

# AVEI NEWSLETTER



Kaza Community Centre in Spiti Valley adorned with prayer flags

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The completion of the Kaza Community Centre was celebrated by a beautiful inaugural ceremony. A few weeks later, the foundation stone was placed for the second phase of the Sharanam Rural Development Centre in Pondicherry, which the Earth Institute is designing and constructing for the Sri Aurobindo Society.

A variety of courses have been held during August and September, including a special course for Earthquake Resistance with CSEB for NGOs working in Nepal.

Further knowledge-sharing activities include an excellent lecture by renowned architect Ashok Lall to the Auroville community, and Satprem and Lara's current participation in the Earth USA conference (see the next newsletter for a recap!).

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



*Exterior view of the Phase I main hall*

### SHARANAM – Rural Development Centre

In June, the Auroville Earth Institute agreed to partner with the Sri Aurobindo Society for the design and construction of the Second Phase of the Sharanam project on the outskirts of Pondicherry.

The Sri Aurobindo Society is a non-profit NGO based out of Pondicherry that was founded in 1960 by the Mother. It works in many fields, including sustainable and rural development, and with this objective it has launched the enterprising construction of Sharanam – Rural Development Centre, which will provide a hub for village development initiatives and skill training in the region. By using appropriate sustainable building techniques and land management practices, the centre models the philosophies it aims to promote.

The funding partner for this project is Bajaj Auto Limited, Pune, who have been committed to philanthropic activities and social work from the days of their founder Shri Jamnalaji Bajaj.

Sharanam Phase I, which was completed in 2014, was designed and constructed for the Sri Aurobindo Society by the British

architect Jateen Lad and assistant Trupti Doshi. It has been recognized by the United Nations Environmental Programme (UNEP) as one of the top five green buildings of India. This collection of buildings includes a large vaulted multi-purpose hall, administrative offices, a community radio, demonstration technologies and a kitchen all set within a revived



*Interior of the CSEB vault spanning 9.5 meters*

landscape. At the beginning of the project in 2007, the Auroville Earth Institute provided technical assistance with blockmaking and the structural design of the large CSEB vault. It is now starting to be used for training programs, seminars, and community activities.

Sharanam Phase II has now begun. The master planning has been done by Jateen, and the Phase II buildings will be designed and constructed by the Auroville Earth Institute. This work will encompass the construction of residential facilities, conference hall, caretaker's house, and sustainable infrastructure, enabling the centre to host visitors for programs of longer duration. Lara and Satprem have begun the design of these buildings, and foundation excavation will soon begin on site.

We look forward to sharing with you about the progress on the construction site as it advances. ■



*Erecting the blockyard shed*



*Finished blockyard shed with blocks curing*

**Phase II Foundation Ceremony and Pooja**

A pooja was held on the 15th of August, which is also the birthday of Sri Aurobindo, to bless the beginning of the second phase of the Sharanam project, with the ceremonial placement of a foundation stone and sand from the samadhi. ■



## Kaza Community Centre Inauguration

Satprem, Lara and Swati all went up to Spiti valley for the grand opening of the Kaza Eco-Community Centre in late July. The community centre has been under construction for three seasons, which are very short on account of the extreme winter climate of the area, making for 13 months of construction in total. At an altitude of 3,500 meters (or 11,483 feet), Spiti is a remote valley neighbouring Tibet in the Indian Himalayas.

The community centre, an initiative of the Spiti Projects Charity, has been designed and built by the Auroville Earth Institute with the participation of traditional local builders. The walls of the centre are built with the traditional raw rammed earth technique of

the valley and incorporate traditional anti-seismic technologies. The centre has introduced a number of low-tech innovations to the valley, including:

- A mix of modern and traditional earth-based technologies, utilizing specially designed rammed earth formworks to incorporate buttresses for better seismic resistance, CSEB for horizontal seismic reinforcement, and lime-stabilized earth plasters.

- Passive and active solar technologies to make the centre self-sufficient and to reduce the amount of wood burned for heat in winter, which is extremely costly for local families and causes unsustainable deforestation in Kullu valley. These include 'Trombe walls' for passive solar heating in winter and solar panels for off-the-grid energy production.

For more on the community centre construction, see AVEI Newsletters:

- Issue 11 // July 2013 (p.2)

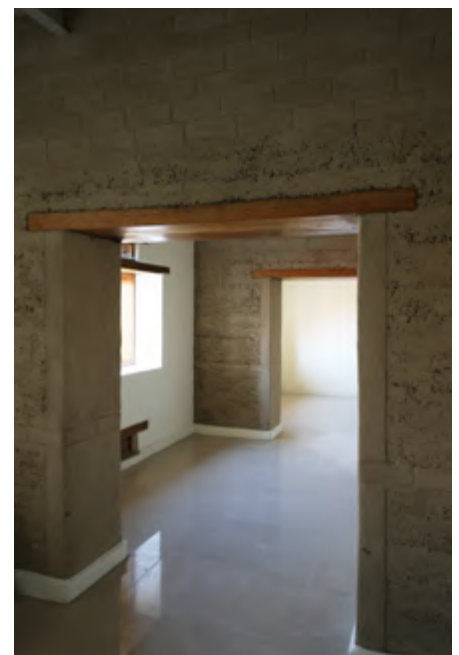
- Issue 13 // Nov 2013 (p.4)

- Issue 18 // Sept 2014 (p.4)

In the climate and context of Spiti, earth is highly appropriate as a building material, because its thermal mass is insulating against the extreme winter cold (-35 degrees Celsius) and additionally earthquake-resistant. Nevertheless, concrete construction has been progressively spreading throughout the valley, despite the fact that it is completely inappropriate for the climate, thermally unliveable in the winter, and very poor for the health of local people.



Completed exterior of the Kaza Community Centre



Interior rammed earth walls

The celebration was attended by Spiti Projects Charity founder and visionary for the centre Joan Pollock, members of Adventure Ashram and other individual project donors, the Earth Institute team (including several AVEI alumni who worked on early stages of the project, Rosie, Sridevi, and Prerna), members of the Spiti Projects Charity who led the construction (Tashi Bodh, Jeet Singh, Ramesh Lotey), local rammed earth masons from the Pin Valley, carpenters and other builders, local people from Kaza and the surrounding area, and Buddhist monks from various temples in Spiti.

Ravi Thakur, vice chairperson National Commission for Scheduled Tribes, Gol, opened the building, after a beautiful Tibetan incantation from local lamas (Buddhist monks). The lamas of Dhankhar Monastery performed an extraordinary ritual called a "Cham dance" as a purification ceremony for the new building.

We would like to express our special thanks to site foreman Tashi Bodh. He officiated at the ceremony, acknowledging the work of so many people who contributed to the construction. And yet his unparalleled contribution to this project went unacknowledged. Like the traditional masons, Tashi is at the heart of this project; without him, this building would not have been completed nor would it have the meaning that it now has for us.

The Earth Institute hopes very much that this building can serve the interests and the needs of the Kaza community, while standing as a reminder that the >1,000 year old Tibetan building technologies employed in Spiti are some of the most spectacular living earthen building traditions on the planet.

Spiti Projects Charity:  
<http://www.spiti.org/multimedia-archive/kaza-community-centre/>



*AVEI team with Kaza Community Centre's traditional rammed earth masons*

## Ashok Lall's Talk on Urban Development

On the 22nd of August, Ashok Lall gave a public lecture in Auroville as part of a two-day meeting on Affordable Housing organized by the Gubbi Alliance for Sustainable Habitat.

Mr. Lall is the principle architect of Ashok B Lall Architects, ex-dean of the TVB school of Architecture-New Delhi, and convener of the Delhi Urban Arts Commission Work group on Energy. Both an architect and an educator, his practice embodies the principles of environmental sustainability and social responsibility, with an aim to address social inequity, cultural subversion and environmental impact in practice. Among his many award winning buildings is the Development Alternatives World Headquarters in New Delhi, which is built with compressed stabilized earth block.



*Development Alternatives World Headquarters, designed by Ashok Lall Architects*

His presentation, entitled "A critique of the current belief and accelerating trend toward high-rise high-density as the panacea", analyzed the challenges and shortcomings of the high-rise, high-density model commonly envisioned for the cities of tomorrow. He presented some staggering research which quantifies in real terms the economic, environmental and social impact of high-rise developments, as compared

to that of low-rise, medium-density living patterns. The various statistics given demonstrate conclusively that taller buildings are associated with increased cost of construction, increased cost of living, increased embodied energy and decreased resilience of communities. This work calls into question a number of long-held beliefs in the field of urbanism which favor high-density urban models, presenting a balanced, but nevertheless sharp critical debate on the precariousness of urban fabric, housing stock, infrastructure – and politics of power and social equity – in many contemporary cities. It also outlines some simple, effective measures which city development councils can take to improve economic, environmental and human resilience for more sustainable and equitable Indian cities.

The lecture was followed by a Q&A session with a panel of other prominent experts in the sector of Sustainable Habitat in India:



*A wall detail from the Development Alternatives World Headquarters*

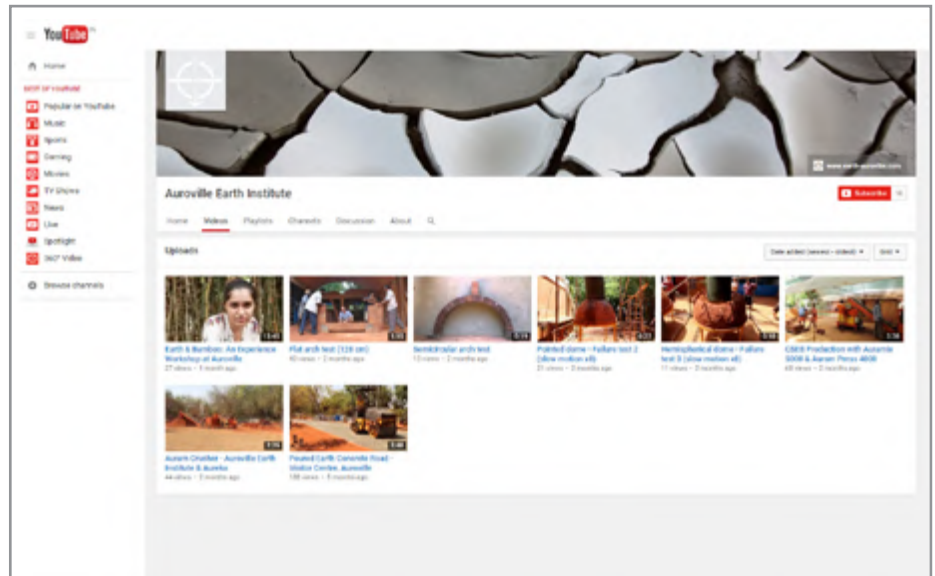
Sanjay Prakash, Tamnay Tathagath, and Dean D’Cruz.

Gubbi Alliance is “a self-funded association of habitat professionals and researchers that seeks to mainstream sustainability as a core concern in design, policy and habitat management.” Its membership includes “pioneers and leading Indian practitioners of genuinely sustainable approaches in architecture, construction and participatory rehabilitation,” who aim to catalyze dialogue, challenge the status quo, and inspire new innovation in sustainable and self-sufficient architecture. (GA) This group includes two local architects and fellow earth builders, Suhasini Ayer (Auroville Design Consultants) and Dharmesh Jadeja (DUSTUDIO).

A recording of the talk by Auroville Radio and is available at the following link:  
<http://www.aurovillerradio.org/a-critique-high-rise-high-density/>

Gubbi Alliance:  
<http://www.gubbi.org/>

Ashok B Lall Architects:  
<http://www.ashokblallarchitects.com/> ■



Earth Institute’s YouTube channel

**New Videos Available on YouTube**

Since September 2014, the Earth Institute has been hosting Lukas, a young and talented videography intern from Austria. During his 10-month internship, he worked on updating the outdated video clips produced over the years by the Earth Institute and creating new videos for new various projects and equipment.

The range of blockmaking equipment employed by the Earth Institute has expanded greatly in recent years, with the development of the automated machines with the leadership and collaboration of Aureka such as the CSEB presses Auram 4000 and Auram 6000, the soil mixer Auramix 5000, and finally the soil crusher Auram Crusher.

The Earth Institute has been stepping up research on Poured Earth

and particularly its application as a road surface, and two of these recent projects were documented on film by Lukas.

You can see a few of these videos on our YouTube channel:  
<https://www.youtube.com/channel/UCJkimfTdjSpuzG7m-niJiUAg/videos> ■

**Visitors**

On the 29th of August, Srinivas-murthy, the Chief Financial Officer and interim Secretary of the Auroville Foundation, visited the Earth Institute with a group of his former classmates.

Welcomed by Satprem, Lara, and Ayyappan, they toured the exhibition room and the Earth Institute campus. ■

## New Team Member

The Earth Institute has welcomed a new intern to the team.

### *Shwetha*

As a student of architecture with a family background in sustainable agriculture, I wanted to have hands-on experience in my areas of interest after completing my diploma in Architecture in Mysore. These include rural development, use of eco-friendly materials, sustainable architecture; building with earth and so on.

I see architecture as building the future with ancient solutions. There are a number of new materials in the industry, but soil is a gift from mother earth which is abundantly available and harmless.

While searching for an opportunity, I found the Earth Institute in Auroville, which is one of the world's leading centers for excellence in earthen architecture. So I was not wrong, here am getting maximum experience and I have got opportunities to attend their workshops about CSEB building and Construction with arches, vaults and domes also. So now I will be volunteering in AVEI for 4 months or more.

My future plan is to gain knowledge in order to address affordable housing, which is environmentally friendly with as little embodied energy as possible. During my stay with AVEI, I would

like to empower myself with this sustainable building technology. I thank Earth Institute and its team members for providing me this opportunity. ■

adapting CSEB construction to their projects:

<http://www.buildupnepal.com/>

The week after, the second Earth & Bamboo workshop was held at the Earth Institute and the Bamboo Centre (see **Issue 22** for a description of the first workshop). Twenty-five students participated in the program, with two days spent at the Earth Institute learning how to produce adobe blocks and cob, make stabilized rammed earth foundations, and construct arches, vaults, and domes with CSEB.

In September, the Earth Institute's regular courses began again with two weeks of CSEB Production and Masonry. The course attracted twenty-seven students the first week, and the group grew to thirty-seven for the second week. The second half of September was filled with two weeks of AVD Theory and Masonry. A total of sixteen students participated in this course. ■

## Recent AVEI Courses

In mid-August, the Earth Institute held a special course on Earthquake Resistance with CSEB at the request of "Build Up Nepal", a humanitarian initiative based out of Sweden which aims to assist in sustainable and appropriate rebuilding efforts in Nepal. Five people from this organization – administrators, contractors, masons – attended the workshop along with two other individuals involved in other rebuilding efforts in Nepal. The "Build Up Nepal" website describes their efforts as well as the way they are



*Participants in the Earthquake Resistance with CSEB course*



**AVEI Training Course  
Schedule for 2015-16**

**2015**

December

(Nov) 30th to 5th: Ferrocement  
7th to 12th: AVD Theory  
14th to 19th: AVD Masonry

**2016**

February

1st to 6th: CSEB Design  
8th to 13th: CSEB Intensive  
15th to 20th: AVD Intensive

April

11th to 16th: CSEB Production  
18th to 23rd: CSEB Masonry

June

6th to 11th: Ferrocement  
13th to 18th: AVD Theory  
20th to 25th: AVD Masonry  
27th to 2nd (July): CSEB Design

August

1st to 6th: CSEB Intensive  
8th to 13th: AVD Intensive

September

5th to 10th: CSEB Production  
12th to 17th: CSEB Masonry  
19th to 24th: AVD Theory  
26th to 1st (Oct): AVD Masonry

December

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

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Editorial Team:  
Hilary D. Smith  
Lara K. Davis

Auroville Earth Institute  
Auroshilpam  
Auroville 605 101 T.N.  
India

Tel.: +91 (0) 413 - 262 3330  
/ 262 3064  
Fax: +91 (0) 413 - 262 2886

[www.earth-auroville.com](http://www.earth-auroville.com)

[info@earth-auroville.com](mailto:info@earth-auroville.com)  
[training@earth-auroville.com](mailto:training@earth-auroville.com)



*Ki Gompa, 12th century, the largest monastery in Spiti Valley*