



Nature Science Internship Program

**Review Meeting
28th October 2017**

Agenda

- Mapping of our study areas
- Trees, butterfly and birds study
- Water analysis results
- Soil analysis results
- Amount of Oxygen produced by a plant
- Energy Consumption
- Water conservation
- Report on textile
- Green lifestyle

TOUGH TERRANEANS

Arushree
Rohit
Jiya
Rachana
Preet Saini



TEAM

AQUA

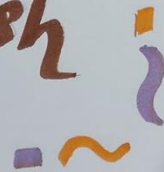
Ronit

Darshith

Shreya

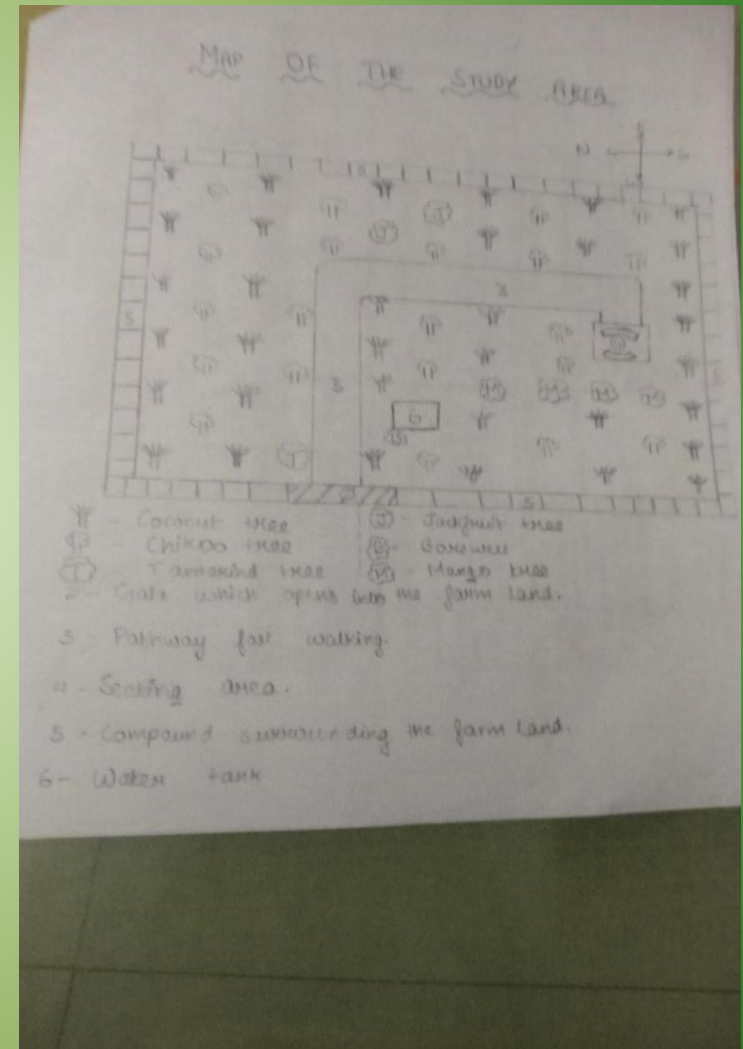
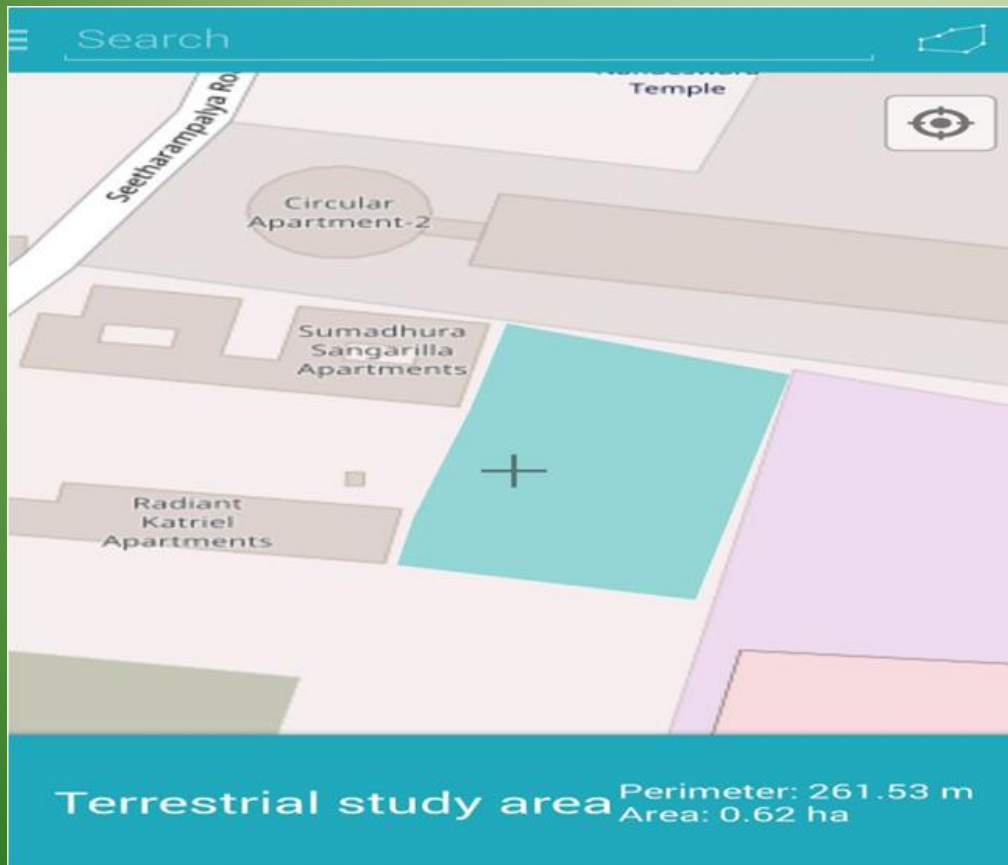
Sharanya

Chandransh



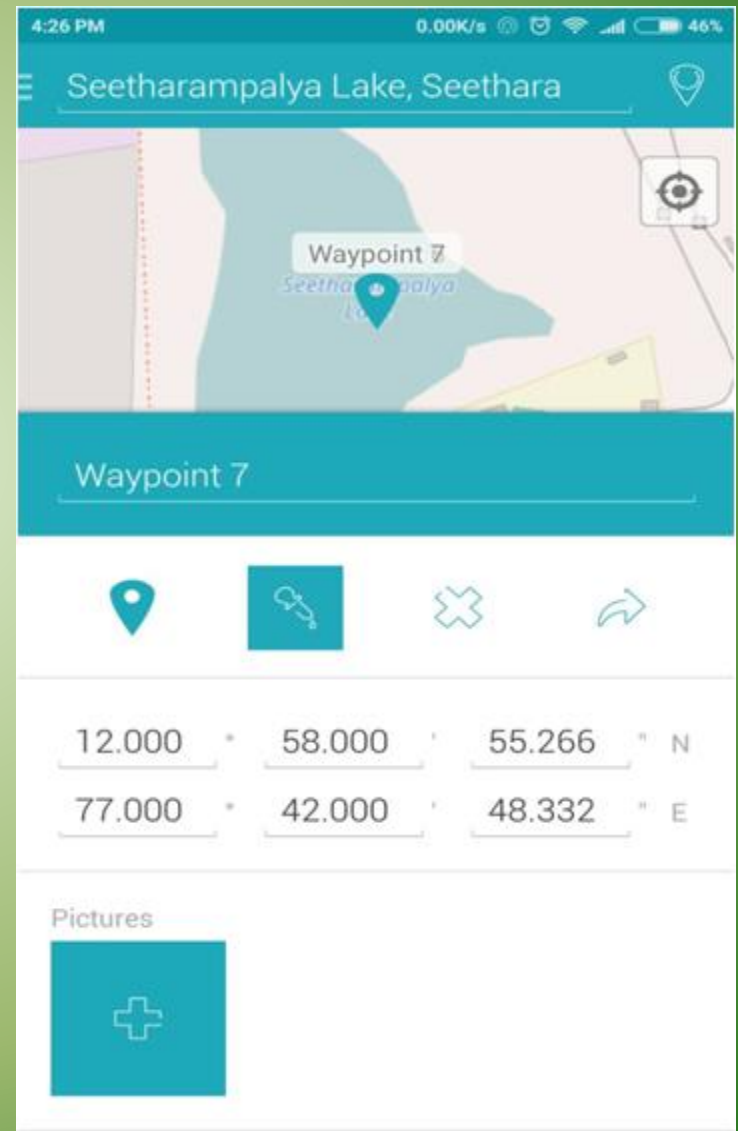
Mapping of our study area

- Terrestrial region:
Private orchard



Mapping of our study area

- Aquatic region:
Seetharampalya Lake



Mapping of our study area

- Field visit

PIN Code	563130
District :	Kolar
Tehsil/ Taluka :	Malur
State :	Karnataka
Latitude :	12.81665
Longitude :	78.2018



Mapping of our study area

- Field visit



Trees observed during our study

- In Aquatic region:
 - Singapore Cherry tree, Honge tree, Castor, Lantana, Datura, Calotropis, Acacia
- During field trip:
 - Eucalyptus, Teak wood, Palm, Tamarind, Peepal , Custard apple, Drum-stick, Papaya, Jack-fruit, Marigold, Hibiscus, Rose, Mulberry, Henna
- In Terrestrial region:
 - Chickoo tree, Gooseberry tree, Mango tree, Jackfruit tree, Coconut tree, Eucalyptus tree and few shrubs.

Plants observed- Pictures



Fruits of Plants- Pictures



Girth measurement, Tree bark marking and height of tree measurement



Butterflies observed during our study

- In Aquatic region:
 - Crimson rose, Common grass yellow, Common mormon, Psyche, Yellow pansy, Tailed jay, Mottled emigrant, Striped tiger
- During field trip:
 - Common grass yellow, Crimson rose, Dark blue tiger,
- In Terrestrial region:
 - Common mormon, Lemon emigrant, Blue mormon, Angled Castor

Insects observed- Pictures



Insects observed- Pictures



Insects observed- Pictures



Birds observed during our study

- In Aquatic region:
 - Purple Heron, Black Kite, House Crow, Duck, Asian Koel
- During field trip:
 - House crow, Sparrow
- In Terrestrial region:
 - House crow and kite

Birds observed- Pictures



Water Analysis

Samples from Gopalan International School:

Sample Location	Total Solids (mg/l)	Dissolved Solids(mg/l)
Yoga Room	800 mg/l	400 mg/l
Canteen	1000 mg/l	600 mg/l
Well	400 mg/l	250 mg/l

Water Analysis

Samples from Gopalan International School:
Dissolved Oxygen:

Sample Location	Titration value	Conclusion
Yoga Room	7.25 units	Good
Canteen	8.87 units	Slightly Polluted
Well	8.06 units	Good

Water Analysis- Pictures



Water Analysis

Samples from Seetharam Palya Lake:

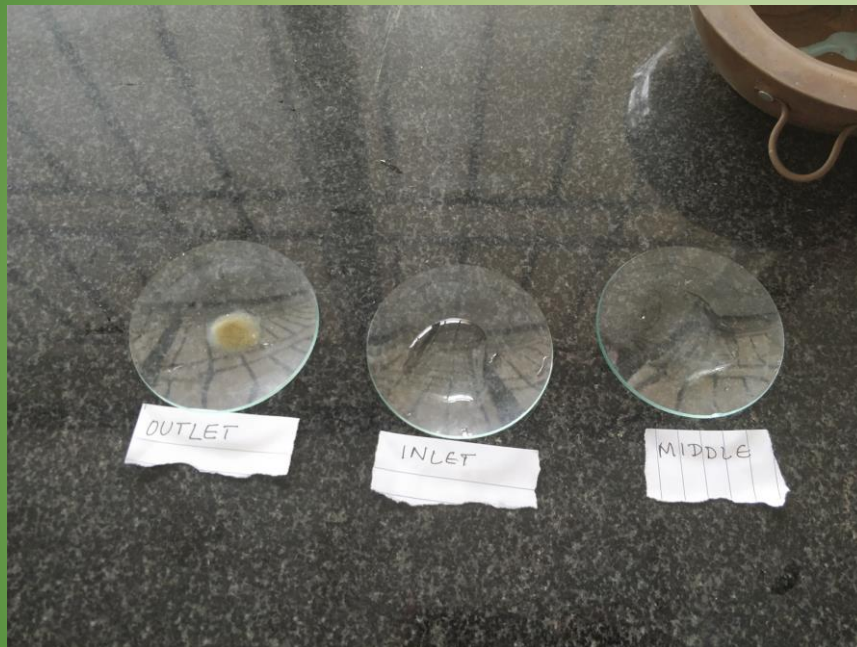
Sample Location	Total Solids (mg/l)
Inlet	1200 mg/l
Middle	600 mg/l
Outlet	800 mg/l

Water Analysis

Samples from Seetharam Palya Lake:
Dissolved Oxygen:

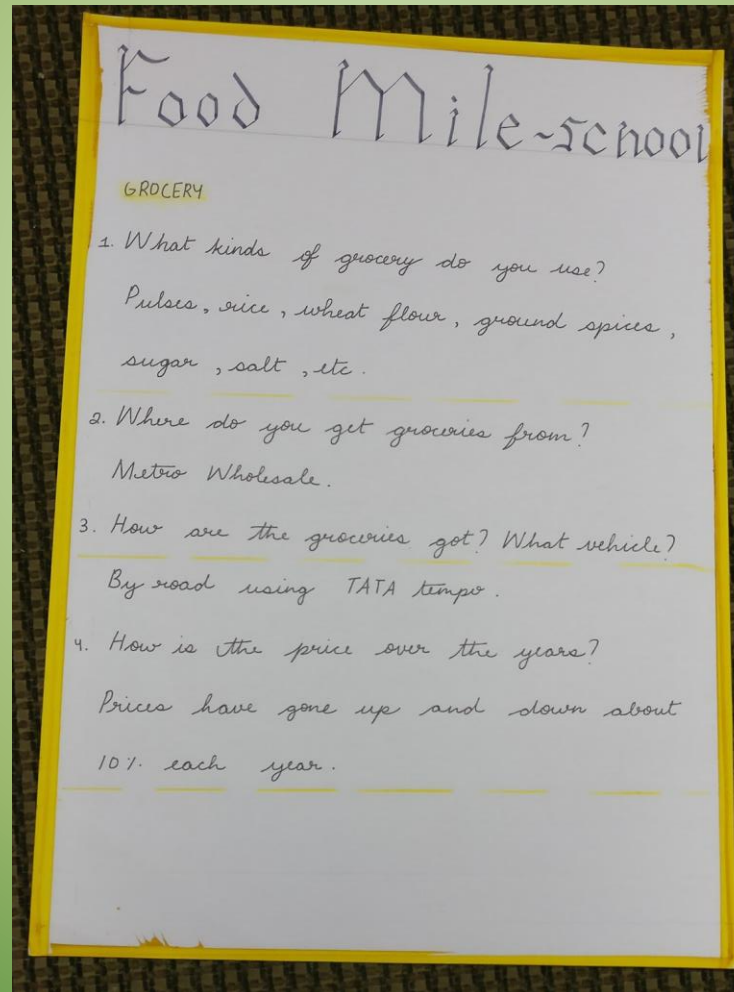
Sample Location	Titration value	Conclusion
Inlet	4.03 units	Heavily Polluted
Middle	4.8 units	Moderately Polluted
Outlet	3.2 units	Severely Polluted

Water Analysis- Pictures



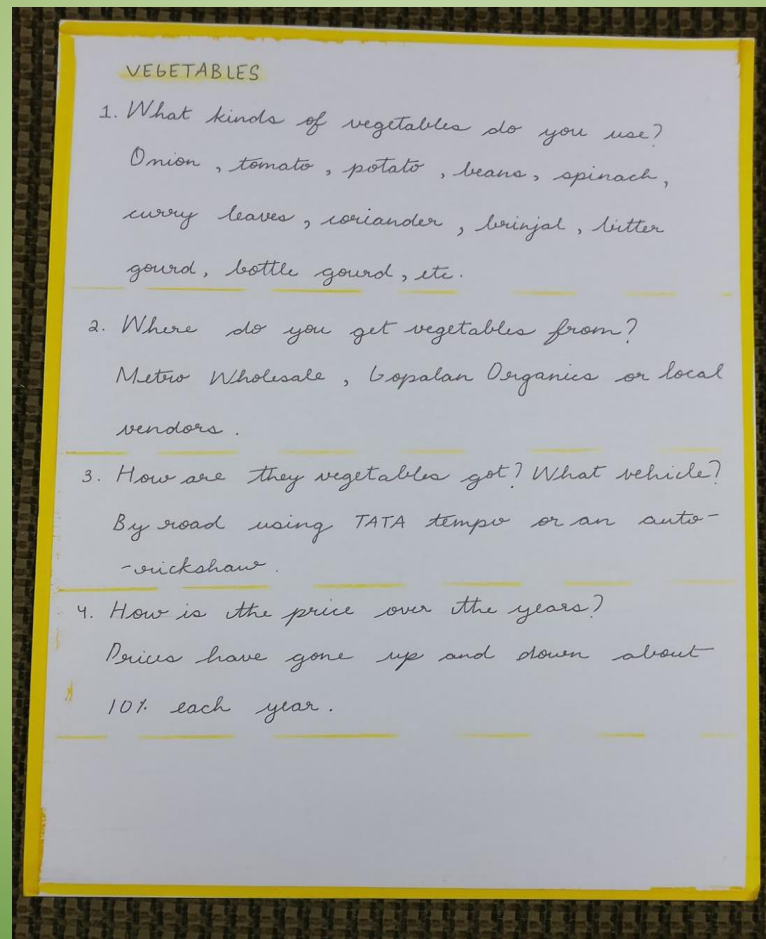
Food Mile

Gopalan International School Canteen:



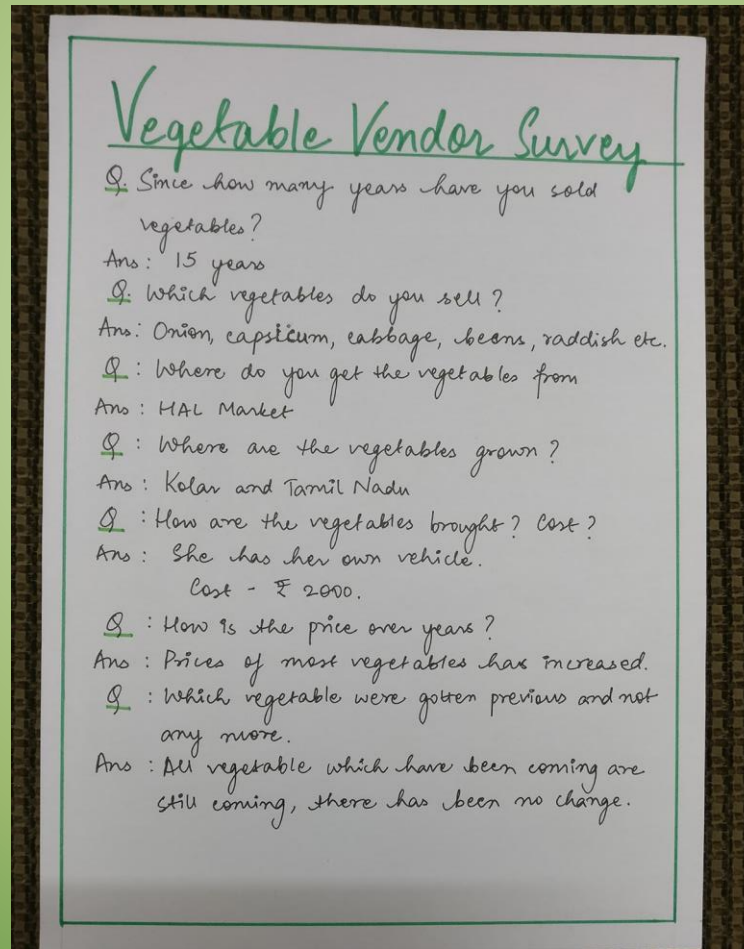
Food Mile

Gopalan International School Canteen:



Food Mile

Local Vegetable Vendor:



Food Mile

Local Grocer:

Grocer Survey

Q: Since how many years are you selling groceries?

Ans: 8 years

Q: What kinds of groceries do you sell?

Ans: Rice, dal, all types of pulses, oil, ragi etc.

Q: Where do you get groceries from?

Ans: Yeshwantpur - APMRC

Q: Where are the groceries grown?

Ans: Madhya Pradesh, Raichur.

Q: How are the groceries brought? Cost?

Ans: Loading vehicle, cost - ₹ 70 per 100 kg

Q: How is the price over the years?

Ans: 4-5% increase in last 3 years.

Q: Which groceries were got earlier but not now?

Ans: New groceries have come but nothing has stopped coming.

Energy Consumption

Gopalan International School Campus:

Source	Per month	Emission of CO2
Paper	4.5 kg	156.6

Energy Consumption

Average household :

Emission factor kg of CO₂ e/ kWh= 1.56

Source	Per month	Emission of CO ₂
Electricity	285.52 kWh	5.33 tons

School Campus- Soil Analysis

Field Density

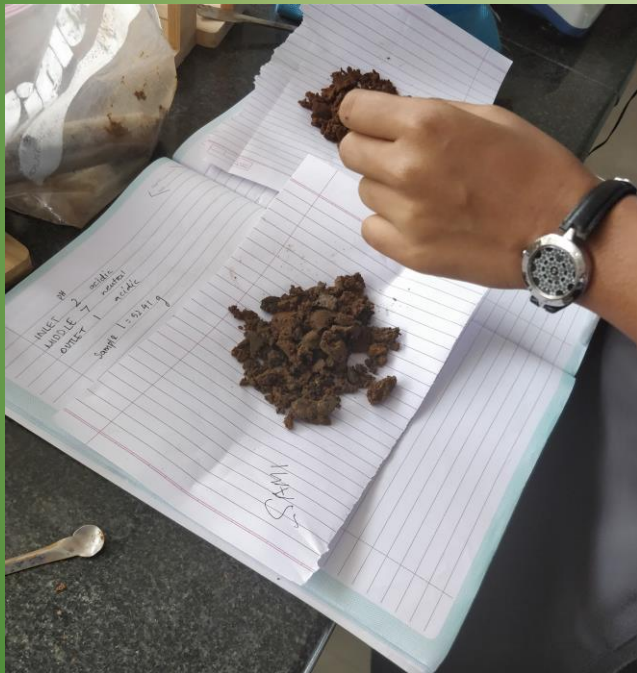
Values	Sample 1	Sample 2	Sample 3	Sample 4
Mass (g)	45.5	44.5	36.5	37.5
Volume (cm ³)	44.5	44.5	44.5	44.5
Density (g/cm ³)	1.02	1	0.82	0.84

School Campus- Soil Analysis

Bulk Density

Values	Sample 2	Sample 3	Sample 4
Mass after drying(g)	39.5	31.5	30
Moisture Content (g)	5	5	7.5
Density(g/cm ³)	0.88	0.7	0.67

School Campus- Soil Analysis



Report on Textiles

Material	Total number
Silk	50
Cotton	250
Wool	20
Polyester	10

Textiles



Green Kitchen

Gopalan International School's NSIP team has been working towards reducing the amount of waste we create during lunch hours. This has been done by appointing two members to observe and control the disposal each day near the waste bins. We have reduced a considerable amount of food from being wasted.

Green School

Our school NSIP team has reduced the amount of paper wasted by the following method:

Test note books per person	10	$10 \times 100 = 10,00$ sheets
Cost per person	$10 \times 25 =$ Rs. 250	
Books used	1	$1 \times 100 = 100$ sheets
Books/ Paper wasted	6	$6 \times 100 = 600$ sheets
Cost of wasted paper	$6 \times 25 =$ Rs. 150	

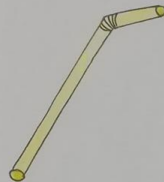
Green School

Our high school department has about 180 students. Each student kept 10 test notes of hundred pages each, out of which only 100 pages were used overall. NSIPians of our school have taken a step to reduce the wastage of paper. Instead of used notebooks, we have collected a pile of unused sheets from our notebooks to be used for writing tests. Overall, we saved about 1000 sheets from being wasted.

Green Lifestyle



~Use a bucket not shower~



~Say no to plastic straws~



~Replace plastic with steel bottles~

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Green
Lifestyle
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Water Conservation-Green School

DATE	RAIN FALL	COLLECTION CAPACITY(litres)
12/7/17	12.4mm	34169.24
20/7/17	3.8mm	10471.21
10/8/17	1.4mm	3857.82
11/8/17	5.5mm	15155.71
12/8/17	14.5mm	39955.9
14/8/17	40.3mm	112140.16
17/8/17	11.6mm	32278.5
23/8/17	1.6mm	4452.2
24/8/17	43.4mm	120766.3
Total collection		3,73,247.06

