

Experimenting within farmers' worldviews



Photo: Bertus Haverkort

In recent years, much work has been put into understanding the products of indigenous knowledge. Many traditional, indigenous soil and water conservation techniques, ethnoveterinary practices, natural pesticides and intercropping have been documented, assessed and improved. ILEIA is one of the organisations following these developments. However, in documentation and assessment as well as participatory technology development (PTD) there has been a Western bias. Indigenous knowledge is being approached with concepts derived from contemporary Western science. Our comprehension of the concepts of life (or cosmovision) and the internal logic of indigenous knowledge and our understanding of the processes of indigenous learning, experimentation and the roles of the indigenous institutions is very undeveloped.

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COMPAS (Comparing and Supporting Indigenous Agricultural Systems) supports the process of endogenous development. Compas consists of 13 NGOs and 2 universities in 10 countries in Asia, Africa, Latin America and Europe. COMPAS wants to be able to function as an open platform with members and activities at the regional, national and global level.

COMPAS has observed the sophistication with which indigenous people explain their reality. Farming, for example, is more than the bio-physical elements of seeds, soil and water and the economics of the market. It is placed in the context of a larger worldview in which the natural, social and spiritual are inextricable. Thus, farming involves the application of rules that reflect notions of a sacred nature, a spiritual world and a natural environment. For many traditional farmers, a good harvest and good health depend on a farming practised in harmony with the laws of nature, the regulations of the community

Rukman Wagachchi of the Network for Agri-cultural revival in Sri Lanka (on the left) is taking part in a 'kem' with the shaman (on the right).

and prescriptions of the gods and other spiritual beings.

Indigenous reality

Rural people often feel their indigenous knowledge and traditional institutions are neither understood nor appreciated. Outsiders are ready to disdain the non-material elements of their culture. Indigenous communities have learnt not to express their worldviews too openly. Indigenous knowledge is gradually disappearing. In many cases indigenous institutions have gone underground and indigenous knowledge is maintained, transferred and modified without being noticed by outsiders.

A peoples' understanding and description of their spiritual world is rich, diverse and structured. It is experiential and may be

based on the teachings of visionaries (spirit mediums or shamans); it can be expressed in classical texts such as the Veda's (India), or in linguistic and artistic symbols. The spiritual world is seen as containing a creating force, there may be a polarity between good and evil and it is peopled with gods, spirits and ancestors. These spiritual beings may express themselves in nature and through living creatures.

There is no reason to romanticise traditional cosmovisions. It cannot be concluded that indigenous cosmovisions and traditional practices have always been effective in preventing overexploitation of soils, overgrazing, deforestation, water pollution, erosion and environmental disaster. Nor have they always been able to maintain social stability and equity.

Joining endogenous development

For (non)governmental development organisations to be effective, there is a need to take part in endogenous development. This is development from within the local culture, based on changing local conditions, resources, cosmovisions, knowledge, objectives and values. This implies a good understanding of the evolution of local culture and the characteristics and dynamics of the local knowledge system and cosmovision. There should be respectful cooperation with local (traditional) leaders and communities and an appreciation of the potentials and limitations of the resources for agriculture, health and nature management available locally.

From in-depth case studies and intercultural dialogues, COMPAS partners concluded that a focus on rural people's cosmovisions can help re-connect the work of development agencies with rural people's indigenous knowledge. Farmers interpret (agricultural) development within their cosmovision. This cosmovision is the context within which they define their relationship with outside agencies and make decisions about

the technologies to be used and production strategies to be followed.

Development organisations are being challenged to go beyond validating indigenous technical knowledge. Farmers' concepts of life - and the agricultural practices derived from them - are dimensions of reality they must relate to even though they may not fully understand them. Developing a climate of mutual trust requires learning, South-South exchange and an objective approach to Western knowledge.

Second Phase of COMPAS

The second phase of COMPAS (1997-2002) will take the documentation of indigenous cosmovisions a step further. Fifteen partners will seek to:

- strengthen the cultural identity of local populations by a joint assessment of cosmovisions, indigenous institutions and farmer to farmer exchange;
- develop approaches for strengthening endogenous development;
- conduct local experiments with farming methods that are based on local concepts and traditional institutions;
- network with other organisations at national and regional level and train field staff in approaches of endogenous development.

Exchanges will also take place at the international level through workshops, newsletters and visits. COMPAS seeks to find the best combination of knowledge and practices from (non) western sources appropriate for specific ecological, cultural and knowledge contexts. This means taking into account cultural and spiritual sources of knowledge still present or which can be reconstructed.

During a workshop in February 1998, the partners elaborated a framework for their approach. Considerable attention was given to the issue of local experiments carried out within farmers' worldviews. It was concluded that such experiments were important to test the effectiveness and relevance of local practices, to improve local experimental practices and skills and to develop a theory which could explain the effectiveness of indigenous technologies.

Cultural and spiritual dimensions

Most of the steps used in PTD were considered relevant in designing the framework. However, a further step was taken. The cultural and spiritual dimension was integrated into the experimental design and it was decided to seek the cooperation of spirit mediums, traditional religious leaders, local healers and elders.

Examples of parameters for experimentation include the use of time-frames that respect ritual and astrological calendars; show respect for sacred places and animals; incorporate sociocultural issues such as taboos, totems, class and caste and draw on spiritual elements indicated by spiritual leaders showing respect for ancestors, dreams and visions. These parameters

involve both qualitative and quantitative data. In this process, the field worker must have an open attitude and be ready to learn from indigenous' epistemologies.

Work of partners

Partners in Sri Lanka described traditional worldviews where the power of sound (mantras), symbols (yantras), auspicious times (astrology) were presented by traditional leaders. These powers play an important role in agriculture and are 'managed' by traditional spiritual leaders who perform 'kems' (rituals) at farm levels (see Box 2 *Agnibotra*). In India, unlike Africa and Latin America, classical knowledge has been preserved in a literary tradition. Veda's are centuries old texts, some written in Sanskrit, dealing with religion, health, agriculture and other matters (see Box 1). The *Ayurvedic* approach to health is practised in hospitals and universities but in agriculture, this stock of knowledge has systematically been neglected. Some COMPAS partners (FRLHT, KPP, CIKS, GREEN) are collecting and studying these classical texts and using them to design farm-level experiments. In Zimbabwe, a COMPAS partner (AZTREC) works together with the traditional spirit mediums and village chiefs to include their knowledge and spiritual practices in nature conservation. In Bolivia, AGRUCO has reconstructed the cosmovision of the Andean people and is working together with the ancestral institutions to improve farming activities.

Farmers very enthusiastic

Kalyani Palasinghe shared her experiences on organising a farmers exchange meeting on spiritual agricultural practices in Galle, Sri Lanka.

"With the help of farmer leaders, I identified key people: those who have a spiritual function, knowledgeable farmers and Ayurvedic doctors. Also those who were simply interested in the subject were invited. The objective of the meeting was to discuss with resource people, to present to farmers the spiritual practices used in their own tradition and how spiritual leaders go about their work. In Sri Lanka, shamans carry out rituals to influence good crop growth using the enhancing powers of sound (mantras) and symbols (yantras). These rituals have to be performed at times considered auspicious by astrologers. The shamans have undergone an extensive apprenticeship, is inaugurated and lives a pious life. Shamans were asked to talk about the mantras they use, show some of the yantras and demonstrate a particular ritual. Other shamans were asked to make drawings of the rituals they usually performed so they could be presented to the meeting. My role was to prepare and facilitate the meeting.

We used traditional symbols and ceremonies to introduce the meeting. An oil lamp was lit, mantras were intoned, and

VIKSHAYURVEDA or the science of plant life, by Surapala, tenth century. *Translated into English by Nalini Sadbale. 1996. Asian Agri-History Foundation, 47 ICRISAT Colony-I, Brig. Sayeed Road, Secunderabad 500 009 India. Order code: AHB 001.*

The original Sanskrit text of Surapala's Vrikshayurveda contains 325 verses about the importance of trees and agriculture. The part on agriculture deals with topics such as propagation and planting, soil and 'nourishment', 'ailments' and treatments. Further, three scientists comment on the texts. They reveal the broad agricultural knowledge base that existed in India centuries ago. KPP in Southern India, one of the COMPAS partners, will design farm level experiments to test ancient knowledge and adjust it to present day conditions.

a ritual was performed. First, however, we asked participants if they would like to share. It is very important to search for the right resource persons. We also made a kind of healthy curative oil, a small demonstration whose applicability was immediately clear.

The farmers were enthusiastic. They sensed that in this way their knowledge, their culture and their spirituality was respected. The meeting lasted longer than usual. Farmers continued their discussions long after it had ended. Most of the participants wrote down the mantras and, in some cases, they recognised them from their parents day.

During the meeting drawings of spiritual practices were shown. They provoked so much reaction that we only needed to ask: What do you see on this poster, and do you think it is useful, to start a lively discussion. At the end of the meeting we asked farmers whether they would be interested in experimenting with some of these traditional practices. We got more than twenty volunteers and I promised I would help them experiment. I now need to define the methods for field experiments. My colleagues at the Ministry of Agriculture are surprised at the level of participation and the self-respect shown by the leaders. Nobody said it was nonsense. The idea was apparently well received and the idea of testing these traditional practices appealed to farmers and professional scientists alike."

Further information

We feel that the COMPAS approach is challenging and relevant. There is a great need to learn together, to inform each other and to have an intercultural dialogue on the different sources of knowledge present in cultures all over the world. A report of the February workshop and the names of COMPAS partners are available from the ILEIA Newsletter on request. Readers who want to share their experiences of indigenous knowledge or are interested in the COMPAS newsletter should contact:

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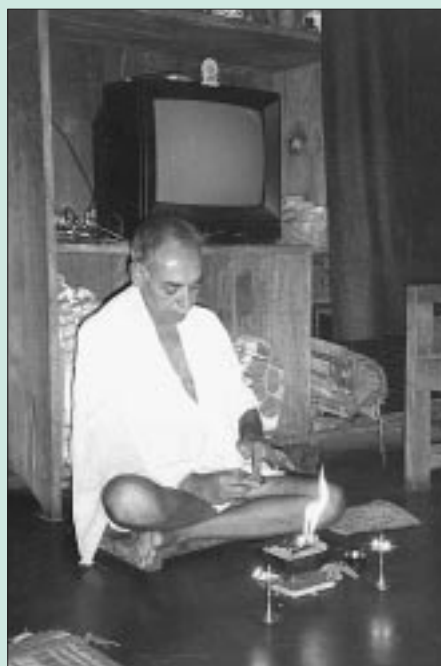


Photo: Bertus Haverkort

Mr Purushottama Roa, an organic farmer in Thirthahalli, Karnataka, is preparing Agnihotra a traditional anti-pollution ritual. He has been performing this ritual on his farm for the last six years.

Agnihotra, an ancient fire ritual

Agnihotra is one of the rituals of the ancient Hindu religion and is used today in traditional farming and health care where it is known as 'Homa therapy'. *Agnihotra* brings and keeps life in balance. In Sanskrit agni means fire and hotra the offering of sacrifices. *Agnihotra* has a scientific as well as a spiritual dimension.

Fire in the Hindu tradition is a symbol of purity and is believed to improve the mind. *Agnihotra* must be performed daily by an elderly member of the household and involves burning, mantras and timing.

The ritual is performed in time to the natural rhythm of sunrise and sunset. A cow dung cake is burned in a pyramid-shaped copper pot. Then at sunset and sunrise a few grains of rice covered with ghee (butter) are burned as an offering whilst mantras are intoned. At sunset the evening mantra "I offer to Agni, this belongs to Agni, this is not mine" *Prajapataye svaha, prajapataye idam na mama* (I offer to Almighty Father, this belongs to him, this is not mine) is chanted. In the morning, the mantras "*Suryaya svaha, suryaya idam, na mama*" (I offer to the Sun, this belongs to the Sun, this is not mine) is used.

Those attending the ritual sit near the fire-pot until the sacrifice is burnt. Sacrifices are offered at the critical moments of sunset and sunrise to the cosmic energy and the life force (sun) and to their earthly representative fire. *Agnihotra* expresses man's gratitude to divine energy. Intoning *idam na mama* (this is not mine) at sensitive moments reflects a total submission to mother nature and generates a feeling of detachment from the idea of wealth. The cumulative effects of the mantra's vibrations and the vapours released during burning have a multi-dimensional impact on human, animal and plant life. Inhaling these energised gases helps restore metabolic equilibrium. Scientists observe that ozone (O³) is created during the burning ritual which makes *Agnihotra* an anti-pollution ritual.

Comparative experiments have been carried out to test the impact of *Agnihotra*. These experiments have been reported in Madan and Manohar (1990). Dr. B.G. Bhujbal of Pune's M.J.P. Agricultural University has conducted experiments in germinating grape seed and rooting grape cuttings treated with *Agnihotra*. He reported that seeds germinate in 21 days whilst the control sample took 6 months to germinate. Cuttings treated with *Agnihotra* developed better roots than the control sample. Dr Ramashraya Mishra experimented with the germination and development of wheat plants. He compared the growth of plants treated with hotra, those grown in the traditional way, and those in a control sample.

Dr A.G. Mondkar, a microbiologist from Bombay, observed the therapeutic effects of *Agnihotra* ash when he successfully cured scabies in rabbits by applying ash for three days. This method is much safer than the Benzyl benzoate or Salicylic acid usually used.

Farmers' reports are also positive. Mr Bharamagoudra, an organic farmer from Dharwad District in Karnataka, India, uses *Agnihotra* ash to protect seeds from seed-borne fungal and bacterial pathogens. He treats his wheat, sorghum and chilli seed with *Agnihotra* ash before sowing and reports better germination, minimal disease attack and better crop quality. Mr M.N. Varkar started practising *Agnihotra* on his organic farm 11 years ago. He cured psoriasis and now uses *Agnihotra* ash as manure and to revitalise the soil.

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