 in suitable beats and regeneration work taken up since then the artificial regeneration continued and total area of 561 acres regenerated mainly with sal. In addition to this there were experiments for raising tendu (the Indian bidi leaves) in several places and the result is found to be successful. About 100 acres of area was raised with bamboo and the result is satisfactory.

33. **Tending**—Due to the past action as noted in para. 40, almost entire sal regions, except Kangsara, Bhowanipur, Singara, Birganj, Lohanipara, Alokdhotei mouzas were composed of young coppice crop.

Tending operation such as climber cutting and thinning which are badly needed for the crop could not be carried out for want of staff and fund.

34. **Fire Protection**—The forests of this Division are mixed up with and are surrounded by cultivable lands and homestead of villagers. Therefore protection of forest from fire offers very great difficulty. The protection of older coppice and old sal crops from fire was not possible at economic cost, however, attempts were made to protect the artificially regenerated area and did protect the areas.

35. **Past Outturn**—Total quantities of timber, firewood and minor produce removed from this Division since the creation of the Division is given below—
(1) Past outturn of Forest Produce.

Year.	In 100 cft.		Bamboo in Number.	Minor forest produce in value.
	Timber.	Firewood.		
1	2	3	4	5
				Rs.
1952-53	194
1953-54	1,424
1954-55	236
1955-56	898
1956-57	1,280
1957-58	687
1958-59	1,382

36. Past Revenue and Expenditure—

Year.	Revenue. Expenditure.	
	Rs.	Rs.
1952-53
1953-54
1954-55
1955-56
1956-57
1957-58
1958-59

Chapter VI.

STATISTICS OF GROWTH AND YIELD.

37. The Forest of this Division is of extremely irregular nature as a result of lack of care in the past, in fact the crop has grown under adverse circumstances of grazing, burning and uncontrolled fellings. Statistics about the growth of sal is available and if the same is obtained from the existing crop will not represent even a fair rate of growth, however, information obtained from Mr. Dutta's Kurseong plan is given below for future reference—

Rate of growth of plantation sal.

	Age in years.			Girth.	Corresponding dia.
10	1'·4"	0·50"
20	2'·5'	0·91"
30	3'·3"	12·3"
40	3'·11"	14·1"
50	4'·6"	14·0"
60	5'·1"	19·1"
70	5'·7"	21·1"
80	6'·0"	22·7"

Volume in Cubic feet.

GIRTH.

Type of Forest.	Over 1'-2"	Over 2'-0"	Over 2'-6"	Over 3'-0"	Over 3'-6"	Over 4'-0"	Over 4'-6"	Over 5'-0"	Over 5'-6"	Over 6'-0"
		to 2'-6"	to 3'-0"	to 3'-6"	to 4'-0"	to 4'-6"	to 5'-0"	to 5'-6"	to 6'-0"	to 6'-6"
1	2	3	4	5	6	7	8	9	10	11
Low level sal...	3·0	5·0	8·0	12·0	18·0	24·0	31·0	40·0	48·0	58·0
Low level forest.	23'	24'	25'	28'	31·5'	35'	38'	40'	43'	45'

38. From the above figures it appears that plantations tended properly from their early years would show more rapid growth and safely be assumed that at the age of 80 years the average girth of tended plantation tree will not be less than 6'·8".

PART II.

FUTURE MANAGEMENT DISCUSSED AND PRESCRIBED

Chapter I.

Basis of proposal.

General objects of management and brief statement of treatment required to secure them.

39. **General object of management**—The general objects of management of these forests are.

- (a) to recoupe the already depleted forests and to improve the quality and stocking by bringing them under systematic and scientific management.
- (b) To afforest unculturable waste land, wherever available in this part of the country which has only 0·1 per cent. area under forest and not at all adequate for balanced economy, with valuable species like sal, sissu, khair, simul and tendu the last named one is an economic plant the leaves of which are in extensive demand as Bidi wrapping materials.
- (c) To provide house posts, fuel, agricultural implements, grazing and other minor forest produces for the local people.
- (d) To produce large size timber where soil is permissible for Railway Sleepers.
- (e) To obtain the largest sustained amount of annual revenue for the benefit of the proprietors of the forests so far as it is consistent with the principles of forest conservation.

40. **Method of treatment to be adopted**—(a) *Sal forest*—The conservation of sal forest to a regular one will be effected by clear felling followed by artificial regeneration by Departmental Taungya. The area of sal forests which are near the consuming centres is to be worked under simple coppice-system to meet the increasing demand of house posts and firewood. The scrubby jungle and unculturable waste lands, river, banks will be afforested artificially by Department taungya method. Hence the management demands creation of different working circles to attain the object of management.

41. **Working Circles, their areas distribution and reasons for such constitutions**—The forests and unculturable waste lands of this Division are therefoer divided into following working circles—

A. Conversions Working Circle—

Legal position of the Acquired and Vested Forest have not yet been fixed up, they are so mixed up that they cannot be separated. As such this working circle consists of the acquired and vested forests as well as blanks falling within the mouzas as mentioned in Appendix 1.

Total Notified area—12,359·43.

B. Coppice Working Circle—

Consists mostly of the vested forests and a little of acquired forests of Chorkai Range and Headquarters Beat. The forests are distributed in mouzas mentioned in Appendix 1.

Total Notified area of 1,778·05 acres.

C. Afforestation Working Circle—

Working Circle—Afforestation scheme for planting of waste land in the northern part of Rangpur and Rajshahi districts in the Sadar and Thakurgaon subdivisions of the Dinajpur district have been taken up by Government. And an interim one year scheme has since been sanctioned. The total area comprises in this working circle is 8885.05 including 1,893.63 acres of unculturable waste land of Rangpur district which has just been transferred for this purpose.

42. **Block and Compartments**—During the last survey of the forest by Land Record Department the area has been divided into various mouzas with definite boundaries. The forests are scattered in patches in mouzas surrounded by agricultural lands even within the mouzas. Due to the nature of distribution of forests it is found advisable to maintain mouzas as the unit of management instead of dividing them into block. No. compartments have been formed.

43. **Silvicultural System**—Silvicultural system will be clear felling followed by artificial regeneration in conversion working circle and afforestation working circle. Under coppice working circle, silvicultural system will be simple coppice system supplemented by sowing and planting with fast growing species.

44. **Rotation**—In the conversion working circle rotation of 80 years is suggested by which time it is expected that a sal trees in this zone will attain 6'-8" girth at B. H. In absence of any local statistical data this figure has been obtained from Mr. Dutta and Homprays Plan of adjoining areas.

In the coppice working circle the conversion period is suggested to be 30 years.

In afforestation working circle, Rajshahi felling series the objection of management is to produce maximum quantity of leaves a system by which it can be achieved has not yet been explored by system of polarding is to be kept in view. As soon as afforestation work in this working circle starts experiments on existing indigenous crop of tendu be carried out. On getting definite results a rotation may be fixed at the expiry of this scheme.

In Rangpur felling series the object is to plant up waste land with species like Khair, Simul, Kadam, Sonalu or Babool, Satiwan as quickly as possible and the rotation will depend on kind of species raised in relation to local demand and other circumstances. The first and foremost object here is to cover up the areas as quickly as possible by planting and sowing.

In view of the above an adhoc period of 10 years is taken up to cover up the available areas. In the next revision the rotation may be fixed up.

45. **Period of the Plan**—The prescription of this working scheme are for a period of 10 years commencing from 1959-60. The scheme for such period is necessary due to the fact that survey settlement of acquired and vested forests which have already come to us or will come to us, or will take a longer period in consideration of the present evolution of land tenure system.

CHAPTER II

CONVERSION WORKING CIRCLE.

46. **General Constitution**—This working circle comprises the forest in patches of acquired and vested forests in mouzas mentioned in para 10.

Character of Vegetation—The working circle is mainly comprised of good quality sal bearing areas. There are also patches of blanks in between or in the fringes. The crop is almost of pure sal and range from about 15 to 50 years in age. The ground is covered mostly with whippy shoots very badly suffered from continued fire, grazing and over cutting. The bulk of present crop is appeared from older sal areas of copies origin. Due to unscientific management by the private proprietors the crops have become mostly defective. Comparatively the crop in mouzas Alokhoti, Lohanipara, Singara, Kangsara, Bhowanipur are better than the rest.

47. **Division into felling series**—The working circle is divided into 4 felling series, viz., (a) Chorkai felling, (b) Mithapukur felling, (c) Singara felling series and (d) Dharmapur felling series, mainly on the consideration of better supervision and situation of the areas and also to supply forest produce to different markets.

48. The distribution of areas of different mouzas into the above felling series are given below—

Felling series.	Name of mouza.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total notified area.
Chorkai ..	Raghabpur	35.88	..	121.50	..	157.38
	Madhayapara ..	..	129.85	..	..	129.85
	Gurguri ..	..	184.81	..	..	184.81
	Kismat ..	..	92.91	..	..	92.91
	Khagraband ..	..	200.87	..	..	200.87
	Harirampur ..	..	118.63	..	..	118.63
	Lakshi Hossainpur.	46.72	..	..	35.81	82.53
	Gilajhuki ..	200.00	850.70	..	..	1,050.70
	Lohanipara ..	402.84	..	..	..	402.84
	Doula ..	..	68.19	..	..	68.19
	Osmanpur ..	..	..	..	25.86	25.86
	Panchpukuria ..	..	529.26	..	..	529.26
	Khagraband ..	..	198.00	..	..	198.00
	Ballavpur ..	..	30.00	..	6.96	38.96
	Tarpanghat ..	..	10.00	..	2.77	12.77
Poliramdevpur ..	..	47.48	..	2.15	49.63	

Felling series.	Name of Mouza.	Area under old sal.	Area under new sal.	Plantation	Blank.	Total notified area.
	Kmalpur ..	..	7.76	..	..	7.76
	Marash ..	..	28.43	..	..	28.43
	Binodnagar ..	..	9.00	..	.28	9.28
	Chokdolu ..	..	25.57	..	4.00	29.57
	Jagannathpur ..	..	3.00	..	7.13	10.13
	Khatkhatia ..	50.00	224.59	..	150.00	424.59
	Krishnapur. ..	..	6.75	..	2.00	8.75
	Fatepur Marash ..	..	0.13	..	..	.13
	Malipara ..	..	16.49	..	3.00	19.49
	Rasulpur ..	..	12.12	..	2.00	14.12
	Dangserghat ..	..	1.17	..	..	1.17
	Kandua ..	..	..	99.10	..	253.11
	Harillakur ..	154.01	..	..	..	301.98
	Barajalalpur ..	301.98	..	..	..	301.98
	Alokdhoti ..	239.74	..	48.20	..	287.94
	Total ..	745.73	422.29	147.30	180.29	1,495.61
		<i>Total Chorkai Felling series.</i>				
Madhyapara Cutting series.	..	685.44	2,372.52	121.50	61.67	3,241.13
Nawabganj Cutting series.	..	745.73	422.29	147.30	180.29	1,495.61
		1,431.17	2,794.81	268.80	241.96	4,736.74
Singara ..	Northadanghi ..	7.13	..	..	..	7.13
	Bhugdoma ..	18.19	..	..	..	18.19
	Makrai ..	92.06	..	..	..	92.06
	Bhowanipur ..	205.39	..	..	..	205.39
	Thumunia ..	206.88	..	..	..	206.88
	Kangsara ..	70.44	..	..	..	70.44
	Hajipur ..	3.71	..	..	..	3.71
	Futhibari ..	19.34	..	..	..	19.34

Felling series.	Name of mouza.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total notified area.
Singara—Concl'd.	Satair ..	71·22	..	..	..	71·22
	Singajani ..	21·93	..	..	41·83	63·76
	Muksudpur ..	98·17	..	..	..	98·17
	Seguin ..	51·34	..	..	..	51·34
	Bansgara ..	83·94	..	..	..	83·94
	Gandhara ..	28·56	..	..	..	28·56
	Chaulia ..	..	..	107·00	69·84	176·84
	Dalogram ..	..	..	..	64·99	64·99
	Singara ..	411·79	..	87·15	..	498·94
	Faringadighi ..	61·60	..	..	..	61·60
	Baherpara ..	1·83	..	..	..	1·83
	Gorgatgaon ..	13·12	..	..	..	13·12
	Lashkarpur ..	1·03	..	..	..	1·03
	Haripur ..	2·38	..	..	..	2·38
	Bandigar ..	1·45	..	..	..	1·45
	Saidpur ..	0·61	..	..	..	0·61
	Fenapukur ..	0·67	..	..	..	0·67
	Jagatdal ..	68·92	..	..	..	68·92
	Singara felling series.	Total ..	1,533·20	..	194·15	176·66	1,904·01
Dharmapur ..		Dipnagar ..	36·80	1·89	38·69
	Kamalpur ..	12·85	..	..	·94	13·79
	Choto Chaupukuria, Nalpur ..	..	..	..	7·30	7·30
	Mahesh-Shibpur ..	77·89	..	..	4·05	81·94
	Baidyanathapur ..	68·48	..	..	6·36	74·84
	Bangaon ..	10·74	..	..	1·95	12·69
	Dulatoir ..	..	28·33	..	4·45	32·78
	Biswanathpur ..	·28	..	..	5·20	5·48
	Ranipur ..	19·88	..	..	..	19·88
		143·10	..	..	..	143·10

Felling series.	Name of Mouza.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total notified area.
Dharmapur— <i>Concl'd.</i>	Kamdebpur ..	144·47	..	..	19·18	164·27
	Dharmajain ..	503·37	..	64·50	31·95	599·82
	Dakshin Ranipur	2·72	..	..	..	2·72
	Gopinathpur ..	4·90	..	..	..	4·90
	Bamanganga ..	14·44	..	..	36·77	51·21
	Billah ..	6·20	..	..	10·52	16·72
	Shibpur ..	22·51	..	..	..	22·51
	Enayetpur ..	9·89	..	..	..	9·89
	Islampur ..	27·50	..	..	..	27·50
	Dharmapur ..	505·83	754·77	..	173·15	1,433·75
	Godabari ..	..	167·74	10·00	..	177·74
Dharmapur felling series.	Total ..	1,611·85	890·84	74·50	304·33	2,941·52
Mithapukur ..	Udaypur ..	..	11·86	..	..	11·86
	Udaypurdhap ..	..	58·55	..	..	58·55
	Changmari ..	..	36·25	..	..	36·25
	Boalmari ..	..	2·41	..	..	2·41
	Malipara ..	..	21·64	..	..	21·64
	Dameshnagar ..	..	69·01	..	..	69·01
	Hasla ..	..	26·68	41·00	..	67·68
	Bazroksantoshpur	..	72·63	..	..	72·63
	Andorkota ..	..	113·32	..	..	113·32
	Modankhali ..	191·99	..	..	..	191·99
	Lakhipur ..	77·50	17·00	..	..	94·50
	Bahanpur ..	..	14·61	..	..	14·61
	Patgram ..	53·34	..	..	..	53·34
	Bashpukuria ..	..	21·64	..	..	21·64
	Samdashpara ..	..	31·22	..	..	31·22
Kocharpara ..	135·37	..	..	..	135·37	
T a raarpara ..	..	92·68	..	..	92·68	

Felling series.	Name of mouza.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total notified area.
Mithapukur— (Contd).	Gopinathpur ..	..	3·36	..	..	3·36
	Hasharpara ..	..	83·88	..	..	83·88
	Patnichura ..	..	8·23	..	..	8·23
	Khoragachautter- para.	..	117·28	..	..	117·28
	Khoragachutter Dakhina- para.	..	34·77	..	..	34·77
	Bhaubanchura ..	46·46	..	..	..	46·46
	Salti ..	64·47	..	..	..	64·47
	Kashtaluk ..	..	59·79	..	30·00	89·79
	Ramchandrapur	...	22·98	..	...	22·98
	Jarbishla ...	...	96·25	...	...	96·25
	Saltipara ...	...	29·81	...	...	29·81
	Abirerpara ...	...	20·17	...	...	20·17
	Kamarpur ...	...	27·21	...	...	27·21
	Bilhariharpur ...	...	...	...	38·29	38·29
	Chelakhal ...	...	1·09	...	...	1·09
	Marichbari ...	...	57·55	...	...	57·55
	Chattan Marpur	...	30·73	...	...	30·73
	Taraplokhsman	...	24·22	...	...	24·22
	Sulunga ...	...	4·56	...	...	4·56
	Gokarno, ...	...	3·69	...	...	3·69
	Durgamati ...	...	30·00	...	73·75	103·75
	Gilajhuki ...	...	30·86	...	...	30·86
	Ramnathpur ...	...	39·89	...	...	39·89
	Bagerbari ...	...	23·20	...	...	23·20
	Saltigopalpur ...	...	185·47	...	...	185·47
	Dhap Syampur ...	...	17·05	...	...	17·05
	Rangapukur ...	...	158·08	...	...	158·06
	Moinpur ...	30·00	60·03	...	...	90·03
	Helencha ...	...	101·80	...	...	101·80
	Kasempur ...	...	0·31	...	...	0·31
Phulchaki ...	...	38·15	...	...	38·15	

Felling series.	Name of Mouza.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total notified area.
Mithapukur— (Concl'd)	Chakdurgapur ...	...	1.35	...	...	1.35
	Lohakuchi ...	...	18.78	...	...	18.78
	Jogodishpur ...	...	7.00	...	...	7.00
	Mamodarpara ...	...	41.52	...	...	41.52
	Tilokpara ...	...	13.89	...	...	13.89
	Babuaipur ...	...	18.04	...	...	18.04
	Kaiguri ...	...	7.88	...	...	7.88
	Bera'alia ...	3.40	...	...	...	3.40
	Khetaberpara ...	21.35	...	...	...	21.35
	Jalomohat ...	22.17	...	...	...	22.17
	Banderpara ...	...	33.82	...	...	33.82
	Sukhali ...	...	8.63	...	...	8.63
	Dhanighata ...	...	12.32	...	...	12.32
	Bag'anga ...	...	28.45	...	...	28.45
	Dakhin Gotamari ...	...	1.10	...	...	1.10
	Furba Nowdoash- para.	...	81.52	...	...	81.52
	Juniderpara ...	...	7.46	...	...	7.46
	Krishnanagar ...	...	8.67	...	...	8.67
	Haranathpur ...	...	...	...	2.00	2.00
	Chotouzirpur ...	...	1.00	...	...	1.00
Singerpara ...	...	8.83	...	...	8.83	
Mithapukur fel- ling series.	Total ...	666.05	2194.87	41.00	144.04	3,045.96



Felling Series.	Area under old sal.	Area under new sal.	Plantation.	Blank.	Total Area.	Remarks since 1954 plantation raised.
Chorkai	1,431.17	2,794.81	268.80	241.96	4,736.74	
Singara	1,533.20	..	194.15	176.66	1,904.01	
Dharmapur	1,611.85	950.84	74.50	304.33	2,941.52	
Mithapukur	666.05	2,194.87	41.00	144.04	3,045.96	816.00
Total	5,242.27	5,940.52	578.45	866.99	12,628.23	

The Allocation of Periodic blocks—

The total notified area in this working circle is 12,628.23 acres. The composition of the crop for different felling series are shown below:

49. (a) In all felling series periodic block I have been allocated on a basis of approximately 20 years as the normal yield in consideration of the most Mature stocking and poor crops. Remaining areas kept unallotted. The areas under P. B. 1 are expected to be re-generated in the next 20 years. This also includes small plantation areas which are regenerated since 1954 and blanks occurring within the area. Oldest sal area of the Division was included in the P. B. 1 areas and thinning and climber cutting are recommended for the younger age groups which have been put under unallotted P. B. In Chorkai Range it has been found necessary to distribute the yield into several cutting sections in order to conform to the unit of management. In the unallotted areas of this working circle no felling has been prescribed considering the age and scattered nature of the forest and also these forest have suffered very badly in the past due to uncontrolled felling. It is, therefore, desired that a period of rest should be provided for. However, thinning in congested young crop is to be carried out during the period of the scheme as a Silvicultural requirements for the better growth and development of the young crop.

The following tables will show the areas allotted to P. B. 1 and composition of the crop as per cutting section and felling series.

Areas allotted to P. B. 1.

P. B.	Felling series.	Cutting section.	Mouza.	Area.	Remarks.
	Chorkai	Madhyapara	Raghabpur	35.88	318.41
			Lakshim Hos-sainpur.	82.53	
			Gilajhuki	200.00	
		Nawabganj	Harillakhur	154.01	
			Alikdoti	239.74	
			Bara-Jalalpur	301.98		695.73
					1,014.14

P. B.	Felling series.	Cutting section.	Mouza.	Area.	Remarks.
	Singara	Singara	Singara	330·94	507·78
			Chaulia	176·84	
	Dharmapur	Dharmapur	Nalpur	81·94	760·92
			Dharmapur	678·98	
	Mithapukur	Mithapukur	Salti	64·47	751·17
			Kashtaluk	40·00	
			Madankhali	191·99	
			Lakshmipur	77·50	
			Patgram	53·34	
			Kochpara	135·37	
			Bhaibanda	46·46	
			Bilhariharpur	38·29	
			Durgamati	73·75	
			Mainpur	30·00	

49. (b) Composition of crop in P. B. 1 areas—

P.B.	Felling series.	Cutting section.	Mouza.	Area under old sal & blank.	Area under new sal.	Total notified area.
	Chorkai	Madhyapara	Raghabpur	35·88	..	35·88
			Lakshmi Hossainpur	82·53	..	82·53
			Gilajhuki	200·00	850·70	1,050·70
				318·41	850·70	1,169·11
		Nawabganj	Harillakur	154·01	..	154·01
			Alikdoti	239·74	..	239·74
			Barajalalpur	301·98	..	301·98
				695·73	..	695·73
			Total under each felling series,		2,140·27	850·70	2,990·97

P.B.	Felling Series.	Cutting Section.	Mouza.	Area under old sal	Area under new sal.	Total notified area.
	Singara	Singara	Singara	330·94	168·00	498·94
			Chaulia	176·84	..	176·84
			Total: ..	507·78	168·00	675·78
	Dharmapur	Dharmapur	Nalpur	81·94	..	81·94
			Dharmapur	678·98	754·77	1,423·75
			Total: ..	760·92	754·77	1,515·69
	Mithapukur	Mithapukur	Salti	64·47	..	
			Khashtaluk	40·00	49·79	
			Madankhali	191·99	..	
			Lakshipur	77·50	17·00	
			Patgram	53·34	..	
			Kocharpara	135·37	..	
			Baibanchara	46·46	..	
			Bilhariharpur	38·29	..	
			Durgamati	73·75	30·00	
Mainpur			30·00	60·03		
Total ..			751·17	156·82		

49. **Calculation of the yield (6)**—The yield is prescribed by area separately. The main yield will be obtained by clear felling and planting of blank areas to the extent of one twentieth of P.B.1. areas in each felling series—

Felling series.	Cutting section.	Total area in P.B.1	No. of years in the period.	Annual yield.
Chorkai	Madhypara	318·41	20	16·00
	Nawabganj	695·73	20	35·00
	Total for felling series.	1,014·14	...	51·00
Singara	Singara	507·78	20	25·00
Dharmapur	Dharmapur	760·92	20	38·00
Mithapukur	Mithapukur	751·17	20	37·50
				150·50

50. **Method of executing felling**—In P. B. 1 clear felling will be done annually upto the limit prescribed areas in each felling series or cutting section as per recommendation vide para 49. The felling will be done in continuation of the already artificially regenerated areas. The blanks occurring in these areas should be counted towards the yield. In unallotted areas thinnings will be carried out to the prescribed limit in the congested crop.

51. **Sequence of felling**—The following table will show the sequence of felling to be undertaken in the P.B. 1 areas—

Sequence of felling.

Felling Series.	Cutting section.	Name of mouza in sequence.	Remarks.
Chorkai	Madhyapara	Rangpur	50 per cent. of the total yield will be taken up by felling old forest and 50 per cent. from the blank areas if such areas exist in the P. B. 1 area.
		Lakshi Hossainpur	
		Gilajhaki	
	Nawabganj	Harillakur	
		Alokdhota	
		Barajalapur	
Singara	Singara	Chaulia & Singara.	Ditto.
Dharmapur	Dharmapur	Nalpur	
Mithapukur	Mithapukur	Khas-taluk	Ditto.
		Salti	
		Durgamati	
		Bilhariharpur	
		Madankhali	

52. * Subsidiary operation—No subsidiary felling is prescribed for unallotted periodic block as most of the crops consist of young seedlings and of coppice origin. Tending is very badly required in these young crops, so thinning is prescribed for removing the congestion as quickly as possible to have better growth and development of the crop. It is intended, therefore, that the badly congested areas of the young crop be thinned within the period of the scheme. The following tabular statement will show the year of felling and the areas to be thinned out—

Year	Felling series	Cutting section.	Nature of thinning.	Mouza.	Area.
1959-60	Chorkai	Madhyapara	1st. thinning	Madhyapara	29·00
		Nawabganj	„	Chakdolu	25·57
	Dharmapur Mithapukur	Dharmapur	„	Ballavpur	30·00
		Dharmapur	„	Dharmapur	50·00
		Mithapukur	„	Jharbishla	96·25
1960-61	Chorkai	Madhyapara	„	Gurguri	100·00
		Nawabganj	„	Poliramdevpur	47·48
	Dharmapur Mithapukur	Dharmapur	„	Dharmapur	50·00
		Mithapukur	„	Totarpura	92·68
1961-62	Chorkai	Madhyapara	„	Gurguri	84·00
		Nawabganj	„	Tarpanghat	10·00
			„	Kalampur	7·76
	Dharmapur Mithapukur	Dharmapur	„	Binodnagar	9·00
		Dharmapur	„	Dharmapur	50·00
		Mithapukur	„	Andorkota	113·32
1962-63	Chorkai	Madhyapara	„	Kismat	92·21
		Nawabganj	„	Marash	28·43
	Dharmapur Mithapukur	Dharmapur	„	Dharmapur	50·00
		Dharmapur	„	Udoypurdhap	58·55
		Mithapukur	„	Daneshnagar	69·01
1963-64	Chorkai	Madhyapara	1st. thinning	Panchapukuria	100·00
		Nawabganj	„	Khatkhotia-Krishnapur,	50·00
	Dharmapur Mithapukur	Dharmapur	„	Dharmapur	50·00
		Mithapukur	„	Mithapukur	83·88

Year.	Felling series.	Cutting section.	Nature of thinning.	Mouza.	Area.
1964-65	Chorkai	Madhyapara	1st thinning	Panchpukuria	100.00
		Nawabganj	"	Khatkhotia-Krishnapur	50.00
	Dharmapur Mithapukur	Dharmaur	"	Dharmapur	50.00
		Mithapukur	"	Khastaluk	59.70
1965-66	Chorkai	Madhyapara	1st thinning	Panchpukuria	100.00
		Nawabganj	"	Khatkhotia-Krishnapur	50.00
	Dharmapur Mithapukur	Dharmapur	"	Dharmapur	..
		Mithapukur	"	Buzroksantoshpur.	72.63
		"	"	Mithapukur	57.55
1966-67	Chorkai	Madhyapara	1st thinning	Panchpukuria	80.00
		Nawabganj	"	Khatkhotia-Krishnapur.	40.00
	Dharmapur Mithapukur	Dharmapur	"	Dharmapur	50.00
		Mithapukur	"	Moyeenpur	70.00
1967-68	Chorkai	Madhyapara	1st thinning	Panchpukuria	80.00
		Nawabganj	"	Khatkhotia-krishnapur.	34.39
	Dharmapur Mithapukur	Dharmapur	"	Dharmapur	50.00
		Mithapukur	"	Melencha	101.80
1968-69	Chorkai	Madhyapara	1st thinning	Panchpukuria	69.26
		Nawabganj	"	Rasulpur	16.00
	Dharmapur Mithakpuur	Dharmapur	"	Dangserhat	12.00
		Mithapukur	"	Dharmapur	50.00
		"	"	Purba Nowdas	85.5

In the rest of the areas of unallotted P. B. Climber cutting has been prescribed as a tending operation for the benefit of the young crops. The following tabular statement will show the annual prescribed areas in different cutting section.

(b) Climber cutting.

Year	Felling Series	Cutting Section	Mouza	Area	Remarks.
1959-60	Chorkai	Madhyapara	Gilajuki	100.00	100.00
	Dharmapur	Dharmapur	Dharmapur	45.00	45.00
	Singara	Singara	All mouzas unallotted to P.B. 1 continous.	112.00	112.00
	Mithapukur	Mithapukur	Changmari Malipara Hashia.	36.25 21.64 26.68	} 84.57
1960-61	Chorkai	Madhyapara	Gilajhuki	100.00		100.00
	Dharmapur	Dharmapur	Dharmapur	45.00	45.00
	Singara	Singara	All continous mouzas.	112.00	112.00
	Mithapukur	Mithapukur	Lakshipur Babanpur Bashpukuria Shyamdaspara	17.00 14.61 21.64 31.22	} 84.47
1961-62	Chorkai	Madhyapara	Gilajhuki	100.00		100.00
	Dharmapur	Dharmapur	Dharmapur	45.00	45.00
	Singara	Singara	All continous mouzas.	112.00	112.00
	Mithapukur	Mithapukur	Khoragacha Uttarpara.	117.28	117.28
1962-63	Chorkai	Madhyapara	Gilajhuki	100.00	100.00
	Dharmapur	Dharmapur	Dharmapur	45.00	45.00
	Singara	Singara	All continous mouzas.	112.00	112.00
	Mithapukur	Mithapukur	Khoragach Dhakhinpur Ramchandra- pur. Jhorumbari Shaltipara	34.77 22.98 14.70 29.81	} 102.26

Year.	Felling series.	Cutting section.	Mouzas.	Areas.	Remarks.
1963-64	Chorkai Dharmapur Singara Mithapukur	Madhyapra Dharmapur Singara Mithapukur	Gilajhuki ..	100·00	100·00
			Dharmapur ..	45·00	45·00
			All continous mouzas.	112·00	112·00
			Abrerpara ..	20·17	} 78·11
			Kamarpar ..	22·21	
Chotonmirpur ..	30·73				
1964-65	Chorkai Dharmapur Singra Mithapukur	Madhyapara Dharmapur Singra Mithapukur	Gilajhuki ..	100·00	100·00
			Dharmapur ..	29·77	} 59·77
			Godabari ..	30·00	
			All continous mouzas	112·00	112·00
			Tarap Laksan ..	22·22	} 83·08
Durgamati ..	30·00				
Gilajhuki ..	30·86				
1965-66	Chorkai Dharmapur Singra Mithapukur	Madhyapara Dharmapur Singra Mithapukur	Gilajhuki ..	100·00	100·00
			Godabari ..	45·00	45·00
			All continous mouzas.	112·00	112·00
			Ramnathpur ..	39·89	} 98·92
			Bagerbari ..	23·20	
Dhapshampur ..	17·05				
Lahakati ..	18·78				
1966-67	Chorkai Dharmapur Singara Mithapukur	Madhyapara Dharmapur Singara Mithapukur	Gilajhuki ..	150·00	150·00
			Godabari ..	92·74	92·74
			All continous mouzas.	112·00	112·00
			Mamuderpara ..	41·53	} 73·46
			Tilozpara ..	13·89	
Banapur ..	18·04				

Year	Felling Series.	Cutting Section	Mouza	Area	Remarks.
1967-68	Chorkai	Madhyapara	Kesimat ..	92.21	92.21
	Dharmapur	Dharmapur	Bangaon ..	28.33	28.33
	Singara	Singara	All continous mouzas.	112.00	112.00
	Mithapukur	Mithapukur	Bandorpara ..	33.82	} 46.14
			Dhanighata ..	12.32	
1968-69	Chorkai	Madhyapara	Dolua	68.00	68.00
	Singara	Singara	All continous mouzas.	113.41	113.41
	Mithapukur	Mithapukur	Bagdanga ..	28.45	} 45.95
			Krishnagar ..	8.67	
			Singerpara ..	8.83	

Sequence should be followed in such a way that a continuity is maintained. In unallotted P. B. areas felling should start from one end of the felling series or cutting sections.

53. **Method of regeneration**—Sal is the principal indigenous species growing pure in this Division. But the raising of sal plantation under taungya system is a new undertaking in this area. Tribal people are the best labourer for forest regeneration work but unfortunately this Region is deprived of this sort of tribe except of few Santal who are settled with sufficient land of their own in or near about the forest. So the availability of labour for taungya plantation is a problem. There is no chance of establishment of forest village in the near future. The only alternative left with is to do the regeneration work by paid labours.

Clear felling will be completed by the end of February and debri-cutting by 1st week of March so the green stuff may get dry up fully during the month of March. The area will be burnt during the period not later than March, collection of debries and reburning, etc., should be done in mid April and stacking and hoeing or ploughing should be completed by the last week of April and simultaneously agricultural crop such as Arhar, Til, Paddy, Mez, etc., or Boga should be sown broadcast all over the area. As the sal seeds start ripening from the middle of May, so lines for sowing sal should be taken up for rehoeing and dressing in 1½" wide strip, so that a week's time is afforded to the soil for aeration. Sowing of sal seeds in 3 rows should always be resorted to one row after another depending on the availability of the seeds. The greatest danger is the occurrence of storm during May in which time the seeds may be blown down suddenly. In such occasion a hurried programme should be made to sow the seeds in 3 rows and complete the work. Under no circumstances the seeds should be dibbled well below the ground surface, the wigs of the seeds should always be kept exposed. Always sal sowing to be carried out during rainy days or in cloudy atmosphere. Drought period should be avoided.

It is always however paying if the Beat Officers keep sufficient seeds or seedlings of species like toon, Chikrasi, Jarul, Mahua, Casia, Kadam, Simil, Karai, Jam, Chap, Mehoginy, etc., to face any emergency such as bad seed year, and unprecedented storm in respect of stocking his clear felling areas.

In low lying areas Jarul seeds should be put in lines direct in wide strip about 6" to 1'-0" wide and lines should be 6' apart. If any stump is required the seedlings of the lines may serve the purpose of stumps subsequently.

Tending operation in sal is the most important operation to make a successful plantation. In the 1st year there should always be a field crop and as many as clearing should be done to keep the seedlings as well as the field crops, free from weed suppression. This will always pay back the extra cost which is incurred in cleanings by a good return of the field crop. In the end of the 1st year, after the harvesting of the field crop strip $1\frac{1}{2}$ wide in between sal lines to be hoed up and dressed for sowing Boga Medula seeds. The sowing of boga must be completed by the end of March so that Boga gets a month's growth ahead of the weeds. Sowing of boga is an operation which must be carried out without fail as this cover crop will minimise subsequent high cost of cleanings in 2nd and 3rd year but also provides side shades to sal seedlings which is a silvicultural requirement of sal in early stages and enriches the soil also.

During the time of clearing if it is found that sal seedlings are suppressed the side branches of the over crops should be lopped to provide light to the sal seedlings in the 2nd year. In the 3rd year a light pruning of boga should be done. In the 4th year if the growth of sal is successful, Sal sapplings will be well above the weed growth and boga will be cut out. In the 5th year the plantation is expected to be established and in the cold months following the 5th growing season 1st mechanical thinning to be carried out.

54. Choice of Species—It should be clearly realised that this working circle is solely intended for (*Shorea roxburghii*) Sal, therefore, this species should be put in wherever the soil is suitable for sal. In low lying areas Jarul, Jam, Kadam, Pitali, etc., should be sown or planted out.

55. Thinning—1st and 2nd thinning in sal will be done in the cold month following the 5th and 10th growing seasons respectively for other species sown in lines in the 8th and 14th year: species planted in stakes will be done in 5th and 10th year.

Climber cutting will be done along with the thinning in P. B. 1 area.

Chapter III.

COPPICE WORKING CIRCLE.

56. This working circle comprises sal forests which are situated near the towns and rail heads and of bad quality. The crop is composed of sal pole of coppice and seedling origin and badly shaped. There are abundance of advance growth which due to continued burning has formed a thicket with no future prospect.

Division into felling series.

Only one felling series has been prescribed as major fellings will be located near chorkai and Phulbari in the Chorkai Range. However, for the facility of working as well as to meet the local demand annual fellings may be distributed in different mouzas.

Area statement and composition of crop.

57. The working circle will comprise the following mouzas in the felling series and two cutting sections as—

Felling Series.	Cutting section.	Name of the mouzas.	Area.		Total of the C.S.	Total area of the W.C.	Remarks.
			Acquired.	Vested.			
1	2	3	4	5	6	7	8
Chorkai ..	Chorkai ..	Ramraipur ..	187.33	763.63	264.96	..	..
		Shibnagar ..	0.70	59.97	60.67	..	..
		Habra ..	52.26	40.88	93.14	..	..
		Sherpur ..	29.26	114.70	143.96	..	..
		Chorkai ..	8.19	11.28	19.47	..	..
		Sandalpur ..	71.31	16.36	87.67	..	..
		Dharjuri ..	..	160.86	160.86	..	..
		Kalisahar	..	8.06	8.06	..	..
		Kurshakhali	..	6.83	6.83	..	..
		Manpukur ..	..	0.24	7.14	..	..
		Chaksulban	6.90	20.84	29.98	..	..
		Purbajagan-nathpur	9.04	50.47	50.47	..	..
		Debipur ..	..	3.94	3.94	..	..
		Poliprayagpur	..	10.85	10.85	..	..
		Shayampur	..	52.08	52.08	..	..
		Durgapur	..	0.52	3.20	..	..
		Mirzapur Khairbari.	2.68	4.63	4.63	..	..
		Belpukur ..	..	40.07	40.07	..	..
Chakkabir	14.10	14.10	..	..
Poligangapur	..	13.12	13.12	..	..
Poliram-Krishnapur..	..	0.33	0.33	..	..
Garpingli						

Felling series.	Cutting section.	Name of the mouzas.	Area.		Total of the C.S.	Total area of the W.C.	Remarks.	
			Acquired	Vested				
1	2	3	4	5	6	7	8	
Chorkai— concl.	Chorkai ..	Chakul ...	47·68	...	47·68	...		
		Jatemadhab	...	6·13	6·13	...		
		Kachua-Mirzapur.	...	16·96	16·96	...		
		Biswanathpur	79·97	0·63	80·60	...		
		Rambhadrapur.	...	31·94	31·94	...		
		Dudipur ...	61·27	...	61·27	...		
		Purba Durgapur.	...	13·31	13·31	...		
		Mahespur ...	...	28·19	28·19	...	
		Perojpur ...	...	2·34	2·34	...	
		Noyaini ...	124·78	2·57	127·35	...		
		Khosalpur.	...	23·09	153·45	...		
		Satani-Khosalpur.	130·36	...	7·71	7·71	...	
		Tayeatpur ...	...	7·71	7·71	...	
		Paschim Joydevpur.	...	17·30	17·30	...		
	Paryagpur ...	...	12·82	12·82	...		
	Bhowanipur	...	0·89	0·89	...			
	Khalilpur ...	...	7·24	7·24	...		
	Kalikapur ...	...	4·76	4·76	...		
	Total ...	...	834·36	883·64	1,718·00	...	...
	Dinajpur ...	Dinajpur ...	12·94	...	...	12·04	
Kamalkantobag.		2·51	...	...	2·51		
Bhulpara ...		...	1·15	...	1·15		
Katapara ...		...	3·82	...	3·82		
Ramerkntorbag.		...	2·84	...	2·84			
Bhuipara ...		...	4·41	...	4·41		
Mereyomalhari.		1·88	...	...	1·88		
Vitorgar—Badeswari Bhojanpur ...		29·81	...	...	29·81		
	...	1·59	...	...	1·59		
		47·83	12·22	...	60·05			
Total area of clear felling ...		882·19	895·86	...	1,778·05	1,778		

58. **Calculation of the yield**—The yield is calculated by area only the total conversion period has been fixed for 30 years, so the annual yield has been calculated as follows—

Felling series.	Total area.	Year in conversion.	Annual yield.
Chorkai	1,718.00	30	57.2
Dinajpur	60.05	30	2.00

59. **Sequence of felling**—In the felling series mouzas have been taken to be the unit of management and their names are arranged in order of sequence of felling as per table—Unless one mouza is completed the next mouza should not be taken up. If, however, it is found necessary for convenience, of supervision this yield may be spread over in different mouzas of the felling series. The sequence has only been shown for the period of the scheme beyond which the Divisional Forest Officer may take up the areas for next felling after inspection.

Felling series	Cutting section.	Mouza in sequence.	Area in mouza in acres.
Chorkai	Chorkai	Chakul	47.68
		Sherpur	143.96
		Jotemadhab	28.76
		Kachuamirzapur	16.96
		Shibnagar	60.67
		Biswanathpur	80.60
		Habra	93.00
		Debipur	50.47
		Durgapur	52.08
		Shampur	10.85
Dinajpur	Dinajpur	Dinajpur	12.04
		Kamarkantobag	2.51
		Bhulpara	1.15
		Katapara	3.82
		Ramerkantobag	2.84
		Bhulpara	4.41

60. **Method of felling**—All trees should be cut as low as possible to the ground level but should not exceed more than 9" from the ground level. All stumps should be cut or trimmed so that the stump surface should have a smooth cut. The sapplings and whippy shoots left after the main felling should be cut back to the ground, all fellings should be completed by the 28th February of each of year.

Method of Regeneration—Clear-felled areas shall be restocked from the stool shoots or coppice shoots where there is no such shoots artificial sowing and planting with fast growing species suitable as firewood should be resorted to.

61. **Tending**—Three cleanings should be done in the 1st year and 2 clearing in the 2nd year. In these cleanings only the climbers and weeds to be removed but not sal coppice. In the 3rd year only one cleaning should be given in which operation, along with the removal of the undesirable growths one or two coppice shoots be also taken from the stumps where coppice shoots are numerous. In the 5th year 1st thinning to be done in which operation an average of 4—3 shoots to be retained per stump.

Thinning.

62. There will be thinning in the 5th , 10th and 15th year.

Chapter iv

AFFORESTATION WORKING CIRCLE

63. This working circle comprises forests and waste lands of Dinajpur, Rangpur and Rajshahi district. In Dinajpur district the areas taken into this afforestation working circle consists of waste lands and devastated forest areas of Bhadura and Sahabazpur Beats. These areas were sal forests, which was over cut and destroyed for cultivation in the past and now covered up with shrubby jungles adjoining good sal areas of the Division. In Rajshahi district there are patches of small sal forest in Dhamoirhat and Patnitola Police-station near the Indian Borders. There are also old forest areas lying waste which are also included in the Working Circle for the purpose of afforestation with Tendu (Indian Bidi) and Khair trees. The unculturable waste lands available in the northern part of Rangpur district especially in Nilphamari Sub-division are also included in this working circle for growing important economic plant such as Khair and Simul.

64. **Division into felling series**—For the purpose of afforestation work in these different districts the working circle has been divided into 3 felling series and several cutting section for the convenience of execution of works and attainment of object of management.

In all felling series the unculturable waste lands are put into P.B. 1. Remaining areas which are covered with forest of younger age classes are kept as unallotted P.B. which also included the areas already regenerated since 1957.

65: Area statement—The working circle comprises the following mouzas and the statement will show the areas in different felling series and cutting section.

The areas of Rangpur felling series has been shown here also and expecting formal transferred to this Department, however, the necessary information for the felling series has also been added.

In Rajshahi felling series more unculturable waste lands are likely to be transferred for the purpose of implementation of Bidi scheme when sanctioned.

Felling series.	Cutting section.	Name of the mouza.	Areas.			Remarks.
			Blank.	Forest.	Total.	
1	2	3	4	5	6	7
Dinajpur ..	Shahabazpur.	Kushdaha ..	409.93	..	409.93	
		Khalilpur ..	716.20	..	716.20	
		Haripur ..	130.50	335.00	465.52	
		Bamangarh..	..	544.63	544.63	
		Damail ..	..	6.92	6.92	
		Khosalumpur	..	9.28	9.28	
		Kachua ..	..	61.94	61.94	
		Islampur ..	..	6.25	6.25	
		Bhowanipur	..	105.18	105.18	
		Damodarpara	..	28.75	28.75	
		Shibpur ..	..	88.51	88.51	
		Raghabendra- pur.	1.18	..	1.18	
		Dorgapara ..	..	1.95	1.95	
		Chamunda..	..	165.97	165.97	
		Joypur ..	30.15	115.00	145.15	
		Uttar Saha- bazpur. ..	..	255.03	255.03	
		Dakhin Saha- bazpur.	..	311.73	311.73	
		Prayagpur ..	..	12.93	12.93	
		Bara Raghu- nathpur. ..	..	187.75	187.75	
		Total: ..		1,278.98	2,236.82	3,524.80
	Bhaduria ..	Audgari ..	..	42.71	42.71	
		Padumhar ..	125.49	..	125.49	

Felling series.	Cutting section.	Name of the mouza.	Areas.			Remarks.
			Blank.	Forest.	Total.	
1	2	3	4	5	6	7
Dinajpur	Bhaduria	Mahammadpur.	137.99	85.00	222.99	
		Kihjirpur ..	..	28.43	28.43	
		Pashim Fatepur.	5.06	..	5.06	
		Chaknawda	437.46	30.00	467.46	
		Saltimuradpur	110.00	86.67	196.67	
		Putihar ..	..	14.68	14.68	
		Harinathpur	241.78	27.00	268.78	
		Bhebatgari ..	10.74	32.80	43.54	
		Ghoraghat ..	301.44	..	301.44	
		Shahabganj..	152.45	..	152.45	
		Total: ..	1,522.41	347.29	1,869.70	
Rajshahi	Dhamoirhat	Moisher ..	3.02	224.88	227.90	
		Chotomollapara.	..	36.90	36.90	
		Joyjoypur ..	2.71	9.54	12.25	
		Amarpur ..	5.48	1.84	7.52	
		Chakjadu ..	8.60	7.03	15.63	
		Ostomabad..	0.27	11.63	11.93	
		Chotoshibpur	..	12.06	12.06	
		Paikbandha	117.31	75.57	192.88	
		Nirmaoil ..	135.45	46.58	182.03	
		Matikata ..	80.40	15.48	95.88	
		Hallakandra	106.89	55.88	162.77	
		Sayedpur ..	31.32	5.44	36.76	
		Shorunjabari	33.97	22.64	56.61	
		Alpaka ..	14.43	54.97	69.40	
		Badanpur ..	..	127.53	127.53	
Jotemamudpur	..	24.41	24.41			
Bakarpur ..	..	45.29	45.29			
Durgapur ..	..	31.29	31.29			

Felling series.	Cutting section.	Name of the mouza.	Areas.			Remarks.
			Blank.	Forest.	Total.	
1	2	3	4	5	6	7
Rajshahi	Dhamoirhat	Barachakgopal	..	8.50	8.50	
		Uttarchak-rahmat. ..	..	68.74	68.74	
		Kalupara ..	..	1.22	1.22	
		Sital ..	..	97.02	97.02	
		Goal ..	..	28.27	28.27	
		Chandsada	..	44.72	44.72	
		Total: ..		539.85	1,057.17	1,597.02

Working circle.	Felling series.	Cutting section.	Areas.			Remarks.
			Blank.	Forest.	Total.	
1	2	3	4	5	6	7
Afforestation.	Dinajpur ..	Sahabazpur	1,287.98	2,236.82	3524.80	
		Baduria ..	1,522.41	347.29	1,869.70	
		Total felling series.	2,810.39	2,584.11	5,394.50	
	Rajshahi ..	Dhamoirhat	539.85	1,057.17	1,597.02	
	Rangpur ..	Patnitola } Rangpur } Domar }	1,893.53	..	1,893.53	
	Total of the Working Circle.		5,243.77	3,641.28	8,885.05	

66. **Calculation of yield**—As works for this working circle has yet to be fully organised on receipt or the development scheme, viz, Tendu and other important economic plants such as Khair and Simul, the yield has been prescribed only for Dinajpur felling series. However, on receipt of sanction of the Development Scheme an adhoc yield may be prescribed for other 2 felling series, viz, Rajshahi and Rangpur depending on the fund and labour available for quick completion of the afforestation scheme. In view of the above the yield for Dinajpur felling series be as follows and calculated on the total blank areas available in the felling series. Yield has been prescribed to a minimum limit. Since it is an afforestation work quick conversion is necessary, hence the area may be increased to any extend depending on availability of fund.

80 years has been taken as rotation of sal in this working circle since the area is to be afforested as quickly as possible and the yield may, therefore, be increased to 100 per cent. or more.

Yield.

Felling Series.	Cutting Section.	Area blank.	Annual yield.	Remarks.
Dinajpur	Sahabazpur	1,287.98	} 35 acres.	
	Bhaduria	1,522.41		
	Total: ..	2,810.39		

In Rangpur felling series an adhoc minimum annual yield has been worked out as 50 acres. This yield may be increased and when required for augmenting the afforestation works.

67. **Method of execution of felling**—To start with the unculturable waste lands should be taken up first for regeneration and tending operation such as thinning and climber cutting may be carried out in unallotted P.B. areas of this working circle as per programme *vide* para. 70.

68. **Sequence of felling**—

Felling Series.	Cutting section.	Name of mouzas in sequence.	Remarks.
Dinajpur	Sahabazpur	Khalippur Kushdaha	
	Bhaduria	Padumhar Chaknawda	

In other two felling series namely Rangpur and Rajshahi no sequence have been found necessary to follow but quick afforestation of the areas should be aimed at.

69. **Method of regeneration**—The area of Dinajpur felling series will be generally regenerated principally with sal but attempt should be made to raise important economic plant such as Bamboos, Kumbi tree and soft wood species such as Simul, Kadam, Chatian, Khair and Babul, etc. The method of regeneration will be same as sal in conversion working circle.

In Rajshahi felling series the principal species will be tendu, to be regenerated artificially by departmental Taungya system and similarly in Rangpur felling series with important economic species such as Khair, Simul, Babul and Pitali, etc.

Since the area mostly comprised of blank and deteriorated soil the ploughing or hoeing should be resorted to for preparation of soil for planting. If necessary manuring may be done to accelerate the growth of the species. The extra cost this increased is expected to be recoverable by the quick growth. The following technique should be adopted in raising tendu plantation—

The area is to be laid out first as per prescription and fenced with barbed wire. With the break of the pre-monsoon shower ploughing or hoeing should be done over the entire area and lines be stacked at 6' to 8' apart. In between the lines Boga is to be sown thickly broadcast at least $1\frac{1}{2}$ wide after necessary soil preparation Tendu seeds to be dibbled in 2' to 4' apart in lines depending on the availability of the seeds, alternate with the sal lines in 3 rows, i. e., in one line Tendu 2' to 4' apart in lines and in next line sal in 3 rows and then again tendu line as before and so on. Tendu should always be grown as mixed crop and afforded shade in its early stage as this is a shade bearing species.

Three weeding to be done in the 1st year in June, August and October along with the lopping of side branches of Boga, if necessary. In the 2nd year 2 weeding to be done in June-July and September-October. It is to be kept in mind that both the species are shade bearer. Hence care should be taken to see that the area not suppressed outright but overhead light be afforded to upto 4th year of the plantation should be looked after and tending operation be done according to necessity. Boga medulea may be retained till the silvicultural requirement of sal and tendu is fulfilled.

In the interim the period Boga may be lopped and in order to afford defuse shade to the plants. Since tendu is a very slow growing species it is presumed thinning will not be required in 5th year but sal will be thinned in the cold months after the 5th growing season if the growth is found to be normal.

Climber cutting and thinning in the unallotted P. B. climber cutting and thinning should be simultaneously adopted in unallotted P. Bs'. of Dinajpur felling series.

70. In Rajshahi felling series no thinning climber cutting is necessary for the present but may be done if found necessary after being inspection of the Divisional Forest Officer—

Felling series.	Cutting section.	Name of mouzas (Forest area).	Area.
Dinajpur	Shahbazpur	Bamangarh	544.63
		Haripur	335.00
		Damail	6.92
		Khoslampur	9.28
		Kachua	61.94
		Islampur	6.25
		Bhowanipur	105.18
		Damodarpara	28.75

Felling series.	Cutting section.	Name of mouzas (Forest area.)	Area.
Dinajpur	Shahbazpur	.. Shibpur ..	28.51
		Dorgapara ..	1.95
		Chamma ..	165.97
		Joypur ..	115.00
		Uttar Sahabazpur ..	225.03
		Dakhin Sahabazpur ..	311.73
		Prayagpur ..	12.93
		Bara Raghunathpur ..	187.75
Dinajpur	Bhaduria	.. Audgari ..	42.71
		Mahammadpur ..	85.05
		Khijirpur ..	28.43
		Chaknawda ..	30.00
		Saltimuradpur ..	86.67
		Putihar ..	14.68
		Harinathpur ..	27.00
		Bhabatgari ..	32.80
	Total	304.49	

The climber cutting and thinning is prescribed only for the areas which are badly affected and should be done during the period of the scheme. The rest of the areas will be taken up after the expiry of the period of the scheme—

	Felling series.	Cutting section.	Name of mouza to be thinned.	Area.
1959-60 ..	Dinajpur ..	Sahabazpur ..	Balance of Bamangarh	100.00
		Bhaduria ..	Audgari ..	42.71
1960-61 ..	Dinajpur ..	Sahabazpur ..	Haripur ..	120.00
		Bhaduria ..	Mohammadpur ..	30.00

	Felling series.	Cutting section.	Name of mouza to be thinned.	Area.
1961-62 ..	Dinajpur ..	Sahabazpur ..	Haripur	120 00
		Bhaduria ..	Mohammadpur ..	30.00
1962-63 ..	Dinajpur ..	Sahabazpur ..	Haripur	95.00
		Bhaduria ..	Mohammadpur ..	25.00
1963-64 ..	Dinajpur ..	Sahabazpur ..	Chamunda ..	125.00
		Bhaduria ..	Khizirpur ..	28.43
1964-65 ..	Dinajpur ..	Sahabazpur ..	Bhowanipur ..	105.18
		Bhaduria ..	Chalknada ..	30.00
1965-66 ..	Dinajpur ..	Sahabazpur ..	Dakhin Sahabazpur ..	120.00
		Bhaduria ..	Saltimuradpur ..	30.00
1966-67 ..	Dinajpur ..	Sahabazpur ..	Dakhin Sahabazpur ..	120.00
		Bhaduria ..	Saltimuradpur ..	30.00
1967-68 ..	Dinajpur ..	Sahabazpur ..	Dakhin Sahabazpur ..	67.73
			Bara Raghunathpur ..	50.00
			Bhaduria ..	Saltimuradpur ..	26.67
1968-69 ..	Dinajpur ..	Sahabazpur ..	Bara Raghunathpur ..	137.75
		Bhaduria ..	Bhebatgari ..	32.80

Chapter v

MISCELLANEOUS REGULATION

71. **Artificial Regeneration**—This Division has recently been created with the main object of conservation and afforestation. There remains a very little scope for large scale plantation hence the future development of the area is mainly dependent on successful regeneration of the unculturable waste lands which are very poor in fertility. It is, therefore, intended that on taking such area for regeneration, proper soil working should always be resorted to and a cover crop such as Boga medulea be put to improve the texture and fertility of the soil. It is further emphasised that all attention should be focused for successful regeneration in the 1st year. It is seen that failure in the 1st year can never be recouped in subsequent years.

To make artificial regeneration successful the following points are to be taken into first consideration—

- (i) Proper soil working and raising of cover crop.
- (ii) Adequate seed stock in advance of desired species to guard against any casualties on principal species.
- (iii) Proper tending in proper time.
- (iv) Protection from fire and grazing.

The entire technique of raising plantation by artificial regeneration has almost been standardised and can be looked into the current literature and relevant paras of this scheme.

Taungya—Forest villagers' taungya system of raising plantations is not possible in this Division on account of non-availability of such labour as Garos, Santal; so a departmental Taungya system has been adopted. This however, does not prevent to make attempt to recruit proper labour for establishing forest villages in plantation centres.

Weeding and cleaning—Weeding and cleaning should be carried out as prescribed under respective working circle.

72. Fire Protection—The forest of this Division is so scattered and intermixed with cultivated land that successful fire protection is impracticable but all measures to be taken up to protect the newly regenerated areas from fire damage at least. To do this fire watcher may be appointed during the fire season and fire line be cut all round the regenerated areas and early burning of the lines be done in December-January.

73. Grazing—Grazing in the plantation and coppice areas upto the 5th year should not be allowed. In rest of the areas grazing of cattle by local people have not yet been statutorily decided. However, grazing may be allowed on realisation of grazing fees.

74. Method of laying out coupes and marking—(i) All annual coupes such as clear felling, coppice and thinning coupes should as far as possible extend over complete cadastral plots with well defined boundaries. Trees along the boundaries of the coupes should be double ringed with thick coalter belt and the lot with a single coalter band. A map of the proposed annual coupe should be approved by the Divisional Forest Officer. Trees will be marked as per prevailing standing order of the Division and the sale list with maps should be submitted by the Range Officer on or before 30th June every year. The sale list will be sent for publication by the 15th July and circulation may be made by the end of August and the sale will be made by 1st week of October every year.

(ii) The Range Officer will check at least 5 per cent. of marking done by his staff and issue necessary certificate of the check on the first page of the lot register.

75. Departmental fellings—Felling for departmental use namely for making roads, building construction and repairs of buildings and bridges should ordinarily be obtained from prescribed coupe but small quantity may be felled at the discretion of the Divisional Forest Officer from any part of the forest.

76. Removal of the trees—Removal of dead and dry trees from vested forest may be allowed as per provision made in the provision of private forest Act Rule 1.

77. Roads and paths—In this Division roads and extraction paths are not in number and they are practically not required everywhere. However, in the development scheme provision have been made to constrict some extraction roads. In plantation areas inspection paths are to be laid out and maintained.

78. Buildings and wells—The necessary Buildings and Divisional Forest Officer's Rest House are being constructed and almost entire requirement will be fulfilled within a short time. For the water ring-wells are also being provided in each quarter.

79. **Boundary**—Under Rehabilitation Scheme of 2nd 5-year plan a scheme for 1st survey and demarcation of the entire forest boundary of the Division has been programmed for. After the demarcation the said boundary should be checked at a rate $\frac{1}{5}$ th of the total length every year. It is, however, suggested that at the time of checking bamboo culms may be put at distance of one furlong over the boundary.

80. **Bamboo**—Bamboo is a poor man's timber, specially in North Bengal it is extensively used for construction of houses and other domestic uses. The demand for bamboo has been increased abnormally and are being cut and exported to other regions of the country. As such it is being over cut and stock is fast disappearing from village areas. It is high time, therefore, that bamboo should be planted up over the waste lands every year in each Range and Beats. In order to do this in each year's clear felling coupe an acre or two should be planted up with bamboos. The following kind of bamboos are recommended.

Bamboosa Neutons (Bara Bansh) and Bamboosa balcoal (Makla Bansh) and attempt also should be made to get seeds of Muli bamboos from Chittagong or Sylhet and be also tried.

Technique of raising bamboos—Since bamboo is regenerated mostly from cuttings with rhizome care should be taken to select the healthy culms for the purpose. The culms should be cut with 3 or 4 nodes and taken out with them injured portion of rhizome before the day of planting. Collection of number of cuttings should be restricted to the numbers which can be planted up on the following day.

Planting—A week before the planting thali should be prepared spacing 18' \times 18' or 20' \times 20' and earth removed to a depth of one and half foot with one and half foot circumference and the earth should be mound on the side for a retention. On the day of planting sufficient water should be poured into the hole to make the earth of the pit like paste then the cutting should be put at the collar level and the earth put back and properly rammed. The surface of the pit should be raised slightly higher than the surrounding level.

The planting time should be between 30th March to 15th of April.

Tending—Every year before the growing season starts, i.e., during the month of April fresh earth should piled round each clump so that the new rhizome may develop quickly and help soothing up new culms. Early plantation and after the burning earth mounding be done.

Cutting Rules—(1) Only culms three years old and over are to be cut from a clumps, twice as many old culms as there are new shoots in the clumps should be left. The culms selected for retention should be in full vigour of growth and not over mature. A third year culm is recognisable by absence of sheath and by white mealy powder on the stems.

(2) Cutting should be done, as far as possible not more than two nodes above rhizome, and just above a node, i.e., not more than a foot from the rhizome.

(3) The other culms being almost always young, cutting should be done from inside the clump as per as practicable.

(4) It is desirable to tully the earth round a clump after cutting.

Protection of bamboos—In early stage of bamboo plantation grazing is most harmful and cattle must be kept out of the area.

81. **Control forms**—The control forms as has been adopted in this Province, should be submitted to the Divisional Forest Officer, Working Plans Division, together with deviation statement. Conservator of Forests' approval will be necessary for deviation more than 10 per cent. of the prescription.

82. **Maps**—The following maps should be maintained for this Division—

16"=1 mile Revenue settlement maps for all mouzas consisting forest areas. They should be kept be carefully thanawise and in map cases.

4"=1 mile maps—This map should be prepared and kept for each administrative areas, wherein forest workings are to be shown with roads and buildings in the areas.

1"=1 mile thana map to be kept for reference only.

Survey, demarcation and forest settlement have not yet been taken up. As soon as these operations are completed forest maps in 16"=1 mile, 4"=1 mile to be printed and preserved.

Chapter vi

83. **Establishment and labour**—The work of this Division will considerably increase with the implementation of the full prescription of the scheme, hence the following staff will be required to execute the works such as plantations, thinning and climber cuttings, etc.—

Divisional Forest Officer .. 1 Deputy Conservator of Forest.

Chorkai Range.—

Forest Ranger	..	1
Forester	..	5
Forest Guards	..	12
Orderly	..	1
Bungalow Chowkider	..	2
Mali	..	2

Mithapukur Range.—

Forest Ranger	..	1
Deputy Ranger	..	1
Forester	..	
Forest Guard	..	
Orderly	..	
Bungalow Chowkider	..	
Mali	..	1

Dharmoirhat Beat—

Deputy Ranger	..	..	1
Forest Guards	..	..	1

Dinajpur Range.

Forest Ranger	..	..	1
Forester	..	..	3
Forest Guard	..	..	8
Range Orderly	..	..	1
Bungalow Chowkider	..	..	2
Mali	..	..	2

84. **Labour Supply**—Labour is very costly in this region as most of the people have got land for cultivation. There are very few santal who come forward to do the forest work when called for as local people are found to be less suitable for forest works. However, attempts should be made to recruit santals to establish as forest villager for easy supply of labour.

Chapter vii

85. **Financial forecast and cost of the scheme**—*Financial forecast*—The following financial forecast is made for the year 1959-60. It is presumed that the present staff and labour supply have to be increased thereby enabling the prescriptions of this schemes to be fully carried out—

	Revenue outturn.		Anticipated Revenue.	
	Govt. Forest.	Private Forest.	Government Forest.	Private forest.
Saltimber	39,000	19,500	1,22,500	52,500
Fuel	300	100	1,000	300
Grazing grass, etc.	...	...	...	60
Minor produce	...	...	...	450
Miscellaneous	...	...	...	6,600
Total	...	...	1,40,090	59,910

EXPENDITURE

				Anticipated expenditure.	
				Govt. forest.	Private forest.
Produce removed by Government	...	...	...	1,400	600
Produce removed by purchaser	...	...	...	2,100	900
Livestock stores, etc.	...	...	...	2,800	1,200
Communication and Buildings	...	...	...	4,000	2,000
Organisation Improvement, etc.,	...	...	...	24,500	10,500
Miscellaneous	...	...	...	2,800	1,200
Salaries	...	...	...	66,000	24,000
Travelling allowances	...	...	...	10,500	4,500
Contingencies	...	...	...	3,500	1,500
Total	...	...	...	1,17,600	46,400
	Surplus	...	...	12,490	9,510
				22,490	13,510

Chapter viii

86. **Control and maintenance of records—Control**—To maintain an accurate record of the workings of the forest and to ensure that the prescription of this scheme are being carried out, the following records are to be maintained—

- (1) Divisional journal.
- (2) Control form in the prescribed form.
- (3) Mouza Register.
- (4) Plantation journal, coppice journal and nursery journal.
- (5) Roads Building Registers.
- (6) Forest boundary survey check register.

(1) *Divisional Journal*— Full details of the results of experiments will be entered in this journal. Statistics of growth and outturn from different fellings, records seed bearing, insects and fire damages should be recorded in these journals.

(2) Control forms to be maintained in the standard form.

(3) *Mouza Register* will take the place of standard block register and relative information should be recorded therein.

(4) *Plantation Journal*—A plantation formed in 1959 will read "Plantation of 1959" and not "Plantation of 1958-59". For each Plantation made plantation form No. 1 and a plantation journal will be written up. The journal will be written on fool's cap. Remarks will be written on the left hand page opposite the statement of expenditure (and revenue). Details of expenditure and revenue in the plantation will be obtained by abstracting items from the monthly accounts.

Abstract of expenditure and revenue will be made at the end of each financial year, under suitable headings such as—

Cost of formation

Clearing and burning;
Nursery expenses;
Sowing and planting;
Departmental crops;
Rewards; Filling vacancies;
Cleaning and weeding;
Erection and upkeep of fencing.
Climber cutting, etc.

Erection and upkeep of fencing will be included in the expenditure but cost of buying new fencing will be shown as a separate item in plantation form No.2 (see below). The share of nursery expenditure in the plantation will also be shown by abstracting same from the nursery journal.

Where it is possible to separate the expenditure on different species this should be done.

Abstracts of remarks will be made at the end of each year.

The remarks page must not be used as a diary by the Range Officer but must be a record of Silvicultural interest entered by the Conservator, Divisional Officer, Silviculturist and the Range Officer.

Both remarks and the statement of expenditure and revenue will continue to be written up until the plantation cases to be treated as a separate unit after it reaches 15 years.

A Map 16" to the mile will be made for each year's plantation showing species planted and will be put in the plantation journal.

General description of the ground and of previous stocking will also be recorded.

Chapter ix

SUMMARY OF PRESCRIPTION.

87. The principal prescription of this working scheme are as follows—

Conversion Working Circle.

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APPENDIX I

Statement of area of acquired and vested Forests

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.
Chorkai ..	Chorkai ..	Ramraipur ..	187.33	77.63	264.96
	361	Shibnagar ..	0.70	59.97	60.67
		Habra ..	52.26	40.88	93.14
		Sherpur ..	29.26	114.70	143.96
		Chorkai ..	8.19	11.28	19.47
		Sandalpur ..	71.31	16.36	87.67
		Dhanjuri-Kalisahar ..	..	160.86	160.86
		Kushra Khali ..	..	8.06	8.06
		Manpukur ..	..	6.83	6.83
		Chaksuban ..	6.90	0.24	7.14
		Purba-Jagannathpur ..	9.04	20.84	29.88
		Debipur ..	..	50.47	50.47
		Poliprayagpur ..	..	3.94	3.94
		Shayampur ..	..	10.85	10.85
		Durgapur ..	..	52.08	52.08
		Mirzapur Khairbari ..	2.68	0.52	3.20
		Belpukur ..	..	4.63	4.63
		Chakkabir ..	..	40.07	40.07
		Poligangapur ..	..	14.10	14.10
		Patiram-Krishnapur ..	..	13.12	13.12
		Garpingla ..	..	0.33	0.33
		Chakul ..	47.68	..	47.68
		Jotemadhab ..	22.63	6.13	28.76
		Kachua-Mirzapur ..	..	16.96	16.96
		Biswanathpur ..	79.97	0.63	80.60
		Rambhadrapur ..	..	31.94	31.94
		Dudipur ..	61.27	..	61.27
		Purba-Durgapur ..	..	13.31	13.31
		Maheshpur ..	..	28.19	28.19

APPENDIX I—contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.	
Chorkai ..	Chorkai ...	Pirojpur .. ..	..	2·34	2·34	
		Noyani khosalpur ..	124·78	2·57	127·35	
		Santanipur-khosalpur ..	130·36	23·09	153·45	
		Tayebpur .. ..	..	7·71	7·71	
		Pachim-joydevpur ..	..	17·30	17·30	
		Prayagpur .. ..	..	12·82	12·82	
		Bhowanipur .. ..	..	0·89	0·89	
		Khalilpur .. ..	..	7·24	7·24	
		Kalikapur .. ..	..	4·76	4·76	
		Total of Chorkai Beat			834·36	883·64	1,718·00
	Shahbazpur	76P	Bamangarh	416·59	128·04	544·63
			Khalippur	193·78	522·42	716·20
			Damail	6·92	..	6·92
			Khoslampur	9·28	..	9·28
			Chamunda .. ..	..	165·97	165·97
			Joypur	55·45	89·70	145·15
			Uttar-Sahabazpur ..	134·88	120·15	255·03
			Dakhin-Sahabazpur ..	225·71	86·02	311·73
			Prayagpur .. ..	..	12·93	12·93
			Bara Raghunathpur ..	129·56	58·19	187·75
			Haripur	389·65	75·87	465·52
			Kachua	52·02	9·92	61·94
			Islampur	4·42	1·83	6·25
			Bhabanipur .. ..	..	105·18	105·18
			Damodarpara .. ..	..	28·75	28·75
			Shibpur	64·68	23·83	88·51
			Raghabendrapur ..	..	1·18	1·18
Dargapara .. ..	..	1·95	1·95			
Total .. ..			..	..	3,114·87	

APPENDIX I—contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.	
Chorkai ..	Nawabganj <i>DCP</i>	Ballavpur	29·16	7·80	36·96	
		Tarpanghat	8·31	4·46	12·77	
		Piliramdevpur	34·60	15·03	49·63	
		Kamalpur	4·37	3·39	7·76	
		Marash	20·75	7·68	28·43	
		Binodnagar .. ..	..	9·28	9·28
		Chakdolu	27·57	2·00	29·57	
		Jagannathpur	8·23	1·90	10·13	
		Khathatia-Krishnapur ..	400·25	24·15	42·39	
		Fatehpur-Marash	7·39	1·36	8·75	
		Malipara	0·13	..	0·13	
		Rasulpur	18·50	0·99	19·49	
		Dangserghat	42·52	1·60	14·12	
		Kandua	1·17	..	1·17	
		Harillakur	152·69	1·32	154·01	
	Barajalalpur	244·75	57·23	301·98		
	Alokdhoti	239·74	..	239·74		
		Total for Beat	1,210·13	138·19	1,348·31	
		Bhaduria <i>DCP</i>	Audgari	42·71	..	42·71
			Padamhat	125·49	..	125·49
	Mohammedpur		222·99	..	222·99	
	Khijirpur		28·43	..	28·43	
	Pachimfatepur	5·06	5·06	
		Chaknadu	467·46	..	467·46	

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প্রদান

বন অধিদপ্তর

সহকারী - ঢাকা

31.7.88

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.
Charkai	Bhaduirla	Saltimuradpur .. ..	..	196·67	196·67
		Putihar	13·56	1·12	14·68
		Harinathpur	227·08	41·70	268·78
		Vabatgari	32·80	10·74	43·54
		Ghoraghat	301·44	..	301·44
		Sahebganj	152·45	..	152·45
		Total for Beat	1,614·41	255·29	1,869·70
	Madhyapara	Raghabpur	155·10	2·28	157·38
		Madhyapara	112·12	17·73	129·85
		Gurguri	138·30	46·51	184·81
		Kismat	11·65	80·56	92·91
		Khagraband	88·97	111·90	200·87
		Harirampur .. ..	..	118·63	118·63
		Lakhi-Hossainpur .. ..	..	82·53	82·53
		Gilajhuki	1,015·81	34·89	1,050·70
		Kushdaha	355·66	54·27	409·93
		Lohanipara	372·75	30·09	402·84
		Dolua	47·49	20·70	68·19
		Osmanpur	8·37	17·49	25·86
		Panchpukuria	264·60	264·66	629·26
		Khagraband/83 .. ..	..	198·00	198·00
	Total for Beat	2,570·82	1,080·24	3,651·06	
	Dharmapur <i>Dharmapur</i>	Dipnagar	15·24	23·45	38·69
		Kamalpur	12·05	1·74	13·79
		Choto-houpukuria	7·30	..	7·30
		Nalpur	55·71	26·23	81·94
		Maheshshibpur	70·58	4·26	74·84
Baidyanathpur (Bara)		10·60	2·09	12·69	
Bangaon		32·78	..	32·78	

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired forest .	Area of Vested forest.	Total.
Charkai ..	Charmapur ..	Dolatoir	4·28	1·20	5·48
		Biswanathpur	19·88	..	19·88
		Ranipur	143·10	..	143·10
		Kamdevpur	164·27	..	164·27
		Dhormajain	599·82	..	599·82
		Dakhin-rampur	2·06	0·66	2·72
		Gopinathpur	2·27	2·63	4·90
		Bamangar	1·44	49·77	51·21
		Billah	16·72	..	16·72
		Shapur	18·76	3·75	22·51
		Enayetpur	6·32	3·57	9·89
		Islampur	7·99	19·51	27·50
		Dharmapur	1,421·45	12·30	1,433·75
		Godabari	164·99	12·75	175·74
		Total for Beat			2,777·61	163·91	2,941·52
Singara .. <i>Singara</i>	..	Northadangi ..	7·13	..	7·13
		Bhugdoma ..	18·19	..	18·19
		Makrai ..	88·47	3·59	92·06
		Bhabanipur ..	205·39	..	205·39
		Thumia ..	206·88	..	206·88
		Kangsara ..	70·14	0·30	70·44
		Hajipur ..	3·71	..	3·71
		Futkibari ..	19·34	..	19·34
		Satair ..	71·20	0·52	71·72
		Singajani ..	21·93	41·83	63·76
		Muksedpur ..	89·17	..	89·17
		Seguni ..	48·23	3·11	51·34
Bansgora ..	83·94	..	83·94		

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.
Charkai ..	Singara .. <i>anjm</i>	Gandhara	28.56	..	28.56
		Chaulia	176.84	..	176.84
		Dalogram	64.99	..	64.99
		Singara	496.38	2.56	498.94
		Faringadighi	61.60	..	61.60
		Baherpara	1.83	..	1.83
		Gargatgaon	13.12	..	13.12
		Lashkarpur	1.03	..	1.03
		Haripur	2.38	..	2.38
		Bandigar	1.45	..	1.45
		Saidpur	0.61	..	0.61
		Fanapukur	0.67	..	0.67
		Jagatdal	68.92	..	68.92
		Total for Beat ..			1,852.10	51.91	1,904.01
Mithapukur..	<i>Rangpur</i>	Udaypur .. ..	..	11.86	11.86
		Udaypurdhap	26.74	31.81	58.55
		Changmari	15.33	20.92	36.25
		Boalmari	2.41	..	2.41
		Malipara	0.67	20.97	21.64
		Danesnagar	69.01	..	69.01
		Hachia	65.04	2.64	67.68
		Bujrak-santoshpur	17.31	55.32	72.63
		Panch-Chowki .. ..	..	..	..
		Andorkhola	55.17	58.15	113.32
		Madankhali	156.54	35.45	191.99
		Lakshipur	58.16	..	58.16
		Balianpur	14.61	..	14.61
		Patgram	53.34	..	53.34
Bashpukuria	17.82	3.82	21.64		

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested forests.	Total.
Charkai ..	Mithapukur (Contd).	Shamdashpara ..	31·22	..	31·22
		Kocharpara ..	118·51	16·86	135·37
		Tatarpara	92·68	..	92·68
		Gopinathpur ..	..	3·36	3·36
		Hasharpara ..	83·88	..	83·88
		Patnichura	8·23	..	8·23
		Khoragacha-Uttarpara	103·41	13·87	117·28
		Khoragacha-Dakhinpara	31·98	2·79	34·77
		Bhubanchura ..	35·36	11·10	46·46
		Salti	48·98	15·49	64·47
		Khastaluk .. ..	..	89·79	89·79
		Ramchandrapur ..	7·06	15·92	22·98
		Jharbishla	63·01	33·24	96·25
		Jhoranbari	9·52	5·18	14·71
		Shaltipara .. ..	..	29·81	29·81
		Abirerpara .. ..	..	20·17	20·17
		Kamarpur .. ..	..	27·21	27·21
		Bilhariharpur ..	..	38·29	38·29
		Chelakhal .. ..	..	1·09	1·09
		Marichbari .. ..	..	57·55	57·55
		Chattanmarpur ..	..	30·73	30·73
		Tarap Laksman ..	..	24·22	24·22
		Sulunga .. ..	..	4·56	4·56
		Gokarna .. ..	..	3·69	3·69
		Durgamati .. ..	..	103·75	103·75
		Gilajhar .. ..	..	30·86	30·86
		Ramnathpur .. ..	..	39·89	39·89
		Bagesbari .. ..	..	23·20	23·20
		Saltigopalpur ..	..	185·47	185·47
		Dhapshampur	4·36	12·69	17·05

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.	
Chorkai ..	Mithapukur (Contd). <i>Rangpur</i>	Rangapukur ..	..	158·08	158·08	
		Mainpur ..	..	90·03	90·03	
		Helenaha ..	..	101·80	101·80	
		Kasempur ..	..	0·31	0·31	
		Phulchowki ..	..	16·62	21·53	38·15
		Chakdurgapur ..	..	..	1·35	1·35
		Lohakati ..	..	..	18·78	18·78
		Jagadishpur ..	..	..	7·00	7·00
		Mamodarpara ..	..	17·79	23·73	41·52
		Tilokpara ..	..	..	13·89	13·89
		Lakhipur ..	..	..	36·34	36·34
		Babuapur ..	..	..	18·04	18·04
		Kaigari ..	..	..	7·88	7·88
		Berafalia ..	..	..	3·40	3·40
		Khetaberpara ..	..	11·48	9·87	21·35
		Jalomahal ..	..	..	22·87	22·87
		Banderpara ..	..	..	33·82	33·82
		Sukhali ..	..	8·63	..	8·63
		Naodanger ..	..	..	..	..
		Dhanighata ..	..	12·32	..	12·32
		Bagdangha ..	..	28·45	..	28·45
		Dakhin Gotamari ..	..	1·10	..	1·10
		Purba Nowdoash ..	..	81·52	..	81·52
		Juniderpara ..	..	7·46	..	7·46
		Kushuanagar ..	..	..	8·67	8·67
		Harandpur ..	..	..	2·00	2·00
		Choto-Uzirpur ..	..	..	1·00	1·00
		Singerpara ..	..	..	8·83	8·83
		Total for Beat ..	1,375·72	1,670·24	3,045·96	

APPENDIX I—Contd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Area of acquired waste lands not yet handed over.	Total.
Charkai ..	Dhamoir-hat. <i>Rejshahi</i> <i>Ost.</i>	Moisor ..	189.34	26.54	3.02	227.90
		Chotomohalpara ..	19.07	17.57	..	36.64
		Joyjoypur ..	6.32	3.22	2.71	12.25
		Amarpur ..	1.84	..	5.48	7.32
		Chakjadu ..	0.47	6.56	8.60	15.63
		Ostomabad ..	1.80	9.83	0.27	11.90
		Chotoshipur ..	2.34	9.72	..	12.06
		Paikbandha ..	21.89	53.68	117.31	192.88
		Nirmail ..	10.61	35.97	135.45	182.03
		Matikhata ..	..	15.48	80.40	95.88
		Hallakandar ..	24.81	31.07	106.89	162.77
		Sayedpur ..	..	5.44	31.22	36.76
		Shorumjabari ..	14.70	7.94	33.97	56.61
		Alpaka ..	..	54.97	14.43	69.40
		Dadanpur ..	..	127.53	..	127.53
		Jotemamudpur ..	..	24.41	..	24.41
		Bakarpur ..	0.77	44.52	..	45.29
		Durgapur ..	..	31.29	..	31.29
		Barachakgopal ..	..	8.50	..	8.50
		Uttar-chakrahmat ..	..	68.74	..	68.74
		Kalupara ..	..	1.22	..	1.22
		Sital ..	..	97.02	..	97.02
		Goali ..	..	28.27	..	28.27
Chandsada ..	..	44.72	..	44.72		
		Total for Beat ..	375.95	681.22	539.85	1,597.02

APPENDIX I—Concl'd.

Range.	Beat.	Mouza.	Area of Acquired Forests.	Area of Vested Forests.	Total.
Chorkai ..	Dinajpur Headquarters	Marya-Malahari ..	1·88	..	1·88
		Vitorgar-Badeswari ..	29·81	..	29·81
		Bhojanpur ..	1·59	..	1·59
		Dinajpur ..	12·04	..	12·04
		Kamar Kantabag ..	2·51	..	2·51
		Bhulpara ..	..	1·15	1·15
		Katapara ..	..	3·82	3·82
		Ramerkantabag ..	..	2·84	2·84
		Bhupara ..	..	4·41	4·41
				Total for Beat ..	47·83	12·22	60·05

APPENDIX I

Trees, herbs and shrubs in the Central Division

Scientific Name.	Local name.	Remarks.
1. <i>Acacia Catechu</i>	.. Khair	.. Found in dry scrub forest.
2. <i>Adina Cordifolia</i>	.. Haldu	Very rare. Used in bobbin and furniture making.
3. <i>Aegle Marmelos</i>	.. Bel	Fruits edible. Leaves used in medicine.
4. <i>Ageratum spp.</i>	.. Fulkeri	.. Common under growth in blanks. No economic use.
5. <i>Albizzia stipulata</i>	.. Taral	.. Fuel and building works.
6. <i>Albizzia procera</i>	.. Karoi	.. Building works well curbs and furniture.
7. <i>Alstonia scholaris</i>	.. Chhatian	.. Matchwood and fuel.
8. <i>Amoora rohitoka</i>	.. Amari	.. Box planking.
9. <i>Anthocephalus Kadamba</i>	.. Kadam	.. Fuel and match wood.
10. <i>Artocarpus integrifolia</i>	.. Kathal	.. Fruits edible. Timber in used furniture making.
11. <i>Artocarpus lakoocha</i>	.. Dewa	.. Box planking and furniture.
12. <i>Barringtonia augmulata</i>	.. Hijal	.. Fuel and medicine.
13. <i>Bombax malbaricum</i>	.. Simul	.. Matchwood.
14. <i>Borassus flacallifera</i>	.. Tal	.. Fruits edible. Timber used building works.
15. <i>Bridelia retusa</i>	.. Shemail, Akarma	Fuel.
16. <i>Butea frondosa</i>	.. Palash	.. Fuel
17. <i>Calotropis gigantea</i>	.. Akanda	.. Medicinal plant.
18. <i>Careya arborea</i>	.. Kumbi	.. Leaves used as Bidi wrapper and timber as fuel.
19. <i>Cassia fistula</i>	.. Sonalu	.. House posts and medicine.
20. <i>Cassia occidentali</i>	.. Arach	.. No economic use.

APPENDIX II—*contd.*

Scientific Name.	Local Name.	Remarks.
21. <i>Cassia tora</i> ..	.. Chekanda ..	No economic use. Shrubs.
22. <i>Cedrela toona</i> ..	.. Paua Toon ..	Cheap furniture and boat building.
23. <i>Clerodendron infortunatum</i>	Bhati Bhat ..	Common under growth. A medicinal plant.
24. <i>Juncea crotalaria</i> ..	.. Shou ..	Fibre for net and rope making. Cultivated.
25. <i>Dalbergia Sisso</i> ..	.. Sisso ..	Good furniture wood.
26. <i>Dillenia indica</i> ..	.. Chalta ..	Fruits eaten. Timber used as fuel.
27. <i>Dillenia pentagyna</i> ..	.. Ejuli ..	Timber used in roof structure.
28. <i>Diospyros embryopteris</i> ..	.. Gab ..	Fruits used in treating nets.
29. <i>Diospros spp.</i> ..	.. Tamal ..	A sacred tree to the Hindu.
30. <i>Elaeocarpus floribundus</i> ..	.. Jalpai ..	Fruits edible.
31. <i>Erythrina indica</i> ..	.. Mandar ..	Line-fencing
32. <i>Eugenia jambolana</i> ..	.. Jam ..	Used in building works.
33. <i>Eugenia operculata</i> ..	.. Godajam ..	Fuel and Charcoal.
34. <i>Eupetorium odoratum</i> ..	.. Banchatu, Assamlata.	Common undergrowth.
35. <i>Ficus bengalensis</i> ..	.. Bot ..	Fuel
36. <i>Ficus glomerata</i> ..	.. Jojua dumer	Fruits used in medicine.
37. <i>Ficus hispida</i> ..	.. Khoksha ..	Fruits used as vegetable.
38. <i>Ficus religiosa</i> ..	.. Aswat ..	Sacred to the Hindus.
39. <i>Elacourtia Catafracta</i> ..	.. Bara Painal..	Fruits edible.
40. <i>Flacourtia romontchi</i> ..	.. Chota Painal	Common shrub, fruits edible.
41. <i>Flemengia congesta</i> ..	.. ..	Undergrowth.
42. <i>Gmelina arborea</i> ..	.. Gamar ..	Rarely seen. Good furniture wood.
43. <i>Glycosmis pentaphylla</i> ..	.. Atiswar, Bannembu.	Branches used as tooth brush.

APPENDIX II—Contd.

Scientific Name.	Local Name.	Remarks.
44. <i>Grewia microcos</i>	.. Phepsia, Asar	Not of much economic value, used as fuel.
45. <i>Holarrhena antidysenterica</i>	Indrajal, Kerabi.	Used for medicine.
46. <i>Jatropha curcas</i>	..	Common line fencing plant. Kernel of fruit a strong perigative.
47. <i>Lagerstroemia Parviflora</i>	Dho. sidha	Well curbs.
48. <i>Lantana camara</i>	.. Bilai hasra ..	A pest.
49. <i>Lawsona inerunis</i>	.. Mehedi ..	Medicinal plant; leaves used as a dye.
50. <i>Litsea</i> spp.	.. Noda ..	Firewood.
51. <i>Loranthus</i> spp.	.. Swarnalata	Common parasite.
52. <i>Mallotus philippinensis</i>	.. Sindure ..	Fuel. Fruits give a dye.
53. <i>Mangifera indica</i>	.. Amm	Fruits edible. Plywood and fuel.
54. <i>Melia azadirick</i>	.. Ghoranim, Becain	Leaves used as medicine.
55. <i>Meliandica</i>	.. Nim ..	Leaves medicine and branches used as tooth brush.
56. <i>Michelia champacca</i>	.. Champa ..	Very few, planted, good timber for building and furniture.
57. <i>Mimosa pudica</i>	.. Lajjabati ..	Medicinal plant.
58. <i>Moringa pterigosperma</i>	.. Sajna ..	Fruits, flowers and leaves as vegetable.
59. <i>Murreya exotica</i>	.. Kamari ..	Planted in flower gardens.
60. <i>Nyetauthes arboritisti</i>	.. Shefali ..	Flowers yield a dye.
61. <i>Odina wadier</i>	.. Jiga ..	Gum and fencing post.
62. <i>Phoenix dactylifera</i>	.. Khajur ..	Fruits edible.
63. <i>Phyllanthus emblica</i>	.. Amlaki ..	Fruits used as medicine and in chatney.
64. <i>Randia demotorium</i>	.. Mankata ..	Fencing, fruits eaten.

APPENDIX II—Contd.

Scientific Name.	Local Name.	Remarks.
65. Semicarpus anacardium	.. Vela ..	Fruits used by dhobis for marking.
66. Shorea robusta	.. Sal ..	Constructional timber, Rly, sleeper and fuel.
67. Spondius mangifera	.. Amra ..	Fruits eaten.
68. Streblus asper	.. Sheora ..	No economic use.
69. Tamarindus indica	.. Tetul ..	Fuel. Fruits used as chatney.
70. Tectona grandis	.. Shegun ..	An all purpose timber.
71. Terminalia belerica	.. Bahera ..	Fruits medicine.
72. Terminalia Chebula	.. Horitaki ..	Fruits for medicine and fencing.
73. Trewia nudiflora	.. Pitali ..	Matchwood.
74. Urena Lobeta	.. ..	Thorny fruits. A shrub when ripe sticks to clothes when come in contact.
75. Vitex negunda	.. Nishinda ..	Medicinal plant. Branches used as tooth brush.
76. Vitex pedunchularis	.. Ahoi, Harina ..	Leaves used as medicine for black water fever
77. Zizyphus jujuba	.. Borai, kul ..	Fruits, eaten. Fuel.
78. Zizyphus zylopara	.. Ban Borai ..	Fruits used in tanning.

CLIMBERS

Scientific Name.	Local Name.	Remarks.
1. Abrus precatories	.. Kais(Gold smith's roti).	Seeds used by Goldsmiths in gold.
2. Acacia pinnata	.. Kochikata, kauchailata.	A thorny climber. Very common in sal forests.
3. Asparagus racemosus	.. Satamuli ..	Roots used as medicine.

APPENDIX II—*Concl.*

Scientific Name.	Local Name.	Remarks.
4. <i>Caesalpinia bouducellar</i>	.. Nata ..	Thorny Creeper. Seeds for medicine.
5. <i>Cuscuta reflex</i>	.. Swarnalata Alokelata	A parasite.
6. <i>Entada Scandens</i>	.. Gilla ..	Woody climber.
7. <i>Hiptage madhab lata</i>	.. Madhabilata	An ornamental climber for its flowers.
8. <i>Millettia auriculata</i>	.. ..	Climber.
9. <i>Smilax macrophylla</i>	.. Kumarliata, Bongachra	Climber, occassionally used in fencing.
10. <i>Spatholobus roxburghii</i>	.. Palashlata ..	Common climber in sal forests
11. <i>Thanbergia spp.</i>	.. Kanmerchra, Kaneshilata.	No economic use.
12. <i>Tinospora cordifolia</i>	.. Gulancha ..	Used for medicine and fodder.

APPENDIX III

Extract from Government Notification No. 1608-For, dated July, 1959.

(4) Schedule of rates for Forest produce for Central Division.

1—TIMBER

Timber is classified as follows—

Class A—Sal (*Shorea robusta*) Teak (*Taktona grandis*).

Class B—Sisso(*Dalbergia Sisso*), Cemari(*Gmelinea arborea*)

Class C—Kathal(*Artocarpus integrifolia*), Toon (*Cedrela toona*).

Class D—Karai(*Albizzia Procera*), Sanalo (*Cassia Fishtula*) Bhadi (*Odina Wodier*), Simul (*Bombax malabaricum*).

Note—The Regional Forest Officer will include at his discretion in any category mentioned above, any species of timber not mentioned herein.

(a) Logs Girth at breast height, *i.e.*, 4'-6" from ground level.

		3'0" to 4'6"	4'-7" to 6'0"	6'-1" and over	Remarks.
		per cft.	per cft.	per cft.	
		Rs. as. p.	Rs. as. p.	Rs. as. p.	
Class A	...	1 12 0	2 10 0	3 8 0	
Class B	...	1 4 0	1 14 0	2 12 0	
Class C	...	0 14 0	1 4 0	1 12 0	
Class D	...	0 8 0	0 10 0	0 12 0	

Girth at 4'6" from ground level.

Class	Under 1"	1'-0" to 1'-6"	1'-7" to 2'-6"	2'-1" to 2'-6"	2'-7" to 2'-11"	
		Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	
Class A	...	1 0 0	2 14 0	4 6 0	7 0 0	10 8 0
Class B		0 12 0	1 6 0	3 0 0	6 0 0	9 0 0
Class C	...	0 7 0	0 14 0	1 12 0	3 8 0	5 8 0
Class D	...	0 5 3	0 7 0	0 14 0	1 12 0	3 8 0

APPENDIX III—Concl'd.

II—FIREWOOD

(a) Green firewood 100 cubic feet at the rate of Rs. 3-8-0.

(b) Dry firewood.

Monthly headload (not more than one load per day Rs. 1-8-0) per 100 cubic feet stacked Rs. 2-10-0.

Note—Any cutting instrument except small dao are prohibited in case of permits for dry firewood.

(c) Charcoal—

Per maund Annas (8)

III—GRAZING AND FODDER

(i) Grass and other kinds of fodder.

Monthly permit for one head load daily Rs. 2-8-0.

(ii) Grazing

Buffaloes—each per month Rs. 2.

Bullock—each Per month Re. 1.

Cow—each per month As 4.

(calf below one year of age is exempted)

Scientific Name.	Local Name.	Remarks.
1. Cynodon Dactylon	... Dab, Durba	Best grass for cattle feeding.
2. Imperata arundinacea	... San (Grass)	Used in roofing of house.
3. Phragmites Karka	... Nal ...	Used in mat making.
4. Saccarum Munja	... Kash grass ...	Used in mat making.
5. Calamus latifolius	... Kerak bet, ... Qorua beat	Used in making sticks, umbrella handle, etc.
6. Bambusa nutons	... Makal bamboos	Used in rafters, walling, mat making, etc.
7. Bombusa Balcooa	... Bhaluka bamboos, Borak bamboos.	Used in scaffolding of building house posts, etc.
8. Bambusa tulda	... Tarala bamboos.	Walling and mat making.

