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A Proposed Program For Program For Preservation And Conservation Of Pine Forest In Sabine Parish , Louisiana

Roosevelt Cubie

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A PROPOSED PROGRAM FOR PRESERVATION
AND CONSERVATION OF PINE FOREST IN
SABINE PARISH, LOUISIANA



CUBIE
1961

A PROPOSED PROGRAM FOR PRESERVATION AND
CONSERVATION OF PINE FOREST IN
SABINE PARISH, LOUISIANA

By

Roosevelt Cubie

A Thesis Submitted in Partial Fulfillment of
The Requirements for the Degree of
Master of Science
in the
Graduate Division

of

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Prairie View, Texas

August, 1961

A K N O W L E D G E M E N T S

The writer is deeply indebted to the host of persons who have assisted him at some time in some way in developing the material contained in this study.

To Dr. E. M. Norris, for keen analysis and for thoughtful and constructive suggestions for improving the program, the writer is especially grateful.

R. C.

DEDICATION

This thesis is dedicated to my wife, Marie W. Cubie.

R. C.

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CHAPTER I

INTRODUCTION

With the increasing demand for pulpwood, lumber, poles, piling and fence posts, fast growing Southern pine is fast becoming one of Louisiana's chief farm cash crops.

Thousands of small landowners as well as large ones can cash in on this crop by planting idle acres in pine. With the demand for wood increasing every year, the landowner is assured a market for this crop.

According to the Forest Survey of Louisiana in 1955, there were 84.5 percent of Sabine Parish in commercial forest. With this high percentage of commercial forest, the writer feels that steps of preventive measures should be considered in the preservation and conservation of pine trees in Sabine Parish.

Ready markets for pine logs and other pine items exist almost everywhere in the South. From one to a dozen sawmills can be found in nearly every parish. Pulpwood buyers are located in most timbered areas. Railroad companies buy ties and a large number of treating plants furnish markets for fence posts, poles and heavy timbers.

Many forest owners, both large and small, are already improving their harvesting and utilization practices, as well as intensifying protection of their timber. Since farm woodlands and

other small holdings are an important timber source, both the landowners and the wood-using industries have a big stake in improving their productivity.

The current trend toward increased stocking and timber growth in Sabine Parish is the indication that the resource can be improved. The job has just begun; the upward trend must continue if the landowners in Sabine Parish are to realize the full potential output of its forest land.

There is a big job to be done--a big important job. That job is to promote forestry. The promotion of forestry should be of special interest to those who would like to help increase payrolls and further raise the standard of living in Sabine Parish.

Marked progress has and is being made, but to have full production, a new, bold, and more realistic approach must be adopted to conserve the pine forest of Sabine Parish, Louisiana.

THE PROBLEM

Statement of the Problem

1. To what extent have landowners followed approved forest practices?
2. To what extent have landowners made use of their land?
3. To what extent have timber owners used the Forestry Service in the management of their forest?
4. To what extent have the pine forest been recognized as a cash crop?

Purpose of the Study

The purpose of this study is:

1. To determine how much landowners of Sabine Parish have been influenced to use their pine forest wisely.
2. To discover and offer a solution to the landowners problems.
3. To formulate a practical approach to utilize and conserve the pine forest of Sabine Parish.
4. To assist the forest owners in becoming better established in tree farming.

Scope of Study

This study involves fifty landowners of Sabine Parish, Louisiana. Forty of the fifty farmers were full-time farmers and six were part-time farmers. There were four non-attended farms.

Twenty-eight farmers were doing some type of forest practices, whereas, twenty-two were not doing any practices.

Sources of Data

The writer obtained data for this study from fifty landowners of Sabine Parish through questionnaires, also from Foresters and representatives of paper and lumber mills.

DEFINITION OF TERMS

Board Foot--This term refers to a unit of lumber measurement one foot long, one foot wide and one inch thick or its equivalent.

Conservation--In this study, this term refers to the wise use of the forest in order to benefit the people now and in the future.

Forester--This term refers to a man who is trained in the care and use of trees.

Non-Attended Farm--This term refers to a farm whose maintenance is neglected by its owner or anyone else.

Preservation--This term refers to keeping in safety or security from harm or destruction.

Pulpwood--This term refers to wood which is made into paper.

Reforestation--This term refers to the renewing of the forest by seeding or planting.

Method of Study

The ideas and concepts in this study were acquired and assembled by the writer from fifty landowners in Sabine Parish, Louisiana, also from the Forestry Association and paper and lumber mills.

The fifty farmers were personally interviewed by the writer. Questionnaires were constructed for the landowners. These questionnaires were given to the farmers and upon completion, returned to the writer.

Factors concerning the farmers, also their timber, pasture, crops, and idle land were analyzed statistically by the writer.

REVIEW OF RELATED STUDIES

Grano made a study of pine in the South. He stated that:

The entire object of management is to direct and control what takes place in the stand so that it will produce what the owner wants. Furthermore, management aims at producing as much timber as possible per acre in as short a time as possible. To do this the trees must be given enough space to develop fast growing.¹

Briegleb stated in the Forest Survey of Louisiana that:

Forest industry is a mainstay of Louisiana's economy. Louisiana's output of forest products feeds some 530 primary wood-using establishments distributed across the State--sawmills, pulp mills, veneer plants, and others. In addition, 27 plants treat wood products with chemical preservatives.²

Dr. Herty states in "The Forest is The Future" that:

Forestation for profit is the best basis for the reforestation and for the protection of the forest of the South. Teach the Southern landowners that there is profit in trees and they will grow trees as they grow cotton. The self-interest of the landowners will provide greater protection than a whole book of laws or an army of forest wardens.³

As given by Forest Industry Opportunities:

The first opportunity for economic betterment lies in the growing of timber. Producing timber as a crop requires the investment of a certain amount of labor and capital in such operations as planting, weeding or cull-tree elimination and pruning and thinning of young forest. Protective measures like fire, insect and disease control are necessary to assure future continued supplies of high quality timber.⁴

¹Charles X. Grano, Growing Loblolly and Short-leaf Pine (U. S. Department of Agriculture), p. 1.

²Philip A. Briegleb, Forest Survey of Louisiana (U. S. Department of Agriculture), p. 15.

³Jonathan Daniels. The Forest is the Future (International Paper Company, 1957), p. 3.

⁴Forest Industry Opportunities (U. S. Department of Agriculture, March, 1960), p. 3.

CHAPTER II

PRESENTATION AND ANALYSIS OF DATA

Statistical facts pertaining to type of farm, farm acreage, land utilization and forest practices by the fifty farmers who were surveyed by the writer in Sabine Parish are presented in this chapter.

Data in this chapter concern the number of acres belonging to the full-time farmers and also the number of acres belonging to the part-time farmers. The acres owned by these farmers are in timber, pasture, crops and waste land.

The writer also discusses thinning and marketing in this chapter.

Data for this chapter are presented in tabular form so that a clear and accurate picture may be presented.

The farm acreage shown in Table I is broken down according to the fifty farms surveyed and grouped according to types of farms. The full-time farmers far out number the part-time and non-attended farm owners. Their acreages are much higher but it is interesting to note that the full-time farmers' average acres per farm are also higher, ranging from 18-70 acres. The larger farms offer more diversified farming with a higher income to the farmer.

TABLE I
FARM ACREAGE ACCORDING TO TYPE OF FARM

	No. of Farmers Reporting	Number of Acres	Average No. of Acres per Farm	Range
Full-Time	40	1630	40.7	18-70
Part-Time	6	198	33.0	12-40
Non-Attended	4	127	31.7	12-35
TOTAL	50	1955	XXX	XXX

Table II is a breakdown of fifty families surveyed whose immediate members were employed in some kind of timber work for a source of income for the family.

Of the 40 full-time farmer-families, there were eleven persons either cutting or hauling pulpwood. There were not any cutting timber for any other purpose but one was working at some kind of lumber mill making a combined total of twelve persons receiving direct pay from some form of timber work.

The six part-time farmers had eight members employed in cutting or hauling pulpwood, two members cutting timber for some other purpose and three worked at some kind of lumber mill making a combined number of thirteen.

The families on non-attended farms had two members cutting or hauling pulpwood, no members employed in cutting timber for any other purpose and only one member employed at some kind of lumber

mill, making a total of three.

There were a total of twelve members from the full-time farmer families, thirteen from the part-time farm families and three from the non-attended farm families, making a combined number of 28 persons of these fifty families receiving pay direct from timber as a source of income.

This amount of employment in timber products calls for a perpetuation of timber forest for the employment of rural and urban families as well as for the products manufactured from it.

TABLE II
FAMILY EMPLOYMENT

Farm Status	No. of Families Surveyed	No. of Persons who cut or haul pulpwood	No. of Persons who cut timber for other purposes	No. of Persons who work at some kind of lumber mill	Total No. of persons employed in Timber Industry
Full-time Farmers	40	11	0	1	12
Part-time Farmers	6	8	2	3	13
Non-attended Farms	4	2	0	1	3
TOTAL	50	21	2	5	28

In Table III, a significant notation is that out of the 1955 acres of land belonging to the 50 landowners, 934 acres were in timber, representing a high percentage of the total acreage.

It is further shown that 211 of the 1955 acres are in waste land. If this waste land were transplanted in pines, it would mean a higher income in later years to landowners when timber has reached commercial size.

TABLE III
LAND UTILIZATION

Item	Farm Reporting	Number of Acres	Average No. of Acres Per Farm	Range
Timber	50	934	18.7	2-60
Pasture	47	455	9.7	3-40
Crops	48	335	7.4	1-40
Waste Land	26	211	8.1	2-20
TOTAL	XXX	1955	XXX	XXX

In Table IV below, the combined acreage of the full-time farmers, part-time farmers, and the non-attended farms have 844 acres of pine timber and 90 acres of scrub oak. The full-time farmers had 420 acres of pine timber and 15 acres of scrub oak. The part-time farmers had 230 acres of pine timber and 30 acres of scrub oak and the non-attended farms had 194 acres of pine timber and 45 acres of scrub oak.

The scrub oak is a threat to all pine forest and its way of reproduction will easily propagate itself in producing young

plants in areas where there are few or no pine trees.

No doubt the poor management of the non-attended farms account for the high acreage of scrub oak. The part-time farmers were next in line with high acreage of scrub oaks.

The scrub oak has little or no cash value and these acres on which this scrub oak is growing could be easily converted into fast growing quality pines.

TABLE IV
FOREST DISTRIBUTION

Farm Status	No. of Farmers Surveyed	No. of Acres in Farm	No. of Acres in Pines	No. of Acres in Scrub Oak
Full-time Farmers	40	435	420	15
Part-time Farmers	6	260	230	30
Non-attended Farms	4	239	194	45
TOTAL	50	934	844	90

Table V shows the fifty farmers surveyed having a total of 934 acres of timber. Of the 934 acres of timber, 449 acres had been thinned in the last seven years and 135 acres had been culled, leaving a combined acreage of 350 acres unthinned or uncultured.

In comparison to acreage of the full-time farmers, part-time farmers and non-attended farms, the forest practice of thinning and culling of timber seem to be followed along the same pattern.

If farms are to produce the largest volume of quality timber, frequent light thinning and culling must be made.

TABLE V
THINNING AND CULLING

Farm Status	No. of Farmers Surveyed	No. of Acres in Timber	No. of acres Thinned	No. of acres Culled	No. of Acres Unculled or Unthinned
Full-time Farmers	40	435	179	70	186
Part-time Farmers	6	260	130	45	85
Non-attended Farms	4	239	140	20	79
TOTAL	50	934	419	135	350

Table VI gives an insight into the extent to which forest practices have been observed by the 50 farmers reporting, with only 33 percent of farmers out of 40, 50 percent out of six and not any out of the four preserving young trees. This means that a vast amount of potential quality timber is destroyed in harvesting. It may be noted further that a small percentage transplanted young trees and that none had treated any trees for greater seed production for reforestation. This represents a number of idle acres after cutting.

TABLE VI
FORESTRY PRACTICE

Farm Status	No. Re- porting	No. Pre- served young trees when cutting	Percent- age No. of Persons preserv- ed young trees	No. of Persons Trans- planted young trees after cutting	Percent- age of Per- sons trans- planted young trees after cutting	No. of Persons Treated for seed pro- duct- ion	Percent- age of Persons treated trees for seed pro- duction
Full-time Farmers	40	13	33	10	25	0	0
Part-time Farmers	6	3	50	2	33	0	0
Non-attended	4	0	0	0	0	0	0
TOTAL	50	16	83	12	58	0	0

Table VII shows that of the forty full-time farmers surveyed, thirty-five of them had their land marked, five had land that was unmarked. Twenty-five of these farmers had their land fenced and fifteen of them had land that was unfenced. Of the six part-time farmers, two of them had their land marked and four had unmarked land. Only one of the part-time farmers had his land fenced and five had land unfenced. The four non-attended farms has no land marks or fences. Of the fifty landowners there was no fire lane around any of the forest as a preventive measure against flash fires.

The upkeep of the full-time farms far outnumber that of the part-time farms and the part-time farms far outnumber that of the

non-attended farms.

The differences of the upkeep of these farms depend upon the source of income, no doubt all families have greater interest in those things from which they get the largest income.

TABLE VII
FOREST PROTECTION

Farm Status	No. of Farmers Surveyed	No. of Farmers Land marked	No. of Farmers Land Unmarked	No. of Farmers Land Fenced	No. of Farmers Land Unfenced	No. of Farmers with fire Lane Around Forest
Full-time Farmers	40	35	5	25	15	0
Part-time Farmers	6	2	4	1	5	0
Non-attended Farms	4	0	4	0	4	0
TOTAL	50	37	13	26	24	0

In Table VIII it may be noted that of the 46 farmers reporting, both full and part-time, the percentage of farmers knowing how to estimate standing timber was very low. This means that most farmers have been accepting pay for their timber in the amount of whatever has been offered them. This may have been far below the actual cash value of their timber.

TABLE VIII
ESTIMATING STANDING TIMBER

Status of Farm	Number Reporting	No. of Persons who can estimate standing timber	No. of Persons who cannot estimate standing timber	Average No. of persons in percent who can estimate standing timber
Full-time Farmers	40	5	35	12
Part-time Farmers	6	1	5	16

The data in Table IX show the amount of timber sold by the full-time farmers, the part-time farmers, and the owners of the non-attended farms. The full-time farmers, realizing that all of their income comes from the farm, no doubt, demanded higher pay for their timber. This may account for the \$5.00 per thousand board feet difference in the average price paid to the full-time farmer.

TABLE IX
TIMBER SOLD

Type of Owners	No. of owners Reporting	Amount of Timber sold per one thousand board feet	Total Amount Received	Average price per one thousand board feet
Full-time Farmers	40	71,800	\$ 5,500	\$ 13.00
Part-time Farmers	3	10,320	1,220	8.00
Non-attended Farms	2	9,100	1,040	8.00

SUMMARY AND CONCLUSIONS

Sabine Parish Louisiana has a large area of pine forest, but there are indications from the survey that was made of 50 farmers of the parish that the forest resources can be improved.

This study was initiated to determine how much scientific forest management had been applied by the fifty farmers surveyed in Sabine Parish and to offer a proposed program for preservation and conservation of the pine forest in the Parish. The data received from the 50 surveys showed farm acreage according to type of farm-family, employment, land utilization, forest distribution, thinning and culling, forestry practices, forest protection, estimating standing timber, and amount timber sold.

Farm Acreage According to Type of Farm

According to the fifty surveys, forty were full-time farmers, six part-time farmers and four did not attend their farms. These farms contained 1955 acres. The full-time farmers own 1630 acres, the part-time farmers own 198 acres and 127 acres are owned by the non-attended farm owners.

Family Employment

The survey shows that a total of 28 members were employed in some kind of timber work.

There must be trees of the best quality to cut, if workers and timber owners are to receive the highest pay. This means good

forest practices in every way if the timber industry is to survive.

Land Utilization

The survey shows that fifty farmers reported 934 acres in timber, forty-seven reported 455 acres in pasture, forty-eight reported 335 acres in crops and twenty-six landowners reported 211 acres in waste land.

Forest Distribution

The fifty farmers surveyed showed that there were 934 acres of timber land. Of these 934 acres of timber, 844 acres are in pine and 90 are in scrub oak. Scrub oak has little or no cash value which means 90 acres of this timber land grow unmerchantable timber. With good forest practices these acres could be converted into fast growing quality pines.

Thinning and Culling

According to the survey, from 1953 to 1960 fifty landowners had thinned 419 acres out of 934 acres in the last seven years and 135 acres had been culled, leaving 350 acres uncultured or unthinned in the last seven years.

Forestry Practice

There were only 13 or 33 per cent out of the forty full-time farmers who preserved young trees when cutting timber and there were 10 or 35 percent who transplanted young trees. The data also show

that three of the six or 50 percent of the part-time farmers preserved young trees when cutting and two or 33 percent transplanted young trees.

According to the fifty farmers surveyed, there were no forestry practices followed by the owners of the non-attended farms. The data further show that there were no fire lanes around any of the landowners' forest.

Forest Protection

If the landowners hope to gain the most from his timber crop he must protect it as well as he can against potential enemies. The surveys of the fifty farmers show that 35 of the 40 full-time farmers had their land marked and 25 had their land fenced. There were 2 of the 6 part-time farmers who had their land marked and one who had his land fenced.

Estimating Standing Timber

A forest owner should be able to estimate his standing timber but the survey showed that only five out of the 40 full-time farmers could estimate standing timber and one out of the six part-time farmers could estimate standing timber. If landowners are to get the most money from the sale of timber they must have some knowledge of the amount being sold.

Timber Sold

The fifty farmers surveyed reported that forty full-time 71,800 board feet of timber for \$5,500.00. Three of the six part-

time farmers sold 10,320 board feet of timber for \$1,220.00 and two of the four non-attended farm owners sold 9,100 board feet of timber for \$1,040.00.

A number of timber and pulpwood companies own sizeable blocks of forest land in the Parish, but few have enough wood production potential on their own lands to keep mills and plants running indefinitely. A high production of quality pines must be achieved if these forest product companies are to have a future wood supply.

CHAPTER III

A PROPOSED FOREST PROGRAM

Tree farms possess the same general pattern as any other crop cultivated for human benefit. On the average, poor management of Southern pine forest produces lumber which is lower in quality than is desirable and attainable. The greatest value from growing trees may be obtained with a shift of emphasis from quantity production to quality production.

The writer believes that present and future wood growers, wood shippers, wood laborers, and the general public will adopt adequate forest practices when they are fully informed as to their practical value.

After a careful study of the information received from the fifty farmers who were surveyed, the writer formulated a program emerging from the data.

A PROPOSED FOREST PROGRAM FOR SABINE PARISH, LOUISIANA

PROBLEMS FOUND AMONG FOREST LANDOWNERS	SUGGESTIONS	EXPECTED OUTCOME	WAYS AND MEANS OF ACCOMPLISHMENTS
<p>1. Land not being used for any specific purpose.</p>	<p>1. Plant all idle or land unfit for cultivation into pine trees.</p>	<p>1. Pine trees sold for pulpwood in 7-9 years and for other purposes in 12-15 years.</p>	<p>1. Pine seedling may be purchased at a small sum per one thousand from the Forestry Commission of the State. The seedling may be transplanted by machine or hand, depending on the scope.</p>
<p>2. No protection against fires.</p>	<p>2. Plow a fire lane approximately seven wide around your pine forest and encourage adjoining forestry</p>	<p>2. Less forest fires destroying valuable timber that may be sold by forest owners.</p>	<p>2. These lanes may be constructed with the use of a plow and mule or by tractor and plow.</p>

A PROPOSED FOREST PROGRAM FOR SABINE PARISH, LOUISIANA (Continued)

Problems Found Among Landowners	Suggestions	Expected Outcome	Ways and Means of Accomplishments
<p>3. Approximately sixty percent of the forest owner's timber had not been thinned in seven years.</p>	<p>owners to do the same.</p> <p>3. Thin forest every four to six years.</p>	<p>3. Better grade and faster growing timber.</p>	<p>3. This may be done through the service of a Forestry Agent or Soil Conservation Agent free of charge, through the Federal Government. These men will inspect your timber and point out those trees to be cut for sale.</p>
<p>4. Many acres of scrub oak growing on land that could be grow-</p>	<p>4. Convert scrub oak stands to pine crops.</p>	<p>4. Stand of quality pine trees that can be sold as a cash</p>	<p>4. The scurby oak may be killed by placing one tablespoon of</p>

A PROPOSED FOREST PROGRAM FOR SABINE PARISH, LOUISIANA, (Continued)

Problems Found Among Landowners	Suggestions	Expected Outcome	Ways and Means of Accomplishments
<p>ing quality pines.</p>		<p>crop in eight to eight to fifteen years after planting.</p>	<p>animate crystal in notches, chopped 6 inches apart, edge to edge around the base of the trees and transplanting these areas with pine seedlings.</p>
<p>5. Farmers not making any effort to stimulate seed production.</p>	<p>5. Select trees for seed production in the forest area that do not have trees growing around it.</p>	<p>5. Treated trees to produce more seeds for reforestation.</p>	<p>5. Pine trees may be stimulated to produce more seeds by partial strangulation at stump height, strangulation high on the bole and hormone treatment.</p>

A PROPOSED FOREST PROGRAM FOR SABINE PARISH, LOUISIANA (Continued)

Problems Found Among Landowners	Suggestions	Expected Outcome	Ways and Means of Accomplishments
<p>6. Twenty-five per cent of fifty forest landowners surveyed showed their forest was unmarked.</p>	<p>6. Where landowners forests are growing together, they should be marked off, if not fenced, in order that they may be kept surveillance.</p>	<p>6. Each forest landowner will know the beginning and ending of his boundary line assuring protection to him and his neighbor.</p>	<p>6. This may be done through the service of a land engineer employed for a small fee, depending on the scope of the farm.</p>
<p>7. Approximately fifty percent of the forest landowners property unfenced.</p>	<p>7. Fence the forest using a kind of mesh wire to prevent hogs from entering and killing young pine trees by destroying the roots.</p>	<p>7. Less damaged trees to be culled and faster growing young pines.</p>	<p>7. The use of treated post for fence, a mesh wire especially prepared for controlled swine.</p>
<p>8. Too few landowners know how to estimate standing</p>	<p>8. When selling timber, secure the service of a Forestry Com-</p>	<p>8. Timber landowners receiving a higher income for timber</p>	<p>8. Secure the service of some experienced person, such as a</p>

A PROPOSED FOREST PROGRAM FOR SABINE PARISH, LOUISIANA (Continued)

Problems Found Among Landowners	Suggestions	Expected Outcome	Ways and Means of Accomplishments
<p>timber.</p> <p>9. Only fifty-eight percent of the fifty landowners practiced reforestation.</p>	<p>missioner to estimate the number of broad feet you plan to sell.</p> <p>9. Reforest those areas where young trees have been destroyed or older trees have been cut from wide area.</p>	<p>sales.</p> <p>9. A better growth of pine timber allowing different areas to be cut annually or biannually.</p>	<p>Forester or Soil Conservation Agent. Service is offered free by the Government.</p> <p>9. Pine seedling may be secured from the State Forestry at a small price per thousand. These may be manipulated by hand or machine depending on the scope.</p>

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APPENDIX

QUESTIONNAIRE

FORESTRY

Please execute and return immediately.

1. Name _____
2. Address _____ Box No. _____
3. Do you own your farm? _____ Live on Farm? _____
Live of Farm? _____
4. Number of persons in family cut or haul pulpwood? _____
Number of persons in family who cut timber for other
purposes? _____
Number of persons in family who work at some type of
lumber mill? _____
5. Number of acres in farm _____ Number of acres in
pasture _____
Number of acres in crops _____ Number of acres in
Forestry _____ Number of acres in wasteland

6. Number of acres of forest land fenced _____
Number of forest land unmarked _____
7. Number of acres of forest thinned in the last seven years
_____ Number of acres culled _____
8. Do you see that young trees are preserved when selling or
cutting timber _____

9. Have you sold any timber in the last seven years? _____
If so, how much? _____ Price received per
thousand foot _____
10. Can you estimate standing timber? _____
11. Do you have a fire land plowed around your forest as a
protection against fires? _____
12. Number of acres in pine _____ Number of acres in
scrub oak trees _____
13. Have you planted any pine seedling in very rough or unfit
land for cultivation? _____ If so, how many
acres? _____
14. Have you treated any trees, at any time, in your pine forest
to produce more seeds for reforestation? _____
15. Remarks: _____

