



Hounsdown School

Field visit to

Raipur India 2014



The generous support of the Frederick Soddy Trust is kindly acknowledged in the grant of £500 towards the costs of this field visit.



The field visit group from Hounsdown with their Indian partners from DPS Raipur, parents and accompanying DPS teachers at a new tourism park development next to Gangrel HEP dam



Hounsdown School field visit to Raipur India, February 2014

Change and challenge in the Raipur community, India

The context for the 2014 visit

This field visit follows on from two rounds of teacher exchanges with Delhi Public School in Raipur, Chhattisgarh State, India under the aegis of the British Council Global Schools Partnership Initiative where two staff members from each school have visited and taught in their partner school on two separate exchanges. Further to these staff exchanges, Hounsdown School took 10 students aged 14-16 to Raipur, accompanied by two experienced staff for 11 days from 13th to 24th February 2014; spending 10 days in the field to experience and study Raipur and the surrounding region. This has cemented and expanded the learning opportunities that the link with DPS Raipur has already offered to our students. Both accompanying staff members – Miss Cook and Mr Holder lead the Partner Schools Initiative, taught at DPS Raipur for 10 days in February 2012 and have extensive experience of residential visits, including Iceland previously. This is a region of rapid urbanisation and industrialisation, demonstrating for our students in a manageable area, the changes that are driving India's development forward, whilst at the same time presenting the human and environmental costs and challenges that have to be faced and overcome.

The field visit has significantly supported each participating student's personal development and our student leadership programme; contributed to the on-going Geography Project with DPS Raipur and supported understanding and progress in a wide range of other curriculum areas at Hounsdown. Our students are sharing their experiences in lessons, assemblies and to staff, governors and parents upon return. India and DPS Raipur as our host, offer an ideal opportunity for our students to actively experience a country, culture and environment very different from their own and to study with their Indian partners at DPS. The rapid development in Raipur offers challenges for sustainable development and the human community there. The learning opportunities presented in situ, lie at the heart of the global citizen ethos which our curriculum seeks to foster.

We have so far electronically shared data and subsequent studies with students at DPS Raipur comparing socio-economic surveys of families in each other's communities in 2011 and water resource management issues in our communities in 2012. Currently, we are sharing a study of gender issues and globalisation and were able to talk directly with our student counterparts during this visit and received a data presentation from DPS on gender issues affecting work, literacy, death rates in females and career prospects, as well as media attitudes. The study plan below and the itinerary for the visit in 2014, provided opportunities to study a number of aspects of the human community in the field and to work with students in DPS Raipur:

We were able to experience the following in 2014:

- The education of rural girls in the village of Nardaha which has been adopted by DPS Raipur to enable them to gain practical and ICT skills to become economically active.
- The growth of employment in bio-technology industries including GM crops and algae bio-diesel. We visited Deveela Biotech, a company engineering strains of bananas.
- The shanty settlements in Raipur as a consequence of rural to urban migration in Raipur to work in the construction industry and temporary work camps along new highways.
- A comparison of quality of life between villages, Raipur student and UK homes.
- The influence of globalisation in the growth of Raipur's shopping malls and global brand penetration, together with how this is influencing the Indian 14-16 age group and adults.
- Education for sustainable energy at Urja Park outside Raipur.
- Tourism development and employment associated with Barnawapara Wildlife Sanctuary.
- Further development of the joint Geography and Ethics and Beliefs Project with DPS, discussing the results of a joint questionnaire survey with DPS to establish attitudes to gender issues and to compare our two communities.

Final Itinerary 13th to 24th February 2014

Day 1 Thurs

Travel to Raipur via Mumbai.

Observe shanty settlements at airport perimeter and from flight out to Raipur.

Day 2 Fri

Arrive DPS Raipur 8.30pm.

Day 3 Sat

Attend assembly. Hounsdawn introduced to school by Indian partner.

Hounsdawn students attend lessons with Indian partner.

Work with Eco-schools Group on endangered species and on waste management joint project between our schools

Urban transect from school to city centre – overview of housing, retail, traffic and waste management issues.

Evening meal hosted at a hotel.

Day 4 Sun

Travel 90km south to Gangrel HEP Dam. Study brick making, rice farming and rural life en route around settlement of Sambalpur and Dhamtari.

Visit lakeshore and new tourist park by reservoir responding to Chhattisgarh State's desire to develop tourism revenue and infrastructure.

Attend Indian wedding of family of one of DPS exchange students in evening.

Day 5 Mon

Hounsdawn do school assembly on cultural and business ties to the UK.

In Dance studio - interview for News 24 TV about the exchange.

Play Khokho against DPS students on sports field.

PM - students visit exchange partner homes giving quality of life comparison opportunity.

Evening visit Malls including Ambuja for shop survey and globalisation study followed by meal with Indian exchange parents.

Day 6 Tues

Hounsdawn students attend lessons with DPS Indian students.

Hounsdawn compete in Kabaddi against DPS and then attend food festival at school.

Visit city malls for further study with exchange partners.

City Mall for Hindi Bollywood movie – chance to study a mall showing transition from Indian to western influence in shop types.

Day 7 Wed

Morning transect through Nardaha village observing rural life, housing and craft business activities. Visit to government infant school. Donate sewing machines and establish business link between Hounsdawn and Nardaha village girls to sell textile crafts. Movie footage shot and interviews for promotional movie in the UK.

Attend junior school assembly – Q and A session with audience.

Visit bio-technology business to learn about quaternary sector activities in Chhattisgarh.

The school management host a party at the function garden for Hounsdawn - networking with local business elite.

Day 8 Thurs

Travel to Barnawapara Wildlife Sanctuary. Stop at Sirpur village and banana plantation en route.

In the afternoon, study human and physical geography of Barnawapara and surrounding villages including employment, catchment and environmental aims of Mubas Machaans. Go on a safari, viewing mammals and deforestation and agricultural incursions.

Day 9 Fri

The group are transported by bullock cart to local village and interview government school head and visit lessons. Visit village house to compare lifestyle and material goods / quality of life to urban Raipur and UK homes of participants. Group drive on by jeep to visit the braided River Mahanadi to the west and examine sustainable use of river bed and dung resources in melon farming.

Barnawapara Safari 2.30 – 8pm.

Day 10 Sat

Explore rural forest and villages outside Barnawapara protected area. Visit reservoir, study brick making and use of timber resources for kilns and bullock ploughing. Trek to cave for forest panorama and to a waterfall gorge. In the afternoon, drive back to Raipur via New Raipur, the new capital that is currently under construction.

Day 11 Sun

Drive 1hr 30 mins out of Raipur to Hindu pilgrimage temples at Champaran and return via Purkoti Muktangan cultural park giving further opportunities to study rural life and regional religious tourism and a local leisure attraction.

Day 12 Mon

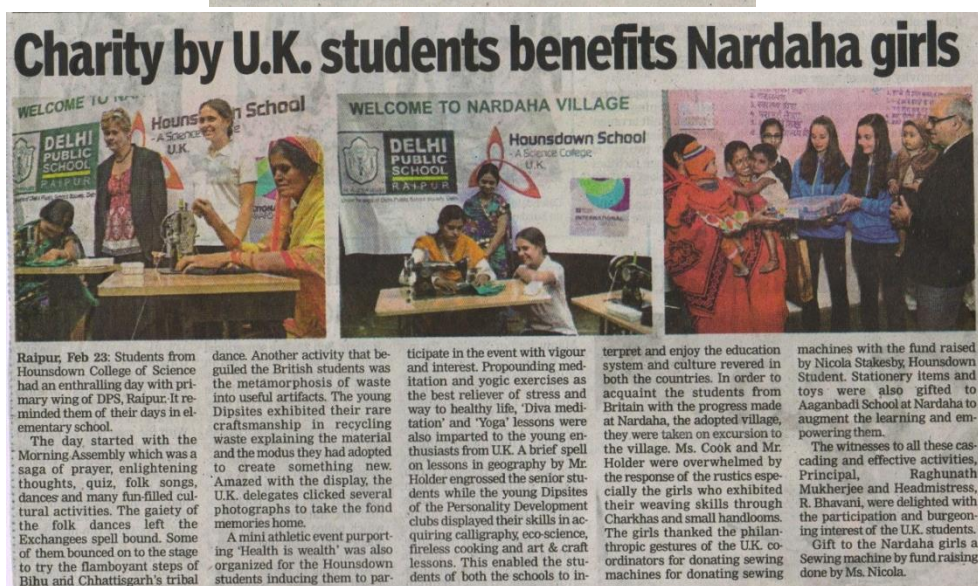
Fly back to UK via Mumbai 9.10am to 10pm local time.

In the following section are outlined some examples of activities, experiences and learning points on this field visit in response to the key aspects of the human community that we had planned to study.

- The education of rural girls in the village of Nardaha, which has been adopted by DPS Raipur to enable them to gain practical and ICT skills to become economically active.

Nardaha was adopted by DPS Raipur in 2011. They have a programme designed to help village girls enter the money economy by teaching them craft based skills and computer literacy via their Art and IT departments. Hounsdown are linked to the village by undertaking fund raising via our Global Committee of students, who raise money to support the village textile business with equipment. On our visit, the group visited Nardaha village, studying handloom work making rugs from old sari materials. We presented two treadle sewing machines to enhance their productivity and were able to negotiate the production of bags and scarves from recycled saris that could be sold in the UK as a joint venture between the village girls and our two schools in winter and summer fairs. Local press coverage was given to this support.

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At this village and at Barbaspur and an adjacent village within Barnawapara Wildlife Sanctuary later in the week, our student group was able to visit a government village school. They questioned the headteacher, learning that the Indian government is taking steps to encourage female literacy by providing free meals and uniforms, ensuring that poorer families sent their girls to school up to 10 Standard Class. After this age –secondary education, many girls

returned home through tradition and due to the cost of further schooling. It was noted that 30% of residents leave the village seeking work in the city. Although painted posters on village walls encouraged smaller family size, the average size for the village was 4-5 children.



Nardaha village



DPS Raipur

- **Tourism development and employment associated with Barnawapara Wildlife Sanctuary.**

Barnawapara Wildlife Sanctuary, located to the north of Mahasamund district in Chhattisgarh is regarded as one of the best wildlife sanctuaries in central India. As compared to other wildlife sanctuaries in Chhattisgarh, it is a small sanctuary covering an area of about 245 square kilometres. It was established in 1976 under Wildlife Protection Act of 1972 for preserving the wide ranging species including some rare and exotic flora and fauna. The area surrounding the sanctuary mostly comprises flat and hilly terrain with altitudes ranging between 265-400 metres. It is renowned for its dense forested lands, lush green vegetation and unique wildlife. The Hounsdown group spent 3 days at the park at Muba's Machaans and were guided by the owner of the resort Mr Junaid Khan who created an excellent itinerary in response to requests made our pre-visit from February 2013, where we had asked to learn more about tourism development, habitat pressures and the link to the local community.

The group learnt that the resort employed local villagers as a key pressure on the Barnawapara Sanctuary arose from incursions for firewood and the villagers within the park who were gradually being relocated. The resort employed 8 men, 2 teenagers and 3 women whilst we were visiting for catering, site maintenance and guiding. Income from tourism provided a reason for villagers to value the forest resources. A low carbon footprint was encouraged through local materials being used in construction and wood being used for fires to heat water

in the accommodation. Mud bricks and cow dung were employed for wall construction as a renewable and thermally efficient material.

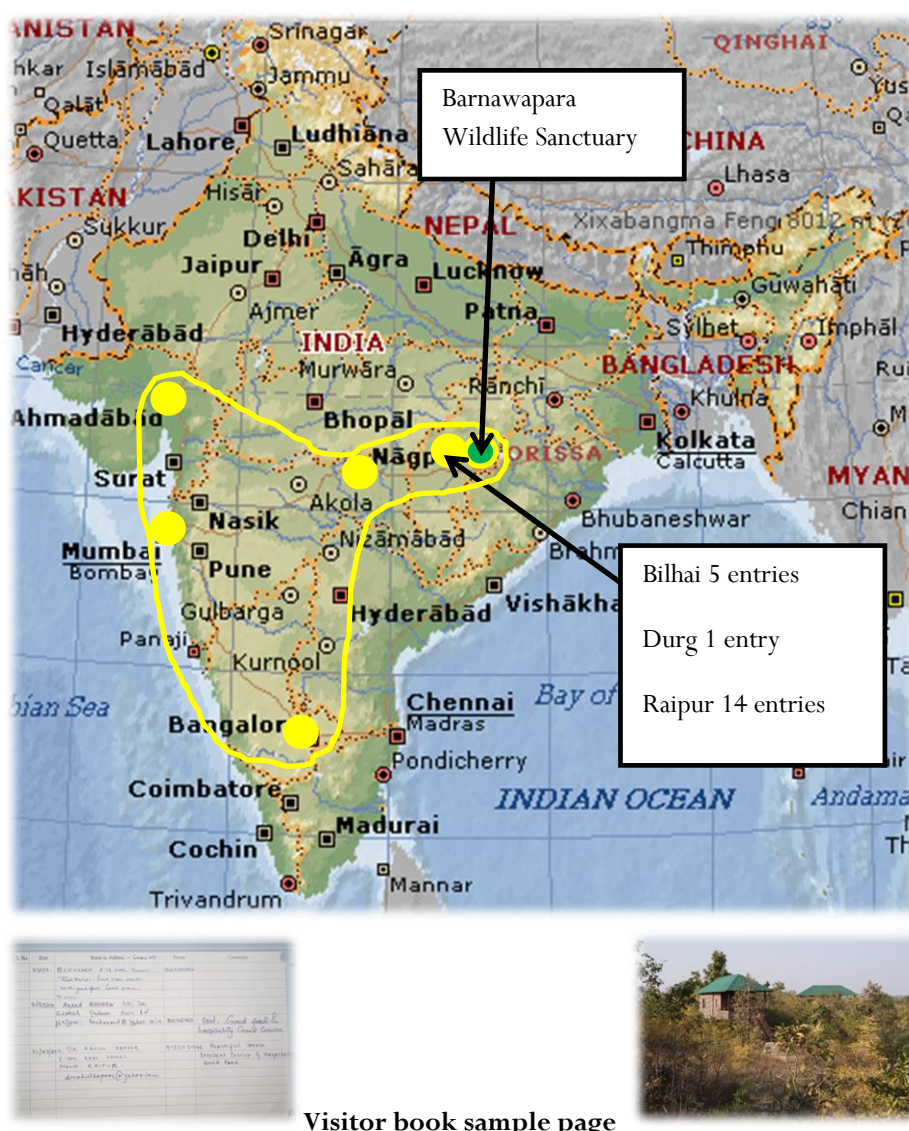


Wood fired water heater, meeting and dining area and waiting to leave for a safari at Muba's Machaans



Mud brick and cow dung conference / meeting building at Muba's Machaans

Visitor Catchment for Muba's Machaans, Feb 2013 – 2014



The visitor book was used to sample the visitor catchment and of the 60 entries, apart from our pre-visit, our field visit and one Australian guest, there were no non-Indian visitors recorded. A recently developed conference building on site was being used to train government school teachers in environmental education to broaden the environmental awareness of village educated children. It was interesting to learn that in this relatively unknown and generally industrial area of India, some compromises have been made in the groups of clients attracted to this eco resort in the interests of revenue generation to support the broader environmental work of the resort. Indian corporate groups were attracted at weekend to a military style assault course that they had built within their grounds.

It was noticed that the large representation of visitors from Raipur, Bilhai and Durg included both family groups and corporate visitors from Bhilai Steel Works and a cement works. More distant Indian visitors originated from major business centres including Bangalore, Ahmadabad and Mumbai. Students recognised the disposable income required by Indians to stay at Muba's

Machaans and surmised that they were likely to be professionals. Indeed, a number of entries who chose not to give their address were doctors and the Bangalore community were associated by our students with the IT sector. Farmers and agro-scientists had met at the resort to encourage sustainable use of dry season river beds for the cultivation of melons. The group visited a site to the west, noting the ridge and furrow system on the braided river bed and the use of cow dung as fertiliser concentrated around each melon plant in the gravel substrate. Up to 80 lakh rupees could be earned per half acre of melons.



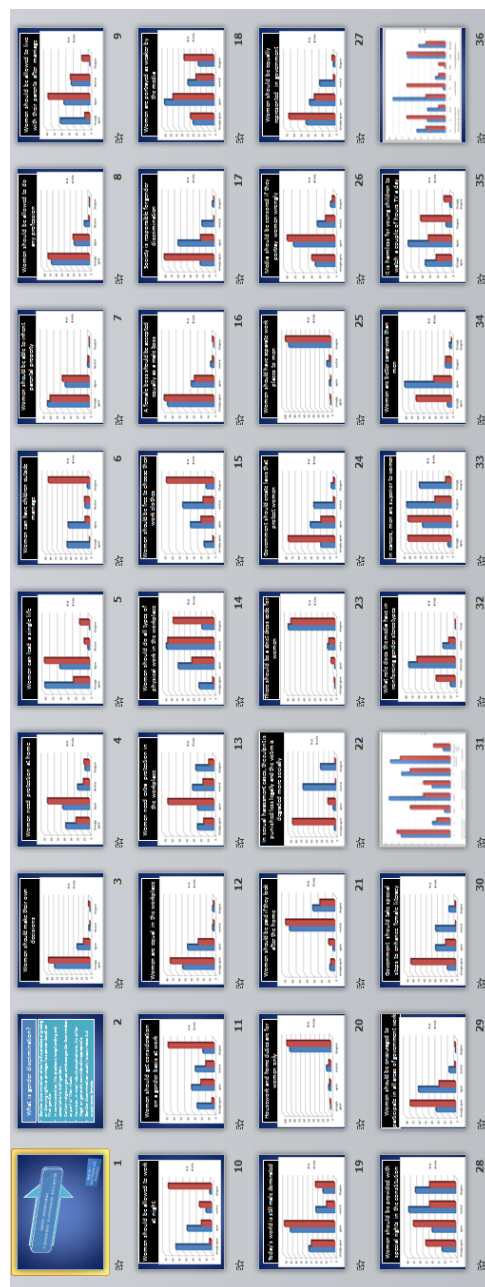
Melon farming on the bed of the River Mahanadi, Chhattisgarh

Students were able to understand that renewable resources such as cow dung had multiple purposes, having seen flooring, walling and circular dried disks for cooking fuel made from this material in villages. Day and evening safaris allowed our students to see many of the mammals and birds being protected in Barnawapara Sanctuary including a single leopard, as well as gaur, porcupine, civet, sloth bear, 4 bat species, langur monkeys, jackal, spotted deer and nilgai blue bull; whilst at the same time seeing human pressure from agricultural incursions at the edge of the sanctuary and selective felling of timber for fuel for villages still within the sanctuary. There was a programme of gradual removal of villagers and resettlement to outside the sanctuary.

- **Hounsdown undertook a joint questionnaire based survey to establish attitudes to gender issues and to compare our two communities.**

The questions were devised by DPS Raipur students and shared with our school when two DPS staff visited our school to teach in 2013. Having shared our school's results by email, we were delighted by the detail of the comparison to our results completed by DPS students. This was presented to us in the school's audio visual room and included a comprehensive analysis of the results, commentary and a question and answer session on gender between Hounsdown and DPS staff and students. Whilst gender inequality in India has received considerable global media coverage, our students found the open and frank analysis and discussion from their Indian counterparts surprising and insightful. A sample of the shared work is shown below.

Previously, our students had investigated the context for some of the questions posed by DPS students and as a result had considered issues such as the career glass ceiling of Indian women, sati, dowry and female infanticide. This Geography curriculum project had also supported work in our Ethics and Beliefs department who had undertaken a Socratic debate resulting from a bus rape case in India and the study of the modern suffragette movement in the UK. A DVD of this debate was given to DPS as a teaching resource.

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DPS Raipur work from the joint Geography project, presented and discussed with the group on the field visit



- **Globalisation in the growth of Raipur's shopping malls and global brand penetration and how this is influencing the Indian 14-16 age group.**

Ambuja Mall, the most recently constructed of Raipur's 8 malls was visited by the Hounsdown group. A shop survey of this mall revealed only 3 of the 54 stores focused exclusively upon Indian products, one being Fab India, a shop selling a range of Indian made gifts and two clothing stores. The mix of stores showed a dominance of clothing – 59%. Western Brands dominated, including Nike, Puma, United Colours of Benetton, Reebok, Adidas, Levis, Lee and Wrangler. Food franchises made up 18.5% of businesses. These food related businesses were primarily Indian, but included a pizza franchise and 2 Chinese food franchises. In other city Malls, Domino's Pizza and KFC were popular with the DPS students.



In addition, the study mall included a coffee shop, 2 toy shops, 1 hair and beauty salon, a cinema, amusements arcade, hypermarket very similar in stock to Wilkinson's in the UK, a department store clearly modelling itself on a Debenhams style layout, a 99 rupee store and a PC games shop. Students were able to see how clearly a western lifestyle choice of visiting the mall to shop, people watch and socialise had been transplanted to this region of India, supported by the rapid growth in industry and disposable incomes leading to aspirational lifestyles.

It was thought telling by our students that all signs were in English, the music being played 1970's easy listening chart hits from the UK and the lit billboards inside showed very European looking young adults besides adverts for luxury apartment developments in Raipur and office space within the mall. The large car park was primarily full of motor scooters as the 16-30 age group visited on the weekday evening to socialise. This out of town location was now a popular location for the car owning community to visit on a Sunday. The juxtaposition of the rice fields to the west and the slums beyond on the eastern fringe of Raipur gave our students a clear vision of the wealth disparities that rapid and successful development is generating in this region of India. The mall was also an attractive diversion for the local rural community, who were visiting the mall simply to ride on the escalators and people watch.



Ambuja Mall – the most recently constructed in Raipur

- **The growth of employment in bio-technology industries including GM crops and algae bio-diesel.**

The group visited Deveela Biotech - a great example of quaternary sector R&D employment in Chhattisgarh. The company is applying cutting edge genetics to tissue culture high yield bananas without viral contamination for distribution throughout India. Students were able to observe all stages of production from tissue culture in laboratories to the hardening off process for the young 10cm banana plants in the nursery before they are ready for transplanting. Meristem culture, gene sequencing and callogenesis techniques were demonstrated to our students that enabled the company to clone virus free bananas. This was the only commercial laboratory in Chhattisgarh currently undertaking this work.

The lead staff at Deveela, were questioned about resistance to GM and were informed about opposition in India. The staffing was explained and the coordinator had an MSc in Bio-technology and was currently researching her PhD on the medicinal value of a particular tree species. Local university and college level students worked in the laboratory as work

experience assistants. The locals employed to cut plant tissue in the inner laboratories were expected to produce a given quantity of sterile tissue for culture per day and in the plant nursery, lower castes worked potting out and packing crates of finished plants for sale. A price of 8 rupees, approximately 7 pence per plant was quoted to our students as the current market value. The journey to this company had taken our students through some poorer communities in Raipur and as one of our students commented, who had previously undertaken work experience in a nano-technology laboratory at Southampton University – ‘When I’m in here, I can’t tell I’m in India’.

We were lucky that on the road journey to Barnawapara Wildlife Sanctuary later in the fieldtrip, students were able to observe a commercial banana plantation with mature plants on Highway 45 west of the settlement of Arang.



Deveela Biotech and commercial banana plantation

- **Education for sustainable energy at Urja Park outside Raipur.**

Students were able to see the Energy Park close to Deveela, which displays the various renewable technologies that India is using in informative pavilions set amongst flowery gardens. This is a popular educational resource for local schools and a tranquil green oasis that is rich in birdlife.



- The shanty settlements in Raipur as a consequence of rural to urban migration in Raipur to work in the construction industry.



A migrant worker settlement to the east of Ashoka Ratna estate Raipur, taken from the rooftop of an apartment block in a gated estate



Road workers at Barnawapara



Construction work at Nardaha village – women excavated and carried whilst men supervised

Chhattisgarh is a new and rapidly developing state formed in 2001 from a section of Madhya Pradesh. Main centres of population such as Raipur are fast expanding industrial, urban areas, with growing wealth based on mineral resources and science such as bio-technology. The state currently has an estimated 21 million people in an area roughly similar to England. Given this context, students regularly observed migrant workers and local workers, particularly associated with the rapidly expanding dual carriageway road network and also on some concrete high rise blocks. Some resided in temporary tarpaulin tented shelters to give mobility as work progressed. Building construction resulted in more permanent dwellings such as those observed close to Ashoka Ratna in the above photograph.

It was noted that those who had been part of permanent rural to urban migration lived on marginal land such as the edge of the railway to the west of Ashoka Ratna estate in Raipur. Students quickly noticed the large numbers of lower caste female workers undertaking manual labour, especially carrying aggregates and excavated mud on their heads. Some were accompanied by pre-school children. The temporary dwellings of these workers tended to cluster along perimeter walls of construction sites. Water was stored in an oil drum for domestic use and cooking and food preparation was carried out on the ground outside. Cooking used kerosene stoves or wood and the only significant material possession noted was a bicycle.

- **Quality of life comparison between villages, Raipur student homes and UK homes.**





Student images from study villages near Gangrel Dam, Barnawapara, Nardaha and Sirpur.

The Hounslow group were able to visit villages at Gangrel Dam, Nardaha, those close to Mubas Machaans at Barnawapara and Sirpur. Students visited the homes of their Indian counterparts in Raipur. DPS being a fee paying private school, gave our students access to the homes of the wealthiest residents in Raipur. At the village scale, students were surprised by some of their discoveries. Outwardly, the mudbrick and cow dung construction seemed to conform to a stereotypical view of rural India they had perhaps carried with them. However, when entering a courtyard dwelling representative of many close to Barnawapara, they were greeted by the sight of an Airtel TV satellite dish attached to the side of the family shrine giving access to multiple channels. The girls of the family used their mobile phones to take pictures of our group. So, whilst construction materials were well adapted to the climate and were sustainable local materials, modernity had entered some aspects of life. At the same time, bullock carts and bicycles were the main modes of transport and cow dung discs fuelled cooking fires and water came from a hand crank pump in the street. There were 3 of these for a village of 1200 people. Washing of clothes and themselves was still carried out in ponds around the village.

In homes in the city, most families that our students visited lived in apartment blocks within private gated communities. Material possessions inside were found to closely mirror their own in the UK, including access to tablet computers and satellite TV, though car ownership was lower. The partner families averaged 2 cars per household and women favoured independence

through motor scooters. A big difference was the employment of domestic help – both male and female to clean, cook, wash and iron clothes for the families. A maximum of 5 maids was encountered in one household. Some employed their own driver. Interestingly, whilst we had often talked about the extended family sharing one home, with elderly parents living with their adult children and grandchildren, only three of our 10 students encountered this tradition at their Indian partner's home. Gardens were not often encountered and play was done in the streets and parks within these gated compounds. These real life experiences provided further insight into the socio-economic comparison survey that had been shared between the schools in 2012.

In Summary

This was an incredibly demanding experience for our students with 18 hour days every day and cultural differences to accommodate. They adapted extremely well to life in India eating local food for virtually every meal and integrated well with DPS students and their host families. The weekly preparation meetings throughout the year for both students and parents and the careful selection of students initially, were crucial to the success of this field visit. Challenges included having to make speeches, sometimes in front of high profile members of the community, being part of a new family and embracing new skills such as teaching parts of lessons. There was clear evidence of personal growth in each and every student and they left feeling proud of their achievements and with a set of memories that will last a life time. Both Mr Holder and Ms Cook agreed that this trip was a highlight of their careers as teachers.

The visit proved productive from the point of view of networking with our Indian exchange partner parents, generating further field visit possibilities for February 2016. As a largely wealthy business and professional community, they provide a portal into these communities for study. Potential future study locations include a visit to a large dolomite quarry run by one of the parents and the Bhilai Steel Plant has also been proposed for future visits. We were also able to build upon the experience of visiting Barnawapara Wildlife Sanctuary to develop the next joint Geography Project with DPS Raipur, which at present is likely to be an examination of human pressures on protected environments such as national parks. This seemed likely to be highly productive as our students had already experienced agricultural and settlement incursions together with deforestation within Barnawapara on this visit. Our school in the UK is sited within 1 mile of the New Forest National Park.

The visit to DPS Raipur surpassed all expectations in terms of the quality and range of learning experiences for our students both at DPS and out of school. These included taking part in lessons, sharing joint curricular work in the current Geography Project and participating in assemblies. Beyond the school, field visits to Barnawapara Wildlife Sanctuary and surrounding villages, as well as visiting the city centre and out of town malls provided excellent contexts for geographical study of the human community and the challenges of rapid industrialisation. The students were excellent ambassadors for the school. They embraced everything with enthusiasm and great energy. At DPS, the visit was given a very high profile, including the Hounslow group photo being on city billboards, extensive newspaper coverage and a TV

news interview. In his final speech, the Principal commented on the very positive impact our students had had on the DPS community.

Our sincere thanks are expressed to the Frederick Soddy Trust in their financial support to assist in helping this field visit go ahead.

This field visit report was prepared by Mr M Holder, Teacher of Geography at Hounsdown School.

February 28th 2014.



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