IT for Social Impact

India Study Tour

December 2014

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IT for Social Impact India Study Tour 7-22 December, 2014

Overview

For 2 weeks in early December 2014, I had the privilege to accompany a group of 7 Swinburne University of Technology IT students on their IT for Social Impact Study Tour through India. Our tour [ITfSI-India-2] was the second in 2014 for Swinburne IT students and staff. In January, staff members Chris Felstead and Louise Kellerman accompanied 4 students as they journeyed through Mumbai to the village of Pal in the remote tribal region of Maharashtra State and onwards to Agra and New Delhi. In Pal, they conducted technology audits of village schools, fixed and installed computers and weather stations and began the process of outreach and engagement between Swinburne, CERES Global, Satpuda Vikas Mandal (SVM - our host NGO) and the communities of Pal and surrounding villages.

This report describes the December 2014 tour's continuation of the audit (repair/install process) and additional activities for our tour such as trialling 'proof-of-concepts' of two particular technologies (Kano and LibraryBox), the conducting of hands-on workshops with children of the Mumbai Red Light District and with students at schools in Pal, Khiroda, Mohamandli, Jamnya and Lohara and conducting a social/IT audit of Pal and surrounding village schools. Each day held an array of unforgettable food and experiences; meeting Pal's first Internet Kiosk entrepreneur, humbly accepted an invitation to meet the Guru from the village Hindu temple and participating in and observing two religious festivals which were held in Pal during our stay. India's tourism department have got it right: Incredible India! I hope you enjoy reading the report. My name follows, but really, this is *our team's* report, our shared words, thoughts and reflections.

Dr Jason Sargent / March 2015

Tour Participants

Student Name	Course being studied and role on tour
Matt Bull	Bachelor of Information Technology / LibraryBox
Boyd Callahan	Bachelor of Information Technology / Technical lead
Sam Coonan	Bachelor of Business Information Systems/Bachelor of Business / Technical
Amber Harli	Bachelor of Business Information Systems / IT Social Audit
Essie Lausberg	Bachelor of Information Technology / Project Manager
Kevin Nguyen	Bachelor of Information Technology / LibraryBox, Kano support, 'Relations'
Victor Teoh	Bachelor of Information Technology / Kano
Academic	
Dr. Jason Sargent Lecturer in Information Systems	

Above from left: Boyd Callahan, Matt Bull, Victor Teoh, Essie Lausberg, Amber Harli, Dr. Jason Sargent, Kevin Nguyen, Sam Coonan & Noel Blencowe (CERES)

Mission Statement

The students developed their mission statement to guide what they hoped to achieve and the way they would go about their journey for IT for Social Impact in India. Their mission was to…

> *…Apply IT knowledge to sustain existing IT implementations and identify opportunities for new IT solutions, in collaboration with the community, in order to sustainably promote and facilitate equality, empowerment and education.*

Project Plan and Charter

The students also developed a project plan and charter for stakeholder approval. These documents were presented to Ashok Zambare (SVM) and Noel Blencowe (CERES) upon the student's arrival in Pal. The students were determined that their intention to visit Pal was to align the tour's values with CERES and SVM and to collaborate with the tour's partners to make a *positive* impact. The students had no intention to march in just with their own ideas about what 'solutions' they thought needed to be provided and declaring "*We're here to HELP!*"

Achievements

A summary of the tour's achievements are listed below:

- Conducted introductory computer courses with children at Apne Aap (Mumbai);
- Completed a technology audit of equipment used in SVM schools in Pal and surrounding villages;
  - Virus scanning and defragging of hard drives
  - Fixed/replaced faulty equipment such as RAM, motherboards and monitors
- Conducted hands-on workshops (iPad, games, MS Word, MS PowerPoint, Paint etc.) with school students at Mohamandli, Jamnya, Khiroda and Lohara schools;
- Conducted a Social/IT audit (Technology ownership by students by age group/gender) of students at Pal Secondary, Khiroda College, Open University at Pal, Mohamandli, Jamnya & Lohara schools;
- Converted to e-format (spreadsheet) a paper-based system for Krishi Vigyan Kendra (KVK) to send information to multiple farmers (approx. 1200+) throughout Pal and surrounding districts;
- Fixed/recalibrated weather stations at KVK and Jamnya;
- Conducted teacher training for Kano and Library Box technology proof of concepts;
- Met with Pal's first Internet kiosk entrepreneur;
- Studied basic Hindi language lessons;
- Participated in 2 Hindu festivals and visited and participated in a Hindu religious celebration and then spent time discussing the meaning of life with the Guru.

Above: One of the tour's main objectives and achievements was the conducting of hands-on technology awareness workshops. This workshop was conducted at Mohamandli School

Day 1

Ecoreco

Day one of our trip included a visit to **Ecoreco E-Waste Recycling Centre** in the northern suburbs of Mumbai.

Above Left: Ecoreco. Middle: Recycling in action. Right: Power supplies ready for recycling

The mission of Ecoreco is *to propagate and serve the cause of environment protection through technology and efficient management of resources*. Ecoreco is India's first and leading professional e-waste Management Company that has set industry benchmarks time and again with its environment-friendly disposal practices. As an industry pioneer and market leader, Ecoreco has been providing integrated e-waste management solutions to Indian corporates, governments and municipalities for over a decade. http://ecoreco.com/aboutus-about-ecoreco.aspx
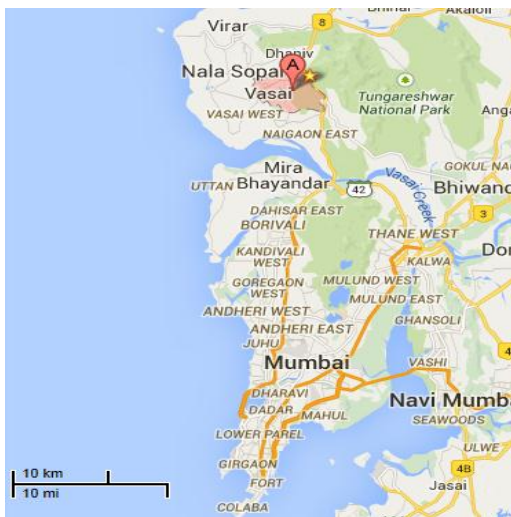
Left: Ecoreco's location in the northern region of Mumbai.

After a scenic 2hr taxi ride of 50-60 kilometres through Mumbai and into the northern region of Vasai, we were provided a guided tour of the e-waste recycling centre and saw how just about every component from computers and peripherals were able to be recycled. Ecoreco has the latest technology and methods for extracting componentry. This would be in contrast to the type of recycling we would see on the following day when we visited Dharavi and saw how manual labour was the main means of recycling. Touring the facility and speaking with the manager, the students were able to explore where the e-waste was being generated, how Ecoreco collects the material and what it does with it.

Apne Aap

On returning to Mumbai we headed in the early evening on foot several blocks from our accommodation to visit **Apne Aap** http://apneaap.org/.

Apne Aap is an NGO providing community centres as safe spaces where women and girls can gather, access education, improve their livelihood options and receive legal rights training. The organisation was founded by twenty-two women from Mumbai's red light district, with a vision of a world where no woman could be bought or sold.

There were approx. 5 computers in Apne Aap set up as a learning space. These computers were not present when the first Swinburne ITfSI tour had visited in January 2014. They had been recently donated. Internet access is not permitted on the computers and that had our team thinking of ways open educational resources, approved by the Apne Aap management, could be utilised. A LibraryBox, a Wi-Fi-device to enable file distribution within a limited area would be an ideal solution. The LibraryBox is described further inside this report.

The children at the centre when we arrived ranged in age from the very young to teenagers. We spent 2 hours playing games, teaching basic computer skills and getting to know one another. Essie also spent time helping with homework. At 7pm the centre began winding down for the night as some children were picked up by parents, siblings and family members, while those who were too vulnerable to be left alone were provided an evening meal and the previously utilised floor became an array of bedding – we quickly realised these children would be staying the night inside the safety of the centre!

Our walk back to our accommodation was sobering as we reflected on what we had just experienced and the evolving scenes of poverty on the streets as people began to look for a place to settle in for the night ahead as the rest of Mumbai carried on regardless.

Left: The entrance to Apne Aap, Red light district, Mumbai. A 'hole-in-the-wall' which leads to an amazing organisation and wondrous kids.

No photography was permitted inside the centre.

Day 2

Above: The 'skyline' of Dharavi

Dharavi

Day two of our trip included a visit to **Dharavi**. We were fortunate to be given a private guided tour through the largest slum in Asia by the socially responsible Reality Gives Tours. Home to 1 Million people, Dharavi is a residential and commercial hive of activity. Any preconceived ideas of Dharavi, taken from 'Slumdog Millionaire' or Kevin McLeod's 'Slumming it', were quickly forgotten as we followed our local guides Manoj and Champ through the narrow alleys. Our visit also included a brief stop at the education centre and Reality Gives Tour office inside Dharavi.

http://www.realitygives.org/

Leaving Dharavi, we headed to **Colaba** (the tourist region of Mumbai) for a meal and shopping and quickly back to begin packing up and preparing for our 10hr overnight train journey to Bhusawal Junction. On arrival in Bhusawal, a little bleary-eyed and full of stories of experiencing an 'authentic' Indian train journey, we were warmly met by representatives from SVM and transported on a 2-3 hour scenic Jeep ride through Faizpur in the Jalgaon district of Maharashtra State and up through the long winding road into the Satpuda Ranges and our home-base for the next 10 days; the village of Pal.

Above: Panorama photo of Pal from the roof top of our accommodation block

Above: Panorama photo of the river and banana plantations behind Pal - looking to the North-West

Days 3-12

Arrival in Pal

Left: Sam Coonan is traditionally welcomed to the village of Pal

Over the course of the next 10 days the students spent their time at schools in Pal and surrounding villages. The students set to work on inspecting the computer equipment in the schools, conducting virus scans and hard drive defragging. Some equipment was repaired and some upgraded through the purchase of additional memory (RAM), motherboard batteries and LCD screens. Once this PC & hardware support task was completed, the students spent time conducting workshops with small groups of students. These workshops included demonstrating and using our iPads, laptops, smart phones and other devices to play games, take videos and photos and to learn (through hands-on) how to use software such as Microsoft Word and Powerpoint. It was also an opportunity to get to know one another, learn from the village children about their way of life and customs …and discuss the game of cricket at any and every available opportunity.

Above Left: Boyd Callahan hard at work eradicating a Pal school PC from viruses. Over 10,000 viruses were removed by the student team. Above Right: Kevin Nguyen and Matt Bull rebuilding a PC at Pal High School.

While in Pal we also visited and worked with staff from **Krishi Vigyan Kendra (KVK)**, a centre to bridge the gap between technology and agriculture. One of the organisation's key objectives is to facilitate knowledge and technology dissemination management through innovative use of Information and Communication Technologies (ICTs). The students explored a range of technical issues and investigated the possibility of opportunities for the future.

Left: A workshop held at KVK to explore ways in which technology can be applied to solve issues

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Proof of Concepts

One main objective of ITfSI-India-2 was to trial technologies which may be beneficial in helping to deliver education in remote villages. Prior to leaving for India the team sourced two particular technologies: Kano and LibraryBox. Different members of the student team were then tasked with learning the devices and to prepare demonstrations of the devices once we reached the villages in and around Pal.

Kano

Above left: A Kano. Above Right: Victor Teoh demonstrates the Kano to SVM High School teachers

Kano is a DIY Computer Kit that contains hardware & software. It facilitates a personalised learning experience. The students demonstrated the device by conducting a workshop for high school teachers. These 'hands-on' workshops allowed the teachers to see how simple it was to build the devices by connecting the hardware and installing the software. A formal presentation was made by Victor Teoh at Lohara School. The students took 4 of the Kano's with them to India and each of the 4 SVM high schools were gifted a device to use. Feedback and evaluation on the device will be reviewed on ITfSI-India-3.

Library Box

Left: Kevin Nguyen, Matt Bull and Victor Teoh demonstrating the utility of the LibraryBox to staff at Mohamandli School.

The LibraryBox is a walking digital library. Designed for use 'Off the grid' it is a portable digital file distribution tool. It has a Wi-Fi signal which any Wi-Fi capable device can connect to. From there, devices can access a variety of content stored on the platform. This device has great potential in remote village schools which may not have access to the Internet but which have students who have mobile phones. The team had one LibraryBox as it was intended to be explored as a proof-of-concept. Based on the student's and village school staff feedback, the device was a hit and others will be gifted on the next study tour. The device was purchased through the Kickstarter program (the world's largest funding platform for creative projects). https://www.kickstarter.com/

The Swinburne students believe they can replicate the devices and quite possibly teach the high school students in the village schools around Pal how to build their own devices through future workshops.

IT Social Audit

The ITfSI-India-2 tour included a data gathering activity, 'The IT Social Audit'.

The audit consisted of a questionnaire (10 Questions in total about technology use by students and village members). Students (both genders) from Pal Secondary, Khiroda College, Open University at Pal, Mohamandli, Jamnya & Lohara schools participated. The audit focused on the age bracket 15-19 year olds per school with the Open University students as a comparison data set. Swinburne student Amber Harli conducted the audit with assistance from Matt Bull and planning/recruitment (gentle 'persuasion') and translation when required by (Ashok) Zambare and Chandrakant (Chandu) Borole. It is envisaged the social audit will provide data for future student tours to analyse the evolving technological needs of individual communities and develop to become a longitudinal study showing the different technological use by geographical areas and social factors.

Right: Zambare, Amber Harli and Matt Bull conducting a social audit on technology use at Pal High School.

Left: Chandu, Amber Harli and Essie Lausberg continuing the social audit on technology use at Pal High School.

Right: Dr. Jason Sargent swaps his Swinburne identity for that of a Lohara High School pupil. Both wonder if anyone at Lohara or Swinburne's Hawthorn campus will notice when the new terms begin!

Jamnya

The tiny remote village of Jamnya (pronounced: *Zum nee ah*) captured the hearts and minds of all tour participants. It nearly captured the whole of Matt Bull's mind after a mishap on the earth brick-making machine!

Above: Matt Bull has his wound treated after being defeated in battle
with the Jamnya brick-making machine (Above Right)

This subsistence-farming village is located along the bumpiest stretch of road any of the tour participants has ever had the 'pleasure' to drive along. The following description of the village is taken from CERES **The Jamnya Project** website: http://thejamnyaproject.org/

The Jamnya Primary & Secondary Schools consists of 400 students and 14 teachers, the majority of student's board at school, using classrooms as sleeping dormitories. Teacher's accommodation consists of small, dilapidated bamboo thatched structures. Sewage and wastewater from the school and teaches quarters drain into a creek on the western periphery of the villages. The majority of homes and the school use indoor, open fires to cook and heat water.

The vision: A safe, durable and comfortable living and learning environment for children and teachers, with a clean water supply and hygienic sanitation facilities for all students; and a school environment that is designed to provide an engaging and stimulating learning environment for all.
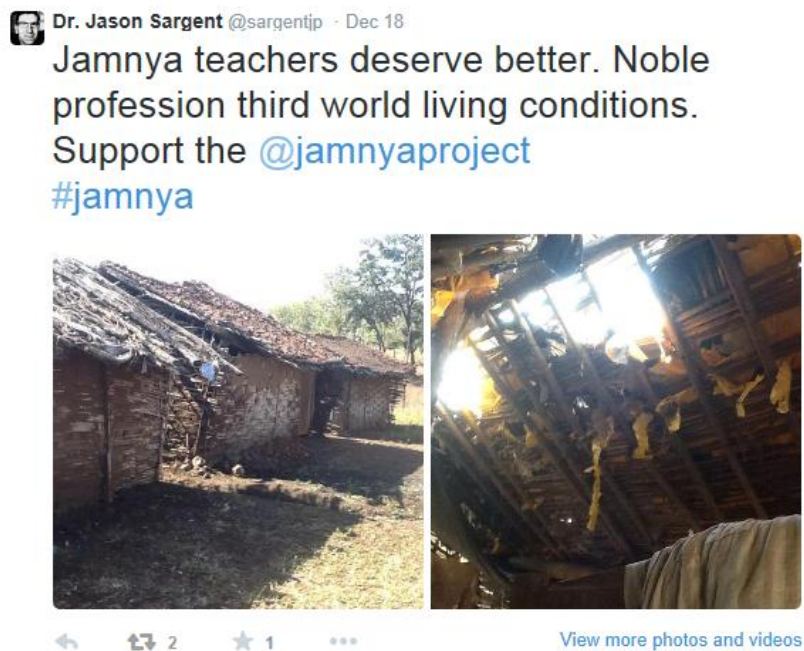
At Jamnya the students conducted further workshops, cheered on rather than actually participating in the brick-making and Jason recalibrated the village weather station which had been damaged in a storm.

The current teacher accommodation was the most shocking aspect for all of us on our visit to Jamnya.

The following Tweet summed up our collective mood:

Above Left: Teacher accommodation at Jamnya. Above Right: A roof that doesn't work!

Credit also needs to be given to the Swinburne 'Tradies' who have built the toilet blocks for the school and would arrive a fortnight after the ITfSI-India-2 tour had departed, to assist with laying the bricks to build the teachers accommodation and hall. The ITfSI-India-2 students also spent time with Paul Adams and Phuong Tang who were prepping the site, building the bricks, training the village brick makers (and doing **much more** I am sure). Phuong's amazing tale of transporting the brick making machine 1,500kmacross India from Auroville to Jamnya is available here: http://thejamnyaproject.org/?p=250

Left: Jason Sargent and Kevin Nguyen gather with new friends at Jamnya for one last photo before heading back to Pal.
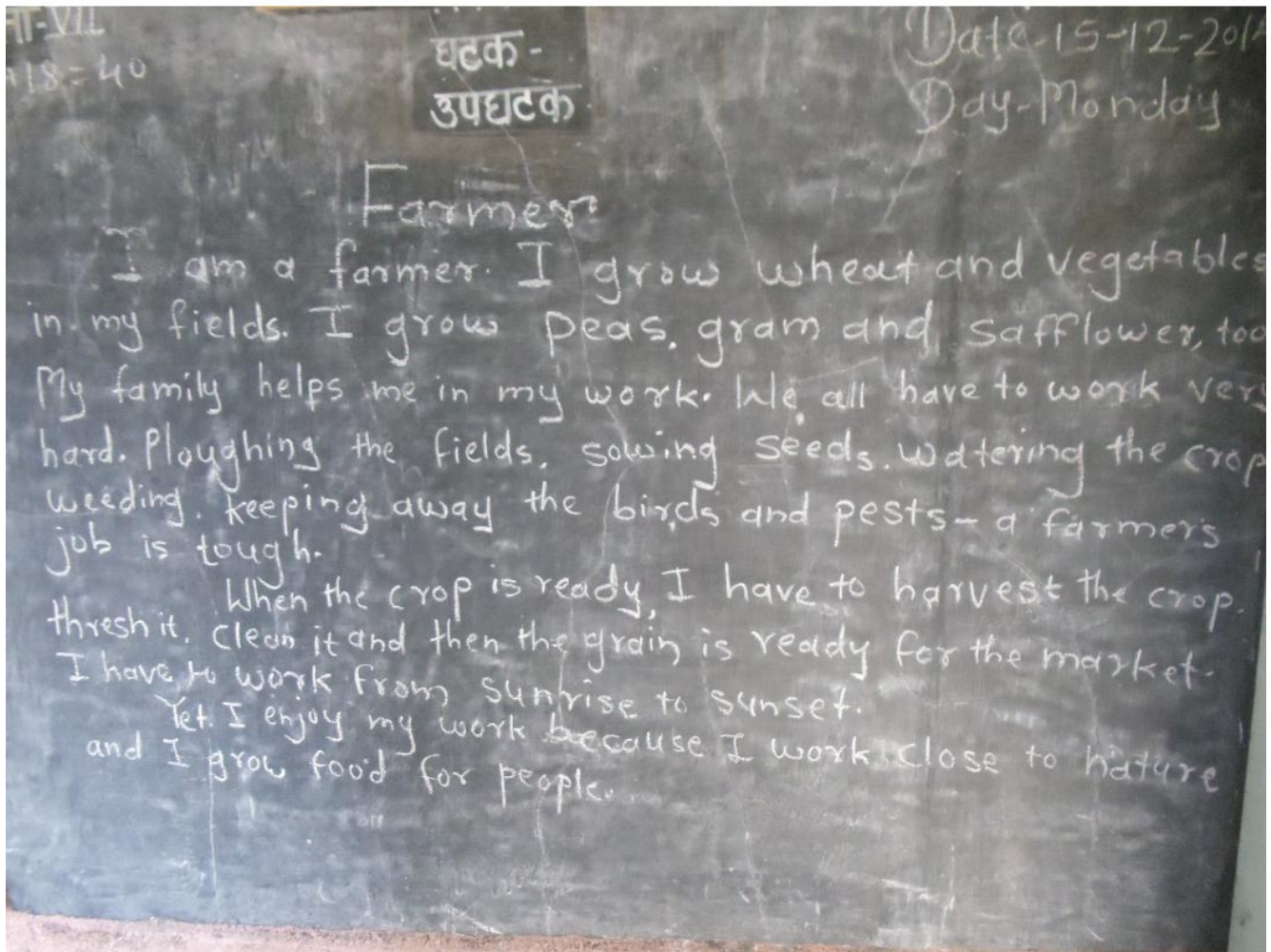
*Above: an inspiring message, written on the Jamnya school board which really
brought home the way of life in Jamnya.*

Our final night in Pal

The final project review was conducted as the last activity in Pal before we packed up our belongings for the journey back down the mountain to Bhusawal and our overnight train to Agra. The project review was attended by our main stakeholders: Zambare, Chandu and Noel. We looked back over our activities and asked for feedback particularly from Zambare on how he had perceived our achievements. We reflected on the alignment of our mission statement and project charter which we had outlined on our arrival in Pal, 10 days ago. We then asked Noel his views on how we had integrated into and supported the communities we had visited and worked with. Noel then suggested that each one of us take turns to reflect on our own personal journey and impact. We had known that the trip so far had been special but the level of impact was perhaps deeper than anyone of us knew as we realised our time in Pal and India was drawing to a close.

The words and emotions expressed on that night will live in the memory of all those present for a long time to come.

Days 13-15 Agra, Taj Mahal and New Delhi

After saying our goodbyes we boarded the overnight train to Agra with plans to visit the Taj Mahal the next day before a brief stop in New Delhi to celebrate our journey and bring it to a close, to say farewell to Noel and head back to our loved ones in Melbourne in time for Christmas. Our plans didn't quite turn out as we had thought and our train journey took considerably longer than expected. The words 'The Amazing Race' now brings a smile to the faces of all ITfSI-India-2 participants. ☺

Above: Kevin Nguyen and Matt Bull, 3rd Deck of bunks, settle in for the 14+hrs ahead. Look closely in the middle and you will see Sam Coonan already scratching his head and wondering how he missed ticking the 'Fly to Agra Option' on the tour paperwork.

We eventually made it to Agra with some agile project management (change of hotel for the night) followed by a dash through the fog the following morning to witness Shah Jahan's adoration to his wife Mumtaz Mahal.

Above: Matt and Noel check the Lonely Planet Guide once more to make sure the Taj Mahal is where it should be (100 metres ahead of us) while Essie takes the photo of Sam, Kevin and Amber at the 'Fog' Mahal.

Cultural Immersion

Hindu festivals, discussions on arranged marriages and 'authentic' (i.e. delayed) Indian train journeys are not normally the first things that spring to mind for *IT for Social Impact* study tours. However, these were just some of the many incredible experiences which occurred for the students and staff on the ITfSI-India-2 tour.

Above Left: Boyd Callahan gets his groove on. Above Middle: Amber Harli and students at Khiroda.
Above Right: Hindi lessons with Chandu. "Mai Jason Hu"

Above Left: Matt Bull and friends at Mohamandli School. Above Middle: Kevin Nguyen and Matt Bull having way too much fun at Jamnya, cheered on in the background by Essie Lausberg and Sam Coonan. Above Right: Our rooftop view of 'The parade of the pink saris'.

Above Left: Discussing the meaning of life with the Pal Hindu guru (Expertly translated by Chandu!)
Above Right: Essie Lausberg models the sari made and tailored for her by ladies in Faizpur and Pal.

Where to from here?

The December 2014 India trip was the second step in what will hopefully be a long-standing relationship between Swinburne University of Technology, SVM, CERES and Pal and the surrounding villages and schools. The tours offer exceptional value on so many levels to the students; culturally, personally and professionally. Resilience, empathy, patience, initiative, project management, communication and leadership were just some of the qualities developed by the student participants on this trip. Each tour opens a new window of opportunity to build on the previous tour's work and to explore new ways technology can be deployed in supporting the communities of Pal, Khiroda, Mohamandli, Lohara and Jamnya. Some of the activities in the 'thought bubble' stage for ITfSI-India-3 include:

- Website and social media development for SVM and KVK;
- Mobile App development for maternal and child health;
- Geographical Information Systems (GIS) to map and profile the culture of Pal; and
- Aerial surveillance of crops, forestry and land degradation through the use of unmanned aerial vehicles (UAVs);

The on-going technology and social audits, hands-on workshops, evaluation of the Kano's and LibraryBoxes as supplementary resources for curriculum delivery will remain central to our visits to local schools and organisations such as KVK. Along the way, the tour participants will also get to experience unforgettable moments like wandering the alleyways of Dharavi, hiking to the mountain lookout at Pal, hoping the fog has lifted by the time we enter the gates of the Taj Mahal and sharing one amazing meal after another (in Pal, at each school and in some cases, in the private residences of SVM staff). Regardless, tour participants will be reflecting the radiating smiles of our hosts. The *measurement of the level of social impact* should also be explored further. Frameworks that assist in understanding what is basically an intangible benefit to the communities and schools we visit may provide greater clarity on whether we are socially impacting (in a good way) on those communities and schools.

IT for Social Impact… A final word and acknowledgments

…Just adding about social impact… IT for social impact is IT facilitating social impact which stays true to IT being more than just 'technical stuff'. IT is multi-faceted, complex, and applied and as such can easily be 'humanitarian'. The students and I had an incredible time and I would like to thank on their behalf:

Ashok Zambare (SVM) and **Chandu Borole** and all our new friends in Pal and surrounding villages. Your hospitality will never be forgotten.

Noel Blencowe (CERES/CERES GLOBAL) Our guide and mentor through India and **Ben Walta** (CERES Global)

Chris Felstead and **Louise Kellerman** for putting this study tour program into place, breaking the ground for future tours and the advice given to the ITfSI-India-2 group. Thanks also to **John McPhee** (Director of Swinburne Professional Placements) and **Stewart Collins** (Manager Global mobility) for funding contributions towards the tour. Thanks also for the pre-departure assistance planning by **Sonia Chan** (Manager Strategic International Development) and **Roslyn White** (Global Mobility | Swinburne International). Special thanks to **Professor Leon Sterling**, Pro-Vice Chancellor Digital frontiers and **Sandra Luxton** (Associate Dean – Learning Innovation) for funding of equipment used on the tour.

Associate Professor Rosemary Stockdale (Head of the Department of Information Systems, Entrepreneurship & Logistics) Thank you for the ongoing support and encouragement of these India study tours.

Testimonials

The day we left was very emotional for me, I was sad to leave such lovely people.

I'm convinced that every single person in Pal is the kindest person in the world*; everywhere we went there was nothing but smiles, waves and handshakes. The two standout individuals would of course have to be Chandu and Zambare. Their dedication to anything they do is pretty inspirational. Chandu was there to help with ANYTHING we needed.*

I felt so welcomed and looked after from the moment we arrived until the moment we left.

It's been well over a month since I've gotten back from India, but despite that, there hasn't been a day that's gone by without me reminiscing on the many adventures we've had during our trip.

…when I say team I think it's easy for people to get side-tracked and just talk about the students, or just talk about the Swinburne team, or just think about the guys from Australia but that's still far too short sighted. It was the amazing effort from everyone involved that made the team, without the patience, hospitality and skills from the likes of Zambare and Chandu, The expert advice from Noel and Jason. In regards to our team, and team dynamics I don't think it could have gone any better.

I love exploring, learning new things, finding new places, meeting new people and seeing cool stuff. India was all of these things rolled into one and then multiplied a couple times over.

…the biggest positive social impact we had while we were there was really laying the groundwork for future groups with the Social Audit. Our 2 week trip was really only the start of hopefully a long ongoing process of catching Pal up with the rest of the world. I think the social audit was the required framework for that ongoing process and I think the audits + the work we'll do analysing it over the coming weeks will have more social impact than we can count for at the moment.

*Left: We made the local newspaper
(In a good, non-embarrassing way).*

We're ready for ITfSI-India-3

Above: "Namaste. Hello, is that the Swinburne IT for Social Impact Hotline?

…It's Chandu Borole calling from Pal High School.

We're ready for ITfSI-India-3!"

Further details

Academic publications (journal's and though-pieces) are being developed from the ITfSI-India-2 trip. If you would to know more about the December 2014 tour, any particular aspect, technology or opportunities for participation on future tours and/or be sent a copy of the forthcoming publications, please contact:

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Above: A mandala to welcome the Swinburne students to one of the
community schools (Apologies if I have the image upside-down)