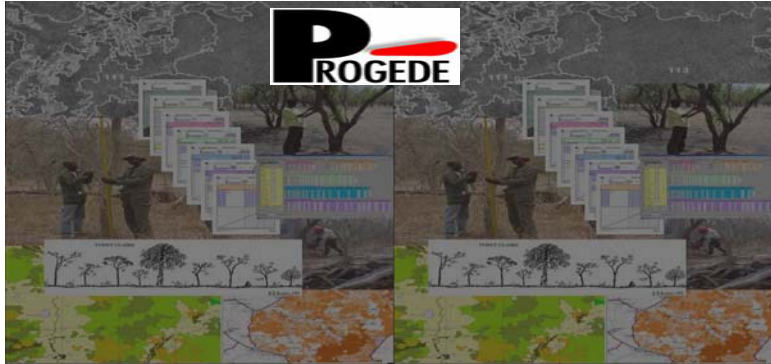




## PROGEDE MOVING TOWARDS ALLEVIATING ENVIRONMENTAL PROBLEMS AND POVERTY

INTERNATIONAL SEMINAR ON BIOENERGY  
& RURAL POVERTY( MEXICO,26-28/06/2003)



## INTRODUCTION : CONTEXT AND APPROACH

- **A View:** Senegal is a country whose natural resources are under considerable strain



## **INTRODUCTION : CONTEXT AND APPROACH**

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- **Rapid population growth, increasing demand for natural goods and services;**
- **Inefficient carbonization techniques;**
- **Non sustainable forest resources management practices;**



## **INTRODUCTION : CONTEXT AND APPROACH**

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- **To minimize further environmental degradation, the senegalese government with the financial support and the commitment of the World Bank identified and formulated a project to address the critical problem of rapidly decreasing traditional household fuel;**



## **INTRODUCTION : CONTEXT AND APPROACH**

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- **Transfer the responsibility of forest management and exploitation of forest resources to rural communities.**
- **The Sustainable and Participatory Energy Management Project is directed towards: community based sustainable forest management; introduction of efficient carbonization techniques; promotion of improved woodfuel stoves and interfuel substitution.**



## **PROGEDE (SPEMP): Pioneer in Poverty Alleviation**

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- **In its sphere of influence, the SPEMP seeks to adapt the people's needs to environmental realities.**
- **The SPEMP is committed to the Economic Development of Rural people in ways environmentally sustainable and socially equitable.**



## **PROGRAM SUMMARY**

- **PROGEDE= Sustainable and Participatory Energy Management Project**
- **SOURCE OF FUNDS (US \$ million equivalent) :**

<b>IDA</b>	<b>:</b>	<b>5.2</b>
<b>GEF</b>	<b>:</b>	<b>4.7</b>
<b>Royal Dutch Cooperation</b>	<b>:</b>	<b>8.8</b>
<b>Government</b>	<b>:</b>	<b>1.2</b>
<b>Total Project Cost</b>	<b>:</b>	<b>19.9</b>



## **PROJECT OBJECTIVES**

**THE OBJECTIVES OF THE PROJECT ARE TO:**

- **MEET IN PART THE RAPIDLY GROWING URBAN DEMAND FOR HOUSEHOLD FUELS WITHOUT DEGRADING FOREST COVER AND THE BIODIVERSITY**



## PROJECT OBJECTIVES (con't)

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- **REDUCE WOODFUEL RELATED DEFORESTATION AND LOSS OF BIODIVERSITY**
- **REDUCE NET CO2 EMISSIONS**
- **INCREASE INCOME PARTICIPATING VILLAGES WITH SPECIAL ATTENTION TO WOMEN AND YOUTH**



## Mission

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- **Strengthening the institutions involved in planing and management of the energy sector.**
- **Promoting the participation of rural communities through grassroots organisations (Village Comitee for Management and Development CVGD)**
- **Promoting Income Producing Activities.**

## PROGEDE : Multidisciplinary and inter-Ministerial Team

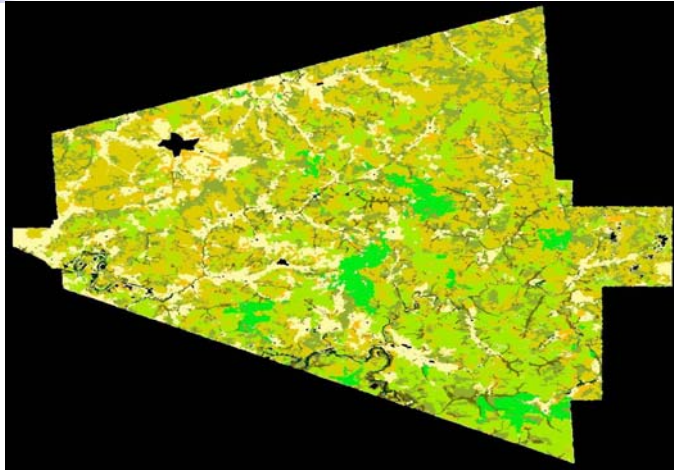
### Personal working on consensus basis:

- Foresters;
- Energy Specialists;
- Agronomists
- Pastoralists
- Statisticians-Economists
- Communicators
- Extensionists

## PROJECT AREAS OF IMPLEMENTATION



## AREA IN TAMBACOUNDA



## AREA IN KOLDA REGION





## **PROJECT AREA OF INTERVENTION**

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### **SUSTAINABLE WOODFUELS SUPPLY MANAGEMENT COMPONENT:**

**Tambacounda and Kolda Regions**

### **DEMAND MANAGEMENT AND INTERFUELS SUBSTITUTIONS OPTIONS COMPONENT:**

**Nationwide with special focus on Dakar**



## **Beneficiaries**

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- . Stove Makers Associations and Groups.**
- . Rural Populations**
- . Commercial Charcoal Traders.**
- . Women and Youth Groups and Associations.**
- . Private Sector.**
- . Directorate of Water, Forest and Hunting , Directorate of Energy and strengthening capacity building of institutions such as Agriculture and animal husbandry services, Department of Education, NGOs ...**





## **FINANCIAL SUPPORT OF BENEFICIARIES**

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- **Matching Funds of US \$1 million** for supporting the participatory activities of SWSMC;
- **Credit Funds of US \$ 1 million** for supporting re-organization, modernization of urban charcoal trade and the economic diversification of charcoal traders within the DMISOC



## **Main Activities of the SWSMC**

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- Ø **Areal Photography at scale 1/25.000 of 1.300.000 hectares of forest cover and pasture**
- Ø **Numeric Interpretation and Cartography of 1.100 orthophotos**
- Ø **Mapping of Soil, landuse and land cover**
- Ø **Assessment of vegetation cover in 840.000 ha split in 1.380 sampling Units**



## **Main Activities of SWSMC : (cont'd)**

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### **Implementation of Ecological, Forestry and Pastoral Information System**

- Ø Pastoral assessment of 840.000 ha split in 550 sampling units**
- Ø Setting of Permanents plots nationwide for vegetation monitoring**
- Ø Setting of Database and GIS for the management of the information generated**
- Ø Training of field Agents in Mapping, Inventory, Database Management and GIS**



## **Main Activities of the SWSMC (cont'd)**

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- Ø Establishment of 191 Village Comitees for forest Management and Development**
- Ø Implementation of sustainable community-based management systems over 300 000 ha of natural forest for woodfuel production**
- Ø Establishment of rural-based micro-entreprises (carbonization units...).**
- Ø Capacity building of rural population in various field (Farming, bee keeping and honey production, fruits and legume processing and conservation, gardening..)**
- Ø Introducing Environmental Education in Primary school Curriculum**

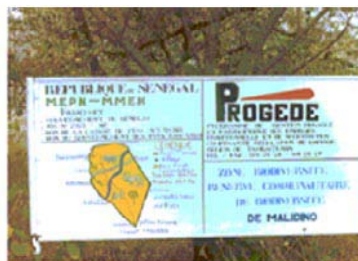
## Main Activities of the SWSMC (cont'd)


**Monitoring and Management of Biodiversity and implementation of protected area around the Niokolo Koba National Park (Biosphere reserve)**

- **Awareness raising on the main causes and effects of biodiversity loss**
- **Rehabilitation of degraded land and setting up of community reserves for biodiversity promotion**
- **Alleviating poverty through Income producing Activities**

## Main activities of SWSMC (cont'd)

Biodiversity Area in the Village of de Dialamakhon (Tamba)





## **Main Activities of the Energy Demand Management and Interfuel Substitution Options Component**

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- **Re-organization and Modernization of charcoal trade (Energy shops)**
- **Economic diversification of existing urban charcoal traders**
- **Promotion of LPG, kerosene and gelfuel as substitute household fuel in urban and rural areas**
- **Support for the dissemination of locally made improved stoves (Diambar,Sakkanal...).**



## **ACHIEVEMENTS TO DATE OF THE SWSMC**

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- **FOREST RELATED ACTIVITIES**
  - **Sustainable charcoal production**
  - **Woodlot plantation with various tree species**
  - **Windbreak and firebreak plantation**
  - **Sustainable management of natural forest**



## **ACHIEVEMENTS TO DATE OF SWSMC**

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### **■ AGRICULTURAL ACTIVITIES**

- \* **Gardening**
- \* **Intensification**
- \* **Fruit trees**
- \* **Pasture**
- \* **Watershed Management**
- \* **Seed Production**
- \* **Fruits and Legumes Processing and conservation**



## **ACHIEVEMENTS TO DATE OF THE SWSMC**

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### **■ PASTORAL ACTIVITIES**

- \* ***Poultry***
- \* ***Bee keeping, Honey Production***
- \* ***livestock fattening***
- \* ***Animal Health Improvement***
- \* ***Drilling Program:***



## ACHIEVEMENTS TO DATE OF GEF COMPONENT

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- **REDUCTION OF DEFORESTATION IN THE PROJECT ZONES BY APPROX. 24,509.6 Ha**
- **FROM ESTABLISHED SUSTAINABLE FOREST MANAGEMENT AND CHARCOAL PRODUCTION SYSTEMS ESTIMATED AT 988,582.7 Tons OF CO2 NET CO2 EMISSION REDUCTIONS**



## ACHIEVEMENTS TO DATE OF GEF COMPONENT (con't)

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- **Management of Biodiversity in two (2) Community Reserves of 219,359 ha around the NKN Park.**
- **GUINEA FOWL raising to reduce poaching in NKN Park.**
- **Bee keeping in areas under management**

## ACHIEVEMENTS TO DATE OF EDMISOC

- **Modernization of charcoal trade with the implementation of energy shops nationwide**
- **19.000 improved stoves produced**
- **A prototype of kerosene stove standardized**
- **Formulation of microprojects for project financial support to strenghten its participative approach**
- **Implementation of Energy Information System (SIEP)**

## IMPROVED AMUL STOVE





## BIGGEN STOVE (local)



## DIAMBAR STOVE (local)







## FAYIDA STOVE (imported)



## GELFUEL STOVE (local)



## AMUL STOVE (imported)



## PERSPECTIVES: MULTISECTORIAL DYNAMIC AND CONTRIBUTION TO ALLEVIATING POVERTY

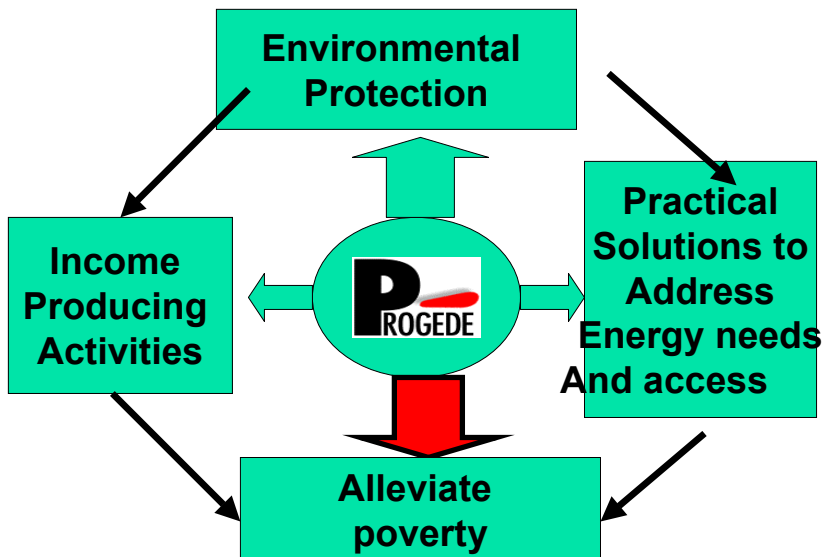
- The Project would sustainably produce some **860 000 tons** of fuelwood over six years period expected to generate **US \$ 16.142.400**
- Farming and Pastoral Activities are expected to generate income of **US \$ 300 000 (2003)**.
- The multisectorial activities will generate gross income of **US\$ 16.207.900** for the **45.000** people living in **250 villages**.

## PERSPECTIVES: MULTISECTORAL DYNAMICS AND CONTRIBUTION TO POVERTY ALLEVIATION

With regard to horizon 2003-2004 , the following achievements are expected:

- Drilling of **30 wells** in managed areas and their equipment with solar pumps. Boosting milk production to **20 000 l**, increasing honey production to **7 000 l**
- **Promoting** modern use of energy with the installation small unit generating energy from biomass combustion.

### PROGEDE PLATFORM-ARCHITECTURE ILLUSTRATION OF ACTIVITIES



# VILLAGE COMMITTEE MEETING



# FOREST RESOURCES ASSESSMENT



# PASTORAL RESOURCES ASSESSMENT



## IMPROVED CARBONIZATION

### Woodfuel and Charcoal Production



# CHARCOAL PROCESSING



# ENVIRONMENTAL PROTECTION

- **Forest Fire Fighting**





## ENVIRONMENTAL PROTECTION

- **Program for Forest Fire Management**



## INCOME PRODUCING ACTIVITIES

- **Farming and Gardening**



## INCOME PRODUCING ACTIVITIES

- Guinea Fowl Raising, Honey Production and Candle processing



## INCOME PRODUCING ACTIVITIES

- Various Fruit Juice Homemade





## STRATEGIES TO RESOLVE ENERGY DEMAND AND ACCESSIBILITY

- **Energy - Shop**



## DIVERSIFIED ENERGY SOURCES BASED ON THE NEEDS OF POPULATION

- **Kerosene Stoves, Diambar, Gelfuel Stove**





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**THANK YOU FOR YOUR ATTENTION**

**THE END**