

Des habitats humains durables en Afrique du Sud

Habitats humanos sostenibles en SudAfrica

# Sustainable Human Habitats in South Africa

The Tlholego Development Project (TDP) was established in 1991 to research and develop sustainable technologies for rural development. The project is situated on a 120 hectare farm 16-km west of Rustenburg in the North West Province of South Africa. One of the main objectives of Tlholego is to establish a rural settlement model which demonstrates to South Africans real options for living sustainably. In this context, Tlholego is working to support the commitment of world leaders at the Earth Summit in Rio (1992) to programs that will move humanity to sustainability in the 21st century (Agenda 21). Major aspects of sustainability currently applied at

Tlholego include ecological building techniques, household food security, natural waste treatment, recycling, social support functions, and permaculture. A program of education and training supports practical work in these areas.

The primary development methodology behind TDP is permaculture, which is the science of providing food, housing and other necessities of life in a sustainable manner. Permaculture is concerned with the design of productive and ecologically sound human environments to provide essential elements such as water, food security, vegetation cover, sanitation and energy. It is now used in 160

countries around the world, for purposes ranging from district planning to community enterprise and feeding schemes. TDP is a pioneer for permaculture training in South Africa, working together with international and local networks of development specialists.

Tlholego could be described as a small rural university - a place where academia meets the grass roots, and where knowledge and skills are transferred primarily through hands-on experience. At present, Tlholego consists of three main components: Tlholego Institute, which acts as the nerve centre for the project; Tlholego Village, a residential model for land tenure, sustainable housing and local economy; and Tshedimosong School, a primary-secondary farm school for 300 students from the surrounding community.

## Tlholego Residential Village

Tlholego Residential Village is currently home to 25 workers and their families. Work is in progress to upgrade housing, water and energy supply, and food security. This includes the development and testing of the TDP model Lelapa. Lelapa is a Tswana word which relates to a homestead. It refers to the family house and the surrounding support systems, including natural waste treatment systems and household food security.

The South African national government administers a subsidy for housing families with low income, though in most cases it provides for only basic shelter. The Tlholego building system has been developed to offer a more sustainable approach to housing. The system applies the principles of sustainable building, natural waste

Tshedimosong  
Farm School  
caters for the  
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the local  
community





management and a permaculture approach to food self-reliance, which combine to produce high quality, low cost, sustainable housing. The houses are owner-built using materials which allow for passive solar design and wall materials of high thermal mass to mediate the extremes of temperature.

### Tshedimosong Farm School

Tshedimosong Farm School is a typical, poorly resourced public farm school which lies within TDP's property boundaries. It caters for the education of 300 students from the local community. Farm schools were originally established for the children of the farm's labour tenants, with the assistance of the old Department of Education and Training (DET) together with a farmer who makes a small part of his land available for this purpose. Whilst the farmer retains ownership of

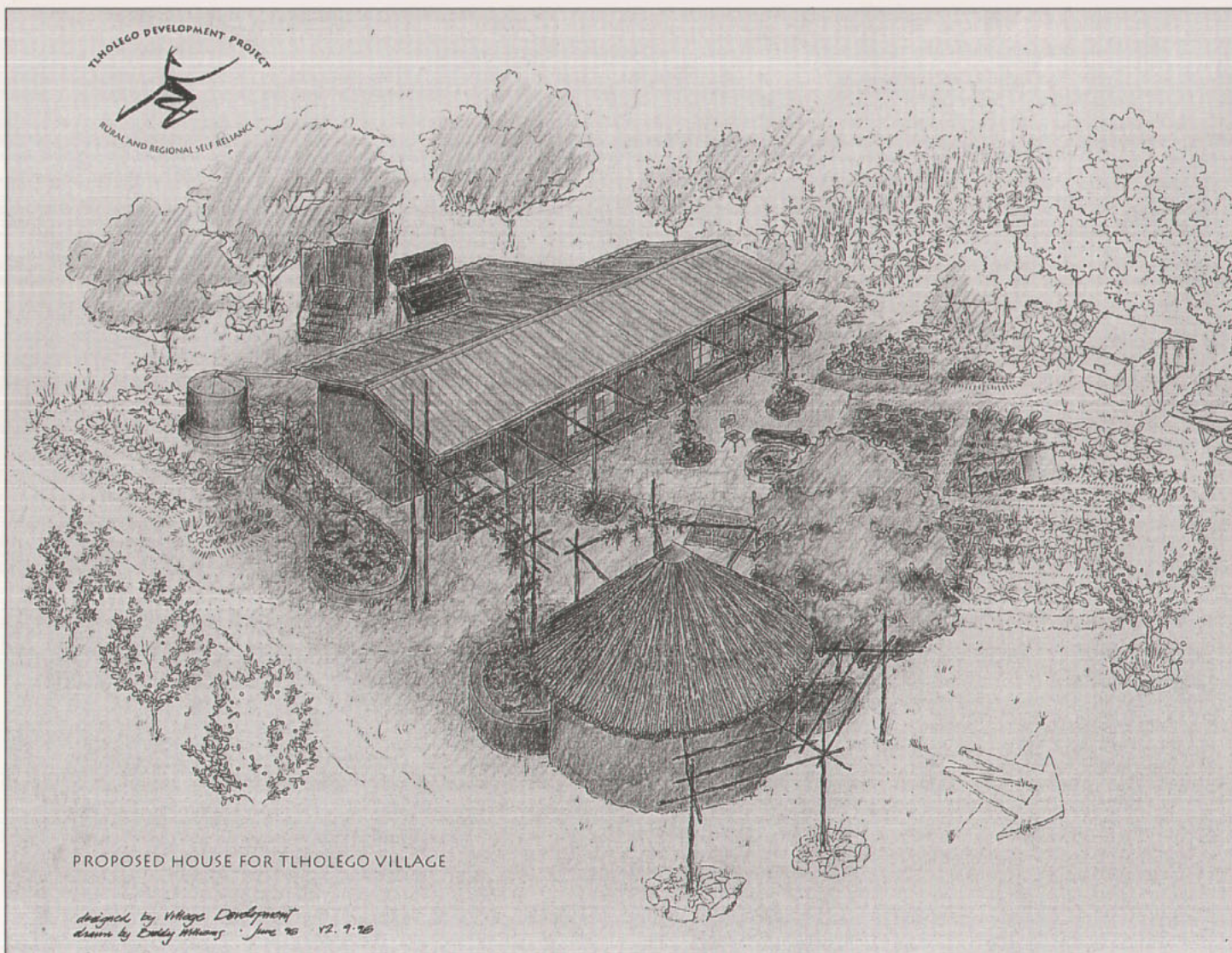
the land, the DET usually pays for the school and employs teachers to run it. The initiation of a pilot program for farm school development is a key element of the project.

In the Northwest province, the majority of schools are of this type, though most are poorly resourced. Whilst in some cases the children live at school, the great majority walk up to 20 km to school every day, often without proper shoes, clothing or nourishment. This is obviously a great concern for the new Education Department, which is working to improve the situation. The TDP program for farm schools is one initiative that the Education department is taking seriously.

TDP aims to upgrade the learning environment of rural farm schools through participatory permaculture

design. The project aims to apply the principles of permaculture to meeting the challenges and objectives of the Northwest province education department in developing their farm school program. The Education Departments of Zimbabwe, Botswana and Lesotho have already introduced active pilot permaculture programs into their schools.

By sharing permaculture skills between professionals and the local communities, TDP's program for farm school development will result in schools with good shade tree cover, fertile soils, food security, nature conservation areas, extended play facilities and buildings that are cool in summer and warm in winter. This will create a stimulating and supportive learning environment for farm school children and their teachers.





### Tiholego Educational Institute (TEI)

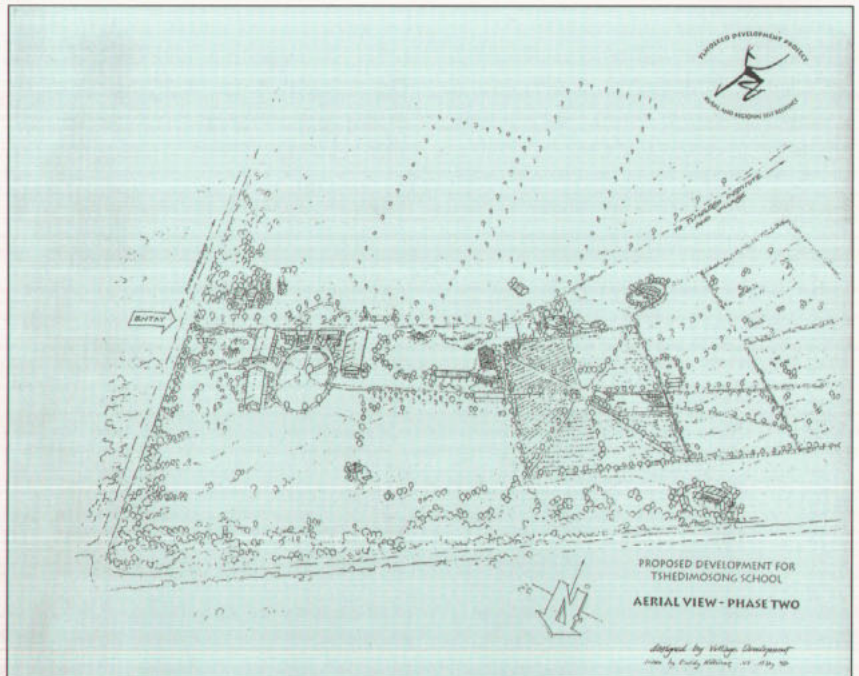
Tiholego Educational Institute (TEI) acts as a nucleus for Tiholego Development Project's program. This involves project administration, training, and co-ordination of pilot research programs in partnership with organisations working in related fields. The TEI grounds have been designed and developed using permaculture methodology. They comprise a residential training facility, demonstration gardens for botanical research and food production, water harvesting and sanitation systems, and energy efficient buildings.

The Tiholego environment offers outstanding opportunities to observe and learn about native flora and fauna, restoration of degraded lands and integrated systems of land use. TDP aims to transfer the skills necessary for the practical implementation of the models it develops. Training and support are offered for local people, community development workers, agricultural agents, etc. Courses are available in house building; human waste management, including compost toilets and grey water systems; kitchen gardens; small animal systems; orchards and cash crops.

In October 1997 Tiholego will be host to the Global Ecovillage Network (GEN), an organisation specifically set up to realise key objectives of Agenda 21. GEN are working globally to establish 50 to 70 small villages (between 50 and 2000 people) in urban and rural areas across the globe for the purpose of demonstrating the principles of sustainable settlement, sharing information and replication.

Tiholego is in a process of financial transition. 1997 will be critical in terms of establishing new relationships to support the overall objectives of the project. Tiholego is urgently seeking short-term financial assistance to support this transition over the following six months.

Tiholego has received wide coverage in the media for its work, which is being endorsed as some of the highest quality solutions to housing and food security needs in South Africa today. The TDP hopes to continue developing a world class environment for teaching



and demonstrating sustainable technologies within a rural context in South Africa.

### ▲ Resumé

Le projet de Développement Tiholego (TDP) en Afrique du Sud fut mis en oeuvre en 1991 afin de rechercher et de développer des technologies durables pour le développement rural. TDP est un pionnier dans la formation à la culture durable en Afrique du Sud, travaillant avec des spécialistes de réseaux internationaux et locaux pour le développement.

Tiholego comprend trois ensembles principaux: l'institut Tiholego, élément moteur du projet; le village de Tiholego, un modèle interne pour la gestion foncière, pour les logements durables et l'économie locale; et, enfin, l'école Tshedimosong, une école d'agriculture primaire et secondaire pour 300 étudiants des alentours. L'objectif de TDP est le transfert technologique des compétences nécessaires à l'application pratique des modèles qu'il développe. Les cours portent sur la construction des habitations, la gestion des déchets humains (en particulier, eaux santes et épandage), les jardins culinaires, les élevages de petites échelles, les vergers et les cultures vivrières.

### ● Resúmen

El Proyecto de Desarrollo de Tiholego (TDP) en Sudáfrica, fue fundado en 1991 para investigar y desarrollar tecnologías sostenibles en el desarrollo rural. TDP es pionero en la enseñanza de la permacultura en Sudáfrica, trabajando junto a equipos de especialistas internacionales y locales. Tiholego está formado por tres componentes principales: El Instituto Tiholego que actúa como centro neurálgico del proyecto; Tiholego Village, un modelo residencial para la gestión de terrenos, construcción sostenible y economía local; y el Centro Tshedimosong, una granja-escuela de primaria y secundaria con 300 alumnos de las comunidades más cercanas. TDP tiene como objetivo el transmitir los conocimientos necesarios para la puesta en práctica de los modelos a desarrollar. Se dan cursos para la construcción de viviendas; gestión de los productos de desecho humanos, entre los que se incluyen abonos y sistemas de aguas residuales; huertas; sistemas de pequeños ganados; huertos de frutales y cosechas.

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