



Green Opportunities

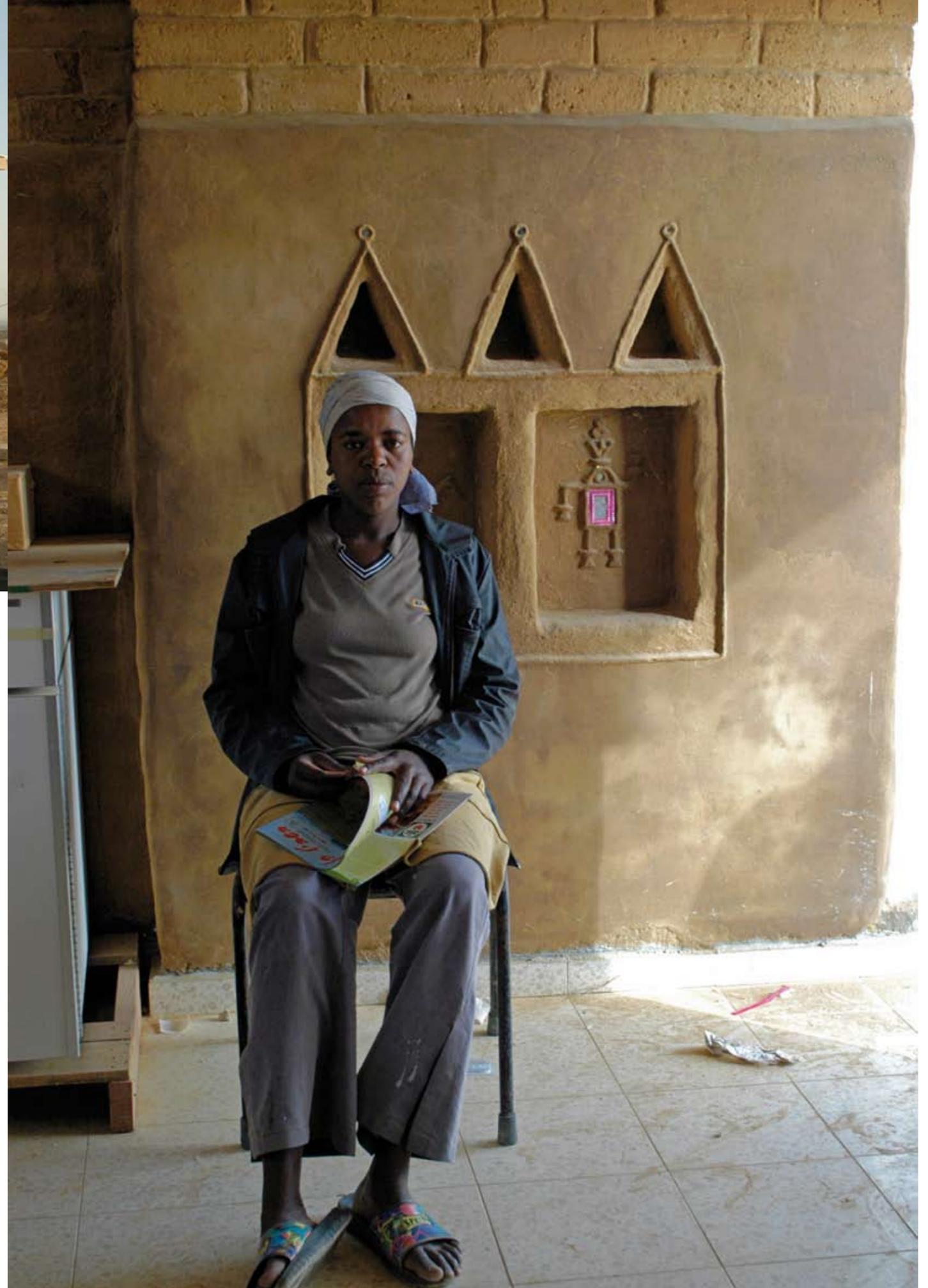
Michal Vital-Chron, Ecological Architect

We live in a special era that confronts humanity with many challenges, the most significant of which is finding ways to stop the greenhouse effect. It is already painfully clear that in the next few years, we need to considerably reduce the globe's greenhouse gas emissions into the atmosphere.

Responsibility lies with each and every one of us, at all levels, starting with Governments making long-term global plans, up to the last living human being on our beautiful planet earth. We are all consumers, and most of us consume much more than the limited resources that earth can bear. Our role is to reduce our environmental impact, or what has commonly become known as our "ecological footprint".

Over the years and as a result of my growing interest in the world of green design, I became increasingly exposed to the huge gap between the industrialized world and the Third World with regard to these issues. On the one hand, Westerners are the main consumers of energy - the average American consumes about 5.4 earths worth of energy to sustain himself, (imagine if this consumption level was to become a norm throughout the world) while Third World populations suffer from deprivation and hunger. Third World nations live modestly, yet most of them are rapidly abandoning the tradition and culture which preserved their humble, fulfilling lives, as they gallop ahead towards excessive, wasteful consumption while ignoring the accelerating consumption of natural resources.

How are these issues related to construction? At a first look, it seem like they are not. However, many objective studies repeatedly conducted by leading world academic institutions reveal that





around 50% of the contaminating energy consumption in the West is directly linked to construction – mainly the cooling and heating of buildings, as well as material burning for the construction industry, transport of construction materials etc.

Such links between construction and environmental issues can also be detected in water contamination, waste sites, material toxicity and more. If we can succeed in improving our homes by taking all of these aspects, into consideration, we will be able to significantly affect air pollution and greenhouse gas emission, as well as other environmental-related parameters.

The Bedouin community in the State of Israel is estimated at around 150,000 people who are dispersed over the Galilee (North of Israel) and mainly in the Negev (South of Israel). This population suffers from extremely harsh living conditions, has severed its roots for the last generation or two and is facing an identity loss followed by a tough change of lifestyle. Just as this transition is about to occur, when the Bedouin have not yet crossed the line to the other side (Western) and still cherishes its cultural memories, a task force was formed to bring about a viable way of green-oriented thinking and practices.

Naturally, the impact of such a mindset change is quite different among the Bedouin population compared to the Western population. After all, up to some three generations ago, this population led the most ecological lifestyle one could dream of – living in a goat skin tent. All the possible green parameters of construction existed in that tent:

- Available and locally cultivated "construction" material.
- No energy waste with manufacture or transport of "construction" materials.
- The weaving of the tent cloth provided work for the local population.
- It most loyally served the nomadic lifestyle.
- The Eastern and Western tent flaps were scrolled upwards for optimal ventilation according to the season.

Upon transition to a sedentary lifestyle, the Bedouin population actually lost its natural construction traditions. Due to poor economic conditions, the Bedouins tried to create very cheap residential solutions by shifting to "villages" built of tin huts, plastic tents, and sometimes even tin roofs over bare walls – all lacking insulation.



– must also be made available to the Bedouin population. Therefore, in the winter of 2007, I opened the first Permaculture Course for the Arab sector in Israel – a joint course designed for all Negev populations, open to anyone, which was largely financed by the Bustan Association (www.bustan.org).

A diversified and interesting group was formed – Bedouin women, Jewish women and Bedouin men – most of whom are associated with the construction industry or are design and architecture students. The course lasted for about 5 months and is currently close to an end.

It is exciting to see how fast things take shape in this sector, how much desire for innovation it encompasses and what fertile ground for ecological ideas it creates. One of our students, for example, joined a tree-planting project in the surrounding schools, and is contributing his newly acquired knowledge on proper shading, correct tree positioning, water saving and soil fertility.

Another student renders his professional services as a designer and contributes his know-how regarding alternative building methods, serving as an engineer of a large straw bale mosque.

Our vision in building the clinic is now coming true, and people are finally being taught to use a net instead of being given fish, as the proverb goes. Four of the Course graduates are now joining forces to establish a cooperative for self-cultivated organic food in one of the villages. The Course graduates receive \$2500 from the Association for any initiative they come up with for the benefit of their own communities.

We certainly hope this is merely the first out of many more courses to come, and that this is the proper way to encourage and promote many local, creative initiatives. After quite a few years of practical work in design areas, I have no doubt that education is the best way to bring about change to both developed and developing communities. The next project (for which we are still seeking finance) goes one step further – the establishment or endorsement of a solar stove-based restaurant in Gambia, West Africa. ■

In a one-of-a-kind project a decision was taken to build a structure which most villages lacked – a clinic. Straw bale construction was used to build the clinic, to demonstrate a method which meets nearly every significant aspect of both eco-construction and current Bedouin lifestyle, including:

- Available and local construction material (many Bedouins are growing wheat).
- Relatively cheap material.
- Very rapid construction which can take place with local, unprofessional manpower (community-based construction).
- Maximum insulation, both thermal and acoustic.

Preparations lasted for a few months, during which an interesting planning process and ongoing dialogue were held with the village community. Construction itself took place by a team comprised of hundreds of volunteers and dozens of village people, leading to the establishment of a clinic within a week – a fine looking building of some 70 sq/m, with soil and lime plaster applied by ancient techniques.

For about two years, the clinic was staffed by volunteer physicians and medical students from Ben Gurion University of the Negev, who founded their own Association for this purpose – Marpe BaMidbar (Healing in the Desert). Two years later, the Government failed to resist public pressure as a consequence of this initiative and founded a formal clinic in the village.

Permaculture Course at Beer-Sheva

A few years have gone by since the founding of the clinic. To our surprise, our expectations (somewhat naïve, perhaps...) that the project would change Bedouin building practices and lead to a variety of eco-oriented construction and projects down to the private home level, proved false. The clinic stood quietly, pleasing to the eye and pleasant in terms of its internal micro-climate, while the surrounding residents continued to build tin huts and use bare blocks.

It took me a few years to realize that the nature of these projects and work vis-à-vis the Third World, whether faraway and exotic or a mere one-hour long trip away, must change. If we wish to change habits, be it the consumption habits of Westerners, or the residential habits of Third World populations – we must first create a conceptual change and increase awareness. I realized that the same tools we make available to Israel's Jewish population – redesign and rethink

