

**Sustainable Living In Malaysia**  
Living Within The Ecological Limits Of One Planet



**SESSION 4**  
**A SAMPLING OF MALAYSIA'S**  
**SUSTAINABILITY STATUS**

With the support of



**SGP** The GEF  
Small Grants  
Programme



# MALAYSIA'S LIFESTYLE BEHAVIOUR – EPSM'S PROJECT ON MEASURING THE CARBON, WATER AND FOOD FOOTPRINTS OF MALAYSIAN HOUSEHOLDS

By

**Nithi Nesadurai**

President, Environmental Protection Society Malaysia

# SEQUENCE OF PRESENTATION

- Background on EPSM project
- Survey on household consumption of electricity, petrol, water and consumer items, as well as waste generation
- Analysis of consumption and waste generation
- The way forward

# BACKGROUND

- SLiM Campaign – 2007
- Promoting sustainable living in Malaysia using ecological footprint as the core
- Introduction of Ecological Footprint Analysis by Professor William Rees
- EPSM survey of ecological footprint of households in Section 1, Petaling Jaya, Selangor, 2007
  - Footprint of more than 5 gha

# BACKGROUND

- Expand on work done in 2007
- Obtain detailed data for policy intervention
- Need for work of NGOs to be 'scientific'
- Approached Universiti Kebangsaan Malaysia in 2011
  - Keen to work with EPSM
  - Used project as a basis to appoint a doctoral student
- Designed survey form

# SURVEY PARAMETERS

- Details of household
- Water consumption
- Food consumption
- Transport
- Waste generation
- Energy consumption

[See Handbook for mini survey – page 34]

# IMPLEMENTATION

- Obtained GEF SGP funding in 2012; to wind up by April 2014
- Worked with educational institutions to source data
- Five institutions covered and 457 individuals surveyed

| Venue         | Activity                           | Number covered |            |
|---------------|------------------------------------|----------------|------------|
|               |                                    | Male           | Female     |
| Kuala Lumpur  | Survey<br>& Awareness-raising talk | 0              | 89         |
| Subang Jaya   | Survey<br>& Awareness-raising talk | 33             | 75         |
| Penang        | Survey                             | 0              | 82         |
| Kota Kinabalu | Survey<br>& Awareness-raising talk | 60             | 75         |
| Ipoh          | Survey<br>& Awareness-raising talk | 43             | 0          |
|               |                                    | <b>136</b>     | <b>321</b> |
| <b>TOTAL</b>  |                                    | <b>457</b>     |            |



# HOUSEHOLD ELECTRICITY USE

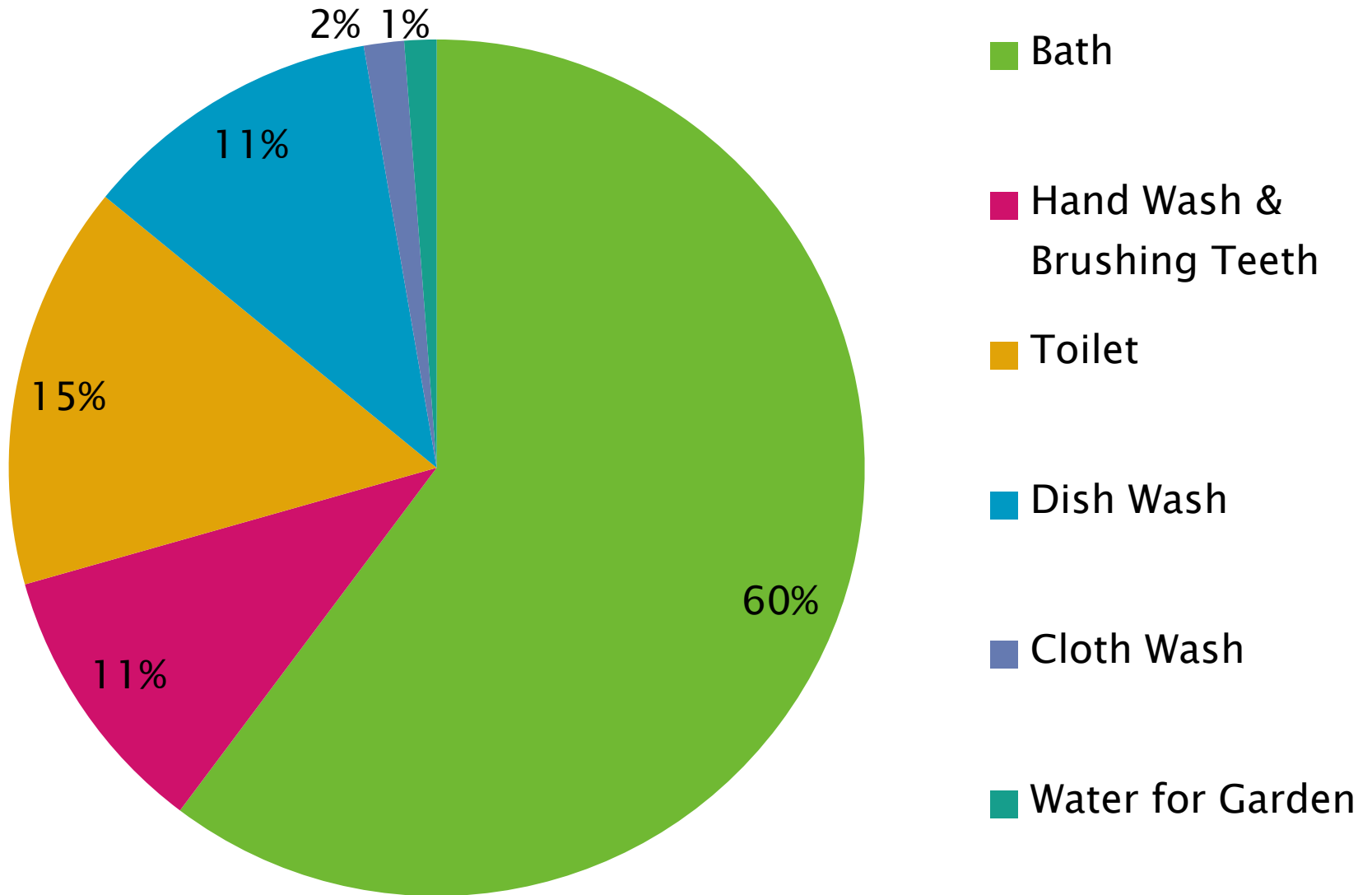
| Level of Use          | Monthly Consumption (RM) | Number of Households | %          |
|-----------------------|--------------------------|----------------------|------------|
| Low<br>[8], [33]      | < 70<br>[279 kWh]        | 62                   | 18         |
| Medium                | 70 – 250                 | 194                  | 55         |
| High<br>[1200], [700] | > 250<br>[818 kWh]       | 95                   | 27         |
| <b>Total</b>          |                          | <b>351</b>           | <b>100</b> |

# HOUSEHOLD PETROL CONSUMPTION

| Level of Consumption | Monthly Expenditure (RM) | Number of Households | %          |
|----------------------|--------------------------|----------------------|------------|
| Low                  | < 250 [5] [50]           | 161                  | 49         |
| Medium               | 250 – 500                | 134                  | 41         |
| High                 | > 500 [1000] [750]       | 34                   | 10         |
| <b>Total</b>         |                          | <b>329</b>           | <b>100</b> |

# HOUSEHOLD WATER USE

| <b>Level of Consumption</b> | <b>Bimonthly Household Consumption (RM)</b> | <b>Number of Households</b> | <b>%</b>   |
|-----------------------------|---|-----------------------------|------------|
| Low                         | < 20 [3]<br>[28 m3]                         | 79                          | 24         |
| Medium                      | 20 – 50                                     | 135                         | 41         |
| High                        | > 50 [250]<br>[57 m3]                       | 113                         | 35         |
|                             | <b>Total</b>                                | <b>327</b>                  | <b>100</b> |



**Figure: Percentage of Average Water Consumption of Kuala Lumpur, Selangor, Penang, Ipoh and Kota Kinabalu**

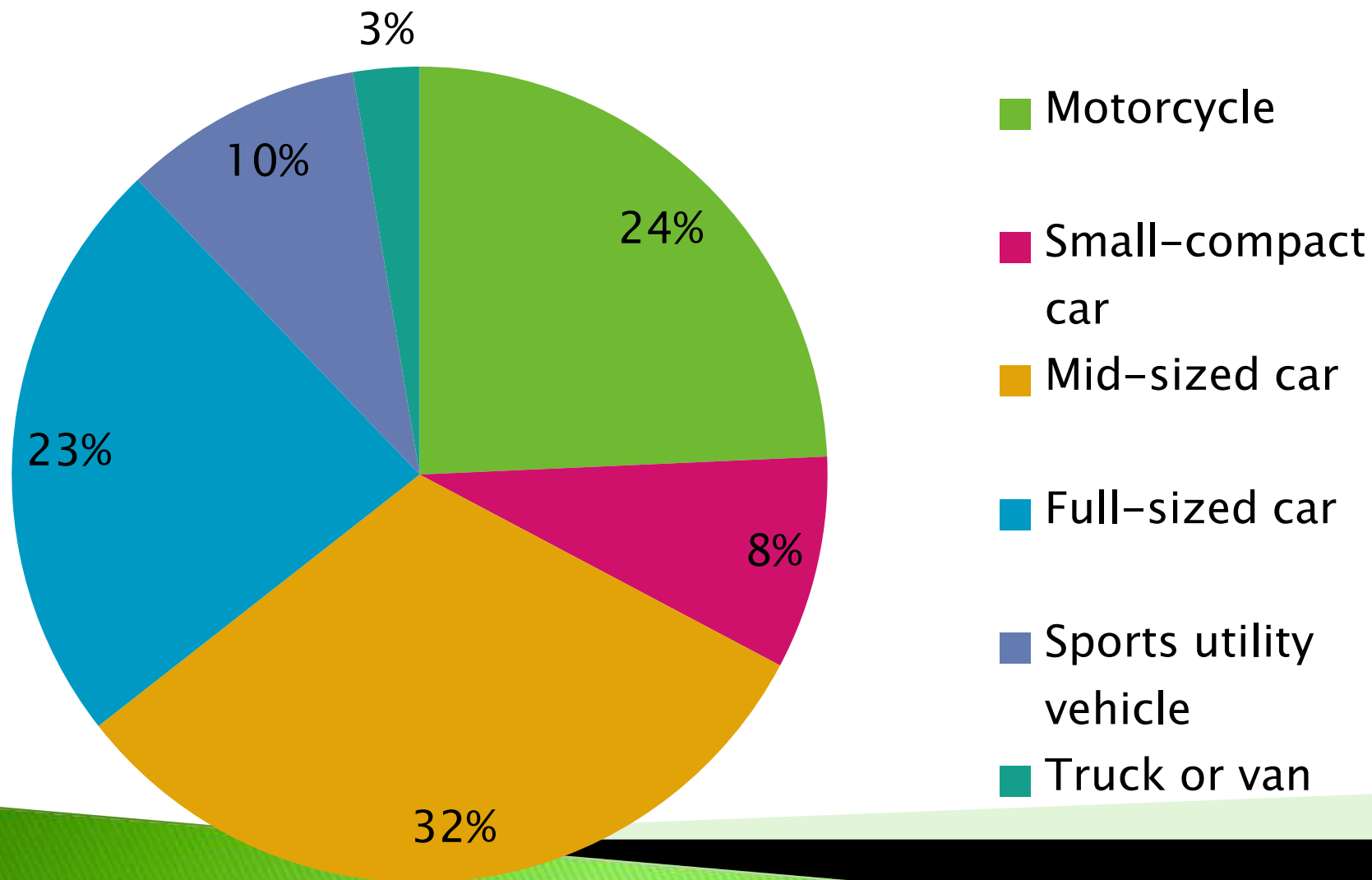
# HOUSEHOLD WASTE GENERATION

| <b>Level of use</b> | <b>Waste generated<br/>in a week<br/><br/>(No. of bags;<br/>size not specified)</b> | <b>Number of<br/>households</b> | <b>%</b>   |
|---------------------|---|---------------------------------|------------|
| Low                 | 0 – 1   | 80                              | 31         |
| Medium              | 2 – 3   | 172                             | 45         |
| High                | 3+  | 134                             | 35         |
| <b>Total</b>        |   | <b>386</b>                      | <b>100</b> |

---

| <b>Consumer Items</b>                   | <b>Number of Units</b> | <b>No. of Household</b> | <b>Average per Household</b> |
|---|------------------------|-------------------------|------------------------------|
| Motorcycle                              | 250                    | 388                     | 0.64                         |
| Small-compact car (e.g. Kancil)         | 87                     | 388                     | 0.22                         |
| <b>Mid-sized car (e.g. Waja / Wira)</b> | <b>326</b>             | <b>388</b>              | <b>0.84</b>                  |
| Full-sized car (e.g. Perdana)           | 241                    | 388                     | 0.62                         |
| Sports utility vehicle (4WD)            | 98                     | 388                     | 0.25                         |
| Truck or van                            | 27                     | 388                     | 0.07                         |
| <b>Air conditioner</b>                  | <b>1031</b>            | <b>388</b>              | <b>2.66</b>                  |
| <b>TVs</b>                              | <b>658</b>             | <b>388</b>              | <b>1.70</b>                  |

---



**Figure: Types of vehicle used in Kuala Lumpur, Selangor, Penang, Ipoh and Kota Kinabalu, in percentage**

# ANALYSIS – ELECTRICITY USE

Electricity use per household is positively significant (confidence interval of 0.90) with:

- Number of people in the house
- Household income
- Education levels of parents



# ANALYSIS – PETROL CONSUMPTION

Petrol consumption per household is positively significant (confidence interval of 0.90) with:

- Type of house
- Household income
- Education levels of parents

# ANALYSIS – WATER USE

Water consumption is positively significant (confidence interval of 0.90) with:

- Household size
- Mother's occupation, especially if she is a housewife

*[Greatest use of water in households is for showers followed by toilets]*

# ANALYSIS – WASTE GENERATION

Waste generation per household is positively significant (confidence interval of 0.90) with:

- Type of house
  - Household income
  - Father's education level
- 
- Negatively significant (confidence interval of 0.95) with willingness to pay for green products.

# THE WAY FORWARD

- Continue with capacity building seminars – JB
- Conduct a survey in a rural area
- Calculate the ecological footprint and finalise Report  
[Strong indication that EF more than 6gha per household]

# THE WAY FORWARD

- Use the data to make presentations to all levels of governments to influence policy decisions and to push for policy interventions

[RwH, low shower head, dual flush toilets]

- Rally other stakeholders for support
- Write scientific papers

# ACKNOWLEDGEMENT

- Abdul Aziz Bari, PhD candidate, UKM

# THANK YOU

**Nithi Nesadurai**  
President, EPSM  
epsm.exco@gmail.com

With the support of



**SGP** The GEF  
Small Grants  
Programme

