

# Home-Based Enterprise and Housing Policy: Evidence from India and Indonesia

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# Home-Based Enterprise and Housing Policy: Empirical Evidence from India and Indonesia

## Abstract

*An increasing proportion of householders in developing world cities are using the space of the dwelling and the labour of the household to generate income in a wide variety of home-based enterprises (HBEs). In most cities such enterprises conflict with planning norms and zoning regulations with regard to economic activities within residential areas and consequently are actively repressed or grudgingly tolerated. Rarely are such activities acknowledged as playing a positive role economically or socially.*

*However given the weakness of the formal employment sector and the inability of the state to deliver in many areas of urban policy, such informal household initiatives have a vital role to play both in poverty alleviation at household level as well as contributing to the vitality of neighbourhood and national economies. Because of their income-generating potential, the presence of HBEs is likely to improve housing conditions even though their use of space and generation of externalities may be seen as harmful. To examine these issues we will draw on empirical evidence collected as part of a recently completed international comparative research study into the environmental impacts of HBEs in four developing world cities. The project was funded by the British Department for International Development (DFID). Data from the two Asian cities (New Delhi and Surabaya) will be used to present the case for a radical rethinking of official policy responses to home-based income generation in low-income areas.*

*The policy proposals advocated in this paper<sup>1</sup> are in line with the sustainable livelihoods approach adopted by the United Nations which encourages the integration of various strands of development intervention including social development, micro-entrepreneurship, natural resource management, good governance and disaster preparedness. The paper offers physical planning guidelines with respect to infrastructure provision and plot sizes; proposals to minimise health and safety risks;*

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<sup>1</sup> An earlier version of this paper was presented at the ENHR International Housing Research Conference in Vienna in July 2002.

*examples of good practice with reference to credit and finance and advocates the localisation of planning and building control.*

### **Introduction: the House as Place of Work**

The Rawat family live in a low income settlement in Indonesia and make their living making brightly painted papier-mache masks in their home. Everyone in this three generation, six person household is involved. Mrs Rawat explains:

*"There are no special rooms for family and for business. We have furniture for the guestroom and the dining room. But it doesn't just function as the dining room or the guestroom, because [both] are also used to work in. So it all gets very untidy. [...] Sometimes we must move some furniture when we have a lot of orders. The dining table even sometimes functions as the place to put the masks on. To eat we don't have to use the dining table. We can eat anywhere we like. [...] We have plans but the resources aren't available. [...] We have dreams, we want to raise the back part of the house to make two rooms specially for making masks. There are more plans but we don't have the money."*

In common with increasing numbers of inhabitants of the rapidly expanding cities of developing countries, the struggle of the Rawat family to generate household income is intimately interlinked with processes to obtain and improve housing: their survival strategy combines both home and work. In most cities the use of the dwelling to generate income conflicts with planning norms and zoning regulations with regard to economic activities within residential areas. Despite the massive scale of this phenomenon and the critical importance of HBEs to low-income dwellers, rarely are such activities acknowledged as playing a positive role economically or socially. This paper articulates the argument for a revision in both policy and practice and draws on aspects of a recently completed international comparative research project into Home-Based Enterprises (HBEs) in four developing cities. The research project was co-ordinated by a team at the School of Architecture, Planning and Landscape at the University of Newcastle upon Tyne working closely with partners in New Delhi (India), Pretoria (South Africa), Cochabamba (Bolivia) and Surabaya in Indonesia. The project was financed by the British Department for International Development (DFID).

The paper begins with a brief discussion of the characteristics of the informal sector, then moves on to discuss how this relates to informal housing. We then introduce the terms of reference of our research and explain the two case study areas. This is followed by an analysis of some of the data to show how HBEs contribute to the alleviation of poverty and improved housing conditions. There

is little evidence to demonstrate that HBEs contribute significantly to environmental damage or health and safety problems. The paper ends with a discussion of the policy implications of these findings and offers a series of recommendations.

### **The Informal Economy**

It is now increasingly recognised that the informal economy plays a vital role in sustaining livelihoods for expanding numbers of urban people living in poverty throughout the developing world. Population and demand for jobs, goods and services are typically growing too quickly for formal job creation to cope with. Indeed, years of structural adjustment and reduction in government employment have reduced formal sector job opportunities in many urban areas. The informal sector provides many of the jobs needed by the growing workforce and compensates for much of the formal sector's failure to provide goods and services.

The early writings on the nature of the informal economy (in the 1970s) inferred dichotomous formal and informal sectors. However, it was difficult to maintain this dichotomy since the characteristics of informality (small size, low skills levels, ease of entry, lack of government controls, doubtful legality of product, low income and poor fringe benefits) are not all present in every business that seems otherwise to be "informal" (Romanos and Chifos, 1996). Thomas (1992) defines the informal economy as those activities that are not fully recorded in national income accounts, and distinguishes four overlapping categories (household, informal, irregular sector and criminal sector) based on two criteria: market transactions and legality.

The informal sector exists "between underground and legality" (Tokman, 1992) and implies a way of operation (usually outside the laws on taxation, safety of workers, and pension qualification) rather than specific activities, as almost the whole range of commercial and industrial activities can have informal characteristics. According to Chen et al (1999) there are at least four interlinked theories as to why informal sector activities persist in developing countries. Firstly 'lack of growth': the persistence of informal activities owing to the decline in the growth of gross domestic product (GDP). Secondly 'jobless growth': a theory which assumes that capital-intensive technology and recent economic processes (privatisation, deregulation, and globalisation) have led to the decline or informalisation of certain formal sector jobs. Third is the 'growth from below' theory which attributes some of the growth in GDP to the growth of small-scale enterprises. Finally, the 'period of adjustment' theory reflects how the informal sector grows when economies undergo structural adjustment leading to marked shifts from formal to informal employment.

Typical informal sector activities would be regarded as being “small scale and characterised by low capital endowments, simple technologies, unremunerated family labour and flexible work-sites” (Hays-Mitchell, 1993). Small-scale enterprises are characterised by the following:

- a. There are few barriers to entry; initial capital and skill requirements are low.
- b. Most entrepreneurs learn through informal apprenticeships in the sector.
- c. Most entrepreneurs have limited access to formal credit. Capital needs are met informally from family, friends or money lenders.
- d. The sector generally operates outside official rules and regulations and thereby avoids taxes, licence fees, and requirements to conform to standards. The corollary, however, is that owner and employees lack protection and security (UNCHS, 1989).

Small-scale enterprises have a number of development strengths. They tend to use labour-intensive methods and work within local neighbourhoods. They develop from a very small scale, often in the home, can give employment to local skilled, unskilled and unemployed labour. The focus of this paper is towards such enterprises based within the home (HBEs), and in particular their relationship to the authorities who in different ways attempt to control them.

As formal housing provision has increasingly failed to keep up with demand over the last four decades, the informal sector has played an increasingly active role in housing supply. As with employment, the informal sector is now very complex and the formal-informal dichotomy is no longer accepted as relevant. Informality tends to stem from a lack of secure title to land but there are also occasions where buildings constructed on securely titled land are not approved by the city authorities.

### **Linkages between Housing and Employment**

In low income areas the complex web of economic linkages within and between home-based enterprises (HBEs) allows all but the most destitute to eke out a living and have access to shelter. Thus, housing plays an important part in the existence and operation of the informal economy in many countries. Despite numerous studies on the informal sector, until recently there has been little work done on the interrelationship between informal housing processes and the working of the informal economy. The focus of existing studies has been largely on the economic implications of HBE's with little attention on how work-place and residential activities and spaces are integrated. Recent United Nations and ILO publications confirm the need for research into these linkages (UNCHS/ILO, 1995). The 'Global Strategy for Shelter to the Year 2000' (UNCHS, 1990) and 'The Habitat Agenda' (UNCHS, 1997) both recognise that housing should be regarded as economically productive, not simply as consumption as has been implicit in so much housing policy in the past. Forward linkages are particularly relevant here: the provision of employment through the very

existence of housing. This includes the ability of occupants to work in, and make economic gains, from the home. We can therefore add those activities carried out in the home (home-based enterprises, HBEs) as a further classification to those above.

### **Standards and Regulations**

The key concept of the Global Strategy for Shelter, and its successor the Habitat Agenda, is that of enabling; of governments' stepping back from housing production and measures to control the price of outputs and, instead, working to enable the current and potential suppliers of housing to do what they do best. A major part of the enabling process is to set in place a regulatory context in which urban development can be sustainable and of the scale required for all to be adequately housed. This inevitably means a change in standards so that they are realistic.

In our current research, we are studying HBEs whose presence adds to household incomes and their ability to pay for housing while not generating much in the way of negative externalities. Our findings demonstrate the difference between the intentions of policy makers and regulatory authorities and the needs of occupants. We are also able to show that, while many of the activities of informal dwellers are technically in breach of current regulations, this does not lead to chaos but merely a shifting of the boundaries of acceptability in a people-ward direction. This demonstrates the need to take account of many facets of life that occur in housing beyond reproduction and related domestic activities. In this paper, we argue that regulatory frameworks and policy approaches have much to learn from examining informal processes and that standards should be liberalised to cope with and benefit from such experiences.

There are three main areas where large-scale contravention of both housing and economic activities suggests inappropriate standards: planning regulations, zoning and building regulations.

1. Planning regulations in developing countries have mainly been imported from colonial powers or other industrialised countries. There are significant costs attached to fulfilling regulations and obtaining full planning permission for developments. These are likely to be a quite considerable proportion of building costs as the informal alternative is often much cheaper - one-sixth the cost in Ghana, (UNCHS/ILO, 1995). In addition there will be administrative costs and frequently bribes also.<sup>2</sup>

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<sup>2</sup> There may also be significant amounts of time required to gain all the necessary permissions and permits. For example Payne (2001) estimates that to gain full permission to build a dwelling in Mumbai would require 75 days off work.

2. Zoning was developed in the early days of planning control in order to move undesirable types of development away from housing. Separation of uses is believed to be desirable because noise, traffic, pollution, and other nuisances (negative externalities) would reduce the amenity of an area. Other less visible agendas in zoning include the maintenance of property values, and of simplifying the task of planning control.

3. Building regulations are frequently designed for economic and cultural circumstances far removed from the reality of life in low-income urban areas. In addition they are often difficult to follow and to enforce. Even following the text requires quite a high degree of literacy, professional expertise and, sometimes, access to reference documents.

### **HBEs: Housing and Employment Regulations**

The use of residential property for HBEs is extremely common. Even a decade ago it was estimated that between 20 and 40 per cent of properties in low income neighbourhoods in developing cities were used for income generation (Raj and Mitra, 1990). Multiple factors will determine the incidence of HBE activity but Sethuraman and Ahmed (1992) regard the density of income per square kilometre as critical, especially to small scale retail services. Gafur (2000) suggests that density and layout of dwellings can be influential especially when women are in seclusion and can only operate in or close to the home. From an official perspective HBEs are expected to fulfil regulations appertaining to both housing and employment and are almost always unapproved by planning authorities.

**Regulations pertaining to housing** tend to concentrate on quality of construction, ventilation, day-lighting, fire prevention and escape, and space standards for different types of rooms. To fulfil these regulations is beyond the means of most of the population so most housing is informal. Non-compliance with the regulation, however, prevents borrowing from formal sector lenders and may require side payments to inspectors. Both of these will tend to mean that households direct less of their spending to housing than if they had the chance to borrow. They therefore live in poorer quality housing than they need to. It also tends to remove the possibility of compensation for lost property value if housing is demolished for redevelopment (Zhang, 1997).

**Employment regulations** focus on safety at work, conditions of work, work breaks, pensions, unionisation, etc. It is important to bear in mind the context when challenging their non-compliance with industrial and employment regulations. We believe it is only fair to insist on employment regulations in HBEs if formal workplaces also routinely fulfil such regulations. As Hameed and Raemaekers (1999) point out, this is frequently not the case; industrial cities in developing countries

do not perform well with respect to the 'brown agenda' of air, land and water pollution, hazardous wastes and industrial accidents (Williams, 1994; Hardoy, Mitlin and Satterthwaite, 1992).

It is recognised that non-compliance gives HBEs and other informal sector operators their competitive edge over formal sector operators who must carry a heavy overhead from compliance with multiple regulations. It also brings HBEs into conflict with employment rights activists who can frequently identify poor working conditions, exploitative payment rates, and lack of other employment benefits (e.g. pensions, holidays and sickness pay).

### **The HBE Research Project**

Our study focuses on the effects of HBEs on households and neighbourhoods. Following a pilot study in India to test the methodology (Kellett and Tipple, 2000), we selected study areas in four countries: South Africa, Bolivia, Indonesia and India. This paper reports on the last two of these. In each settlement we used a questionnaire to gain statistical data of approximately 150 households running HBEs and a further 75 who did not generate income from the dwelling. Within the HBE sample we interviewed 25 household heads and recorded dwelling space use graphically and photographically.

### **The Indian Setting: Bhumeheen Camp**

India is dominated by the informal sector with 90 percent of the labour force officially acknowledged as engaged in informal economic activities (India, 1991). Bhumeheen Camp is a long established squatter settlement in New Delhi with approximately 2,000 households. It is officially a transit camp where residents could be moved into a resettlement colony on the periphery of the city. Most of the dwellings were destroyed by a disastrous fire in 1991 and have since been rebuilt in brick: mostly two storeys, densely packed back-to-back leaving only very narrow paths and alleyways between. The dwellings are very small with a mean area of only 11 square metres and many are only 2 metres wide. Most are owner-occupied but poorly serviced: electrical connections are improvised and illegal; water must be fetched from a limited number of standpipes. There are communal showers and toilets.

The area is known for embroidery piecework and sewing workshops in which garments and furnishings are made to order. Amongst our sample of HBEs we also encountered carpenters, printers, electricians, repairers of appliances and watch repairers; domestic services such as creches, barbers, a cobbler, an (unregistered) medical practitioner, an astrologer and an ironer; general grocery shops, and some specialist traders in tea and snacks, vegetables and sweets,



audio cassettes, cloth and jewellery. Two home-based industries sell potentially dangerous or noxious items: fish and kerosene.

### **The Indonesian Setting: Banyu Urip**

The research site in Indonesia is the *kampung* of Banyu Urip in the city of Surabaya on the island of Java. The settlement began in the 1950s when squatters settled in an old Chinese cemetery and now has a population of approximately 40,000. In the early 1980s it was successfully upgraded as part of the ambitious Kampung Improvement Programme (KIP) (Maskrey and Turner, 1988) and continues to have active community organisations as witnessed by numerous awards for 'best kept *kampung*'. Surabaya is a large industrial city (population 3 million) with a busy port, which has been significantly affected by the Asian economic crisis. This has led to a reduction in formal sector employment opportunities and a consequent increase in informal and home-based income generating strategies throughout the city. A high proportion of households in Banyu Urip are engaged in home-based enterprises. There are many small shops selling daily household necessities for people who do not have a refrigerator or much storage space; fresh food, bottled drinks, snacks, soap, candles, rice, cigarettes etc., as well as a range of more specialised shops. Services are represented by repair shops, tailors, hairdressers, rental of videos and party equipment. There are several production HBEs manufacturing traditional Javanese furniture, decorated bird cages for export, masks of various kinds, and shoe uppers for export. There are many HBEs making rattan and wooden handicrafts or clothing to order.

Pedestrian scale alleyways form the key spatial component of the *kampung* from which the narrow back-to-back plots are laid out in a regular way. Most dwellings are single or double storey and occupy the whole plot, leaving the alleyways as the only open spaces. They are intensively used, in many cases as an extension of the dwelling area but also for productive and collective activities. Many alleyways have trees and shrubs planted in front of the houses, providing shade. The alleyways are also the basic unit of the administration and community grouping to which all belong (Rukun Tetangga, RT). It is well serviced with individual connections of electricity and water to virtually all dwellings.

In the following section we present some empirical evidence from the two case study areas to assess the relative benefits and drawbacks of home based income generation.

### **Employment and Income Benefits**

Evidence from both case studies demonstrate that HBEs greatly increase the employment opportunities for low-income households especially for women. As shown in table 1, at least 50 per

cent more women work in HBE operating households than in those without a HBE. There are also improvements in the work participation for men. The differences in number of workers between HBE and non-HBE operators is 0.67 persons in Indonesia and 0.91 persons in India. In some cases housing and income opportunities are directly linked. For example, in our Indonesia case study, a *bakso*<sup>3</sup> maker employs seven workers who sleep on mats on the floor in the sitting room.

**Table 1. Number of workers per household (Means)**

	India	Indonesia
<b>HBE operators</b>		
Male workers	1.52	1.52
Female workers	0.93	1.13
Total	2.45	2.65
<b>Non-HBE operators</b>		
Male workers	1.13	1.33
Female workers	0.41	0.65
Total	1.54	1.98
Improvement made by having an HBE	0.91	0.67
Percentage improvement	59.0	33.8

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<sup>3</sup> Soup with Chinese meatballs, sliced cabbage and bean threads

**Table 2. Household monthly income (means, PPP£)<sup>4</sup>**

In PPP pounds	India	Indonesia
<b>HBE households</b>		
Mean	254	417
Median	211	277
<b>Non-HBE households</b>		
Mean	200	307
Median	171	248
<b>Percentage improvement from HBE</b>		
Mean	27	34
Median	23	12

Table 2 shows that incomes in both places are low, particularly in India with mean HBE household incomes of only PPP£254 per month, but means and medians are well clear of poverty lines. But both case studies show significant increases in income for HBE households in comparison with their non-HBE operating neighbours, especially at the means (27% and 34%). The proportion of household income coming from HBEs is high (58% in India, 59.6 in Indonesia)<sup>5</sup>, with approximately a third of households in both places totally reliant on HBE income. Taken together this evidence clearly indicates the significance of HBEs in generating income for low-income dwellers, and consequently the positive impact on poverty alleviation.

### Improved Living Conditions?

The amount of space used by HBEs, and its proportion to the whole dwelling, are important issues in assessing the impact of HBEs on the environment. Our India sample has very small dwellings, with means of 10.8 square metres and 2.1 rooms for HBE households (see tables 3 and 4). These dwellings cover the whole of the plots, abutting adjacent dwellings at the rear and sides. They accommodate a mean of 5.3 people and the HBE. When the paucity of open space and the narrowness of the streets are added to the picture, we can see how crowded they are. They also demonstrate that, at least in India, lack of space is not an obstacle to operating an HBE. The non-HBE sample has smaller dwellings (by about 20 per cent or 2.2 square metres at the mean). In Indonesia, the non-HBE operators have about 7 square metres less space but no fewer rooms.

<sup>4</sup> PPP £= purchasing power parity with the pound sterling.

<sup>5</sup> These figures are higher still in our other two case studies (70.3% in South Africa and 73.6% in Bolivia).

**Table 3. Number of rooms**

<b>HBE operators</b>	India	Indonesia
Mean	2.1	5.9
Median	2.0	6.0
<b>Non-HBE operators</b>		
Mean	1.8	6.0
Median	2.0	5.0

**Table 4. Area of rooms (square metres)**

<b>HBE operators</b>	India	Indonesia
Mean	10.8	59.1
Median	9.0	53.5
<b>Non-HBE operators</b>		
Mean	8.4	51.8
Median	7.7	47.3

As HBE operators have more indoor space than their non-HBE neighbours, we can suggest that HBEs generate better living conditions. However, it is important to bear in mind that such dwellings by definition must accommodate additional activities, which in some cases may negate some of these advantages.

### **Waste disposal problems?**

There is evidence to indicate some of the benefits and advantages of HBEs, particularly to those households which operate them. But what of the potential problems? We will now examine the issue of externalities, in particular the potential problems of waste disposal and health and safety issues.

In both case studies we encountered a few HBEs generating dangerous or unpleasant substances: hairdressing chemicals, rancid food wastes, paint, paint thinners, glues, paraffin etc. Some generate smoke and others noise from machines, although very few have heavy machinery. Waste materials generated textile off-cuts, sawdust, bottles, metal (wire and nails), dust and ashes, cut hair, waste food and other organic matter. Most of these are in relatively small quantities and are generally disposed of in the same way as domestic wastes in the area. Our study indicates that

inefficiencies in the municipal waste disposal system will be exacerbated with the presence of HBEs and the main impact is one of concentrating solid waste production (Napier et al, 2000).

However, as with other low-income neighbourhoods recycling of wastes helps in reducing the overall problem. In some cases bottles, paper, plastic, metal, etc., are collected and sold on. Some use it as their raw material in manufacturing local stoves, making footwear out of rubber offcuts, etc. Waste food is fed to animals kept around the house. The burning of wood, cloth, rattan off cuts etc., for fuel adds pollution to the atmosphere but probably no more than would be produced by other fuel sources. Cloth wastes are typically recycled locally; larger pieces are used for making children's clothing and smaller pieces are used for stuffing cushions or mattresses. In Indonesia, paper and card find a ready market in the mask-making industry locally. Very little is thrown away. Mrs D, in Indonesia, produces high quality rattan baskets.

*"I buy the rattan from the rattan factory in good condition [...] but my neighbour (who has the same kind of enterprise) usually uses left over rattans or unused rattan thrown from the factory, and even the ones I throw out would be used by him to make the baskets. He once made 100 rattan baskets from the unused rattan leftovers I gave him!"*

Similarly most of the waste produced by her neighbour Mr Y (a tailor) is recycled:

*"The only waste is the offcuts of cloth which are not used anymore. [...] Usually, I put the waste into a plastic bag and directly I throw it into dustbin which is in front of the home. But sometimes there are some neighbours who ask for the bits of cloth, they use it to [make doormats]. It's just that there is also my neighbour Mr P who makes (masks and toys) who asks me for the bits of cloths, he says that it's for materials of toys. So usually, if there is someone who asks for the rest of cloth, I will collect it and put it into a plastic bag."*

### **Health and Safety**

One of the potential downsides of unregulated activities is the absence of official control over health and safety issues, particularly for workers and their families (especially children). Dangers certainly exist. In the Indonesian sample, for example, these include electrical short circuits leading to fire, sharp implements and tools in places where they can cause accidental damage to people, noxious fumes from various chemical processes, etc. However, there appear to be high levels of awareness of potential problems and various strategies are employed to minimise dangers and problems. Mr K, a mask maker has placed strong boards above the ceiling and, when he paints the masks with noxious spray paint, he removes some roof tiles to allow the air to circulate. This both protects him and the occupants of his dwelling but also eases the passage of the fumes up into the air and away from the neighbourhood. Another mask and toy maker, MJ, uses a face mask,

*"Yes, I do feel the effects of the paint, usually after painting the whole day, my head becomes a bit dizzy, I even have to drink milk whenever I have to paint for a long time like that. And when I do the wood sawing I would need to wear a mask to stop the dust from coming into my nose, because they are quite dangerous. ...it would be a dangerous thing to inhale those particles into our lungs.*

*[Once] I hurt myself using the handsaw, but it's not a big a deal for me. ...That's why whenever I get a little dizzy or weary, I'd rather stop working and take a break for a while."*

### **Policy Recommendations**

In this final section we present the case for changes to regulations within a revised policy framework.

### **A Holistic Approach to Environment and Development**

In recent years there has been a shift from sector-based approaches to more holistic approaches to development. The World Bank now advocates, in its Comprehensive Development Framework, that macroeconomic indicators should not be considered in isolation from the impacts of economic policies on people and the environment (World Bank, 2001). Similarly, the sustainable livelihoods approach adopted by the United Nations, DFID and other organisations, brings together the various foci of development interventions (social development, micro-entrepreneurship, natural resource management, good governance, disaster preparedness) within a single framework. The approach acknowledges the interrelationships between different processes and the way in which they impact upon the sustainability of livelihood strategies. This approach has implications for this study.

The issues exposed by HBEs vividly demonstrate the need to remove sectoral blinkers in decision-making about urban activities. In the light of our study, we would argue that the decision-making process affecting low-income neighbourhoods should always take account of the need for households to make a living and, for many, their dwellings are the only places available to them.

### **A Positive Policy Stance**

From our data we would advocate not only a general acceptance that HBEs are valid in low-income residential areas but also that they should be encouraged and the following paragraphs give some directions for this.

More than a decade ago, Gilbert (1988) suggested that HBEs might benefit from benign neglect from government in circumstances where nothing positive can be done. More recently, Dierwechter (2002) espouses the benefits of benign neglect as a strategy to address the informal sector.

However, we believe that national and city governments should act more positively towards HBEs and thereby promote the economic and social well-being of the majority of their citizens (Tippel et al, 2002). The two most important elements of strategic assistance to HBEs are:

- the acceptance of HBEs as valuable to the national, city, neighbourhood and household economies; and
- a change from the official mind-set that sees them as antithetical to residential peace and domestic order.

So often, HBEs are simply not valued or accounted for in the national economy. This is partly because they are statistically invisible which, in turn, arises from their illegality and the fear of their operators that they will be closed down or harassed. Patel, Boelnick and Mitlin (2001) point out how communities can be empowered to interact effectively with policy-makers by collecting knowledge of themselves through household enumerations and intra-household surveys.<sup>6</sup> By this means, the occupants of poor housing areas acquire knowledge that policy makers do not have about their neighbourhoods and how they relate to them. Through this process they are able to negotiate successfully for improvements. There are great potentials for HBE operators to empower themselves by joining together to collate key information about HBEs in their areas. Increased knowledge about the economics of HBEs would help in future predictions of the overall effects of major economic trends. This is significant as any policy that adversely affects HBEs is likely to be economically regressive, impacting particularly seriously on people living in poverty.

An altered mind-set that expects HBEs to operate in residential areas would allow for

- service levels suitable for the loads required by enterprises,
- plots large enough to work on,
- dwellings in formal areas to be larger than planned-for occupancy rates would indicate, and
- dwelling costs taking account of the income from HBEs.

### **More Space**

Our data from India demonstrates that HBEs are able to operate in the smallest of spaces but it is evident that HBE activities have a more marked effect on domestic space when plots are very small. This indicates that sufficient space for an HBE should be anticipated in designs and layouts. We propose that physical planning policy involving decisions about the appropriate number of rooms required for households (which is often part of such fundamental policy decisions as plots sizes in formal areas) should acknowledge the likelihood of HBEs by adding one more room per household

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<sup>6</sup> Examples in India include the work of the National Slum Dwellers Federation, SPARC (an NGO) and Mahila Milan (a federation of women's cooperatives), who have developed an alliance with low-income communities.

to whatever their formula generates. The presence of one additional room per dwelling is probably sufficient to accommodate the needs of most HBE operators.

We do not recommend specifically designed dwellings with a room set aside for an HBE as the answer to all or even most circumstances<sup>7</sup>: occupants are in a better position to decide how activities are distributed. While many HBE operators long for a separate room, many others derive benefits from mixing domestic and productive efforts in the same space. Furthermore, some HBEs use space at the front of the dwelling, others locate elsewhere, e.g., in a courtyard or rear yard. Also, some use the domestic kitchen for their HBE and would be hampered by locating their commercial cooking elsewhere in the dwelling. Similarly outdoor space can be important for HBE activities. It may be used directly, or to facilitate circulation patterns, and may allow levels of ventilation and daylight to reach parts of the dwelling to improve conditions for the HBE or mitigate any harmful effects (e.g., venting fumes). Thus, plots should be of a size and shape to allow the freedom not to cover the whole ground area in order to obtain adequate living conditions.

### **Minimising Health and Safety Risks**

Our field experience shows high levels of awareness of health and safety risks. However, despite the efforts of many HBE operators to minimise risk, there is room for improvement. Legislation is often already in place in developing cities but not implemented in the informal sector as a whole and HBEs in particular. Information campaigns and the training of neighbourhood safety advisors may be an effective way to improve the situation, at least in the first instance. They would encourage operators of HBEs that use machines and/or generate fumes, to further extend their knowledge of the dangers and effects of their processes to increase safety for themselves and their neighbours. For the general population and those involved in cooking HBEs, there should be information campaigns about the dangers of hot liquids and energy sources in the home. Information about good working environments, particularly with respect to lighting, ventilation, rest periods and posture should also be made available widely for all employers and workers. Television could be an ideal medium for such information, especially where such issues can be introduced into 'soap operas' and other widely viewed programmes.

The most obvious means to improve health and safety in HBEs would be to introduce a series of standards, of the type recommended by the ILO WISE project. This project utilises a training methodology based on local practices and the direct participation of workers (Martino, 1995). However, care should be taken in deciding how such standards would be enforced. In India and



Indonesia, where petty corruption is widespread, any standards could be used by inspectors as leverage to secure bribes. Health and safety issues are more important when only small spaces are available to households and HBEs. However they must be realistic for such environments. Incremental improvements, carefully chosen and targeted, would probably generate significant gains in safety for relatively small cost per user.

Additionally, the poor living conditions in many informal settlements can provide opportunities for HBEs that improve the health and safety of a community as a whole. In Bhumeheen Camp, India, women were trained as 'health guards' by local NGOs to dispense basic medicines and offer health information.<sup>8</sup>

### **Better Services**

Mains services should be provided with HBEs in mind. Their presence is not necessary for HBEs to operate but it is likely that any problems caused by the presence of HBEs will be minimised if appropriate levels of services are installed. We propose the adoption of light industrial area standards when servicing new residential areas intended for low-income households or when upgrading existing settlements. It may even be desirable to install industrial levels of electrical voltages where manufacturing HBEs are common. Maximum local income multipliers should be extracted by using labour intensive methods to construct and manage infrastructure (UNCHS/ILO, 1995), and work on infrastructure should employ local labour whenever possible. This can help in generating a sense of ownership among local people for the improvements constructed; and in creating local income multipliers that enrich the local people and increase their ability to pay for the infrastructure provided.

### **Unacceptable Processes**

Control should be based on the processes involved rather than the 'use' in terms of grocery, plastic moulding, or laundry. This is in line with encouraging industrial concerns to use cleaner processes rather than end-of-pipe cleaning of pollutants (Frijns and Van Vliet 1999). We accept that there are economic activities which are unacceptable in residential areas, but we found very few examples in our study areas. If there are good reasons to prevent particular processes on health and safety grounds, proscriptions should be implemented without exception. Noxious or highly polluting industrial processes, such as leather tanning and processing car batteries should be proscribed

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<sup>7</sup> There are examples of designs based on local circumstances, eg the 'Productive House' in Barquisimeto, Venezuela developed by the local University (Lopez, 2000).

<sup>8</sup> For a discussion of how home-based social and health initiatives can lead to significant gains see Kellett and Garnham (1995).

unless clean technology can be used. In general, however, our data indicate that the environmental threats posed by most HBEs are not as serious as legislators may imagine, although they may impose unplanned-for burdens on services and exacerbate inefficiencies in the municipal waste disposal systems. Thus, it is important to expect higher levels of waste generation than mere domestic uses would indicate, but not necessarily different types of wastes.

In the cases of the minority of HBEs that generate unpleasant or dangerous waste, a programme of information and encouragement to use cleaner processes should be targeted at changing the operators' waste disposal habits. Again, these should be implemented at local level to improve the chances that they will be adopted. Only when such measures have been exhausted should proscription of a use be invoked.

### **Localised Planning and Building**

We believe that local land use and development control should be passed down to the lowest level commensurate with carrying out the functions (subsidiarity). Thus, strategic decisions and development control on major roads should stay with the city authorities, but wherever possible decisions about building or controlling particular activities should be taken at the local, neighbourhood level.

The appropriate local agency to address such issues will vary depending on local norms and conventions, but should be some type of community-based organisation. In Indonesia, for example, this might be the *Ruhun Warga* (RW) of which there are nine in Kampung Banyu Urip. Decisions need to be taken in a manner which is locally valid. One possible approach would be based on whether a majority of immediate neighbours were content that a particular use should go ahead. Another would be to respond only when there is a complaint.

### **Finance and Credit**

The financial and economic aspects of HBEs have not been central to our research but our experience suggests that there is a need to improve access to finance for the HBE itself as well as to improve the dwelling to cope with the business. Our data expose a lack of housing finance generally available for the low-income majority in the countries concerned. Even where finance is theoretically available for low income households, this has little effect on the ground.

Finance for HBEs and dwelling improvements should be made available at market rates but in quite small amounts. Amounts in a range equivalent to £100 - £2,000 would be appropriate. As such finance is costly to administer and difficult to secure against default in a context where little

collateral is available, group loans can increase the size of the transaction (to reduce administrative costs) and increase the security of the loan. Groups of HBEs that are linked together in production cycles may be ideal for this as long as their market is not vulnerable to collapse. NGOs working in skills and enterprise development could facilitate the setting up of informal saving and borrowing schemes amongst HBE operators. An NGO would be in a position to provide people with guidelines and to advise groups when problems occur.<sup>9</sup>

### **Enabling the Informal Sector**

There is a dilemma at the heart of any attempts to improve economic performance and social accountability in HBEs (ILO, 1991). The ILO (1984) seeks on the one hand to facilitate the progressive integration of the informal sector into national economies. At the same time, it recognises that this integration may reduce the informal sector's ability to absorb labour and generate income. In addition, the Global Strategy for Shelter (UNCHS, 1990) requires formal intervention to encourage the informal shelter sector through a radical reappraisal of laws and regulations governing land holding, planning and building, property leases, etc., with a view to amending, simplifying and streamlining those which present obstacles to growth and employment in the informal sector (UNCHS/ILO, 1995).

The progressive "legalisation" of the informal sector is a fundamental requirement for its integration, but is more likely to take place in a positive environment where the obstacles to entering legality are reduced to a minimum, where the costs of being legal are not prohibitive, and where there are clear benefits to becoming legal. It would seem important, for example, to distinguish between regulations that are essential for public health and safety, and those that are less important and place unnecessary obstacles to the operations of HBEs (UNCHS/ILO, 1995). That the informal sector must be supported rather than undermined by official policy is no longer in doubt. Thus, effective poverty alleviation strategies must include supportive policies towards informal dwellers and entrepreneurs.

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<sup>9</sup> Corruption in banking transactions is a key constraint. Many of our respondents in both countries told us of bank officials demanding a proportion of the loan as a bribe for dealing with the transaction. Such actions have serious implications on the profitability of HBEs.

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