



RFD

Results-Framework Document

For

**Sardar Swaran Singh National Institute of Renewable Energy,
Kapurthala-144601 (Punjab)**

(An Autonomous Institution of Ministry of New & Renewable Energy, Govt. of India, New Delhi)

(2011-2012)

SECTION 1:

Vision, Mission, Objectives and Functions

VISION:

- To establish the Institute as an apex R&D institution for carrying out **state-of-the-art** research and developmental activities in the area of bio-energy, including human resource development at all levels, post-doctoral research and research leading to commercialization of renewable energy technologies.

MISSION:

- To be a knowledge based R&D Institution of high quality and dedication.
- Providing services and seeks to find optimum solutions for the major stakeholders across the entire spectrum of the bio-energy sector.
- To support the Rural Energy sector in developing the knowledge for promoting new technology.

OBJECTIVES:

- To carry out and facilitate research, design, development, testing, standardization and technology demonstration eventually leading to commercialization of RD&D output with a focus on:
 - a. Bioenergy, biofuels and synthetic fuels in solid, liquid and gaseous forms for transportation, portable and stationary applications;
 - b. Development of hybrid/integrated energy systems; and
- To undertake and facilitate human resource development and training including post-doctoral research in the area of bioenergy.
- To create facilities for operationalization of the Institute.

FUNCTIONS:

- Conduct resource surveys and Assessment of potential across the country in the bioenergy sector.
- In-house R &D programmes in all emerging fields of bioenergy.
- Joint technical programmes with other national institutions and testing centres.
- Testing and certification of devices and systems.
- Techno-economic evaluation of bioenergy equipments and systems.
- Creating data base for bioenergy including information on patents.
- Compilation and dissemination of information on resources, technologies, products and applications.
- Providing technical support to industry on new product design and development and upgradation of products and manufacturing processes.
- Providing technical support to the biomass energy project in achieving and sustaining quality such that systems of highest quality and reliability are installed.
- Organization of training programmes, seminars and workshops.
- Cooperation with scientific and technical Institutions abroad under bilateral and multilateral agreements and MoU.
- Assistance in curriculum development in renewable energy and undertaking concrete programmes for human resource development.
- Consultancy and advisory services in the bioenergy sector.
- Providing technical support to MNRE in policy planning and implementation.

SECTION 2:

Inter se Priorities among Key Objectives, Success indicators and Targets

| S. No. | Objective | Weight | Actions | Success indicator | Unit | Weight | Target/Criteria Value | | | | |
|--------|---|--------|---|-------------------|-----------------|-----------|-----------------------|-----------|-------|-------|-------|
| | | | | | | | Excellent | Very Good | Good | Fair | Poor |
| | | | | | | | 100% | 90% | 80% | 70% | 60% |
| 1 | To carry out and facilitate research, design, development, testing, standardization and technology demonstration eventually leading to commercialization of RD&D output with a focus on: a. Bioenergy, biofuels and synthetic fuels in solid, liquid and gaseous forms for transportation, portable and stationary applications; and b. Development of hybrid/integrated energy systems | 60 | Formulation of R&D projects on Gaseous fuel | 2 | No. of projects | 10 | 2 | 1 | - | - | - |
| | | | Taking-up of R&D projects on Liquid fuel | 2 | No. of projects | 20 | 2 | 1 | - | - | - |
| | | | Setting up R&D-cum-Technology Demonstration plants on Paddy straw based Biogas Generation | 1 | No. of projects | 10 | 1 | - | - | - | - |
| | | | Setting up R&D-cum-Technology Demonstration plants on Biomass Gasification | 1 | No. of projects | 10 | 1 | - | - | - | - |
| | | | Taking-up plantation of Bio-energy trees/plants/crops | 5,000 | No. of plants | 10 | 5,000 | 4,500 | 4,000 | 3,400 | 3,000 |
| | | | | | | 60 | | | | | |

| S. No. | Objective | Weight | Actions | Success indicator | Unit | Weight | Target/Criteria Value | | | | |
|--------|--|--------|--|-------------------|-------------------------|-----------|-----------------------|-----------|------|------|------|
| | | | | | | | Excellent | Very Good | Good | Fair | Poor |
| | | | | | | | 100% | 90% | 80% | 70% | 60% |
| 2 | To undertake and facilitate human resource development and training including post-doctoral research in the area of bioenergy. | 15 | Human resource development. | 5 | Nos. | 5 | 5 | 4 | 3 | 2 | 1 |
| | | | Obtaining persons through outsourcing for carrying out R&D and other activities to assist 10 sanctioned posts of the Institute | 15 | Nos. | 5 | 15 | 13 | 11 | 9 | 7 |
| | | | Organization of seminar & workshops and training programmes | 2 | Nos. | 5 | 2 | 1 | - | - | - |
| | | | | | | 15 | | | | | |
| 3 | To create facilities for operationalization of the Institute. | 14 | Completion of remaining construction and furnishing activities for establishment of the Institute | 20 | % | 3 | 20 | 15 | 10 | 5 | - |
| | | | Setting-up of Laboratories facility | 50 | No. of equipment | 5 | 50 | 45 | 40 | 35 | 30 |
| | | | Setting-up of Library facility | 200 | No. of books & journals | 3 | 200 | 175 | 150 | 125 | 100 |
| | | | Setting-up of computer and internet facility | 80 | % | 3 | 80 | 75 | 70 | 65 | 60 |
| | | | | | | 14 | | | | | |

| S. No. | Objective | Weight | Actions | Success indicator | Unit | Weight | Target/Criteria Value | | | | |
|--------|--|--------|---|---|------|-----------|-----------------------|-------------------|-------------------|-------------------|-------------------|
| | | | | | | | Excellent | Very Good | Good | Fair | Poor |
| | | | | | | | 100% | 90% | 80% | 70% | 60% |
| 4 | Efficient functioning of the RFD System. | 11 | Timely submission of RFD for 2011-12 | On-time submission | Date | 2 | March 31, 2011 | April 3, 2011 | April 4, 2011 | April 5, 2011 | April 6, 2011 |
| | | | Timely submission of Results for 2011-12 | On-time submission | Date | 1 | May 1, 2012 | May 3, 2012 | May 4, 2012 | May 5, 2012 | May 6, 2012 |
| | | | Finalise a Strategic Plan for RC | Finalize the Strategic Plan for next 5 years | Date | 2 | December 10, 2011 | December 15, 2011 | December 20, 2011 | December 24, 2011 | December 31, 2011 |
| | | | Identify potential areas of corruption related to organization activities and develop an action plan to mitigate them | Finalize an action plan to mitigate potential area of corruption | % | 2 | December 10, 2011 | December 15, 2011 | December 20, 2011 | December 24, 2011 | December 31, 2011 |
| | | | Implementation of Sevottam | Create a Sevottam compliant system to implement, monitor and review Citizen's Charter | Date | 2 | December 10, 2011 | December 15, 2011 | December 20, 2011 | December 24, 2011 | December 31, 2011 |
| | | | | Create a Sevottam compliant system to redress and monitor public Grievances | Date | 2 | December 10, 2011 | December 15, 2011 | December 20, 2011 | December 24, 2011 | December 31, 2011 |
| | | | | | | 11 | | | | | |

**SECTION 3:
Trend Values of the Success Indicators**

| S. No. | Objective | Actions | Success Indicator | Unit | Actual Value for FY 09/10 | Actual Value for FY 10/11 | Target value FY 11/12 | Projected Value for FY 12/13 | Projected Value for FY 13/14 |
|--------|---|---|-------------------|-----------------|---------------------------|---------------------------|-----------------------|------------------------------|------------------------------|
| 1 | To carry out and facilitate research, design, development, testing, standardization and technology demonstration eventually leading to commercialization of RD&D output with a focus on: a. Bioenergy, biofuels and synthetic fuels in solid, liquid and gaseous forms for transportation, portable and stationary applications; and b. Development of hybrid/integrated energy systems | Formulation of R&D projects on Gaseous fuel | 2 | No. of projects | - | - | 2 | 1 | - |
| | | Taking-up of R&D projects on Liquid fuel | 2 | No. of projects | - | 1 | 2 | - | - |
| | | Setting up R&D-cum-Technology Demonstration plants on Paddy straw based Biogas Generation | 1 | No. of projects | - | - | 1 | - | - |
| | | Setting up R&D-cum-Technology Demonstration plants on Biomass Gasification | 1 | No. of projects | - | - | 1 | - | - |
| | | Taking-up plantation of Bio-energy trees/plants/crops | 5,000 | No. of plants | 1,000 | 10,000 | 5,000 | 5,000 | 5,000 |

| S. No. | Objective | Actions | Success Indicator | Unit | Actual Value for FY 09/10 | Actual Value for FY 10/11 | Target value FY 11/12 | Projected Value for FY 12/13 | Projected Value for FY 13/14 |
|--------|--|--|-------------------|-------------------------|---------------------------|---------------------------|-----------------------|------------------------------|------------------------------|
| 2 | To undertake and facilitate human resource development and training including post-doctoral research in the area of bioenergy. | Human resource development | 5 | Nos. | - | 1 | 5 | 5 | 5 |
| | | Obtaining persons through outsourcing for carrying out R&D and other activities to assist 10 sanctioned posts of the Institute | 15 | Nos. | - | 20 | 30 | 30 | 30 |
| | | Organization of seminar & workshops and training programmes | 1 | Nos. | - | - | 1 | 2 | 2 |
| 3 | To create facilities for operationalization of the Institute. | To get completed remaining construction and furnishing activities for establishment of the Institute | 20 | % | 40 | 40 | 20 | - | - |
| | | Setting-up of Laboratories facility | 50 | No. of equipment | - | 10 | 50 | 20 | 20 |
| | | Setting-up of Library facility | 200 | No. of books & journals | - | 100 | 200 | 200 | 200 |
| | | Setting-up of computer and internet facility | 80 | % | - | 20 | 80 | - | - |

SECTION 4:

Description and Definition of Success Indicators and Proposed Measurement Methodology

| S.No. | Success Indicator | Definition | Proposed Measurement Methodology |
|-------|--|--|---|
| 1 | Formulation of R&D Projects | Submitted to MNRE and defended for financial sanction | Literature collection & identification of problem and preparation of projects in the format |
| 2 | Implementation of R&D Projects | Procurement of Instruments & consumables and appointment of manpower | Generation of results and preparation of report |
| 3 | Energy plantation | Plantation of various energy plants inside the campus | Plantation of energy plants to get raw materials for energy production and R&D purpose. |
| 4 | R&D-cum-Technology Demonstration project | Installation of Demonstration Plants | Installation of Demonstration Plants and its monitoring of its proper functioning |
| 5 | Laboratory development | Instruments/equipment procurement | Instruments/equipment procurement as per rule and installation |
| 6 | Testing facilities | For testing and performance evaluation of bioenergy devices | Testing facilities for all bioenergy devices are proposed to be developed |
| 7 | Training programmes | Training to officers, NGOs and Scientific persons in Biofuel, Bioenergy and biomass based power generation | Dissemination of knowledge and technology through these programmes |
| 8 | Research Fellow | Post Doc Fellow/JRF/SRF | Selection of manpower under the various projects/ NRE fellowship |
| 9 | Conferences/ workshops | Conference in all the themes of bioenergy | sharing of knowledge through workshops/conferences |
| 10 | Library facility | To access the literature at the Institute | Procurement of books and subscription of journals |
| 11 | Computer & internet facility | Procurement of computers and other accessories | Procurement of computers and installation of leased line and networking |

SECTION 5:
Specific Performance Requirements from other Departments

The performance under various programmes is critically dependent on other Departments/ Organisations as mentioned below:

NOT APPLICABLE

**SECTION 6:
Outcome/ Impact of activities of Organization**

| S. No. | Outcome/ Impact of Organization/ RCs | Jointly responsible for influencing this outcome/ impact with the following Organization(s)/ Departments/ Ministry(ies) | Success Indicator(s) | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 |
|--------|---|---|--|-----------|-----------|-----------|-----------|-----------|
| 1 | Technology demonstration | SSS-NIRE | 1 no. of technology | -- | -- | 1 | 2 | 2 |
| 2 | Laboratory development | SSS-NIRE | Setting up R&D facility | -- | 20 % | 50 % | 20 % | 10 % |
| 3 | Library and computer facility | SSS-NIRE | Setting up library & internet facility | -- | 10 % | 30 % | 40 % | 20 % |
| 4 | Testing facilities for biomass gasifier, cook stoves, if received | SSS-NIRE | Testing of all received devices | -- | -- | 100 % | 100 % | 100 % |
| 5 | Training programmes for stakeholders/ researchers | SSS-NIRE | 1 no. of training programme | -- | -- | 1 | 2 | 2 |
| 6 | Outsourcing of manpower | SSS-NIRE | 30 nos. of manpower | -- | 20 | 30 | 30 | 30 |
| 7 | Conferences/ workshops | SSS-NIRE | 1 no. of conference & workshop | -- | -- | 1 | 2 | 2 |

Place: Kapurthala
Date: March 24, 2011

A.K. Jain

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