

Research Note: On the energy footprint of a Vietnamese middle-class household

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Abstract: Environmental sustainability and climate change adaptation in Vietnam have become pressing issues for researchers and policy makers. At the same time Vietnam's re-emerging middle classes are beginning to gain attention. HCMC's middle classes express their relatively better social positions through the material markers of a high standard of living, which produces status that is locally valued. The power they now wield as consumers and trend-setters is recognised as a potential source for stimulating social change towards sustainable urban development (Waibel 2009: 3). But the urban environment is diverse. Unlike development in the peri-urban fringe, residents in the densely-populated inner city adapt their living practices to the constraints of the built environment and their household resources. Further, with so many of HCMC's new middle classes being first-generation migrants, many are familiar with economical and provincial practices of energy conservation, recycling and reuse.

Keywords: Vietnam; urban migration; middle classes; household energy use; environmental sustainability

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In Ho Chi Minh City (HCMC), Earth Hour 2012 was advertised on banners in the city centre where expatriates and affluent Vietnamese worked or socialised. But it was not publically observed. Instead, on the evening of 31 March 2012, I had accepted an invitation from acquaintances to attend a live music concert in Phu My Hung (PMH), the newly urbanised and extremely affluent area in District 7 on the fringes of HCMC that is sometimes dubbed 'Saigon Singapore'. It is an area that exclusively houses Vietnam's very rich and expatriates (Douglass & Huang 2007: 26). We gained entry to the gated community by showing a text message invitation from PMH residents to the private security guards at the checkpoint.



Source: Michael Waibel 2012

View of Crescent Park in Phu My Hung Area, District 7

By 8.30 pm, the time when Earth Hour was due to commence, our group was part of a crowd of 20,000 in PMH's Crescent Park enjoying a high-tech production that marked the 11th anniversary of the passing of Vietnam's most beloved composer and musician Trịnh Công Sơn (Tuổi Trẻ 2012).

All available technology had been employed. The voices of the MC and performers blasted from sky-high banks of speakers; their faces were illuminated by an elaborate computerised lighting system mounted around the stage; six projection screens that dwarfed the stage displayed archive film footage of the composer; broadcast cameramen hung above the crowd on crane-like platforms filming the event; and 'Hollywood' lights beamed up to dance on the clouds above the park.

At approximately 8.40 pm a short blackout drew sighs of disappointment from the crowd, but also revealed that surrounding the park on all sides the lights in the windows of the high-rise apartment buildings of PMH shone brightly.

Needless-to-say, in this affluent urban area no one - neither the event organisers nor the crowd - was paying attention to sustainability. Spending Earth Hour 2012 in PMH's Crescent Park highlighted the ease with which Vietnamese middle classes can disengage with global issues when faced with local happenings. Yet, they are potentially a source for stimulating environmental social change.

Moments after the blackout, unseasonal rain interrupted the concert and dispersed much of the crowd. Our group also left. We collected our motorbike, left the high rises of PMH and returned to the densely populated heart of HCMC.

21st century HCMC

Raising awareness of energy consumption in Vietnam's densely urbanised cities perhaps has not been an obvious need when national policy and development goals have focused on poverty alleviation incorporating measures such as extending access to electricity and resources across Vietnam rather than concern for how energy is being used in cities. Indeed, Vietnam's approach to addressing climate change is oriented to a national level, not specifically targeting urban populations (Waibel 2008: 27).

Yet, Vietnam's urban populations are growing rapidly in size and wealth. In the Southeast, including HCMC, well over half (57.1%) of the population is now urban (GSO 2011: 63). In the urban Southeast, households are smaller, couples marry later and they have fewer children (GSO 2011: 13). High standards of living (determined in terms of housing type, construction materials, and access to hygienic toilet facilities and safe drinking water) are characteristic of the densely crowded stable neighbourhoods of HCMC's inner city, with relatively lower standards of living

in the recently settled suburban areas of the outer north and west (Gubry, et al. 2010: 75).

Resource-intensive lifestyles

In urban Vietnam a high standard of living goes hand in hand with a resource-intensive lifestyle. Across Vietnam, almost all urban households own at least one television set (91.4%) and at least one motorbike (83.3%). Every second urban household (57.5%) owns a refrigerator, more than one in three (36.1%) owns a washing machine, and one in six (16.3%) have air-conditioning (GSO 2011: 87).

Supporting resource-intensive lifestyles with current energy technology and usage practices has consequences for the environment. This is especially so in HCMC where estimates suggest that households account for 35-40% of the city's energy use (Waibel 2009: 3). Indeed HCMC residents possess more luxury gadgets; 100% of households have television, 80% have cable television, 70% own a mobile phone, and 50% own a computer (Ruwitch & Szep 2011: 5). Air-conditioning use in particular is three times higher in major cities, including HCMC, than other urban areas (GSO 2011: 87). A very high use of air-conditioning has further increased the problem of urban heat islands against the background of climate change (Eckert & Waibel 2009: 18).

However, urban lifestyles across HCMC are diverse. Footprints for living in exclusive gated communities of PMH or the architecturally designed villas of the suburban fringe are qualitatively different to the expensive but cramped properties of the densely populated inner city where residents adapt to their environment.

Inner-city HCMC

Returning from the concert in PMH's Crescent Park, we made our way into my inner-city neighbourhood by motorbike. Parting ways on the local street, I continued on foot into the network of local laneways, the first just wide enough for a small car to enter and the second just wide enough for a motorbike.

Inner-city living in the residential lanes of HCMC's Districts 1 and 3 is more like the lifestyles of Hanoi's Old Quarter than in the gated communities and newly urbanised suburbs of the Southeast. Firstly, households are smaller in size and the inner-city population density is typically about 19,000 people



Inner-city laneway



Source: Catherine Earl 2012

Evening rush hour Phạm Hồng Thái Street, District 1

per square kilometre (Dang 2008: 205). Secondly, inner-city neighbourhoods are not commuter suburbs. Rather they are akin to villages that centre around a wet market and place of worship. Thirdly, inner-city neighbourhoods were established in the mid twentieth century or earlier, and support a relatively stable population (Hy 2009: 2). In post-reform urban Vietnam, a soaring cost of living is among the factors that generate new and less sustainable modes of living in small laneway houses of the inner city.

A small laneway house

For three months in 2012 I lived with a Vietnamese family in a 'small laneway house' in central HCMC. It was the permanent residence of a migrant family who originated from the Mekong Delta. The parents, both of whom had been salaried professionals, had recently retired. The salary of one university-educated child working in a private company supported both parents and two siblings studying at university. In order to make ends meet, the family decided to supplement their income by renting rooms to three tenants, preferably foreign students. With this decision, the household expanded to eight adults.

This household is a 'new' middle-class household (Hsiao & Wang 2001: 5-8; see also King 2008). Crucially, the family is not only new middle class but also first-generation urban migrants (Earl 2008). Having had direct experience of village life - at a time when energy and resour-

ces were precious, rationed and conserved - can be understood as growing up 'green', or at least greener than city life. Consequently, the energy footprint of the household had been modest prior to the installation of air conditioning after the retirement of two wage earners and tenancing of three rooms.

Housing design

The layout of the house was typical of small laneway houses. It was about three stories high but internally comprised seven split levels, with two rooms and a terrace at the front and three rooms and a terrace at the back. The levels were connected by a central staircase.

The ground floor was open plan. The front area housed five motorbikes, which were used for transport in the city. The back area housed the western-style kitchen with high bench tops, wooden cupboards and a dining table. The kitchen facilities were typical of a middle-class household and included a portable gas burner, microwave, full size refrigerator, chest freezer, automatic washing machine, cordless landline telephone, a generator and a small bathroom.

The two bedrooms at the front of the house (on the second and fourth levels) were each approximately ten square metres in size and contained the family's sleeping mats. Both rooms had an external window and a newly installed air conditioner, which vented into the internal staircase. One room had a study desk with a computer and wifi router,

the other had cable television.

The three bedrooms at the back of the house (on the first, third and fifth levels) were larger at approximately twelve square metres in size. Each was furnished with a bed, desk and wardrobe. These three rooms were rented to tenants. All three rooms had a new air conditioner venting into the internal staircase and two had an external window. Each room also had a small bathroom containing a flush toilet, a cold water tap and an electric hot water machine.

The internal staircase led to two rooftop terraces. A semi-enclosed front terrace (on the sixth level) housed the family altar, potted plants and unused furniture. A sunny back terrace (on the seventh level) had a clothesline and the household water tank. The staircase was covered by a temporary roof, which usually kept the stairs dry. However, during the three months I stayed in the house (in the dry season), heavy rain caused three minor floods. The staircase was lit 24 hours a day on each level by compact fluorescent lights and fluorescent tubes were fitted in the rooms.

Energy

Since their retirement, the house was almost continuously occupied. In the three months I stayed, I noted one afternoon when no one had been inside the house. The family practised energy conservation and had made energy saving measures concerning lighting which was required as the house received little



New luxury Shopping Mall in HCMC Central Business District

natural light. Minimising natural light and the heat it created through tinting external windows was another energy saving measure.

In the kitchen, a refrigerator and freezer consumed significant electricity. The washing machine was used almost every day and one cycle lasted two hours. Of course, clothing was dried outside on the terrace and under a small awning if there was rain. Although some middle-class households have switched to electric induction cook tops, which are considered to be more modern and safer, the family continued using bottled gas for cooking. Vietnamese meals require considerable preparation but little cooking time and this was undertaken in the early morning.

The installation of air conditioning had a large impact on energy consumption and cost. Insulation was poor with doors and windows ill-fitting and the cable television line entering through a partially open internal window. Running all the air conditioners at the same time caused a blackout in the house. In general the family's energy conservation practices reflected their adaption to the built environment.

Food

The house design incorporated roof top terraces where edible plants could be cultivated. On the back roof terrace a lime tree, tomatoes, eggplants, leafy green vegetables and herbs were grown, but the majority of food was purchased at a nearby supermarket. The family preferred to shop at the super-

market rather than the local wet market which they considered to be unhygienic. This involved travelling by motorbike rather than walking and involved using plastic bags rather than a reusable basket. At the supermarket the family purchased fresh fruit and vegetables packaged in polystyrene and plastic. Many of the products were imported, including fresh fruit, household cleaning products and cosmetics from Thailand and packaged goods from China. Local food included rice, tea, processed cakes, soft drinks, ice cream, and some frozen goods such as pre-prepared spring rolls. Some household members also regularly bought street food from local stall holders. The family's food choices were balanced between local and imported, fresh and processed goods.

Goods and services

In general the family's spending was frugal and within their means. Any product that could be recycled or reused was either used within the household or sold to a recycler, usually an individual who walked the neighbourhood laneways trading second-hand items. In particular, PET bottles, glass, cardboard, white paper, newspaper, school books, wood, metal including old pots and pans, and broken appliances were sold to peddlers. Even an umbrella was repaired by a passing peddler. It is worth noting that prior to renting rooms to tenants, the household waste did not include PET bottles as the family drank boiled tap water and reused the few PET bottles they did acquire. Other goods were sent

to relatives in the countryside for reuse. Reclaimed materials were reused for house repairs and extensions such as a new room built into the front terrace and a new bathroom built on the back terrace. Most of the family's clothing and shoes, however, were new, mass produced and usually imports from China or Thailand that were considered to be higher quality than local products.

Conclusion

The rise of urban middle classes in Asia has roughly coincided with an increasing awareness of energy consumption and sustainability globally. But they do not necessarily go hand in hand. The most resource-intensive lifestyles in Vietnam are led by urban middle classes who are able to generate incomes sufficient to support them. Relationships between social mobility and sustainability among urban middle classes, however, are more complex. Urban lifestyles differ somewhat in the crowded inner city in contrast to those in high-rise gated communities or suburban villas on the peri-urban fringe.

Importantly for Vietnam's Southeast is the influence of rural-urban migration on urban living. It has been argued that the relocation to an urban environment to pursue opportunities for upward social mobility does not necessarily erase sustainable lifestyle practices among migrants, particularly when they remain in regular contact with relatives in villages, although a village lifestyle continues to be understood in popular discourse in HCMC as backward, underprivileged

and generally undesirable in contrast to the comforts of urban living.

Further, acquiring the technological conveniences of modern city life acts as a status marker and differentiates successful people from others as they move up the social ladder. Currently, a desire to achieve locally-valued status outweighs a desire to achieve globally-valued sustainability. Yet, as Waibel (2009: 3) suggests, if HCMC's new urban middle classes were appropriately educated and resourced they could serve as models for sustainable urban living.

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View of the emerging skyline of HCMC