

Lessons Learned from Improved Cooking Stove Projects

The lessons formulated here contain the essence of long years of GTZ experience in assistance to development, production and dissemination of locally produced improved stoves. They were crucial in the development of GIZ's current approaches.

The analysis includes impact assessment studies of projects practising "results based monitoring" in order to assure that the intended development results were achieved. This means, that these "lessons learnt" are not only focussing on the planning, development, production and dissemination of improved cook stoves, but also provide an analysis of the effectiveness of the monitoring system in order to improve and speed up the dissemination process in the future. Many of these 'lessons learnt' may sound obvious, but they are essential to provide long-term sustainability.

Planning and policy level

- An in-depth **feasibility study** that looks carefully into the various interrelated aspects (poverty-alleviation, gender, cost-benefit calculations, lifestyle improvement, technical efficiency, environmental impact, policy) that affect the implementation process will be instrumental in assuring adequate planning.
- Continuous **monitoring** and **flexibility in planning** is a necessary but not sufficient prerequisite for being able to react quickly to planning mistakes. **Time** for the project personnel to react to the consequences of planning mistakes also plays a major role.
- **Integrated concepts**, which are complementary to other developmental activities create synergy effects, are cost-effective and bring quicker results.
- At a development **policy level**, sound economic analyses that prove the positive cost-benefit relations of using improved cook stoves are a good mean to convince decision makers of the relevance of clean and efficient energy provision and its relationship with other aspects of development to reach the MDGs.
- A **participatory approach**, which recognizes the importance of **gender** relations, provides the best chances for a new technology to be accepted. However, it is a subject that has to be carefully monitored. For example, in Kenya it was found that as stove building became more profitable, more men have taken over the job of liner production and stove building. They were more successful, as they could travel more easily while women had other household duties to perform. This follows a general trend through history that as soon as a task becomes really profitable, men replace women at the job. This is a point that should be carefully monitored and strategies developed to give women an equal chance to profit from the production and sale of stoves.

Product Development

- For a product to be acceptable to the users it has to have **high quality standards**, i.e. be available, affordable, reliable, and bring measurable advantages in terms of money or time savings, reduction of indoor air pollution or ease of practical use.
- Products must be **attractive**, modern and desirable in the eyes of the users.

- A serious, frequently-encountered problem is that most people whose stove is in a poor condition still consider them functional. People prefer them to the 3-stone fire, mainly because they could do other things while the food was cooking. Here, **awareness raising** is necessary to show the relationship between stove condition and efficiency.
- The **lifetime** of a stove depends on the quality of the basic materials and on how well it is maintained. This should be **monitored** carefully and continuously until a high quality product can be assured.
- Where **stoves** are only **produced seasonally** (rainy or dry period, depending on the work to be done in the fields), the comparatively lower production endangers the quality of the stove, as skills are not always fully developed or kept up.
- On the organizational level producers and stove builders should form **professional organizations** where the importance of quality labelling, providing warranty and user awareness are discussed and organized.
- A functional **networking system** optimizes the knowledge transfer and South-South exchange. Through project exchange visits the learning effect is often higher than in a training course situation.
- **International stove standards** are in the process of being developed. They will need to be adapted to the specific situation in each country and regularly be brought up to date.

Dissemination Approach

- A fully **commercial approach** is the most important step to achieve long-term sustainability. It should be practiced from the very beginning wherever possible, unless special circumstances (refugee situations, environmental catastrophes) prevent this option.
- The most crucial **indicator for sustainability** is the timely **replacement of the stove** by the user after its lifetime has expired.
- **A dissemination structure where organizations are paid on the basis of the number of stoves built bears the danger of failure**, because where quantity goes before quality there may be insufficient time to properly train the producers and users and get them acquainted with good maintenance.
- A strong **focus on advisory and technical support** for the partners may be more important than giving only financial assistance. Sound training of local technical and marketing expertise is the best guarantee of having a successful project in the long run.
For NGOs to be motivated and effective, they should have the **chance to earn money** through the sale of the product.
- **Appropriate incentives and adequate monitoring** are the key factors for success when disseminating a technology. In order to achieve a sustainable market

development and long-lasting impacts, it is necessary to set up independent control mechanisms independent of the financing institutions.

- There is a **limit to the number of cooperating partner organizations** that can be effectively monitored. Involving too many partners at the same time may jeopardise effective dissemination, because effective monitoring may no longer be possible.
- **Changing dissemination strategies** in the course of a project should only take place after intensive discussion with the artisans and the users to make sure that everyone understands the reasoning behind the change and they are ready not only to accept, but decide favourably by themselves.

Marketing and Financing

- There is **need for government or donor support** to the responsible partner organisations for at least five (better ten) years. It takes time to overcome old habits and assure the establishment of new local structures for such overriding necessities as technical and business training, research, promotion and monitoring activities. The average costs for the maintenance services on the other hand should be included in the price of the stove, or there should be set rates for maintenance services.
- It is more advantageous to **offer micro-credit opportunities and longer payment periods** rather than building stoves for free, branding the user as poor and not being able to afford a quality product. Psychologically it is better to advertise the product as modern, healthy, attractive, something everyone 'must have' - and then make sure that it is affordable even for the less wealthy.
- **Independent stove producers**, who are known to produce high quality products and have learned to promote it by labelling their products and advertising it, should be able to competitively market their stoves.
- **Saving fuel wood, money and time, and smoke reduction** are the most important **benefits** reported by small businesses like restaurants or bakeries.
- Many users still lack **knowledge of the health benefits** of smoke-reduced cooking with an efficient cookstove. Local health services should be involved in spreading this message and health monitoring should be planned and carried out jointly.