BACKYARD PLANTING - A VITAL PRODUCTION SYSTEM OF SOCIAL FORESTRY IN NORTH - EAST INDIA

Dr. S. K. Sharma
Head, Environmental Education, Carman School, Dehradun 248007, India
E-mail: SKS105@rediffmail.com
TABLE OF CONTENTS

• INTRODUCTION
• WHY BACKYARD PLANTATION?
• METHOD AND MATERIAL
• RESULTS
• BENEFITS OF SOCIAL FORESTRY
• INITIATIVES FROM THE GOVERNMENT OF INDIA
• CONCLUSIONS AND RECOMMENDATIONS
INTRODUCTION

• INDIA HAS A VARIETY OF HABITATS OF RANGING FROM TROPICAL RAINFORESTS TO ALPINE VEGETATION AND FROM TEMPERATE FORESTS TO COASTAL WETLAND. INDIA IS ALSO A CENTER OF AGRO BIODIVERSITY. IT IS A HOMELAND OF NEARLY 167 CULTIVATED SPECIES AND THE GLOBAL EXCHANGE OF BIOTA EXISTED SINCE HISTORICAL TIMES.

INTRODUCTION Continues….

THE FOREST COVER OF INDIA CONSTITUTES NEARLY 20.64% OF THE TOTAL GEOGRAPHIC AREA OF 3.3 MILLION KM² OF THE COUNTRY.
INDIA’S POPULATION IS INCREASING BY LEAPS AND BOUNDS, CAUSING A LOT OF DEFORESTATION ALL OVER THE COUNTRY. CONSEQUENTLY, THE FOREST FRONTIERS ARE PROGRESSIVELY RECEIVING.
THE NORTH EASTERN PART OF INDIA IS BADLY AFFECTED BY THE FAULTY AGRICULTURAL PRACTICE OF SHIFTING CULTIVATION THAT LEADS TO DEGRADATION OF LAND, THEREFORE, SOCIAL FORESTRY ASSUMES MORE IMPORTANT IN THIS AREA THAN ANY OTHER PART OF THE COUNTRY.
INTRODUCTION Continues….

TIMBER READY FOR TRANSPORT TO CITIES AND FOR INDUSTRIES

A HILL SLOPE WHICH HAS BEEN JUST CLEARED OF ALL TREES
IN THE NORTH-EAST STATES OF INDIA, FORESTS MEET NEARLY 40% OF THE ENERGY NEEDS IN THE FORM OF FUEL WOOD WHICH IS OF THE ORDER OF ABOUT 235 MILLION M³ ANNUALLY AND THE GREEN FODDER FOR LIVESTOCK WHICH IS ALSO OF THE ORDER OF 882 MILLION TONS PER YEAR MAKING IT 50% OF THE REQUIREMENT WHILE REMAINING IS MET BY DESTRUCTIVE OVER-GRAZING WITHIN FORESTS. THIS HAS LEAD TO MASSIVE DEFORESTATION

WOMEN CARRYING FUELWOOD FROM THE FORESTS
Impact of Deforestation

- Deforestation
  - Increased run-off
  - Decrease in water retention

- Flooding
- Sedimentation of dams
- Drop in fertility

- Decrease in irrigation
- Loss of growth

- Decrease in production & productivity

- Extension of area under cultivation
• SEEING THE PROBLEMS OF DEFORESTATION WHICH HAS EFFECTED THE LIVELIHOOD OF MANY - THE NATIONAL COMMISSION ON AGRICULTURE, GOVERNMENT OF INDIA INTRODUCED THE SOCIAL FORESTRY CONCEPT IN 1976 TO MEET THE FOLLOWING OBJECTIVES:

* TO REDUCE PRESSURE FROM FORESTS AND MAKING USE OF ALL UNUSED, DEGRADED AND FALLOW LAND, INVOLVING FARMERS AND LOCAL PEOPLE IN FORESTRY ACTIVITIES.

* IN ADDITION TO PLANTATION OF TREES ALONG RAILWAY LINES, ROADSIDES, RIVER AND CANAL BANKS, THE PLANTATION OF SOME SELECTED POPLAR TREES/WILLOWS WERE RAISED AS BACKYARD PLANTATION BY COMMON MAN SPECIALLY IN NORTH EASTERN REGION OF INDIA SO AS TO MEET THE GROWING DEMAND FOR TIMBER, FUEL WOOD, FODDER ETC, THEREBY, REDUCING THE PRESSURE ON TRADITIONAL FOREST AREA AND INCREASING THE INCOME OF THE FAMILY.
BENEFITS OF THE SOCIAL FORESTRY:

Flow of Benefits

Social Forestry

Wastelands
- Farm energy
  - Power: Ploughing & Transport
  - Livestock fodder
  - Heating
  - Fuelwood
  - Fertilizers (Manures)
  - Green manures, cowdung etc.

Common lands
- Farm protection
  - Wind and water erosion
  - Windbreaks and shelter belts
  - Pest control
  - Biological control, birds, environmental control

Road sides
- Domestic needs
  - Heating and cooking
  - Fuelwood
  - Housing & agricultural implements
  - Bamboos, poles & thatching grass etc.
  - Food, oilseeds, spices, medicines etc.
  - Fruit, fodder & oilseed-trees, wildlife etc.
  - Direct employment
  - Nursery planting etc.
  - Self employment
  - Cottage & small scale industries

Canal banks
- Employment
  - Reduced pressure on forests
  - Supply of forest produce
  - Improvement of environment
  - More area under tree cover

Rail sides

All other lands including degraded forests and farm lands

Farm needs

Farmer's needs

National needs
WHY BACKYARD PLANTATION?

• BACKYARD PLANTING IS AN AGE-OLD PRACTICE IN INDIA.

• ONE OF THE COMPONENTS OF SOCIAL FORESTRY WHICH IS THE EASIEST TO IMPLEMENT IS THE BACKYARD PLANTING.

• IN RURAL AREAS, A MAJORITY OF HOUSEHOLDS HAVE A BACKYARD WHERE TREES ARE GROWN. IN FEW STATES SUCH AS WEST BENGAL, AND ANDHRA PRADESH, SOME INDUSTRIES DEPEND PARTLY ON THE RAW MATERIAL SUPPLIED FROM THE BACKYARD. FOR EXAMPLE, THE TITAGHAR PAPER COMPANY OBTAINS LARGE AND SUBSTANTIAL QUANTITY OF BAMBOO FROM THE BACKYARDS OF THE NORTH EAST AREAS.
BACKYARD PLANTATION? Continues

• HABITANTS OF NORTH-EAST INDIA HAVE BEEN RAISING, WILLOW (*Salix*) AND BAMBOOS IN THEIR BACKYARD.

• IT IS ONE OF THE EASIEST TO IMPLEMENT AND ALSO IT IS THE MOST REWARDING COMPONENT OF SOCIAL FORESTRY TO REDUCE POVERTY AND IMPROVE FOOD SECURITY IN AN OTHERWISE BACKWARD AREA WHERE THE COUNTRY’S DEVELOPMENTAL BENEFITS HAVE NOT REACHED FULLY.
EXAMPLE OF BACKYARD PLANTATION

ON ONE ACRE OF LAND, NEARLY 200 POPLAR TREES ARE GROWN WITHOUT AFFECTING OTHER CROPS

EVERY 5 YEARS THESE TREES FETCH AS MUCH AS RUPEES 100,000 (US$ 2000) IN TIMBER
EXAMPLE OF BACKYARD PLANTATION
BAMBOO

a source of livelihood in the north-east
<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORTH-EAST</td>
<td>92</td>
</tr>
<tr>
<td>NORTH-WEST</td>
<td>19</td>
</tr>
<tr>
<td>GANGETIC PLAINS</td>
<td>7</td>
</tr>
<tr>
<td>PENINSULAR</td>
<td>21</td>
</tr>
<tr>
<td>ANDAMAN &amp; NICOBAR</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>145</strong></td>
</tr>
</tbody>
</table>

Indian Bamboo forests occupy an area of 10 million ha. which comprises about 13% of the total forest area of the country.
BACKYARD PLANTING IS FAMILY BASED AND IS LARGELY NEED-ORIENTED.

- POPLAR (*POPULUS*), WILLOW (*SALIX*), ARE GROWN IN NORTH EASTERN REGION WHICH HAVE A GREAT ECONOMIC VALUE AS SOME OF THE INDUSTRIES DEPEND ON THEM.

- ELABORATE INFRASTRUCTURE IS NOT NECESSARY.

- IRRIGATION OF BACKYARD PLANTS IS VERY EASY AND DOES NOT COST ANYTHING AS THE HOUSEHOLD WATER IS USED FOR THE PURPOSE.

- BACKYARD PLANTING HAS, THEREFORE, GREAT POTENTIAL IN INDIA
THE DISTRIBUTION OF SPECIES BASED ON THE ANNUAL RAINFALL AND TYPE OF SOIL IN DIFFERENT PHYTO-GEOGRAPHICAL REGIONS OF INDIA CONSISTS OF:

1. DECCAN PLATEAU IN THE SOUTH – DRY DECIDUOUS FORESTS (TEAK)
2. GANGETIC PLAIN OF NORTH INDIA – MANGROVES
3. HIMALAYAS (A) TROPICAL ZONE (500 – 1600 M) – EVERGREEN and DECIDUOUS FORESTS
   FLAME OF FOREST – BUTEA
B) TEMPERATE ZONE

(1600 – 3500 M) – Confers and cupulifers are dominant.

In the higher temperate sub-zone, Deodar (Cedars Deodara) predominates together with Birch (Betula), Oak (Quercus), Poplar (Populus), Willow (Salix), Maple (Acer) etc.

© Alpine Zone (3500 -4500 M) Low shrubs area
DIFFERENT VARIETIES OF POPLAR AND WILLOW RAISED IN N.E. INDIA

• LARGE TREES - GROWN BY BRANCH CUTTING, NAMELY, SALIX ALBA (BIS) AND SALIX BABYLONICA (MAJNU) – USED FOR MAKING CRICKET BATS, MATCHWOOD, TOOL-HANDLES, FUEL, FODDER, LIGHT TIMBER AND PULPWOOD.

• SMALL TREE - SALIX DAPHNOIDES (BHASHI, BASHROI) – GROWN BY BRANCH CUTTING, SUITABLE FOR BASKET MAKING, FUEL, FODDER.
SMALL TREE - *SALIX DAPHNOIDES (BHASHI, BASHROI)* – SUITABLE FOR HUT MAKING, BASKET MAKING, CARPET MAKING, FUEL AND FODDER.
LARGE TREE - *SALIX ALBA* (BIS) AND *SALIX BABYLONICA* (MAJNU) - USED FOR MAKING LIGHT TIMBER, PULPWOOD, CRICKET BATS, MATCHWOOD, TOOL-HANDLES, FUEL AND FODDER
INITIATIVES FROM THE GOVERNMENT OF INDIA:

• PEOPLE ARE AT THE CENTRE STAGE OF PLANNING FOREST MANAGEMENT IN INDIA. THE NATIONAL AND STATE LEVEL PLANNING WITH THE PARTICIPATION OF PEOPLE STARTED IN 1991 IN THE FORM OF JOINT FOREST MANAGEMENT WHICH EMPHASIZED DEVELOPMENT OF PARTNERSHIP WITH FOREST FRINGE PEOPLE AND THE GOVERNMENT OF INDIA.

• PRESENTLY, THERE ARE 1,06,479 JFMC’S MANAGING AN EXTENT OF 22.02 MHA INVOLVING 21.99 MILLION PEOPLE OF FOREST AREA.
RESULTS

• THE TEMPERATE ZONE OF THE HIMALAYAS RANGING IN ALTITUDE FROM 1600 TO 3500M REPRESENTING ONE OF THE PHYTOGEOGRAPHICAL REGIONS OF INDIA, CONSIDERED BEST SUITED FOR BACKYARD PLANTING OF DIFFERENT VARIETIES OF WILLOW (LARGE TO SMALL TREES) GROWN BY BRANCH CUTTING, NAMELY, SALIX ALBA (BIS) – LARGE TREES USED FOR MAKING CRICKET BATS, MATCHWOOD, TOOL - HANDLES, FUEL AND FODDER, SALIX BABYLONICA (MAJNU) – LARGE TREES USED FOR FODDER, FUEL AND ORNAMENTS AND SALIX DAPHNOIDES (BHASHI, BASHROI) – SMALL TREE SUITABLE FOR BASKET MAKING, FUEL, FODDER.
CONCLUSIONS

• THE ACTIVITY OF RAISING WILLOW AND BAMBOOS IN THEIR BACKYARD AND THEIR MARKETING AS A PART OF SOCIAL FORESTRY IN NORTH-EAST INDIA, IS A LABOR–INTENSIVE ACTIVITY AND LARGE SCALE ADOPTION OF THIS PROGRAM HAS NOT ONLY TAKEN EMPLOYMENT TO THE VERY DOOR-STEPS OF THE UNEMPLOYED BUT HAS HELPED GENERATE INCOME THROUGH EMPLOYMENT AND THROUGH THE SALE OF SURPLUS GOODS AND SERVICES THUS, ENHANCING THEIR CONTRIBUTION TO THE REDUCTION OF POVERTY.
RECOMMENDATIONS

- TILL NOW, LACK OF DATA ON SUCH FOREST RESOURCES AND FOREST PRODUCTIVITY RESULTED IN A SERIOUS UNDERESTIMATION OF THEIR CONTRIBUTION TO GROSS DOMESTIC PRODUCT – A SITUATION WHICH ALMOST ALWAYS LEADS DECISION-MAKERS TO OVERLOOK THE IMPORTANCE OF THE SOCIAL FORESTRY TO LIVELIHOODS AND NATIONAL ECONOMIC DEVELOPMENT. SOCIAL FORESTRY IS FORESTRY BY THE PEOPLE AND, THEREFORE, IT IS RECOMMENDED THAT THE BACKYARD PLANTING PATTERN OF NORTH-EAST REGION BE TIED UP TO WIDER NATIONAL AGENDAS, INCLUDING THOSE ASSOCIATED WITH POVERTY REDUCTION IN OTHER STATES ALSO OF THE COUNTRY.
THANK YOU