



Coordination Meeting on Unnat Bharat Abhiyan
17th September, 2015

Biomass Cookstove Program in India

Prof Rajendra Prasad
Centre for Rural Development and Technology
Indian Institute of Technology,
Delhi, India

Introduction

- India had a National Program on Improved Cookstoves, NPIC (1985-2004)
- A mixed bag of experiences
- A new initiative- Launched in October, 2009 With Focus On-
 - Technical Aspects (R&D, Testing, Global Contest)
 - Delivery of Cookstoves
 - Fuel Processing and Supply
 - Global Innovation Contest
 - Community Stoves
 - Implementation Strategies

Approach

- Learnings from strengths and weaknesses of NPIC.
- A different management and implementation structure for the new initiative
- Two phases
- Phase I
 - Pilot dissemination (various delivery models, fuel processing units)
 - Preparatory activities for full dissemination (testing protocols, standards, testing facilities, RFPs, forming consortia etc.)
 - Innovation Contest
- Phase II
 - Full scale dissemination

Unnat Chulha Abhiyan

- Ministry of New and Renewable Energy (MNRE) initiating Unnat Chulha Abhiyan (UCA) for the current Plan period (12th Five Year Plan), to promote development and deployment of Improved Biomass Cook-stoves (ICS) or *Chulhas* in the country
- Three distribution models proposed- Cluster level Federation Model (CLF), CSO/NGO Model and Government Schemes Model
- 24 Lac improved cook-stoves at the household level
- 3.5 Lac improved cook-stoves at the community level

SS.no.	YEAR	PHYSICAL TARGETS		
		Family Type or Household cook-stoves#	Community Size Cook-stove Dhabas/Canteen, Industry	Anganwadis/ ICDS/ MDM/Tribal Hostels/Forest Rest Houses, etc.
1	2012-13	Nil	Nil	Nil
2	2013-14	100,000	5,000	5,000
3	2014-15	750,000	25,000	75,000
4	2015-16	750,000	40,000	75,000
5	2016-17	800,000	50,000	75,000
Total		24,00,000	1,20,000	2,30,000

Budgetary Provisions

S. no.	Item	Funds
1.	Test centres (3 old + 2 new)	7.0
2.	R&D on cook-stoves & fuels, professional services, training/capacity, after sales service, orientation camps, workshops	5.0
3.	<p>Family sized/domestic cook-stoves/earthen cook-stoves (24,00,000)</p> <p>50% of cost of cook-stoves with maximum ceiling of Rs.400 for natural draft (including earthen cook-stoves with metal combustion chambers) and Rs.800 for forced draft for the years 2013-14 and 2014-15</p> <ul style="list-style-type: none"> 40% of cost of cook-stoves with maximum ceiling of Rs.300 for natural draft cook-stoves, Rs.600 for forced draft cook-stoves for years 2015-16 and 2016-17. Earthen cook-stoves -construction fee @10% per cook-stove. 	120.75
4.	<p>Community Cook-stoves for MDM kitchens, Anganwadis, tribal/SC/backward hostels, govt. and forest rest houses etc. (2,30,000)</p> <p>Central Financial Assistance:</p> <ul style="list-style-type: none"> 50% of cost of cook-stoves with maximum ceiling of Rs.2500 for natural draft, Rs.5000 for forced draft type cook-stoves for the years 2013-14 and 2014-15. 40% of cost of cook-stoves with maximum ceiling Rs.2000 for natural draft and Rs.4000 for forced draft for the years 2015-16 and 2016-17. 	75.07
5.	<p>Community cook-stoves (1,20,000) for commercial outlets and industry. (The entire cost will be borne by the users).</p> <p>The implementing agency/manufacturer/nodal agency will be paid @15%,10% and 5% for the years 2013-15, 2015-16 and 2016-17 respectively</p>	3.64
6.	Technical Assistance for Implementing Agencies @10% of support of MNRE on each cook-stove, including for commercial outlets.	23.41
7.	Administrative/overhead charges for implementing organizations @10% of support of MNRE on each cook-stove, including for commercial outlets.	23.41
8.	Monitoring and Evaluation (M&E)	20.00
9.	Publicity and awareness generation	16.0
Total (in INR crore)		294.28

Unnat Chulha Cell(BIOMASS COOKSTOVE DIVISION/UCC)

- The BIOMASS COOKSTOVE DIVISION/UCC set up at MNRE, will provide technical and strategic guidance for the implementation of the UCA, will include Technical experts, Non-Governmental Organisations (NGOS)/ Civil Society Organisations (CSOs) personnel and government officials.

- **Roles and responsibilities:**
 - i. Overall Program Administration
 - ii. Monitoring and Review based Activities
 - iii. Disbursement of central financial assistance
 - iv. Setting up committees

Eligibility of Cook-stoves

S. no	Type of Biomass Cook-stove	Standard Performance Parameters		
		Thermal Efficiency (%)	CO (g/Mjd)	PM (mg/Mjd)
1	Natural Draft Type	Not less than 25	≤ 5	≤ 350
2	Forced Draft Type	Not less than 35	≤ 5	≤ 150

New designs Approved

Sl. No.	Address of manufacturers	Models	Power Output
I. Natural Draft Cookstoves			
1	Unicus Engineering Private Ltd ,Bhubaneswar ,Orrisa	Harsha -Domestic	1.83kW
2	Vikram Stoves & Fabricators, Osmanabad, Maharashtra	Bio-classic–domestic	1.49 kW
3	Greenway Grameen Infra Pvt Ltd, Navi Mumbai	Greenway Smart Cook Stove	0.8 kW
4	M/s Ravi Engineering & Chemical Works,New Delhi	Firenzal	0.74kW
5	Adarsh Plant Protect Ltd, Anand, Gujarat.	Adarsh (Nirmal) - Domestic	0.89 kW
II. Forced Draft Cookstoves			
6	First Energy Pvt. Ltd., Pune , Maharashtra	Oorja Model – Domestic	0.7 kW
7	The Energy and Resources Institute (TERI), New Delhi	TERI SPT-0610 - Domestic	1.08kW
8	Alpha Renewable Energy Pvt. Ltd., Anand, Gujarat,	Eco-chulha XXL Domestic XXXL Community	1.10kW 3.32 kW
9	Navdurga Metal Industries (Bharat) Faizabad, UP	Agni Star- Domestic	2.16 kW
10	Sacks Right Energy Innovations, Bangalore, Karnataka	Ojas -Domestic	1.99 kW
11	Ram Tara Engineering Company,	RAMTARA- Domestic	1.0 kW

Supply of Cookstoves

- Currently 15 empaneled manufacturers to supply the ICS
- Responsible for the following tasks:
 - Production of bar-coded ICS
 - Warranty and aftersales services for minimum 2 years
 - Demonstrations for end-user/recipients, training orientation and maintenance
 - Training modules and materials
 - Delivery of ICS as per determined specifications
 - The earthen cook-stoves will be constructed/installed by trained masons using pre-fabricated combustion chambers or standards moulds
 - Of the household ICS, 50% will be earthen, approximately 50,000 (2013-14) and 325,000 (2014-15)
 - The prices should be decided on the basis of tender keeping in view the normative cost

Integration with National PoA for ICS

- The registered Clean Development Mechanism (CDM) Programme of Activities (PoA) 8949: 'National Programme for Improved Cookstoves seeks to enable sustainable large-scale deployment and use of high efficiency ICS in India by supporting end user price reduction, training, marketing, awareness programmes and maintenance services.
- The BIOMASS COOKSTOVE DIVISION/UCC staff will include a CDM/Carbon Market expert who will be responsible for leveraging carbon credit proceeds through this PoA to make the ICS more affordable, through bundling of credits from states the program is implemented in.
- The implementing agencies will be eligible to receive 95% of the credits obtained under the PoA and the remainder will be used for furthering the UCA by the MNRE. This expert will also be responsible for liaising with the existing CME (Coordinating/Managing Entity) under the PoA; Sardar Swaran Singh National Institute of Renewable Energy (SSS-NIRE).

Publicity and Awareness Generation

- A strong network of media agencies at the national level
- Cohesive strategy to utilize media as a channel for effective dissemination of information
- National level awareness campaign using different media outlets (TV, Radio and print media), word of mouth, street plays, and rural social marketing
- Information, Education and Communication (IEC) activities with district/block wise coverage
- Identify and share knowledge and best practices
- End-user/recipient Sensitization- various models of cook-stoves, facilitate decision making process based, affordability and regional preferences, address any queries

Capacity building

- Support to State Nodal Agencies (SNAs) under the CSO/NGO and Government Schemes based Models, National Rural Livelihood Mission (NRLM)
- ICS manufacturers to provide product training modules for technical capacity enhancement, User-friendly and simple, Visually descriptive and appealing, Multi-lingual, Culturally sensitive, Easy to access, Educative
- Training on different aspects, proper use, maintenance, reporting and monitoring

Monitoring and Evaluation (M&E)

- A comprehensive results based M&E framework
- Baseline surveys, concurrent monitoring, periodic evaluations, third-party M&E surveys, crowd sourcing of data, real time data from the field
- Field performance tests based on agro-climatic suitability- *Human Energy Harvesting* (HEH) protocols, Kitchen Performance Test (KPT), Constant Particulate Matter (PM) 2.5 emissions rate, Carbon Monoxide (CO) emissions rate , Default emissions factors (Intergovernmental Panel on Climate Change (IPCC)) specific values , Lab/ Water Boiling Test (WBT) of new stove , Controlled Cooking Test
- Socio-economic Impact Assessment/Studies- Impact of fuel saving, Time cost to end-user/recipient, Effect on climate change mitigation, Impact on household's health, Access to/ impact of Clean Development Mechanism (CDM) benefits to suppliers

Transparency

- At the central level- electronic database, MIS based trackers
- Web-based monitoring system-beneficiary data, cook-stove models distributed, verification details, mobile phone camera photos of cook-stoves
- Each cook-stove to have a barcode registration
- National Level Workshops
- For end-user/recipients- platform for redressing grievances through internet and telephone



Thank You