

# AVEI NEWSLETTER



*A rendering of the future masonry and conference halls of the AVEI School*

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Please feel free to share this newsletter with your friends and colleagues as we spread the knowledge of earth architecture to the world!

Earthily yours,  
The AVEI Team

**UNHabitat Conference,  
Sri Lanka**

Between March 24-25th, Satprem and Lara presented papers at the conference “Restoring Communities through ‘Home-Owner-Driven’ Reconstruction: from post-Emergency to Development” in Colombo, Sri Lanka.

The conference was intended to provide a forum of critical discussion in the wake of reconstruction efforts in Sri Lanka following the end of the conflict in 2009. This reconstruction effort, led by UNHabitat, has attempted to change post-conflict redevelopment from the prevailing “donor-driven” model to the “People’s Process” or “home-owner-driven” development. Therefore, the conference gathered internationally-renowned experts, academics, national stakeholders, implementing agencies, and donors with the purpose of examining these practices and lessons learned, addressing technical and

**Speakers included:**

Ministry of External Affairs - Government of India, Auroville Earth Institute, Basin-South Asia, United Nations Human Settlements Programme (UN-Habitat) - Sri Lanka, Myanmar, Afghanistan, Ambassador and Head of Delegation of the European Union Delegation to Sri Lanka and the Maldives, Building and Social Housing Foundation (BSHF), Coventry University, ZOA, Real Estate Exchange Pvt. Ltd., Heritage Foundation (Pakistan), Institute of Construction Training and Development (ICTAD), All India Disaster Management Institute, Ahmedabad Study Action Group (ASAG), London South Bank University, Architecture Sans Frontieres (UK), Women’s Bank, Practical Action, World Vision, The Shelter Department, IFRC (Geneva), Centre of Development Studies, University of Cambridge, Secretary-General of Asian Coalition for Housing Rights (Thailand), Sri Lanka Women’s Development Services Cooperative Society Ltd (WOMEN’S COOP), Housing Authority, Centre for Poverty Analysis (CEPA), Indian Institute of Technology (Delhi). One of the panels included discussions with home-owner stakeholders in effected provinces in northern and north-eastern Sri Lanka.

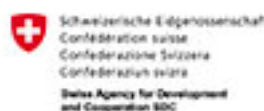
social aspects of restoration, and improving practical approaches to meet the prevailing needs in northern Sri Lanka.

Satprem’s paper, “Using Compressed Stabilised Earth Blocks (CSEB) for Owner-Driven Reconstruction”, presented

the state of the art in earthen construction and the success of its implementation in post-conflict and post-disaster contexts. Lara’s paper, “Building with Earth: Sustainable Resource Management with CSEB”, presented planned quarrying and resource management strategies to ensure



European Union  
 යුරෝපීය එක්සත් ජනපදය



sustainable livelihood development and to address the challenges of limited building material resources and inflation in the effected regions.

The panel discussions represented a diverse range of professional positions and positive debate, addressing topics such as debt and alternative financing structures, broader integrated development schemes, livelihood production, sustainable building technology, local materials use, secured construction sector supply chains, and more effective participatory processes. Jaime Royo-Olid, Programme Manager for Infrastructure and Reconstruction at European Union Delegations who oversees EU-funded 'Home-Owner Driven' programmes implemented by UN-Habitat, summarized the critical points of the panel discus-

sions at the close of the conference, and ensured that these issues will be seriously discussed by the EU while drafting redevelopment finance proposals for the effected regions in Sri Lanka. ■



*Lara asking a question during a panel  
(Photo © UN-Habitat)*



*A Sri Lankan home-owner stakeholder speaking at the Conference  
(Photo © UN-Habitat)*

## Rural Employment through Appropriate Building Technologies

Satprem traveled to Chennai on the 20th of May for a follow-up to the February workshop in Thrissur on the subject of Alternative Technologies for Making the Designs of Buildings (for full description, see newsletter **Issue 15**). The Ministry of Rural Development, in the framework of the Mahatma Gandhi National Rural Employment Guarantee Scheme, is pushing for the use of appropriate building technologies—not just low-cost building technologies—to be implemented in the rural sector to support a sustainable and employment-creating housing market. The required ratio in the overall cost scheme is 60:40 (60% of cost being invested in wages for labor, and 40% of cost in building materials). This investment in livelihood development can be ensured by reducing the use of steel and cement and increasing the use of locally-sourced materials and labor-intensive building technologies.

This Chennai workshop brought together officials and stakeholders from the states of Kerala, Andhra Pradesh, Karnataka, and Tamil Nadu to implement a model house using appropriate technologies such as stabilized adobe. Satprem gave an introductory speech as a mentor and resource person for the construction of the model house. ■



## Archi'Terre 2014 in Algiers

In April, experts in earthen construction from all over the world gathered in Algiers to promote building with earth at the third annual Archi'Terre festival, organized by the Algerian Ministry of Culture and hosted at the Ecole Polytechnique d'Architecture et d'Urbanisme (EPAU) in Algiers. The festival hosts hands-on workshops demonstrating various earth techniques, including Arches, Vaults, & Domes, Adobe, CSEB, Rammed Earth, Plasters, Soil Identification, and in addition for this festival a workshop for children. These workshops were concurrently run with a two day seminar on the themes of "Earth Construction: Initiation

to Construction Techniques" and "Earth Architectures: Present and Future of an Ancient Tradition". Lara led the Arches, Vaults, and Domes workshop and Satprem led CSEB workshop and gave a lecture entitled "The Compressed Earth Block and the Development of Earth Architectures".

This year's festival showcased the work of earth-based artists and education for children to broaden the cultural impact of earth. Artists' work which was featured included a sculptural installation, documentary film, and architecture. The work of all three featured artists has unveiled the fine connection between technical knowledge, craft and art in the field of earth.

The work of the festival's artist-in-residence, French artist Gisèle

Taxil-Wardell, is a process-based hybrid of sculpture and painting with different types of earths. With each piece, Gisèle allows the material itself to be expressed through different types of cracks, colors, textures and topographies, which requires a high degree of sensitivity to the behaviors of the clays and aggregates in soil. Rather than simply an additive process, she carefully carves from the earth to reveal its components. Her compositions are at once visually striking, tactile and didactic in the way they reveal the infinitely diverse and expressive behavior of the material earth.

Earthen landscapes emerge from highly technical processes in the work of German architect Martin Rauch. Rauch's work in rammed earth ("pisé" in French or "stampflehm" in German) is known globally for its colored and textured expressiveness and its technical sophistication. Adapting to the challenges of a labor-intensive technique in the European context, the work has pioneered the prefabrication of rammed earth panels to streamline construction processes. In spite of these mechanized processes, the final touch of Rauch's work – most recently, hand stamped textures – expresses the idiosyncrasy of earth.

By contrast, François Le Bayon is not a specialist of earthen art or architecture, but rather a documentary filmmaker who has given voice to earthen architects, builders and craftsmen. His film



*Gisèle Taxil-Wardell working on a piece during the festival*



*Algerian youth learning about arches during the Archi'Terre festival*

“New Forms in Earthen Architecture”, which was screened at the opening of the festival, investigates the relationship between artist and material – how practitioners reflect on the technical, aesthetic, environmental and social impact of the material and their work. Juxtaposing these to the high energy/ high waste impact of industrial building materials like reinforced concrete, François’ interviews and descriptive film of highly crafted earthen buildings give a special insight into a shared culture among earthen builders: reverence and commitment to the material of earth, sustainable practice, and healthy environments for people and communities.

It is this culture which the Ministry of Culture is investing in, with the hopes to increase the knowledge and sensibility of earthen construction, to promote the

development of sustainable human habitats and environments, and to reinvigorate the heritage and tradition of building with earth in Algeria. ■

## Frugal Brick Project

In January 2013, Massachusetts Institute of Technology grad student Michela Barone Lumaga visited the Auroville Earth Institute (see newsletter **Issue 8** for a brief description). This visit was part of a larger project with the Tata Center for Technology and Design at MIT. In order to respond to the need for sustainable and affordable building materials for low-cost housing developments, Michela studied brick production in India to find an ecological production method and innovative form. A summary of her research, the Frugal Brick Project, can be found on her website:

■ <http://www.michelabarone-lumaga.com/Frugal-Brick> ■

## AVEI in the Algerian Press

The daily Algerian newspaper “Reporters” published an in-depth interview with Satprem at the end of the Archi'Terre festival in Algiers. The interview covered the topics of the state of architecture in Algeria today, the lack of knowledge about earth architecture, and the need for greater awareness for the public and the construction community. Earth architecture in different and changing climates was also discussed, as well as a comparison of its qualities and possibilities with industrial building technologies such as concrete construction. The interview concluded with questions about the Earth Institute’s training activities, both in India and in Algeria. For the full text, in French, please see the following link:

■ <http://www.reporters.dz/satprem-maini-architecte-et-directeur-dauroville-earth-institute-stop-au-beton-cap-sur-la-terre/3279> ■

## Visitors to AVEI

Dr. Satwant Rihal visited the Auroville Earth Institute on the 5th of April. Professor Rihal is professor emeritus at the College of Architecture & Environmental Design at California Polytechnic State University, San Luis Obispo, and is currently Visiting Professor at the Indian Institute of Technology, Gandhinagar. His field of research focuses on conservation of historical and heritage architecture in seismic zones, however, his research interests also extend to creative approaches to the study of structures and building technology and the challenges facing developing countries impacting e.g. housing, infrastructure, natural resources. Prof. Rihal has followed the Earth Institute's work avidly over the last 20 years, and was instrumental in Lara's arrival at AVEI. ■

## New Team Members

This summer, the Earth Institute has welcomed a new architect and engineering intern into the office.

### Isis

I first started by studying applied arts, and then ceramic design, where I was able to discover what matter is and how it reacts. How-

ever I always felt the scale of ceramics was too small for me. And I also couldn't see how practicing ceramics would convey the social or the political change that I was trying to implement in my life at that time. But once I saw a documentary on raw earth construction, I fell in love. Looking for how to learn earth construction, I only found a post-graduate program from CRATerre, open solely for architects. And that's how I became an architect. While studying architecture, I put aside my first concern with earth construction and I enjoyed broadening my general understanding of the architecture field. I discovered urban planning, sustainability, and felt really committed to designing with a strong focus on urban applications and ecologies, as well as innovative systems.

After graduating, I felt like I wanted to go back to the roots of my commitment. That's why I landed here at AVEI as a first step of a constructive journey around the world. I'm indeed looking forward to learning more techniques, like rammed earth, bamboo structure, stone masonry, because for me, these "low-tech" techniques are ecological answers to further development, as well as a political statement : relinking men's hands and matter.

### Léo

I'm a fourth year student in a French engineering school, Poly-Tech Montpellier. I'm studying Material Science, a very wide sub-

ject, but I would like to specialize in building materials and particularly ones with a true green aspect (for example wood, earth and stone). Our courses don't directly cover these materials but give us the tools to readily understand them. So I accept the challenge to follow my ideas to become an environmentally friendly engineer. My research at AVEI continues the projects of three other French students, Albéric, Jérôme and Clémentine into the "poured earth" technique.

This area of research is very interesting because once the technique is perfected, people will be able to save time and money as they build earth houses. It means less raw materials transport, less cement, for a house that is truly energy efficient and accessible to many people.

I really enjoy being in Auroville, this city I knew since I was 2 years old, when a part of my family came to live here. In coming, I am discovering the places, people, and lifestyle I heard about since a long time. I arrived 2 weeks ago but the ease to meet people and stories I heard about how many different people came here make me really enjoy this place. I am discovering different trades by visiting different craft workshops. I love to see people who are skilful with their hands.

To conclude, the ease of integration into the Earth Institute is really good, and I enjoy all the more my decision to come here to conduct my research. ■



### AV Green Practices Summer School

Auroville Green Practices, a project of Auroville Consulting to provide access to the wealth of ecologically- and community-minded educational opportunities in Auroville, is hosting a summer school from 21 July to 11 August in Auroville, called "The 3H Summer School: From Cradle to Cradle; Building for Responsible Consumption". It represents an excellent opportunity for students to get hands-on experience in sustainable design and construction. For more information, see their website:

<http://www.agpworkshops.com/summer-school-22-jul-11-aug-2013/>

### Overview of Training Courses at AVEI

The Auroville Earth Institute held two weeks of training courses at the beginning of April on the topics of CSEB production and masonry. Twenty-four trainees participated in the two weeks of training, the group being primarily composed of Indian trainees, but also including a Spanish trainee and an Australian trainee. The backgrounds represented in the group varied from students of architecture to full-fledged architects, researchers from the Centre of Applied Research & Nano-Technology in Bangalore, a carpentry instructor, and entrepreneurs in diverse fields of expertise. ■

### AVEI Training Course Schedule for 2014

June

2nd to 7th - Ferrocement  
9th to 14th - AVD Theory  
16th to 21st - AVD Masonry

July

7th to 12th - CSEB Design Studio  
14th to 19th - CSEB Intensive  
21st to 26th - AVD Intensive  
28th to 2nd Aug - CSEB Intensive

September

1st to 6th - CSEB Production  
8th to 13th - CSEB Masonry  
15th to 20th - AVD Theory  
22nd to 27th - AVD Masonry



*Appu & AVEI team celebrating the birthday of one of their favorite little earth builders*

#### AVEI Newsletter

Issue 16 - May 2014  
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