Im Abseits der Netze
Dezentrale Energieversorgung in Entwicklungsländern

INSABA
"Integrated Southern Africa Business Advisory"

Experiences with Productive Use in Southern Africa

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1.0 Hintergrundinformationen

The project "Integrated Southern Africa Business Advisory" (INSABA) aimed at the establishment of a high profile business advisory network for renewable energy[1]. Building on experiences from earlier capacity development interventions undertaken by InWEnt and other respective professional organisations, the project took a unique two component approach.

1.1 Financing: The project was financed by the

- German Federal Ministry for Economic Cooperation and Development (BMZ) and the
- European Commission under the programme Coopener by DG Transport and Energy.

1.2 Time frame: INSABA ran from April 2005 to March 2008

2.0 Concept:

INSABA provided support to and brought together the demand side for Renewable Energy on the one hand, and the supply side on the other[2].

2.1 Hinweis: Die beiden Spiegelstriche kommen in Englisch etwas unschuldig einher. Tatsächlich bedeuten sie aber einen Paradigmenwechsel wodurch sich INSABA von vorherigen und auch nachfolgenden Ansätzen unterscheidet.

INSABA ist zuvorderst ein unternehmerorientierter Ansatz (entrepreneurial approach).

2.2 Annahme und Vorgehen:

Ein beliebiger Unternehmer hat einen Energiebedarf für seine Unternehmungen. Auf Grund lokaler und sonstiger Bedingungen kann – oder will – er seinen Energiebedarf nicht klassisch decken und fragte daher bei Renewable Energieprovider an ob ihm diese bei der Deckung seines Energiebedarfs helfen können.

2.3 Rolle des RE-Energieproviders

Der RE-Energieprovider verfügt über ein beachtliches Know-how wie das anstehende Problem gelöst werden könnte.

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[1] http://www.insaba.org/

[2] The INSABA-focus was actually on supporting the development of viable businesses at a small to medium enterprise level. Assuming that businesses require energy to operate and that energy comes at a cost to the business the project resources were used to analyse alternate sources of energy available to allow the business to function viably. Where feasible, renewable sources of energy were favoured in providing further support to the business concerned. INSABA was thus about exploring all alternative energy resources available to a business, using comparative analysis methods, to try and identify the most viable energy supply. Ideally the first step was to identify a viable business through an entrepreneur and THEN to educate that entrepreneur on alternate energy supply options.

2.4 Teambuilding:

Der Unternehmer und das Team des RE-Energieprovider bilden eine Unit und erarbeiten auf Grund der vorliegenden Erfahrungen und Kenntnisse einen Plan aus, wie der Energiebedarf des Unternehmers gedeckt werden kann. Dazu hat INSABA mit Hilfe des südafrikanischen Partners Oneworld ein vereinfachtes Business-modell entwickelt, was jeweils angewendet wird.

2.5 Experten-Team

InWent hat u.a. auch auf Grund und seiner vorherigen Projekte und Erfahrungen und Zusammenarbeit mit unterschiedlichen nationalen Trägern, ein profundes Know-how über nationale und regionale Experten im RE-Bereich und kennt auch Mitarbeiter aus Vocational Trainung Units. Aus diesem Pool wurde ein Expertenteam zusammengestellt die im Zweifelfall Expertisen erstellen sollten. Diese werden Business-Angels genannt.

INSABA hatte für diese Experten keine zusätzliche Bezahlung vorgesehen. Dies mit dem Argument, dass die jeweiligen Experten durch die Zusammenarbeit mit dem Team einen geltwertigen Wissenszuwachs erhielten. Tatsächlich stellte sich aber bei der längerfristigen Konzeptumsetzung heraus, dass auch weiterhin eine Expertise in Einzelfragen erforderlich war, die dann schlussendlich auch bezahlt werden musste

3.0 INSABA is a IEE - COOPENER Project[34].

In line with the EU's global strategy for sustainable development, in particular the EU contribution to sustainable development in the developing world, actions supported under COOPENER should be complementary and upstream of the support which may later be provided in the frame of other community development co-operation programmes. The conclusions of the Johannesburg summit emphasised the growing realisation, amongst those who are responsible for development cooperation that a higher priority should be given in future to the role of energy in enabling poverty eradication and sustainable development. The Johannisburg Renewable Energy Declaration added a commitment to increase the share of RES in global energy supplies. Therefore, in negotiating and monitoring the implementation of COOPENER actions, the Commission will ensure close co-ordination and linkage with any relevant initiatives implemented through other Community policies and instruments (for example those managed by the DG`s for Development, External Relations, EuropeAid, JREC and the local EC delegations).

4.0 INSABA-Partner

Wie in allen EU-Projekten muessen sich immer Partner aus unetrschiedlichen EU – Ländern an einem Vorhaben beteiligen. Im Falle von COOPENER müssen auch afrikanische Partner einbezogen werden. Es ist eine Stärke von InWEnt diese Partner aus vorangegangenen Vorhaben zu kennen.

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[3] http://www.managenergy.net/meta_informations/328

[444] InWEnt hat mich, Rolf-p. Owsianowski, beauftragt INSABA fachlich zu begleiten, weil ich als AV des GIZ-Vorhabens PERAOD (http://www.gtz.de/en/praxis/13591.htm) in Senegal, ein eigenes COOPENER-Vorhaben namens MEPRED (http://www.mepred.eu/) geleitet hatte und daher über eigenständige Erfahrung verfügte. Der zweite Gutachter war Herr Dipl.-Ing. Heinz Boehnke von der Technosol Solar Technologie in Deutschland.

4.1 Europäische Partner

Der ursprüngliche Antrag wurde gemeinsam mit einer österreichischen und dänischen Organisation gestellt. Aus unterschiedlichen Gründen musste die Zusammenarbeit aufgeben werden.
Dafür ist das BMZ eingesprungen und hat den Aspekt der beruflichen Bildung und Qualifikation gestärkt, was sich positiv auf INSABA ausgewirkt hat. Das Controlling wurde von Deutschland aus von Adelphi-Research durchgeführt.

4.2 Afrikanische Partner[5]

Alle Partner kommen aus Afrika südlich der Sahara. Es handelt sich um die Länder:

Partner South Africa: Regional consulting bureau with Belynda Petri

Partner Namibia: Engineering bureau with Conrad Roedern

Partner Zambia: The University with its Technology Transfer Centre Prof. F. Yamba & Lilian Munyeka

Partner Botswana: The BOT a centre of Excellency with Nozipho Wright

4.3 Afrikanische Institutionen

Die afrikanischen Partner genügen unterschiedlichen Organisationsformen.

4.3.1 One World[6] vertritt Südafrika. One World ist ein professionelles Consulting

4.3.2 Solar Age[7] vertritt Namibia. Solar Age ist eine private Firma die Umsetzungen in Namibia vornimmt.

4.3.3 CEEEZ[8] vertritt Sambia. CEEZ ist ein Hochschulinstitut.

4.3.4 BOTEC[9] vertritt Botswana. BOTEC ist das nationale RE-Zentrum von Botswana.

4.4 Einstimmen und Kennenlernen

Die jeweiligen nationalen Institutionen kannten sich vorher kaum oder gar nicht, sodass Kennenlernseminare und Seminare zur Erarbeitung der Strategie und Aufgabenverteilung notwenig waren. Insgesamt fand nur 1 Besuch in Deutschland statt. Alle weiteren Workshops wurden in den respektiven afrikanischen Ländern durchgeführt.

5.0 Umsetzungen

Die Grundidee bei den Umsetzungen war, dass für jedes Land 10 Projektvorschläge eingereicht und dann geprüft werden sollten. Daraus wurde eine hierarchische Liste erstellt die nacheinander abgearbeitet werden sollten. Jeder nationale Träger hatte seine spezifischen Aufgaben und dementsprechend auch Projekte[10]. Diese Projekte wurden gemäß der COOPENER-Nomenklatur WP (Working Packages genannt).In jedem der Working package befinden sich Businesse.

[5] http://www.insaba.org/index.php?option=com_content&task=view&id=46&Itemid=59
[6] http://www.oneworldgroup.co.za/about-us/our-team/
[7] http://www.solarage.com/pages/posts/20-years-solar-age-namibia24.php
[8] http://cdmsusac.energyprojects.net/viewcategory.asp?ID=4
[9] http://www.botec.bw/
[10] InWEnt hat eine CD mit dem Titel „SC-meeting Berlin, March 2007“ erstellt. Auf dieser kann der Gesamtansatz und alle COOPENER-Programme angesehen werden. Bei Bedarf kann diese CD bei InWEnt erhalten werden.

Unter einem Business werden die Vorschläge verstanden, für die Businessplan erstellt wurde. In allen Working Packages befinden sich insgesamt 61 business. Da darin auch recht vage business enthalten sind, reduziert sich die Anzahl von machbaren business auf insgesamt 26 Einzelfälle, die sich wie folgt aufschliessen: 6 von Botswana, 8 von Namibia, 6 von Sambia und 6 aus Südafrika.

5.1 Action/Business/Projekte von INSABA-SOUTHAFRICA ONEWORLD SUSTAINABLE INVESTMENTS-OVERVIEW

1.0 Kazuko Game Lodge Project, Solar Water Heaters, Eastern Cape
2.0 Cut Flowers Farm: Solar pumps for irrigation, Eastern Cape
3.0 Dried Fruit Project, Solar Drying, Western Cape
4.0 Green Energy Plant, Biomass, KwaZulu-Natal
5.0 Laundromat, Solar Water Heater, Western Cape
6.0 Austin Evans Abattoir, Biogas, Eastern Cape

5.2 Action/Business/Projekte von INSABA-NAMIBIA-Solar Age

1.0 Solar Cell Phone Charging
2.0 Solar Hair Cutting
3.0 Solar Bread Baking
4.0 Solar Refrigeration of fresh produce
5.0 Solar Power for Entertainment
6.0 Converting a mixed production farm to RE
7.0 Converting a Safari Lodge to RE for thermal and electricity needs
8.0 Wood-saving Tso Tso Stove
9.0 Energy Shops

5.3 Action/Business/Projekte von INSABA-BOTSWANA BOTEC

1.0 Mobile Photo Shop Business Proposal
2.0 Vegetable Farm using Drip Irrigation Business Proposal
3.0 Solar Water Heater for Tourist Lodge Business Proposal
4.0 Fresh Fruit Juice Business Proposal
5.0 Barber Shop Business Proposal

5.4 Action/Business/Projekte von INSABA-ZAMBIA-CEEEZ + EandCO

1.0 Scenario purposes 1- PV
Solar water pumping for irrigation und production of tomatoes and potatoes
Scenario purposes 2- PV
Solar water pumping for irrigation und production of tomatoes and potatoes and pig washing
2.0 Solar thermal utilization: Solar drying of vegetables
3.0 Honey collection and processing by means of PV-centrifuge
4.0 Telecentre PV Application for rural telecommunication and Internet
5.0 Electricity generation with Bio-fuel (Jatropha) for a multi function platform
Such as: Productive use rice polishing
Cell phones and
Haircutting
others

Anlagen:

1.0 Auszug aus dem InWEnt Abschlussbericht 2008:

Theoretical background of INSABA: We tend to forget in our so called “Modern times” that mankind since its first steps towards civilisation has used Renewable Energy (RE) sources. Mankind used generally RE in a productive way. He used the force of wind and water, managed fire and developed improved stoves. He fermented sugar and starch to conserve foodstuff. One can argue however whether the fermentation of fruits from the Marula tree (Sclerocarya birrea) in Africa to alcohol falls under consumptive or productive use of Renewable Energy.
In 1973 E.F. Schumacher published “Small is Beautiful: A Study of Economics as if People Mattered” and in 1978 the Industrialized world got aware its deep dependence on fossil fuels. Since then primary scientists, sociologists, engineers and development worker concerning Third World countries problems dealt with these topics. Already in 1975 BMZ the Federal Ministry for Economic Cooperation and Development in Germany charged GTZ to execute a programme with IPAT (Interdisciplinary Project Group for Appropriate Technology) at the Technical University of Berlin.
Since less than one decade only the international society get’s aware of mayor problems of its civilisation concept. Global warming is not any longer a theory but worldwide phenomena.
Technicians, engineers, planers, managers and politicians worldwide engaged themselves with commitment the tackle the rising problems.
Many development agencies, be they national, international, governmental or NGO started development projects and programmes and their joint efforts yield fruits.
One can open minded congratulate the EU that it has started the COOPENER Programme[11]. The EU combines and supports consequently results from research & development to be applied in developing countries.
Technology is more or less ready for application for consumption technologies but as well for productive use, what has to be demonstrated however.

Annex 02 INSABA – Clarification in the Final report

1.0 Events

Event	Place & duration	Date	Planned	Attendants
WP2				
M1.1 "Market analysis 1"	NAM, 5 days	Oct. 2005	8 SC, 4 IA, 2 SME-GS	7 SC, 6 IA
M1.2 "Market analysis 2"	RSA, 5 days	Apr. 2006	8 SC, 4 IA, 2 SME-GS	10 SC
M2 "Marketing"	RSA, 2 days	Aug. 2006	8 SC, 4 IA, 2 SME-GS	7 SC, 4 IA
M4 Sustainable prod. methods"	Decentralised, ad hoc training	N/A	4 SC, 4 experts, 6 IA, 2 GS	Documentation distributed, no workshop

[11] http://www.managenergy.net/indexes/I357.htm

M5 "Coaching and training"	RSA, 3 days	Aug 2006	4 SC, 4 IA, 4 Experts	7 SC, 4 IA
M6.1 "Energy req. and RETs"	BOT,	Nov. 2006	8 SC, 4 IA, 4 SME-GS	30=2SC,2IA, 26 experts
M6.1 "Energy req. and RETs"	ZAM	Nov. 2006	…	17=2SC,2IA, 13 experts
M6.1 "Energy req. and RETs"	RSA	May 2007	…	2 SC, 6 IA
M6.1 "Energy req. and RETs"	NAM	May 2007	…	…
WP4				
M1 "Technical Exercises & syst. engineering"	Merged with M6 of WP2 - BOT	Nov 2007	2 x (16 SME-SP, 12 IA)= 56 p.	28 participants (+3 CO/SC)
M2 "Marketing"	Merged with M6 of WP2 - BOT	…	24 persons	
M3 "Business Management"	Merged with M6 of WP2 - BOT	…	24 persons	
M4 "Micro-financing"	…	…	24 persons	

2. Training

	SC	IA	SME SP	SME	Gov. Represe	NGOs	Other	AB	CO	TOTAL
WP 2										
M1.1 Market analysis 1 (5days) Oct05	7	6						3	2	18
M1.2 + M2 Market analysis 2 and marketing (5 days) Apr06	8								2	10
M1.2 Market analysis 3 (2 days) Aug06	7	4						2	2	15
M3 Financing & taxation Assessment: Botswana, Namibia, RSA	3	3					8			14
M4 Sustainable production methods Assessment water heaters, driers								2	1	3
M5 Coaching and training techniques (3days) Aug06	7	4						3	2	16
M6 Energy requirements and RETs BOT (4 days) Nov06	2	2	6	4	4		12		1	31
M6 Energy requirements and RETs ZAM (4days) Dec06	2	2	4	2	5		2		1	18
M6 Energy requirements and RETs RSA (2days) May07	2	1	3	1	3				1	11
M6 Energy requirements and RETs NAM (3days) May07	3	2	15		1					21

WP 4										
M1 "Technical Exercises & syst. engineering" *merged with M6 of WP2 in all four countries (see above)*										
M2 "Marketing" *included in M6 for BOT* , others no demand										
M3 "Business Management" (1 day) *BOT Sep06*	5	10								15
M4 "Micro-financing" *not applicable*										
Additional coaching and training as in final report and Deliverable 4.3										
TOTAL										

Business Classification

Status	NAM	BOT	RSA	ZAM	TOTAL
1. assessed, started	4	2	$2_{(1}$		8
3. assessed, not started yet	1	4	$1_{(1}$	3	9
4. assessed, non viable	0	1	3	1	5
5. running beforehand, assessed	3	1		1	5
TOTAL	8	8	6	5	**27**

The experience gained by the local partner organisations and the SME can be made available to other SME within the same sector, to other sectors in the country and to other countries in Africa. Information on the methodology and on the tools are made available trough INSABA. During match-making events, demand- and supply side have the chance to meet each other and SME-SP can learn from SME-GS to which needs the systems have to be adapted. As a result, local expertise in RES application can be improved and networking between local and international SME be promoted.

Deliverables WP5

It should be emphasized that all the SC partners of the Insaba project are very actively involved in the RE policy discussion in their respective country and region. But while there is not often an opportunity to bring their position forward to decision makers in policy and energy business, the external exposure provided by the Insaba project was much welcomed to create a conducive discussion forum.

Most active is the participation process in Botswana. Inwent before had used training and exhibition to create significant media coverage and initiate a high-profile round-table on RE, which addressed issues of viability and reliability. Media reports on the exhibitions provide for a positive awareness level and press releases of the round table create improved commitment. With the Insaba initiative, SCs built on this experience and exposed several financiers and suppliers to training on economics and quality control, followed by exhibitions on two locations and a round table on productive use. As an outcome, BW launched an ambitious program dubbed RE Botswana icorporating commercial rural electrification mechanics in a franchise set-up. The SC keeps on reporting that the Governments initially subsidy-based RE promotion now leans heavily on supporting income-based applications.

The same approach was adopted in Zambia, where the training on RE economics was followed by a round table with decision makers and suppliers and an exhibition at a central mall. The round table dwelled on issues of costly RE taxation and registration, which was removed by now. The Energy Regulatory Board is working on a grid code to attract IPPs and most significant, a Rural Electrification Authority was created to hand decentralized power supply. Meanwhile a sizeable national tender was lauched for the PV supply of homes, offices and small business.

In South Africa and in Namibia, the SC advisory to decision makers was included in energy-related forums on the national level, in South Africa also on the Western Cape provicial level and the Cape Town sustainable city forums.

Deliverables WP6

In the Botswana exhibition participated 8 national companies for 3 days with an estimated 80 interested contacts.

In Zambia 5 companies exhibited for two days with an estimated 40 interested contacts. (pictures and videos on http://www.technosol.de/INSABA/)

International conferences:

The INSABA project director Klaus Knecht and Ms Wright from BOTEC/Botswana presented the INSABA concept at the EC-sponsored 20th European Photovoltaic Conference Barcelona, Spain, June 2005.

In May 2006, the project was presented at the EIE-sponsored European PV-Hybrid and Mini-Grid Conference (Aix en Provence, France). Conrad Rödern of Solar Age, Namibia presented a poster on project activities in Namibia.

Heinz Boehnke for InWEnt presented the INSABA Project at the workshop "Sustainable Energy Policy for poverty reduction: strategies of growth for Subsahara-Africa, that took place in Loccum, Germany 25-27 June, 2007.

Heinz Boehnke for InWEnt presented the INSABA Project at the International Solartechnology Symposium Internationales Solartechnik Symposium "Potenziale und Perspektiven der Solarindustie in Deutschland, Israel und Kalifornien" that took place in Berlin, 24. and 25. October, 2007.

Prof Francis Yamba, Centre for Energy, Environment and Engineering Zambia presented results and lessons-learned of the INSABA project during the 'Washington International Renewable Energy Conference' (WIREC) that took place in Washington DC from 4.-6. March 2008.

Presentations in South Africa

Two presentations have been given to the Ministry of Development planning and Environmental Affairs in the Eastern Cape: May 2006 and July 2006 – these have been in relation to RET options for the SE district.

A workshop on INSABA was conducted with the Project Steering Committee and Government Officials currently finalizing the Western Cape's Integrated Energy Strategy in March 2007.

The SC met with Provincial Minister Tasneem Essop (MEC for Environmental Affairs and Economic Development for the Western Cape) and Mark Gordon of the Western Cape Department of Environmental Affairs and Development Planning on the 6th June 2007 to discuss a potential role of INSABA in the implementation of the recently finalised Renewable Energy and Energy Efficiency Strategy for the Western Cape.

A presentation on INSABA was made at the Renewable Energy and Climate Change Conference held at the Cape Town Convention Centre on the 7th June 2007. Numerous government officials, policy makers, NGOs and suppliers as well as users attended this event.

The SC presented INSABA to the Provincial Climate Change Committee on the 12th July 2007, with a focus on SWH and capacity building funding required for the industry given the pending by-law.

Presentations in Namibia

From the 7th until the 9th September 2006 the Otjiwarongo Trade and Agriculture Show took place.

INSABA Namibia conducted a general awareness campaign on the use of renewable energy at the Otjiwarongo Agricultural Show. Business people were informed about the potential of renewable energy for productive use. This was done in conjunction with the Namibia Renewable Energy Programme and the Energy Demonstration Trailer of the Desert Research Foundation of Namibia.

A presentation on the topic 'Namibia's Energy Future - An Overview' was given by an INSABA Namibia IA at a conference on holistic Farm Management on 19 September 2006. Amongst others, the conference participants where introduced to the aims and achievements of the INSABA project, potential productive use of renewable energy sources in Namibia and the role of renewable energy technologies in Namibia's development process.

The Namibia SC highlighted the INSABA objectives at various energy information presentations between Oct 2006 and March 2007. These included:

- The Electricity Control Board's Demand Side Management Steering Committee;
- The Future Energy Conference Technical Organising Team;
- Farmer's Information Days at Osire, Hochfeld, Neudam and Khomas West;
- Discussion Forum on Bush-to-Energy.

Reach-out during the "Open Day" at the Habitat Research and Development Centre on May 18th 2007. It was intended to disseminate information about INSABA as well as on Renewable Energy in general. The success must be regarded as limited since the turn-up of interested visitors had been low.

The Namibia SC demonstrated RE and its capability to make business during a demonstration event at the University of Namibia (UNAM) on 2 August 2007. Many interested and (partly) high-ranking decision makers from relevant institutions (such as Ministry of Mines and Energy, NamRep, Energy Control Board, UNAM,) visited the event. The message could be spread successfully that RE can support productive enterprises. Many INSABA pamphlets were requested by interested visitors.

Presentations in Zambia

The Zambia SC displayed INSABA brochures and posters at the Zambia International Trade Fair in Ndola, Copperbelt, Zambia, an annual event which brings different stakeholders to display their products.

Both the flyer and brochure were widely circulated to relevant stakeholders during the Lusaka Trade Fair (annual Agriculture and Consumer Show Lusaka) – through the NTBC exhibitor stands.

Presentations in Botswana

Botswana INSABA held two presentations at The Business Place:

7 August 2007 Introduction of INSABA and a presentation on Renewable Energy for the Food and Beverage Industry.

21 September 2007 Introduction of INSABA and a presentation on Renewable Energy for Manufacturing.

The Business Place is a youth-friendly, walk-in entrepreneurial centre. It is a place where relevant services are clustered under one roof with an information centre at the core. The Business Place helps with the "how to's" and "next steps" for anyone wanting to start, improve or expand a business. As an accessible one-stop shop, it clusters service providers with a friendly walk-in information centre. The aim is to plant the seeds of entrepreneurship, stimulate local business and keep people in their communities.'