



CERES Global Progress Report 2015

The Jamnya Project
'Living and Learning for a Sustainable Rural India'

MODUS Architects



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1 Introduction

CERES Global has completed this project while successfully engaging with the issue of global equity and the well-being of all people on the planet, with a special focus is in working with remote village communities in areas of education, health, sustainable agriculture, climate change and women's empowerment.

This project has been seen a successful implementation of the ENVIRON Foundations key purpose of '**protection of human health and a sustainable global environment.**' whereby the project is a model for addressing critical sustainability and public health issues within the region, and which can now spread broadly across many parts of rural India.

The outcome of the project is a model dwelling for replication which has been designed and will be constructed to address pressing environmental sustainability issues such as natural resource depletion, domestic water management and quality issues and insufficient, non-renewable energy supply. Critical human health issues such as spread of disease due to lack of adequate sanitation facilities and consumption of contaminated water will be addressed by incorporating a safe, clean water supply and an effluent treatment system into the dwelling.

In response to the identified need to attract female teachers to the school, this project now aids in providing adequate housing which:

- Provide safe, durable and comfortable housing for two female teachers and their families, including a safe water supply and private sanitation facilities for each dwelling;
- Incorporate efficient, hygienic and low costs household water management and effluent treatment systems; and
- Incorporate sustainable design principles - renewable energy systems to provide a consistent, reliable source of power for lighting; alternatives to the heavy reliance on burning wood for cooking and heating water; and maximize local and low emission intensive building materials

1.1 Project background & team

Preliminary research and consultation phases of the project during 2013 & 2014 followed by construction of ground works and footings in early 2014 established a solid grounding for the project to continue to completion of construction in 2015.

Technology transfer and skills sharing were identified as key strategies for providing a contextually appropriate building methodology for this project. The aim was to provide greatest potential for improved sustainable building techniques to be developed and implemented on this model project.

The development of cement stabilized earth blocks (CSEB) and bamboo construction was identified as most appropriate building methods to achieve the technical outcomes required of this project.

The Project team for late 2014 & 2015:

- Paul & Phuong (Nov & Dec 2014) – Training, soil testing, CSEB & bamboo technology transfer, women's issues

- Jon & Swinburne Trade students (Jan 2015) – Construction & skills sharing
- Noel (Nov & Dec 2014 & Jan 2015) – Liaising with SVM & community
- John (Jan 2015) – Green technology
- Manoj (Jan 2015) - Documentary

2 Equipment Delivery and Soil Analysis (Dec 2014)

2.1 Summary of Objectives

- Purchase a brick press for making cement stabilized compressed earth bricks (CSEB) from Auroville, Tamil Nadu
- Gain training in correct operation and maintenance of brick press
- Transport press from Auroville to Jamnya
- Analyse local soil for appropriate characteristics
- Determine volumes of soil and mixture ratios
- Assist with soil excavation, management & stockpiling

2.2 Progress Summary

Paul and Phuong arrived in Auroville at the end of November 2014 – took possession of a brick making machine for cement stabilized earth bricks – from Joss Brooks, the main contact at Auroville. Paul and Phuong received training in how to use and maintain the press – and then accompanied the press on a 1,500 km journey with a driver and assistant - transporting the press to Jamnya.

2.3 Key Achievements

- Brick Press was purchased and transported to Jamnya.
- Paul & Phuong gained and then delivered training in operation and maintenance of machine – as well as in soil composition for CSEB

3 Materials Preparation and Brick Press Testing

3.1 Summary of Objectives

- Test soil's available at Jamnya for suitability for cement stabilized compressed earth bricks
- Gather a team of local people and train them in operating and maintaining the brick press
- Produce a quantity of bricks which would be cured in time for the Swinburne Group coming in January

3.2 Progress Summary

Paul and Phuong were able to find local soil and sand in the Jamnya school groups suitable to constructing bricks.

With the help of School Teachers they gathered a group of Jamnya people willing to learn the processes of making bricks with the newly acquired brick press. It was pleasing that there were 2 women within the Team.

Paul and Phuong gave the group instructions on making the bricks – and worked along with them until they were confident in proceeding by themselves.

At the same time Paul and Phuong trained some of the Jamnya people in techniques for maintaining the machine.

The team along with Zambare (the key local point of contact with SVM) calculated that the costs of producing bricks by the new method – compared with the costs of traditionally made fire bricks. His conclusion was that the new bricks were cheaper. This was a major breakthrough – because up to that point there had been some local resistance to the new method – partly because of the physical strength required to perform the compression part of the brick making procedure.

3.3 Key Achievements

- Local soils were found on the construction site that were suitable for making cement stabilized compressed earth bricks (CSEB)
- A team of local people were found, trained, and became competent at making bricks, administering quality control, and maintaining the equipment.
- Enough bricks were produced for the Swinburne Construction Group to work with when the Group arrived a month later in January 2015
- Local people realised that this new type of brick was superior environmentally, and also lower in cost, than other bricks available.

4 Construction Phase

4.1 Summary of Objectives

- Finalise design with SVM and Jamnya School stakeholders
- Continue construction of Teacher's Quarters
- Train local Jamnya people in building with the new type of brick – giving them sufficient skill and confidence to complete the construction after the Swinburne Construction Group left.
- Organise a group to continue construction to completion

4.2 Progress Summary

Paul had created a design for the Teacher' Quarters – which had a few modifications by Zambare and Jon before building commenced. (The original plan allowed for two families with combined kitchen and bathroom/ toilet however the feedback indicated that a combined bathroom/toilet with separate kitchens would be preferable)

Jon's tasks on arriving in Jamnya in January 2015 with his 7 Swinburne Construction students:

- Check that all stakeholders were happy with the building design.
- Prepare for commencing building with CSEB – foundations had only recently been completed.
- Organize support teams of Jamnya locals to a) continue making bricks, b) prepare mortar mix.
- Organize the Swinburne Students to commence brick laying – and help them adjust to living in such a remote location as Jamnya.
- Train local people in brick laying so they could continue building from where the Swinburne Students finished (which ended up being about half the walls being laid)

Jon managed all these task. The Swinburne Students found their time at Jamnya very rewarding and were very sad to leave the kids in the school. Most would love to go back again. They laid about half of the bricks needed for the walls – training two people who can continue on the work. A skilled team of locals was trained in making bricks, maintaining the machine, and preparing mortar for laying the bricks. The team included two women – who played an equal role alongside the men. Many teachers and students were involved in the building when they were free from classes. One of the Teachers was assigned the task of overseeing work teams to complete the building. They aim to have it completed by May – before the monsoons arrive.

When the Teachers were asked how they thought the project was progressing – big smiles beamed from their faces – they could see light at the end of the tunnel for gaining relief from their appalling present accommodation.

Jon Wallace: "The building made good progress during the trip. Pre trip work by Paul and Phuong set the whole building process up. Locals working with the team did a great job they should complete the brick work and be able to get the roof on."

4.3 Key Achievements

- A design for the Teacher's quarters was agreed to by all stakeholders
- Local Jamnya Teams of people were gathered and trained to :

- make bricks using the new brick press
- prepare mortar for brick laying
- lay bricks to construct the building
- A new environmental technology has been introduced to an area craving for jobs. Great potential to kick-start a new business from an extremely poor, remote community.
- Teachers and school students joined in the total process when they had free time – so the whole project was very much a co-operative community effort.
- Half of the building has been constructed – with teams of local workers (including women) skilled to complete it. One of the school Teachers – who has managed building construction for the school in the past – has been authorized to manage the building process to completion.
- The Teachers who will live in the quarters when they are complete were delighted at the progress. There was a significant lift in morale within the school by the end of the Swinburne Group's stay.
- A filming crew has documented the project – and will have video clips suitable for promotion available for SVM, CERES, ENVIRON – by June 2015.
- ENVIRON's initiative in providing initial funding for this project has inspired :
 - Financial contributions from CERES Global and private donors matching Environs contribution
 - Ongoing involvement by Swinburne University in this and related projects – in co-operation with CERES Global
 - Interest by numerous specialists exploring more environmental building construction in developing countries – donating considerable time and skills.

5 Key Aims and Timelines for 2015

Work has completed on the construction of the building

- Complete walls, roof, utility connections, furnishings of Teacher's quarters – expected to be completed before the Monsoon rains arrive in June 2015
- Teachers occupy the building - before Monsoon rains in June 2015
- Establish an ongoing working Team to continue making cement stabilized compressed earth bricks as an enterprise. Satpuda Vikas Mandal is presently investigating using compressed bricks for classroom rebuilding. They are also investigating the purchase of an additional brick press with automated compression (rather than manual).
- Begin Planning for Phase 2 of the Jamnya Project – which would involve constructing additional Teacher's quarters for Jamnya. The dwelling constructed in Phase 1 will house two couples (or 4 Teachers). There are an additional 20 staff requiring adequate accommodation. CERES Global is keen to support the construction of accommodation for all staff.
- Maintain Swinburne Construction Course in the Jamnya Project – with

6 Recommendations for Next Phase of The Jamnya Project

A number of recommendations have emerged for the next phases of the project.

6.1 Green technology

Refer to Appendix E Green technology report for recommendations.

John Burne: "This report will list the key observations from field visits to Jamnya this year and list recommended Green Technology initiatives. There is a consideration of alternatives in some areas and reasoning behind the recommended solution. Fundamental to the reasoning is the aim to minimise the adverse impact on the environment, and by association, its impact on the quality of life & health of the inhabitants."

6.2 Water Report

John Wallace: Water is being wasted though leaking taps and poor plumbing practices. A filter has been installed but it is small. Consider installing a commercial size. Not sure why new bore has not been connected. Look at a new sanitation block that recycles water.

7.4 Other Contributions

A number of other contributions have been pledged to assist the continuation of this project, including:

- Donation from Public: \$ 10,000
- Blencowe Trust Contribution
- Donations from community
- Pozible.

As part of our CERES Melbourne community engagement activities, we run returned participant celebrations and information nights for interested people, here at CERES Environment Park. During the 2014 event, a donation was made in support of the project, in particular for the opportunity it brings for young Australians to be involved in a project such as this. The total contribution was \$9,000 AUD. The Blencowe family trust has pledged \$10,000 as a contribution to the 'next phase' project.

8 Impact of the Jamnya Project

The Jamnya Project has had various positive impacts through its implementation processes and physical outcomes.

8.1 In Country – Jamnya & Auroville

- Construction technology transfer
- Plumbing
- Sanitation & hygiene
- Women's empowerment
- Friendship building
- Partnership with the Earth Institute
- Carbon offsetting with Pitchandikulum Forest
- Relationships between Jamnya and Auroville formed

Carbon Offsetting with Pitchandikulum Forest

Flights for all participants are offset through tree planting operations with CERES Global's partner organisation Pitchandikulum Forest, in Auroville, Tamil Nadu. Each year CERES Global makes a contribution of \$1000 AUD towards tree planting and carbon offsetting. Pitchandikulum forest and the Auroville community have been heavily involved in the development of alternative environmental technologies, and social models of living for over 40 years.

Auroville (Relationship with the Earth Institute)

This is something that we need to keep building on.

Opportunity for Swinburne students to study earth construction, taking the technology and introducing it to communities in India and creating business opportunities for those communities

In Country Relationship Building

In January 2013, CERES Global invited members of the Pal & Jamnya communities to join the CERES Global group in Pitchandikulam, Tamil Nadu to learn about alternative building techniques and technologies. The experience for both communities was positive and each have maintained their connection ongoing. The Earth Institute have UNESCO Chair status and are overseeing the training and implementation of alternative technologies as part of the Jamnya Project. Swinburne Built Environment Trade students have attended training sessions at the Earth Institute before working with the Jamnya community on both the 2013/14 and the 2014/15 trips.

8.2 Participant Experience

8.3 Local relationship development between CERES Global and Swinburne University

In Australia this project has facilitated a strong bond between CERES and Swinburne University, allowing a practical project to exist which has facilitated inputs from both organizations to pursue their own outcomes towards the same goal.

8.4 Documentary Developed by Manoj Mathew and Arunesh Seth

The documentary will highlight on the life and livelihood of the agriculture community in the Jamnya village located in the Yaval forest of Jalgaon district in the state of Maharashtra, India. The primary focus of the film will be on the school managed by Satpuda Vikas Mandal, a local non-profit dedicated for rural development.

Appendix A

Photo Records



Photo 1: Training on brick press in Auroville



Photo 2: Training on brick press in Auroville



Photo 3: Testing soil samples in Jamnya region



Photo 4: Offloading brick press at Jamnya School



Photo 5: Technology transfer – training at Jamnya School



Photo 6: Technology transfer – training at Jamnya School



Photo 7: First batch of CSEB bricks at Jamnya School



Photo 8: School students participating & observing



Photo 9: Teachers participating in brick production



Photo 10: Students at meal time



Photo 11: Tribal women's group meeting



Photo 12: Swinburne IT students visit to observe

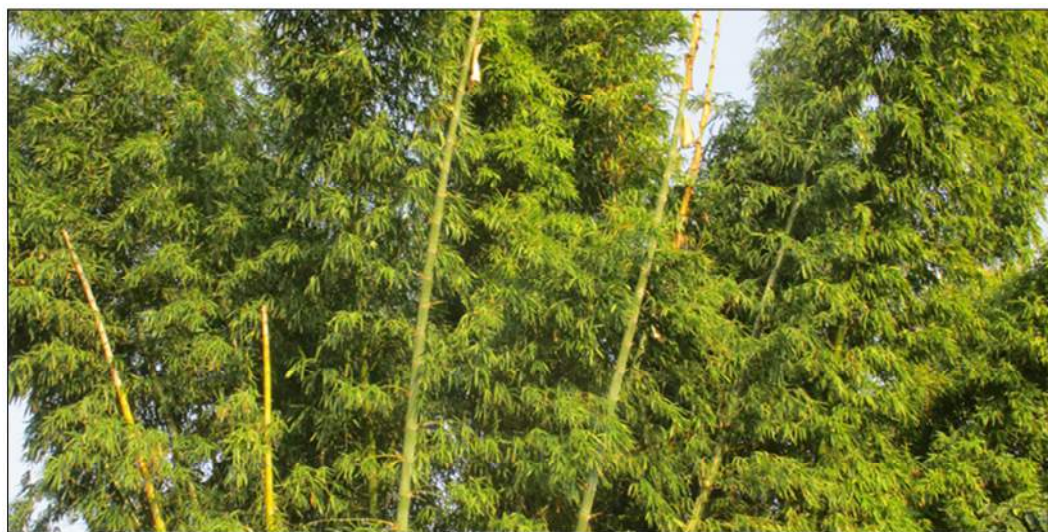


Photo 13: Bamboo selection



Photo 14: CSEB production progresses



Photo 15: Septic and footings completed



Photo 16: Phuong & Paul with Jamnya School teachers



Photo 17: Swinburne trade students arrive in Auroville



Photo 18: Swinburne trade earth construction training



Photo 19: Finalise building layout and commence walls



Photo 20: Trade students implement skills



Photo 21: Mixing soil batch for CSEB production



Photo 22: CSEB production



Photo 23: Local masons implementing new methods



Photo 24: Skill sharing



Photo 25: Construction progresses



Photo 26: Students continue to enjoy the interactions



Photo 27: The teamwork continues



Photo 28: Friendships are forged



Photo 29: The Swinburne team farewells the students



Photo 30: The Swinburne team hands over to local builders

Appendix B

CSEB manufacturing & production schedule (Paul Adams)

Compressed Stabilised Earth Brick (CSEB) manufacture instructions:**Prepare depot mixture:**

1. Select soil & sand which is appropriate for use in the manufacture of CSEB
2. Sieve the soil and sand:
 - Sieve sand to 5mm
 - Sieve soil to 5mm
3. Measure the correct volumes:
 - 10 x 10 litre buckets of soil (100 litres)
 - 10 x 10 litre buckets of sand (100 litres)
 - 1/3 bag of cement (16.7kg)
 - 18 to 25 litres of water (depending on soil moisture)
4. Mix dry with shovel & hands 3 times
5. Add water & mix with shovel & hands 3 times
6. Check and adjust moisture content of final mix depending on conditions of soil

Make & test brick:

1. Place soil in brick press and make one brick for testing
2. Test first brick of each new depot for compression & size
 - If size and compression is accurate proceed to complete the depot of bricks
 - Complete the depot within 20 minutes to avoid drying and cover depot if necessary

Stack bricks for curing:

1. Once bricks are made place in rows under airtight PVC plastic cover for 2 days minimum
2. After 2 days shift the blocks to the final curing area and stack 5 high x 3 wide x 8 long and cover with gunny sacks for 28 days and keep wet at all times
3. Allow blocks to dry after final curing

Brick making at Jamnya School December 2014:



Sieve the sand & soil



Measure & mix soil, sand, cement & water 6 times



Fill block machine with soil, make block & test



Stack for initial curing for 2 days under plastic

The Jamnya Project - Jamnya School - Teachers' Quarters
SCHEDULE
Footings & CSEB brick production schedule & bamboo harvest & construction

	Week 1 Dec 1 to 7	Week 2 Dec 8 to 14	Week 3 Dec 15 to 21	Week 4 Dec 22 to 28	Week 5 Dec 29 to Jan 4	Week 6 Jan 5 to 11	Week 7 Jan 12 to 18	Week 8 Jan 19 to 25	Week 9 Jan 26 to Feb 1
2014/2015									
Check measure set out									
Finalise plans									
Brick press delivery & training									
Brick press setup on site									
Brick making – half brick		(850 bricks) 16 x depot 6 x bag cement	(500 bricks) 9 x depot 3 x bag cement	brick curing	brick curing	brick curing	brick curing		
Brick making – full brick			(1500 bricks) 53 x depot 18 x bag cement	(1500 bricks) 53 x depot 18 x bag cement	(1000 bricks) 36 x depot 12 x bag cement	brick curing	brick curing	brick curing	brick curing
Brick making – U brick					(250 bricks) 9 x depot 3 x bag cement	brick curing	brick curing	brick curing	brick curing
Footing & plinth construction									
Backfill									
Pour concrete slab					slab curing	slab curing	slab curing	slab curing	
Bamboo harvesting									
Bamboo soaking in river			40 x 36ft (12m)						
Bamboo drying under cover									
Swinburne trade arrival						intro & settle in			
Site setup & planning						planning			
Bricklaying						building	building		
Install windows & doors						building	building		
Handover & departure									

Bricks summary:

- Half bricks: 1350
- Full bricks: 4000
- U bricks: 250
- Cement bags: 60
- Depots: 180
- Working days (9am to 5pm): 17 days
- Number of people per day: 8 people

Appendix C

Bamboo harvesting & treatment (Paul Adams)

Bamboo species found at Pal & Khiroda

Bambusa balcooa sourced in Pal region for use at Jamnya School project

Sample 1: Photographs taken 15 Dec 2014

Location: Suki River bank Pal, Maharashtra, India

Diameter: approx. 100mm

Length: 15 to 30m

Internodes: 300mm

Thickness: Thick walled with spiked branches

**Sample 2: Photographs taken 14 Dec 2014**

Location: Khiroda, creek bank behind Khiroda School /sawmill/weighing station Maharashtra, India

Diameter: approx. 100mm

Length: 15 to 30m

Internodes: 300mm

Thickness: Thick walled with spiked branches



Bamboo harvesting & treatment:

1. Select straight stands of bamboo from either Sample 1 or Sample 2 location near Pal
2. Harvest 40 x 12m (36ft) length of bamboo at 100mm diameter
 - 16 x 12 m (72 lm)
 - 14 x 6 m (84 lm)
 - 26 x 4 m (104 lm)
 - 10 x 3 m (30 lm)
3. Leave bamboo to stand upright for a 3 days after harvesting
4. Treatment:
 - Option 1: soak in flowing river/water for 6 weeks
 - Option 2: treat with 25PSI pump
 - mixture ratios = 1.5 Sodium Dichromate : 3 Copper Sulphate : 4 Boric Acid
5. Dry in shade for 2 weeks
6. Move to Jamnya School and store under cover

Bamboo construction:

1. Select straight lengths of bamboo for construction
2. Refer to construction drawings for lengths of bamboo to be used
3. Refer to construction drawings for connection methods

Appendix D

CERES Green Technology Report (John Burne)

This report will list the key observations from field visits to Jamnya this year and list recommended Green Technology initiatives. There is a consideration of alternatives in some areas and reasoning behind the recommended solution. Fundamental to the reasoning is the aim to minimise the adverse impact on the environment, and by association, its impact on the quality of life & health of the inhabitants.

Solar Photo Voltaic Panels

There is an existing system at Jamnya consisting of an 8 panel array, orientated southwards and of low incline angle. Solar access is excellent and this is a reliable, proven and familiar technology. Recent micro inverter technology can greatly improve efficiency of the an array of PV panels, particularly if panels cannot be easily all orientated to southern direction, over shadowed at any time of the day, or if it is of benefit to get obtain more solar access in AM or PM, by facing panels to catch morning or afternoon sun, respectively. For recent building at Jamnya this would not be necessary but would recommend the installation Solar PV panels (suggest 1.5 to 2.5kW system) with battery backup to supplement intermittent mains supply.

Solar Lighting

Solar lighting is also currently at Jamnya, but more is needed. These provide safety and security for the inhabitants. They are reliable, self-contained and easy to install. It was noted that some models such as the type currently installed have suffered from being tampered with and in larger villages the solar panels removed (stolen). The design shown on the right is an integrated solution that would prevent this type of problem.



Currently in use at Jamnya



Alternative design used in India

Cooking

The most common energy intensive activity is cooking. In most tribal village areas this appeared to be done by burning (locally obtained) timber. There are a number of problems from this; depletion of the surrounding wildlife sanctuary woodlands, time taken to collect and the health impact of creating fumes in poorly ventilated internal spaces.

Other forms of cooking were seen. Gas was much less common and the logistics of replacement cylinders is problematic because of the remote location (particularly in wet months) and also regulatory quotas that are imposed on the amount of gas that can be used by individual families. Much of bottled gas is not a sustainable resource. The logical choice for cooking is an induction cook

top. This is a proven and simple and relatively available technology, already in use in domestic situations. It is quick to heat up and gives good control over cooking temperatures. There is some limit to type of cooking vessel (only ferrous material is suitable), but stainless steel are readily available and widely used.



Typical internal cooking facilities using wood



Induction cooker available in India

There is an excellent opportunity to install a system to heat water from the sun. The technology is readily available. Evacuated tube systems offer the most efficient solution. Systems using storage tanks above the tubes (such as pictured) are simple, very reliable and low maintenance. The adequate sizing of the system can be achieved by combining a number of standard sized modules. As hot water can be available early in the day (because of both the efficiency of the evacuated tubes and thermal inertia of water heated prior day and held in an insulated tank), solar heated water in Jamnya is a very attractive idea. It would mean significantly reduced need for using timber for fire in the mornings to heat water for breakfast and other morning activities.



Evacuated tube Solar Hot water(This model 250 Litre each tank)

Ventilation

Ventilation can be significantly improved for internal spaces with products such as the “Solar Whiz” (pictured). This consists of a low voltage fan used to extract air and powered by a solar panel that can be adjusted to maximise solar access. Its application would mitigate the issue of fumes created during cooking, (particularly if timber was used). The general movement of air in a building is beneficial to the performance of the building and the health and comfort of the inhabitants, even in the case where a wood fire is not used inside for cooking.

In Jamnya, I considered using wind turbines (small scale) to supplement solar PV, but this would bring complexity to the UPS / inverter need to take charge from multiple sources. Placement of a wind turbine is also critical (not to be influenced by turbulence created by trees or buildings in the field). The difficulty of getting specialized maintenance – particularly in remote areas makes this an issue.



Self-contained, Solar powered ventilation system

Water Harvesting

Much of Jamnya's water needs appeared to be met by accessing the water table. It was also noted that the value of water was held in less regards than I am familiar with in Australia. It was very common to see continuously leaking taps or joints in water pipe work. In some of the larger villages in the area, Pal for example it was often seen that header tanks were being regularly over filled, wasting significant quantities of water. The effects of climate change and the potential contamination of ground water in the future will see greater placement of value on water. There is an opportunity at Jamnya to show an early take up of rainwater harvesting.

Installing suitable roofing material, guttering, filtering system and water tank would demonstrate the ease of collecting a significant amount of good quality water. Interlinking of the guttering system of multiple building roofs allows expansion of the water harvesting area. Annual rainfall figure are used to determine compatible harvest area and tank size.

John Burne

Appendix E

Participant Contributions (Jon Wallace & Nick Curmi)

John Wallace
Swinburne Built Environment

The building made good progress during the trip. Pre-trip work by Paul and Phuong set the whole building process up. Locals working with the team did a great job they should complete the brick work and be able to get the roof on.

Water report: Water is being wasted though leaking taps and poor plumbing practices. A filter has been installed but it is small. Consider installing a commercial size. Not sure why new bore has not been connected. Look at a new sanitation block that recycles water.



Nick Curmi
CERES Site Manager

Observations from visit in January 2014 -

The site is approximately 2hrs drive from Pal along a very rough 4WD track that I understand is not accessible during several months of the year during the wet season. The surrounding area of Jamnya is very sparsely forested but none the less supporting higher order species such as the local indigenous leopard. Bullocks were transporting timber cut from trees into the town most days. Most cooking and heating of water was done by open fire, I understand this is the major cause of local deforestation. The attached photo is the quantity of wood used in week by one teacher.

The current accommodation for the teachers was woven bamboo walls with pole frame supports rendered with mud as in the above photo. The render required constant up keep to maintain some form of weather proofing. Toileting was into a trench excavated from the side of the building taking urine outside the woven wall. I believe faeces were done in the bush.

The meetings with school children and teachers regarding the public toilet upgrade presented many cultural issues such as sharing toilets and menstruation. To successfully assist change understanding and responding to these cultural issues is essential.



Appendix F

**Jamnya Documentary
(Manoj Mathew)**

Documentary Film Title: Jamnya

Director: Anoop Sathyan

Producer: Manoj Mathew, GREG MATTERS

Time: 25-30 Minutes

The documentary will highlight on the life and livelihood of the agriculture community in the Jamnya village located in the Yaval forest of Jalgaon district in the state of Maharashtra, India. The primary focus of the film will be on the school managed by Satpuda Vikas Mandal, a local non-profit dedicated for rural development. The school continue to survive in spite of various infra structure challenges; the teachers staying in dilapidated bamboo huts and classrooms turned to dormitories raise many complex problems of a school development in a forest. It shares aspiration of parents for the need of quality education and their attempt to emerge from the poverty. The film will also throw light on the community involvement and ownership of the sustainable housing project with the partnership with Centre for Education and Research in Environmental Strategies (CERES) a Melbourne-based organisation.

The documentary is the post production stage and will be released in June 2015.

Appendix G

Media

<http://www.swinburne.edu.au/media-centre/news/2015/02/swinburne-apprentices-help-build-new-school-in-india.html>

<http://www.education.vic.gov.au/about/news/archive/Pages/swindia.aspx>

http://www.psnews.com.au/vteachers/Page_VICpsn02912.html

<http://www.unevoc.unesco.org/skillsinaction/skillsinaction/index.php/stories/13>

<http://thejamnyaproject.org/>

<http://twitter.com/jamnyaproject>

<https://www.facebook.com/pages/CERES-Global/243675189008734>

<https://twitter.com/CERESGlobal>