Programme Profile: PPT Sustainable Energy Pilot Projects at Dududu and Welbedacht

as at November 2010

PURPOSE: a) to introduce various sustainable energy products to low income households b) to test the appetite of low income people for diverse energy sources, c) to assess whether people are willing to pay for sustainable energy products, d) to test which products are suitable for which areas and whether people are willing to accept the new technology.

DESCRIPTION: The programme commenced in August 2005 and was completed in April 2010. An up front assessment was undertaken in two targeted pilot areas (low income communities) at Dududu (Vulamehlo – off Eskom grid) and Welbedacht (eThekwini – on Eskom grid) in order to determine what alternative energy products may be appropriate. Engagement with communities and municipalities then occurred to introduce the project concept and to determine the relevance of various alternative technologies. A range of alternative energy products were offered to residents on a part grant subsidy, part owner contribution (approximately 60% grant and 40% own contribution). Purchasers of products paid over 24 months with zero interest. On site workshops were arranged where suppliers gave practical product demonstrations to interested residents. A high level of interest was registered. The following products were purchased in the two target areas, it being noted that the transactions, whilst facilitated by the programme, were directly between suppliers and local residents:

TOTAL PROGRAMME VALUE: R410,000 funded by USAID for preparation and installation of products .

Area	Total households benefiting	Solar Water Heaters (SWH)	Gel Fuel Stoves	PV solar (65w)	Solar Cooker s	Wind Generators (150w)	Hotbags	Compact Fluorescent Lights
Welbedacht	67	23	36	1	7	0	36	200
Dududu	99	0	58	34	7	1	58	170
Total	**166**	**23**	**94**	**35**	**14**	**1**	**94**	**370**

NOTES: In addition, Bottlebrush (eThekwini) and Siyathuthuka (Richmond) benefited in terms of sustainable energy capacity building. Four areas were thus initially targeted with only the above two areas moving forward into the capacity and implementation phases.

PRODUCTS:

Solar Water Heater (100 litre) at Welbedacht
R4,475 including installation

Gelfuel Stove in Welbedacht
R85 for stove R40 per month including 10 litre gelfuel

PV Solar Home System (65 Watt incl. battery & controller) at Dududu
R4,266 including installation

Hotbag (insulation bag) for retaining cooking heat
provided free to the project

NOTES : *A) All the above product costs are at actual 2007 rates on the projects. B) the small PV solar system is sufficient to run three compact fluorescent lights, a radio,small black and white TV and cell phone charger.*

SERVICE PROVIDES: Parallax Sustainable Development Solutions, Bosco Renewal Energy and Revenue Collection, New Technologies, Green Heat, Sun Fire, Wendy Hotbags, Cadcom Kinako and Z.C. Khumalo, Bio Corporation, etc.

PPT ROLE: PPT initiated, conceptualized and coordinated the programme from initial stage to implementation including monitoring and evaluation. PPT also applied for preparation and capital funding.

SCOPE OF WORK: scope of work includes the following.

- Feed back and awareness: feedback sessions / workshops in all four areas with main stakeholders ie. Municipality, community based partner and project teams.
- Liaison with Provincial and National Organisations: liaise with key stakeholders including government departments, parastatals and any strategic partners willing to participate.
- Packaging and financial modeling: during the process various products were packaged to test local appetite and conditions including the financial modeling of each package.
- Monitoring and evaluation: A monitoring and evaluation framework was setup to assess the projects performance.
- Implementation of demonstration projects: low-income households selected suitable packages of energy technology and were linked to appropriate suppliers at a reduced price due programme subsidy between 40% and 60%.

STAKEHOLDERS: Richmond Municipality, Vulamehlo Municipality, eThekwini Municipality , Dududu Ward 6, Welbedacht Community, Bottlebrush Community, PPT, Parallax, Bosco, M.M. Maseko, Sibongile Mngadi , Councillor Phetha, etc.

MAIN LESSONS: A range of important lessons were learned:

1. The pilots were successful in that they demonstrated that a range of alternative technologies were relevant and useful to low income households (both on and off grid), to the extent that residents were prepared to pay approximately 40% of the purchase price.
2. Post implementation evaluation confirmed the usefulness of the products to purchasers.
3. There is significant potential for replication and up-scaling using a project based methodology such as the one utilized (with a few minor enhancements).
4. Up-scaling is dependent on the National Dept. Mineral and Energy Affairs making available an off-grid subsidy to residents (e.g. up to a maximum of R3,500 – but preferably always with a mandatory 50% owner contribution to commitment).
5. Micro-finance for purchasers is unviable as it is too difficult and costly to administer and a significant non-repayment rate can be expected (in excess of 50%). On future projects, the purchaser's own contribution should instead be in the form of an up front cash payment.
6. An owner contribution is central to project success in respect of ensuring real commitment, appreciation of product value, and product care / maintenance).
7. Adequate provision for follow up technical support is necessary to address installation and other in-field problems which are inevitable.
8. The primary transaction should be between private sector suppliers and low income consumers, both in order to stimulate a true and sustainable private sector role, but also to prevent the project agent (e.g. Municipality / NGO / consultancy) from experiencing excessive demands on its capacity.
9. SWH are only appropriate on areas with water connections.

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