





#### FIRST FESTIVAL OF INNOVATION

Rashtrapati Bhavan, Delhi 7th to 13th March 2015 Organised by the Honey Bee Network

# CHILDREN'S CREATIVITY AND CO-CREATION CAMP/WORKSHOP 9th and 10th March 2015

#### Introduction

The First Festival of Innovation organized by the Honey Bee Network consisted of several events at the Rashtrapati Bhavan, New Delhi: the 8th biennial awards to National Grassroots Innovators and exhibition, SRISTI Sanman awards to outstanding Traditional Knowledge holders, the 4th Gandhian Young Technological Innovators awards and exhibition, the 2nd Children's Creativity and Co-Creation Camp, exhibitions on medical appliances and sanitation innovations, the Global Roundtable Discussions on Inclusive Innovation, and more. The President of India, the Honourable Shri Pranab Mukherjee attended the award ceremonies and the Global Roundtable Discussions.

The Children's Creativity Camp/Workshop sought solutions to societal problems in slums around Delhi through the creative ideas of 35 privileged children from around the country and 35 underprivileged children (see Appendix i for list of schools and nominating organisations.). The workshop was held in the exhibition tent of the Festival of Innovation, thus exposing the children to innovations by children, technology students and people at the grassroots like farmers, mechanics, etc.



Children were asked to decipher the meaning of the ideas of children who won IGNITE 2014.



Rahul Prakash from National Innovation Foundation motivating children to think about new and creative ideas to everyday problems.

The children were given an exposure to different solutions to real life problems tried by innovators at the exhibition, and they were encouraged to imbibe the same empathetic values in developing innovative ideas to solve basic problems faced by people living in under privileged areas like slums.







Nobel Laureate Muhammad Yunus joins the workshop

The overall objective of the programme is to develop an operational framework for empowering children to not only articulate their problems but also to find solutions both individually and collectively. This programme will help us understand how young children can be a significant part of the national innovation value chain. The Inverted Model of Innovation implies that children ideate/innovate; fabricators design and

companies/agencies diffuse commercially or socially. Involvement of children in solving their challenges will help us understand micro and macro strategies, which can mobilise the creative potential of children around the world. This may help in overcoming persistent social inertia in developing countries. Thus children will address: a) The challenges that they face, b) Challenges that the society around them faces and c) Other problems that inhibit the unfolding of their potential. The workshops aim at tapping the dormant creative potential of underprivileged children who probably did not have the courage to articulate their ideas. Likewise, those children and youth who have innovated in some areas may come out with creative ideas in other domains as well.

The workshop was held over two days. The first day involved brainstorming, visiting the displays in the Festival of Innovation exhibition and meeting grassroots innovators, a briefing on field work and then visits to the slums. On the second day the children worked in groups in the exhibition tent, sketching the problems and presenting their ideas to solve them.

### **Brainstorming**

The preparation prior to the visits to the slums focused on developing creative ideas and gaining confidence in generating solutions. During an 'on the spot idea competition' the children came up with brilliant ideas considering bicycles. Where we normally consider a cycle only as a tool for transportation, these children saw it as a livelihood and subsistence tool. What we adults regard as normal, children look at with different and interesting perspectives. Once their curiosity is triggered there is no looking back. The ideas generated by the children in a matter of a few minutes were:

Electricity generation from a cycle Cycle can be used to power escalators and... Cycle can be used to extract sugar cane juice -Mohammad Rafiq

Cycle can be used to grind grains; Harvesting can be done by a cycle and Cycle can be used for film projection – Ashu Chandra Sweeper can be attached to a cycle – Tanu Blower can be attached to a cycle and Cycle can be used to wind wires –

Affan Siddiqui

Cycle can be used as a plough – Kajal Verma Cycle can be used for cutting grass –

Vivek Kumar

Cycle can be used for thrashing paddy –

Mayal Lepcha

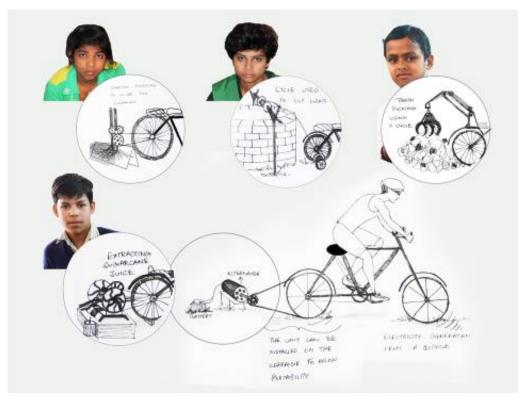
Cycle can be used to break-up soil clods in the field –

Abu Sufiyan
Cycle can used to draw water from a well - Richa Kumari
Trash picking machine can be attached to a cycle –

Ahmad Raza

### Illustrations of the various uses of a bicycle





#### Visits to the Slums

After a briefing on how to conduct the fieldwork and use the documents, the children were divided into four groups of 14 to 25 children, each group comprising privileged and underprivileged children, led by SRISTI personnel and volunteers from NGO's in Delhi. Each group visited one slum area of Delhi: Bhalaswa, Yamuna Pustha, Batla House and Kusumpur Pahari to interact with the local communities and children and to observe and study their day to day problems.

#### The four slums areas

Group 1 **Kusumpur Pahari**, in SW Delhi is Delhi's largest slum of about 100,000 residents. Many of the slum dwellers are servants, drivers, gardeners, sweepers who work for the wealthy people living in nearby Vasant Vihar.

Group 2 **Bhalaswa** is low income housing colony built on landfill of Bhalaswa Horsehoe Lake, northwest Delhi

Group 3 **Batla House**, Jamia Nagar, Jamuna in SE Delhi, is close to the Yamuna River and is a mainly Moslem community

Group 4 Yamuna Pushta on the banks of the Yamuna River, north of Old Delhi. This area has been subject to slum clearances, the last being in 2004 in preparation for the Commonwealth Games.

The objectives of exposure to grassroots innovators prior to the visit to the slums:

- 1) children would get exposure to the different solutions to real life problems tried by innovators;
- 2) they would gain confidence when they see that other children and common people have developed innovative solutions to everyday problems.



Map of the 4 slum areas



#### Delhi Slums

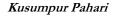
There are about 2.15 million slum dwellers in Delhi (14% of the population), most (70%) of whom come from backward districts of Uttar Pradesh and Bihar. Hence poverty, unemployment and deprivation has compelled these people to migrate to slum life in Delhi.

- more than 99% of the households do not have a kitchen
- nearly 97% do not have a toilet,
- 63% have access to running water supply from taps 96% have electricity connection to their slum house
- about two thirds of the households have been living like this for 16 to 30 years. (CGDR, 2011)

#### Bhalaswa



Yamuna Pushta Shelter for the Homeless





Batla House





### Reports from the Four Groups

Group 1- Kusumpur Pahari visited by 14 children



Visiting children with Kusumpur Pahari children

1. Nisha Chauhan, class 11 from Anupshahar, UP

Problem: Water shortage in the area

Solution: Houses should be made in such a way that rain water can be harvested so that more water is available for daily use **2.** Manisha, class 9, from Kusumpur Pahari and Liyangsung Lepcha from Sikkim

Problem: one of the main problems in Kusumpur Pahari slums was of garbage disposal. Wet and dry garbage were not segregated.

Solution: Manisha and Liyangsung both found a solution to the problem; they made a sketch showing proper disposal of garbage by segregating wet and dry garbage, from the source itself



The wet garbage then can be used to make manure while dry garbage can be further segregated and materials such as clothes pieces in it can be used to make soft toys for children.

3. Iqra Khan class 5, SDMC primary school, Nizamuddin West and Abu Sufiyan, Madarsa Jamia Arabia, Madina Masjid

Problem: There was no playing area as such for children, garbage was collected in the playground. Sufiyan observed that people in Kusumpur Pahari live in small houses with neither electricity nor water connections, some children go to school while others stay at home and help their parents.

#### Solution:

A clean area for children to play should be made with a dustbin at the corner so that garbage is collected in it.

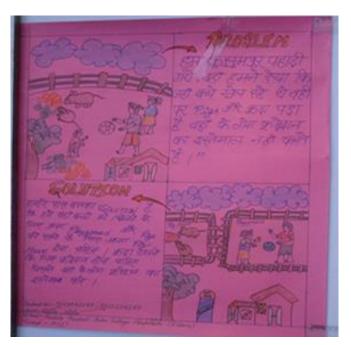
Sufiyan suggested that big houses should be made for the people living in Kusumpur Pahari. Electricity and water connections should be provided to all. All children should be made to go school.



4. Nisha Khan, class 11, and Rahila Sultana, class 9, both from Anupshahar

Problem: There was small open area where at one corner garbage was disposed and pigs were roaming around in the play ground.

Solution: The play area for children can be segregated so that they can have a clean playing area and garbage can be disposed of in the dust bin. Pigs that were roaming around in the playground can be kept separate in a fenced area.



5. Affan Siddiqui, class 9, The Indian School, Josip Broz Tito Marg, New Delhi, observed that normally public water taps have only one opening to draw water and people have to wait in a long queue for their turn. So he suggested an innovative approach to water supply by attaching pipes to the main tap like a 'tap-root system', so that everyone is able to receive water. He also suggested knee caps for people who cannot walk and do not have the proper equipment for walking and have to drag their bodies. He proposed the provision of cheap portable sewing machines to slum families for making clothes for underprivileged children. A small portable sewing machine should be made so that these people can stitch clothes easily.



6. Laila Banu from Tamil Nadu and Shalini Kumar from Bihar, talking about their ideas in the presence of Prof. Mohd Yunus, Nobel Laureate. Laila Banu suggested a multi-purpose box which includes a ladder, and use of solar panels and solar antennas to deal with power shortages. Shalini said that wheels should be put beneath water buckets, pots or canons so that they can be

easily carried by women

in rural areas.

Laila Banu on the left, has won the IGNITE Award 2011 and GRI Student Award for 2015 with two others. Their idea is the use of a helmet as an ignition switch to start two wheelers. Shalini Kumar, on Laila's left, has also won the IGNITE Award 2011 and GRI Student Award 2015 for the walker with adjustable legs.



#### 7. S Vinotha and Laila Banu both GYTI Award winners

Children in Kusumpur Pahari didn't have a proper playing area as such. To reach the playing area a gutter was to be crossed.

A multipurpose box can be made that can be transformed into a plank which can be used to cross the gutter and when opened can be used as a ladder to climb trees as well as box when closed.

Vinotha spoke to the children in Kusumpur Pahari, they said that their houses have ceiling at low height hence it might be problem when children grew taller than their parents.

Solution:

Houses in slums should be constructed in such a way that its height can be adjusted when required

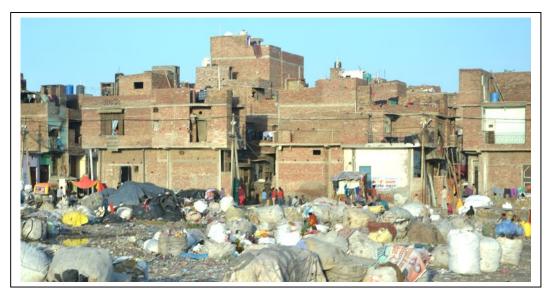
#### Ideas of children from Kusumpur Pahari



How to improve the use of a matchstick and other ideas Kavita and Khushi: apply flammable substance to both ends

Sohail: apply flammable substance again after using Golu: break the matchstick and use it efficiently Sohail and Golu: a broom should be modified so that by one end we can wipe and from other we can sweep. Durgesh: cycle can be used for grinding grain, as a chaff cutter and can be used to draw water from a well.

#### Group 2 Bhalaswa visited by 20 children



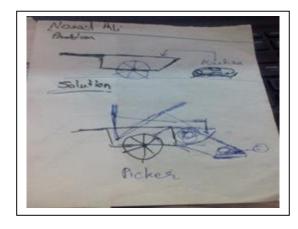
The dump at Bhalaswa which became a focus of the children's solutions

#### 1. Naushad Ali, 10th NIOS, Jama Masjid

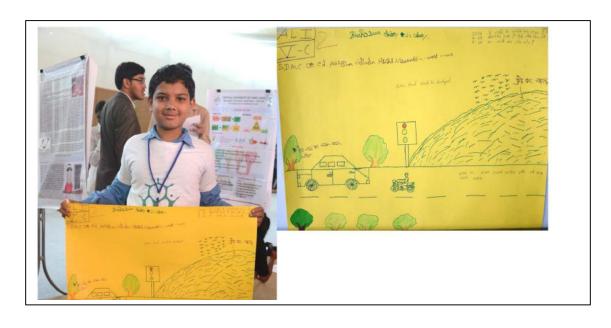
Problem: Waste in Bhalaswa.

Solution: Small waste picking machine should be used by all people living in the slum.

2. Ali Mahummad, class5, SDMC primary school, Nizamuddin West highlighted the fact that children who accidently enter the garbage heap have died of asphyxiation. He suggested that some kind of safety



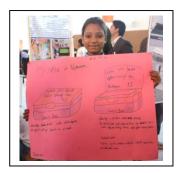
gear should be available if children are employed, and proper barricading of the area to stop further accidents.



3. Nishu Sharma, class 9, Anupshahar

Problem: Gutter contains a lot of waste in Bhalaswa. It is also not cleaned properly.

Solution: Waste can be collected directly from gutter and disposed of.



4. Sheeren Shekh, class 5, SDMC primary school, Nizamuddin West Problem: Children do not wash hands before eating lunch in schools.



Solution- Have a printed sticker inside and outside the lunch box which states "Wash your hands before having lunch". It will remind the children to wash their hands.



5. Preeti Kumar, a class 11 student from Katha Lab School, Sarvodaya Enclave, Sri Aurobindo Marg, New Delhi felt that because of dirty hands, a lot of diseases are spread. So, she came up with six inspiring and fun steps to keep hands clean.

6. Ahmad Raza, an extremely cheerful class 4 student from SDMC Primary Pratibha Vidhyalaya, Nizamuddin West, Delhi came up with the idea of collecting disposable cups. A box normally holds 150 cups, Raza's idea can take up to 750.



7. Alam Hansari, Nur Was Public School near, Jama Masjid

#### Solutions:

- \* Schools should have regular inspections.
- \* Self study is very important.
- \* School needs centralized water purification system.
- \* Non performing schools should be closed and the students studying there should be shifted somewhere else.
- \* Each and every school needs a complaint box along with a centralized punching system.

8. Bhaskhar Jha, Deepalaya Kalkaji Extension, Delhi He is in class 8. His father is an engineer, mother a housewife. He has one sister. He hails from Bihar and resides in Tughlaqabad village, Delhi.

# The group together gave following recommendations to improve conditions in Bhalaswa:

Problem: In cities the vehicles create a lot of pollution.

Solution: Solar system should be used in the vehicles to prevent pollution.

Problem: During rainy days bikes slip and people are injured. Solution: Something should be placed in the tyre so that they do not slip in the rainy season.

Problem: The hill of dirt and waste in Bhalaswa is very dangerous. Students have died after playing there. Solution: The waste could be converted into some useful material or else into gas which could be used for power generation or making fertilizers for plants.

Problem: Used water from industries leads to a foul smell in the surrounding areas Solution- It should be treated properly before letting it go from industries.

Problem: The water collected in Bhalaswa is polluted and causes various diseases.

Solution- Some machine should be invented which could change the waste water to good one which could be used for washing clothes or any good purpose.

He is a class 2 student. His father is an auto driver. He has 9 siblings. Alam resides in Kaputar Market of Delhi and hails from Bihar.

#### Problems:

No study happens in the school, after taking attendance the teacher goes to the office and takes a rest. Teachers also collect money from students for different purposes. Only one teacher is available for many students. Mid-day meal given to them is often of bad quality and sometimes causes stomach problems. Safe drinking water is also a problem in government schools.

Problems identified in Bhalaswa by Bhaskhar Jha, class 8

- Safe drinking water is not available
- Play ground is not proper
- Tanker water is impure with foul smell
- Sewage has no drainage system.
- There is no street lighting
- No security and cleanliness
- No proper school



#### Group 3 Batla House was visited by 17 children

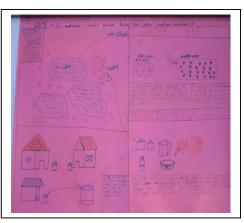


Not only were the children from the Creativity Camp enthusiastic about sorting out the problems of the Batla House community, but the community children were equally keen to share their experiences. Here one of the children is explaining everyday problems to the visiting team.

- 77% Batla households have flimsy housing
- 93% have no safe drinking water supplies
- 87% have no sanitation, 73% disposing of solid waste improperly,
- 67% have more than 3 people living in a room,
- 57% households very low incomes, 13.4% children under age of 14 are working.

Sajjad, H. & P. Jain, 2014, Assessment of Socio-Economic Vulnerabilities among Urban Migrants in South-East Delhi, India, *Journal of Studies in Social Sciences*, Volume 7, Number 1, 2014, 65-81





1. Manshi Chauhan, a student of class 11, from Pardada Pardadi Inter College, Anupshahar, Bulandshahar (UP), realised that a lot of problems are caused by plastic waste. So, she suggested recycling plastic material to make plastic slippers.

 Priyanka, Rashtrapati
 Bhavan
 Depicted the surroundings of Batla House.



3. Soring a class 5 student from Sikkim, suggested that a Community Water Filter should be installed, so that each and every household does not require an individual water filter.



4. Vivek Kumar, a class 8 student from Deepalya School, Kalkaji Extension, New Delhi tried to find solutions for all the problems faced by slum communities. For counteracting load shedding he suggested the use of solar and wind panels; for water scarcity he suggested to store rain water and utilise it. For defecation and sanitation problems he suggested that communities should take responsibility by forming

committees, instead of always relying on help from

outside.





5. Anjali Rena, Rashtrapati Bhavan Problems:

There is water scarcity.

There are no good schools in the locality.

Solutions:

Each house should have 2 dustbins, one for the food waste and the other for the plastic waste.

The food waste can be utilised as fertilizer and the plastic waste can be recycled and used.





6. Anurag Singh, class 8 student from Deepalaya School, Kalkaji Extension, New Delhi came up with an interesting idea to generate electricity through walking trousers and use of solar panels.

Solution

Solar panel works with sunlight. Can somehow moonlight be put to some use like that?

7. Richa Kumari, class 9, from Pardada Pardadi Inter College, Anupshahar, Bulandshahar (UP

Problem: There is a lot of stagnant and dirty water in Batla House which paves way for water borne diseases.

Solution: A Waste Water Treatment Plant to be built up in the locality, where the water can be re-supplied to the locality after its purification.



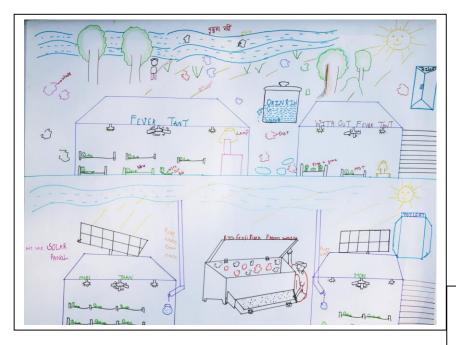
# Group 4 visit to Yamuna Pushta by 25 children from Dr. Rajendra Prasad Sarvodaya Vidyalaya, President's Estate, Rashtrapati Bhavan

The visit to Yamuna Pushta was led by Dinesh Kumar who works for Aman Biradari which runs the Dil Se Campaign for children who live and work on the streets. They also run a health recovery shelter and mobile street medicine clinic in Yamuna Pushta for male patients and for female patients in Jama Masjid. Founded in August 2013, by January 2015 100 patients a night were being treated, including 25 tuberculosis patients, 4 HIV and 20 physically injured patients. Trained medical staff offer medical and referral services, food and counselling support offered to help reintegration with families or employment. Ref: www.forum/m/%23ltopic/aman-biradari-friends/bt\_yZzTk0r4

18,000 unidentified bodies were found on the streets of Delhi from 2009 to 2014.

(Asian Age and New York Times study)

The children found that there were 26 beds in two different tents, one specialising in TB patients brought by the local police and the people of Delhi.



Parul Prakash, class 12; Ankur, class 8; Anjali Dayal, class 6; Ayush Prakash, class 4; Karan Arya, class 6; Rahul Arya, class 9; Rajat Thakur, class 7; Omkar Pal, class 9 from Dr. R P Sarvodaya Vidyalaya, President Estate, New Delhi, suggested the idea of separate water supplies in shelters for patients with infectious and non infectious diseases.



Solar panels should be installed on the tents to provide sufficient electricity.

Sanitary place and the toilet should be cleaned once a day and to be opened for all.

A pure drinking water supply should be provided to all residents and patients.

The surrounding area and the bank of the Yamuna River should be cleaned.

Walkers should be provided to patients with fractures.

Can't the rich people and other Delhi residential people can give their old clothes and foods to these people?



The children observed the surrounding area and the tents and found bundles of problems and questions which they asked to the head of the shelter and the doctor.

- Why doesn't the government take any action against poverty?
- Why are sick people discarded by society?
- Why doesn't the government start their NGO, if the NGO can do this type of good work?
- Why is the government not taking are of poor people and giving them resources?
- How can we help these poor sick patients?
- Why is the government not taking care of the Yamuna river, why is this area is so dirty where the patients were also living?



#### Conclusion

SRISTI thanks UNICEF, NIF, and the Office of the President of India for facilitating the organization of the Children's Creativity Workshop during the Festival of Innovation (FOIN), March 7 to 13, 2015.

The second Children's Creativity Workshop has consolidated the experience of the first one held in December 2014 of demonstrating that given a conducive context, children from the ages of 10 to 17 are capable of generating creative solutions in a very short time period to seemingly intractable problems in day to day life. Indeed, if we could mobilize children of the world for solving the persistent problems around us, the world would change at a faster space.

The close to 80 children, including a handful of experienced child innovators who were at Rashtrapati Bhavan to collect GYTI Awards and participate in the exhibition, were given training on the first day in generating innovative ideas, building on their innate capacity to identify problems and relevant solutions. On both days they learnt the importance of presenting and critiquing ideas to stimulate production of better quality solutions and to define problems more accurately. They learnt the importance of empathy and imagination for generating innovative solutions, and to have confidence in their ability to challenge the status quo. An example is the idea of a separate water supply in shelters for patients with infectious and non-infectious diseases which was so obvious to the children but not to the developers of the shelters.

It was observed that once exposed to the creativity of other children their expectations of themselves increased. Some children are born ideators, while others come out with creative ideas under the pressure of expectations by others. Graphic presentation of ideas brought precision and also in many cases the totality of the children's ideas. The children tended to describe much less in the narrative form than in the graphic.

There were three activities that demanded creative thinking. The first was brainstorming alternative uses of a bicycle. More than a dozen alternative uses of a cycle were triggered in less than five minutes. The second was an ideas competition of solutions to everyday problems (see Appendix ii). Ahmad Raza, a class 4 student designed instinctively such a simple solution to stacking plastic cups that one wonders why it took so long. His solution makes collation, packing and transportation far easier and space efficient than available solutions. Organ donation for

saving lives of affected people has still not found wide acceptance. Bhumika, a class 4 student found it simple that everybody should contribute their organs and bodies for others rather than being buried or cremated.

The third and final activity was the visit to the slum areas. As we found in the first workshop, some of the children demonstrated keen insights into the social and structural issues faced by slum dwellers. The composition of the groups for the visits included children from low income families in rural families in UP, and from Delhi slums. In this way the slum dwellers were coopted into solving their own problems. The children showed an impressive degree of empathy with the slum dwellers which enhanced the quality of their solutions by making them affordable and relevant to the objective of improving their livelihoods and quality of life. Thus proving that initiatives for institutional policy changes can indeed be designed based on children's ideas.

.....

### Appendix i

# Schools/NGO's who nominated 76 children to attend the Creativity Workshop Delhi March 2015

#### 6 children

**Pardada Pardadi Inter College, Anupshahar**, Uttar Pradesh (NGO – Pardada Pardadi Educational Society) free education to girls to 12<sup>th</sup> with vocational skills. Rs10 per day of attendance by girls is deposited in a bank account for them. Full attendance will give them Rs 30,000 on graduating.

## 6 children nominated by the Aga Khan Foundation, living mainly in the Hazrat Nizumuddin area

1 child

The Indian School, south Delhi, co-ed, CBSE school, nursery to secondary. Founded 1996. Elite school

4 children

SDMC (South Delhi Municipal Corporation), Primary Pratibha Vidhyalaya Nizumuddin West 1 child each from:

Madarsa Mahad al Sheikh, Hazrat Nizamuddin, near Batla House

Madarsa Jamia Arabia Nizamia Welfare Education in north east, Sunder Nagari

# 8 children nominated by Aman Biradari, a NGO which operates the Dil Se Campaign in New Delhi which supports the development of street children. They nominated children living in shelters for the homeless:

Rainbow Homes for homeless shelter for girls 5 children

3 in the following school, 2 unschooled

Nagar Nigam Prathmik Vidyalaya, school, Sangam Vihar, south Delhi, one of the largest unauthorised colonies in Asia, 1.5 million people, water supply is by tankers, no government hospital. (www.wikipedia.org)

Ummeed Aman Ghar homeless shelter for boys 3 children

1 in the above school, 2 unschooled

**5 children nominated by St Paul's Diocesan School**, co-ed, English medium, CBSE, founded 1972 by Delhi Orthodox Syrian Church Society. Elite school

**5 children nominated by Salma Public School, Rataul**, Uttar Pradesh 1993 founded by Prof Zahoor Siddiqi, recognised by the government in 2000. By 2012 there were 487 students, 204 are girls – significant in a conservative Moslem village. (hindustantimes.com indianews/revolutions-in-reading/article1-614356.aspx accessed 26.3.15)

#### 5 children nominated by Jamghat are associated with Jama Masjid

Jamghat is a NGO that rehabilitates children living and working on the streets of Delhi 3 attending NIOS schooling, 2 at Nur Nirwas Public School

NIOS (National Institute of Open Learning) (www.nios.as.in) established 1989 as an autonomous organisation under Ministry of Human Resource Development. Secondary, senior secondary and vocational

Nur Niwas Public School, a small school run by a society

8 children nominated by Deepalaya, 4 each from the following two institutions Deepalaya School Kalkaji Extension, Govindpuri, NGO focused on street children, girl children and disabled children through education, vocational training, healthcare, institutional care and women empowerment www.deepalaya.org. 4 schools in Delhi,

Deepalaya Education on Wheels Project covers north Delhi, including Bhalaswa. Launched in 2006, a bus equipped with computer, library, TV, carpets and play materials

**3 children nominated by Katha Lab School,** founded 1990 as a learning centre in the slums of Govindpuri with 5 children. Now have 9450 children in 43 Katha Schools (www.katha.org) in Delhi (visited by Duchess of Cornwall in 2013) and 5 schools in the tribal areas of Arunchal Pradesh. From primary to 12th, academic and vocational classes, teachers from the slum areas.

#### 8 children nominated by Diksha Foundation live in Kusumpur Pahara

Diksha Foundation is a NGO for the education of the socially disadvantaged in Uttar Pradesh, Bihar and in Kusumpur Pahari where it runs the Maadyam Experience Centre focusing on out of the box' learning for children (www.colearnindia.org)

1 child MCD (Municipal Corporation of Delhi) Primary School, co-ed, (several schools)

3 children from Sarvodaya Co-ed Vidhalya, Government school, Multan Nagar

4 unschooled

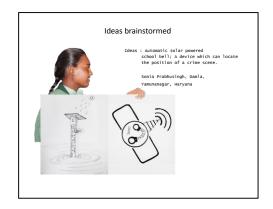
**25 children nominated by Dr. Rajendra Prasad Sarvodaya Vidyalaya**, the President Estate School, Rashtrapati Bhavan

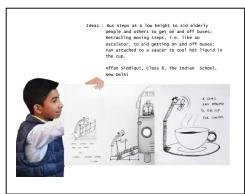
3 children from Sikkim invited by SRISTI

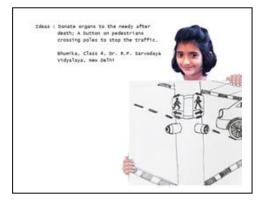
### Appendix ii

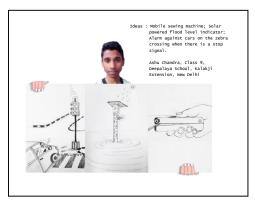
### Ideas competition – solutions to everyday problems – some examples

This competition was held on the first day and required identification of everyday problems and development of creative solutions.









## Appendix iii

### Photographs of Children Working on Solutions

