

AVEI NEWSLETTER



Site Visit at Sharanam with Shri Shri Rahul Bajajji

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2017 has had a strong start at the Earth Institute as the next phase of Habitat for Humanity Sri Lanka's "Homes not Houses" project begins. A group of Sri Lankan architects, engineers, and technicians came to the AVEI campus for an intensive month-long "Training of Trainers" program.

Construction at Sharanam continues and the walls of the Conference Hall are starting to be cast with Poured Earth Concrete. The completed single-story units were visited earlier in the month by Shri Shri Rahul Bajajji, a philanthropist and chairman of the Bajaj Group, which is generously funding the Sharanam Rural Development Center. We also have welcomed visitors from the global earth building network.

Architect Radhika Soni has composed a critique of the smart cities trend, questioning the appropriateness in the Indian context.

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

VIT Design Workshop

On the 12th January, Lara served as a jury member for VIT V Sparc’s design workshop “Spatial Exploration of Experiential and Generative Geometries as Follies in the Urban Context”. The workshop, co-run by V Sparc VIT University and Vellore Lab Auckland, was organized by Jaffer AA Khan, Dr. Fleur Palmer, and a number of other V Sparc faculty members.

The task of this 9-day workshop was for students to learn through physical modeling, material testing and full-scale pavilion constructions. The students studied Vellore’s indigenous weaving crafts, using local materials like palm leaves, cane and bamboo to “create a context sensitive, socially relevant design language” which could be employed at different scales. These crafts were used to explore adaptive, rule-based logics based on material operations like joining, weaving, etc. Study models were made following these rules of aggregation.

Sited at the heritage fort of Vellore, the pavilion structures – or urban follies – were intended to integrate the local culture and the tangible and intangible heritage of Vellore, to “respond to existing landscape and topography and enhance dialogue and social participation of the community”.

Student teams presented their design-research through drawings, process models and full or half scale constructions in bamboo. Projects were assessed for their geometric research process, material and construction process, structural system, spatial qualities, aesthetics, function and relation to site and context.

Other invited jury members included architect Pramod Balakrishnan and preservation architect Anu Naik.

VIT & VSPARC FACULTY: PROF. N DEVI PRASAD | PROF. DURGANAND BALSAVAR

EXTERNAL FACULTY: PROF. JAFFER AA KHAN | DR. FLEUR PALMER | AR. TAKBIR FATIMA | AR. VIKRANT SINGH | AR. DEEPIKA VARADARAJAN | MS. ANISHA VERGHESE



Design workshop at V Sparc, VIT University Vellore (© VIT V Sparc)

Visit of Shri Shri Rahul Bajajji

At the beginning of January, we had a very special visitor to our ongoing construction site, Sharanam Phase II residential buildings for the Sri Aurobindo Society – Shri Shri Rahul Bajajji.

Mr. Bajaj, chairman of the Bajaj Group, is a prominent Indian businessman, member of parliament and philanthropist.

The grandson of Jamnalal Bajaj – Bajaj Group founder, social worker, political leader and freedom fighter – Mr. Bajaj carries on many of the traditions

of his esteemed family, who are at once among the world’s leading industrialists, the largest manufacturer of 3-wheelers globally, and deeply respected for their social ethics and philanthropic commitments.

Auto Bajaj Limited is the generous supporter of the Sri Aurobindo Society’s work at Sharanam.

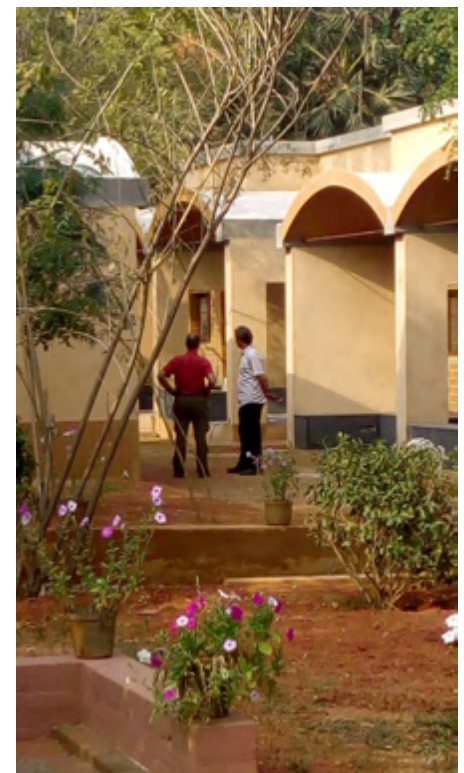
During his visit, Mr. Bajaj also visited the compelling initiatives in village development by the Sri Aurobindo Society in the company of Vijaybhai Podder, head of the society.

It was a great honor to welcome Mr. Bajaj!

www.jamnalalbajajfoundation.org



Shri Shri Rahul Bajajji visits the construction site of Sharanam Phase II



A peek of the Earth Institute’s recently completed single-story dormitories

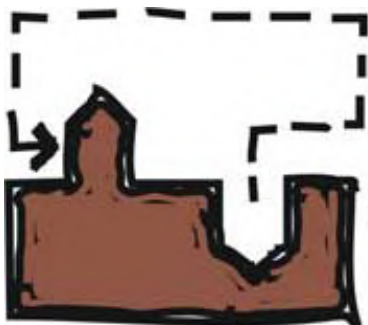
Visit of Gerhard Bosman

Dr. Gerhard Bosman – friend and fellow earth building network associate – paid us a visit at the end of 2016. Gerhard is a senior lecturer at University of the Free State (UFS) in South Africa and manages the Earth Unit (EU) at the Department of Architecture, which broadly focuses on sustainability, earthen building techniques and vernacular and alternative building methods.

Gerhard has specialized in earthen construction since 1994, received a DPEA-Terre in Earth Construction at CRATerre-EAG,

and wrote his doctoral thesis on “The acceptability of earth constructed houses in central areas of South Africa”. He is responsible for developing the student curriculum at UFS for the course program in Building Science and Design and the Sustainable and Alternative Development Programme. ■

[**www.ufs.ac.za/natagri/departments-and-divisions/architecture-home/earth-unit\(eu\)**](http://www.ufs.ac.za/natagri/departments-and-divisions/architecture-home/earth-unit(eu))



THE UNIT FOR EARTH CONSTRUCTION UEC
building capacity through training

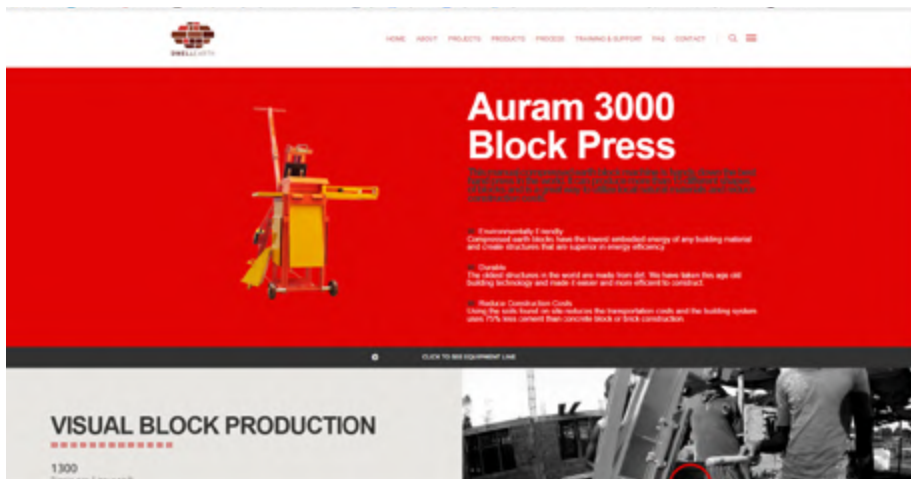
Visit of Adam De Jong

Also last year Adam De Jong paid us a brief visit. Adam is the founder of Dwell Earth (USA), a civil engineer and a “craftsman of many mediums” (e.g. timber framing, post and beam, conventional framed, and compressed earth blocks).

Adam’s contribution to CSEB construction includes the development of the V Lock Block design and his assistance to lead the team for the development of Vermeer’s BP714.

Adam, Bob De Jong and Satprem have been corresponding for some time, sharing information for the benefit of the public at large, in terms of access to education, training materials and quality CSEB production equipment. Dwell Earth’s site hosts not only their own machinery, but other equipment that they have trialed and highly recommend, including the Auram Press 3000. ■

<https://dwellearth.com/>



Dwell Earth website, showing Auram Press 3000

**Smart Cities :
for Democracy
or Corpocracy?**

An editorial by Radhika Soni

In the face of projected urban demographic growth, in 2014, the Indian government responded to the pressure on urban infrastructure by announcing the Smart Cities mission to build 100 smart cities. Accommodating the needs of the growing population is going to be a gargantuan challenge, and the appropriateness of smart cities as a development model for Indian cities should be much more critically assessed.

Globally, a smart city is known as an urban development vision which integrates Information and Communication Technology (ICT) solutions to manage a city's networks. In India, to capture the spirit of "competitive and cooperative federalism", potential cities and towns are encouraged to develop locally adaptive proposals, which would include advanced



Common sight of contrast in the growing urban setting © Sarth Khare, Unfinished Cities

use of ICT to strengthen the city's assets and transform small and medium sized settlements into smart cities (with the assistance of a consultant and an external hand-holding agency such as World Bank, ADB, UN-Habitat, etc). The participating cities will go through two stages of selection and approval will be granted accordingly. Thus, the government's investment in the mission seems to offer the cities a glimmer of hope for Indian economic growth and development.

But if we look beneath the surface and ask fundamental questions about the purpose of smart cities, the mission seems to diverge from current urban needs. While the government offers seductive proposals to existing cities and towns to make their cities "smart", there are large-scale land acquisition maneuvers along the edges, where satellite smart cities are already being developed, such as GIFT (Gujarat Internation-

al Finance Tec-city) in Ahmedabad, Kochi smart city, Naya Raipur in Chhattisgarh, Lavasa in Maharashtra to name just a few. These new developments are privately owned and sometimes privately governed and managed; they demonstrate private sector engineering and design capacity for "sustainable" urban development, largely based on new digital technologies. However, such a technocratic focus favours top-down action by municipal experts and planning elites—to the detriment of social equity and participation.

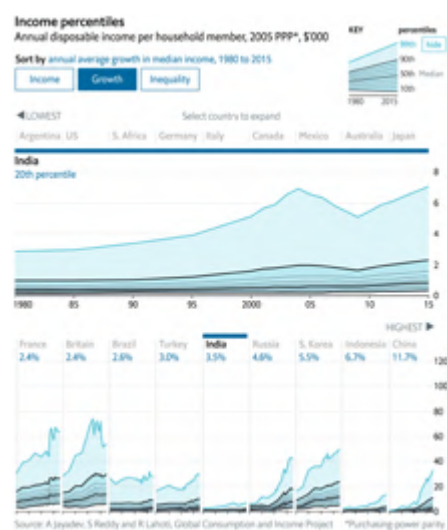
This does not respond to the crucial needs of the majority of urban migrants—who are semi-literate and disenfranchised (NSS studies, ICSSR, New Delhi, India)—and the resulting circumstances, like increasing number of slums, political exclusion, exploitation, limited access to formal financial services, education of women and children, etc. Instead this



The 3rd Smart Cities India 2017 Expo will be held in May at New Delhi along with 4 other expos from the sustainable industry sector to create one mega event

kind of planning exhibits a typical corporate investment model to expand their capitalist base.

The smart cities purpose is largely to increase Gross Domestic Product (GDP) based on the argument that urban areas already contribute more than 60% of GDP. While the government, the World Bank and the corporations advertise the GDP growth as a country's economic developmental success, the truth is that the GDP only measures the value of final goods and services that a country produces; it provides a good picture of the size of the income pie but says nothing about how the income is distributed. This success is most frequently the result of corporations taking advantage of cheap and plentiful labour with an unfair distribution of wealth. Thus, a simple acceleration of GDP growth will not resolve the underlying problems of current urban expansion.



In countries like China, India, Brazil incomes have been growing at a faster rate but when it comes to social progress, the increasing gap between high and low income demographic is deplorable

With this context, smart cities are at the crossroads of three main architectural debates:

Standardisation: Already, Aluminium Composite Panel (ACP) cladding and glass facades are becoming a mundane industrial expression of the buildings in our cities, but smart cities fail to give prominence to locally produced CSEBs or improved vernacular construction technologies, which can add life and diversity to a city, bringing back the lost sense of space. Designing climate-responsive buildings is essential to harmonize with the local conditions, a key attribute for a self-monitoring city. This is something that Smart cities—in which architecture is defined only by the height of buildings—fail to address.

Centralisation issues: The advantages of centralized systems are questionable. Rahul Mehrotra, in his book 'Kumbh Mela as an Ephemeral City' shows how participatory local governance can successfully build a clean mega city in one week, taking the example of the world's largest pilgrimage fair, the Kumbh Mela, with uninterrupted water supply and proper sanitation.

Small-scale industries employing locals and reviving traditional crafts, rather than centralized large polluting factories, should be promoted.

Sustainability principles: Ideas based solely on alternative ways of energy generation, instead of

reducing or optimising the use of energy, are not truly sustainable. For example, instead of having self-driven cars and increasing the number of charging stations for electric vehicles, we should compose our cities to have more pedestrian-friendly transport networks.

Innovation cannot be embraced for its own sake and instead must respond to genuine needs—first and foremost, the need for more liveable cities for all. One alternative, though challenging, is to make low-energy infrastructure cities and small towns on the foundation of social equity. New technologies should be used to serve basic needs like health care, education, food production and affordable housing. Technology should be a tool to design inclusive places — and not a theme to centralise citizens' lives. ■

Selected bibliography:

www.smartcitiesindia.com

World Cities Report 2016 Urbanization and Development: Emerging Futures – UN HABITAT

Internal Migration in India Initiative National Workshop on Internal Migration and Human Development in India, 6–7 December 2011, Indian Council of Social Science Research (ICSSR), New Delhi, India. Workshop Compendium Vol 2: Workshop Papers

Hilary's Book Corner

Portuguese publishing house Argumentum has recently come out with a new publication, available both in the original Portuguese and in French, entitled *Le Portugal au Maroc: Regard sur un patrimoine commun* (Portugal in Morocco: A look at a common heritage, in English). Authored by a Portuguese architect who has spent many years in Morocco, this book traces the history of Portugal's forays into Morocco to show the resulting fortifications and defense strategies, the lasting impact on the urban environment and its topography, and the historically rooted cultural exchange.



This book focuses mainly on the influence of the Portuguese presence in Morocco, but also touches upon the Moriscos—Muslims

who converted to Christianity in the Iberian Peninsula under the Christian kings and were expelled back into North Africa—

and Moors who spent time in Portugal.

Most striking perhaps, is the way the book captures the delicate fascination between these two cultures, stemming from their shared heritage, and how—while they share numerous cultural aspects—they also see the presence as an exotic 'other'.

Argumentum offers this book on its website, as well as several other titles of note, particularly interesting for the earthen architecture field, with seminar proceedings from leading earthen architecture conferences, as well as studies on vernacular and earthen architecture.

<http://argumentum.pt>

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ARCHITECTURE ET PATRIMOINE



ARCHITECTURE EN TERRE



'Training of Trainers' for HfH Sri Lanka

As the next step in the Earth Institute's technical advisory role in the project "Homes Not Houses: Building sustainable future together" in Sri Lanka—funded by the UN and spearheaded by Habitat for Humanity Sri Lanka (HfHSL) and World Vision Lanka (WVL)—the Earth Institute hosted four weeks of training courses during the month of January. For more information about the first stages of this project, see **Newsletter No. 30**. Entitled "Training of Trainers", this training program sought to give field engineers and site supervisors the technical knowhow needed to design and build in earth, as well as to train stakeholders and participants to execute the projected construction of ~900 houses.

The first two weeks introduced the team of 9 engineers and technicians to CSEB and other earth



Learning soil analysis with sensitive tests involving smell and touch

building technologies: principles of earthen construction, CSEB production, blockyard organization, use of manual and semi-automatic Auram equipment, poured earth foundations, and masonry with CSEB. During the following two weeks, the team split into two groups. Several engineers took part in a design studio aiming to give them experience designing buildings with CSEB and the opportunity to pro-

duce working drawings for model homes. The others spent the 2 weeks on the Earth Institute's construction site in Pondicherry to gain hands-on experience.

Now that the team has returned to Sri Lanka, the next step will be for Satprem, Ayyappan, and Lara to travel to Sri Lanka to give follow-up field training and to assist in the implementation of block production cooperatives. ■



Mixing soil by hand for use with the manual Auram 3000



Using the semi-automatic Auram 4000 to make CSEB

New Team Members

The Earth Institute has welcomed two new interns!

Vincy

"Nature is not a place to visit. It is home."

- Gary Snyder

I come from a city like Chennai which has proved to be an amalgamation of various styles of architecture but still deep rooted in its tradition. Buildings express volumes about our culture and era of any place.

Architects now have new responsibilities as we face the environment which has undergone radical changes both physical and social. We have created a continual stream of waste for which the other species of the earth have no use. It is only logical to turn to the usage of greener materials and not make the situation worse than it already is.

My first exposure to earth architecture was from a lecture by Ar.Chitra Vishawanath during my second year of college, in which she explained the nuances of constructing with local materials and their great advantages. Practical experience came in the form of an internship with Mud Hands, Bangalore, where we experimented with soil blocks and up-cycled bottles to increase the structural stability.

The Auroville Earth Institute is a pioneer in this particular field and it is the perfect place to learn new techniques of manufacturing earth materials and their usage. Importance is given to the details wherein energy is conserved in every aspect.

There is a vast void which we should be bridging. Architects should not feel that their creations are supposed to be defined by one adjective to have a justified purpose; it is more of a collective process involving nature.

Athul

I am Athul Jayaram, a B.Arch 4th year student of Government Engineering College, Thrissur, Kerala. I am a wanderer. A wanderer not in the literal sense but being a student, I am on a journey of serendipity and self exploration and Auroville is a part of it. Design always fascinated me, and architecture is only a subset of it. So if you ask me why I took up architecture as a design course, my simple answer would be: "Architecture helps me reciprocate to the needs of my user group on a more personal level than any other field of design." Keeping the user group and their requirements first and your own design later come as prerequisites in very few design courses. It is on the basis of where and how you lived and worked, the environment created by the built—good or bad, big or small, dirty or clean—that one takes up a path to tread on. As Winston Churchill said,

"We shape our buildings, thereafter buildings shape us." What I believe is: We are trained to be creators → create something that will earn you respect from nature and the blessings of those whose dreams you made come true, something that taught you a new lesson in life. As a good designer, one needs to be patient and submissive, ready to expand one's bubble, increase the existing knowledge bank and keep one's options open. And I know that for this, Auroville is one of the places to be at. It's a perfectly set example for a place which offers the opportunities to explore one's field and also oneself, at the same time being in the utmost proximity with nature. And I am not saying that this path is going to be easy. But:

*It matters not how straight the gate
How charged with punishments the scroll*

I am the master of my fate

I am the captain of my soul.

- "Invictus"

William Ernest Henley ■

Solène Delahousse, a specialist in Tadelakt and other lime plastering techniques, will be conducting experiments with lime in conjunction with the Earth Institute. Stay tuned for a more complete description of her research and findings. ■

www.solenedelahousse.com

**AVEI Training Course
Schedule for 2017**

February

6th to 11th: CSEB Design
13th to 18th: CSEB Intensive
20th to 25th: AVD Intensive

April

3rd to 15th: Bioclimatic Earth

June

5th to 10th: Ferrocement
12th to 17th: AVD Theory
19th to 24th: AVD Masonry

July

10th to 15th: CSEB Design
17th to 22nd: CSEB Intensive

September

28/8 to 2nd: CSEB Production
4th to 9th: CSEB Masonry
11th to 16th: AVD Theory
18th to 23rd: AVD Masonry

October

16th to 28th: Bioclimatic Earth

December

4th to 9th: CSEB Intensive
11th to 16th: AVD Intensive

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*The Auroville Earth Institute team joins together in wishing everyone a light and uplifting year ahead.
Despite the events of the last months, we hope that 2017 will bring a more peaceful coexistence between nations.*