



Pre-Assessment: Health-associated cost of urban informal industrial sector

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Abstract

The purpose of this study is to explore and analyze the relationship between effects of tourism on the quality of local community members' life and the extent of their participation in tourism quality improvement programs. Beach of Ramsar in Iran is chosen as a case study. The result of analysis revealed that tourism influences the quality of local community members' life. Also there is a significant relationship between factors affecting quality of community members' life and their level of participation.

Keywords: community participations; tourism impacts, ramsar

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1.0 Introduction

Up to the 1980s, poverty was largely associated with rural areas; contrasting the present dramatic increase in the numbers and proportion of the population living in urban areas, and a corresponding increase in the level of urban poverty. As a low-middle income country, Indonesia has a population of 238 million, and is undergoing a steady process of urbanisation; its urban population has increased from 14.8% in 1961 to 57.4% in 2010, and is still growing (Kamaludin, 2004). This number is predicted to rise to 68.9% by 2030 (UN, 2006) and will be concentrated in the two most urbanised regions: Metro Jakarta and Greater Bandung. This rate may be faster than shown in the official statistics (ILO, 2004). This situation has caused the employment demand in cities to rise. Nevertheless, recognition of the scarce earning opportunity in cities with their limited skills and capacity has pushed the marginalised migrants to thrive in an informal economy, in situations where safety and health are often neglected. The share of the urban informal sector in Asian countries ranged between 40 and 50 % of its workforce (Chattopadhyay, 2005). The growth of the informal sector brings two contrary results based on its definition. One may define informal sector as a source of income for the poor; the basis of local entrepreneurship and that serves as affordable goods and service provider. It is also considered as the spruce of slums, health risks, insecurity, and exploitation associated with the sector. Informal sector enterprises, especially those located in residential areas, pose real health hazards for the urban community, particularly for the urban poor in irregular settlements who can least afford the high cost of health care (Nwaka, 2005).

Amid the height of the economic crisis of 1997, the very first International Conference on Occupational Health and Safety in the Informal Sector made a statement about the national importance of informal workforces that represented the underprivileged and under-served working population. It is perceived that the informal sector largely contributes to Indonesia's economy. With the increasing share of informal activities in total employment, every country concerned with reducing poverty will aim to develop coverage for informal sector workers and their families. Social security, if properly managed, enhances productivity by providing healthcare, income security and social services (ILO, 2004). Nevertheless, the informal sector statistics have not been regularly collected and have not been included in Indonesia's official labour force statistics (Cuevas et al., 2009); thus to set up appropriate and effective policies is challenging. This study aims to summarise previous researches in the informal sector and develop an assessment tools for defining informal sector, occupational health and safety behaviour and expenditure in an informal setting.

2.0 Literature Review

Several studies have attempted to define the informal sector, and they mostly distinguished it with the formal sector from its legal definition and government recognition, which had neither the legal status under the existing legislation nor fell under the formal institutional

regulation of any public sector bureau or administration (Tajgman, 2006). In addition, informal employment relies on social networks in order to gain, seek out and/or supply employment; uses cultural and traditional means of support that are based on word of mouth, mutual trust, verbal agreements; and sometimes serves as stop-gap solution in providing cheap labour which is 100 % 'on the job training' for its apprentice (ILO-JOBS, 2009). Some characteristics of informal jobs compared to their formal counterparts are absence of standard legislation, income taxation and social protection; lower allowance; deprivation of benefits such as medical, sick leave, holiday leave, refreshment, food, and insurance; longer working hours; informal recruitment; casual jobs with short duration of employment; jobs for which labour regulations are not applied, not enforced, or not complied with for any other reasons; generally poor working conditions; low productivity; use of production methods that are often harmful to the environment; strong presence of women workers and, too often, child labour (ILO-JOBS, 2009; ILO, 2004; Baron, 2005). Bocquier et al. (2010) had identified vulnerability indicators among informal workers which consisted of contractual security, independent working, unfixed work location, casual job, unstable remuneration, underemployment, and instability of employment. The study also found that informal sector offered higher earnings to more vulnerable jobs although it was not compensated for the poorest workers. Cuevas et al. (2009) classified 'informal' as informal self-employment and informal wage employment. Under informal self-employment were employers in informal enterprises; own account workers in informal enterprises; unpaid family workers; and members of informal producers' cooperatives (Chen, 2006; in Cuevas et al. 2009). Informal wage employment includes employees without formal contracts, worker benefits or social protection workers who are employed either in formal or informal enterprises.

According to ILO (2004), there are 550 million working poor, who earn less than US\$1 a day; and who consist of urban working poor that mostly contribute in informal economy. Informal workers are vulnerable because they have little or no access to social protection and are not covered by the National Labour Code and therefore cannot rely on the Social Security Laws for any of its benefits and protections (Economic Institute of Cambodia, 2006). They are exposed to sickness, disability, accidents and premature death, in addition to the loss of the little assets they have due to their poor living and working conditions, where there are, but not limited to, lack of clean water and sanitation, high flood exposure and fire risk, casual use of toxic substances, dehumanising working methods, over density, and accidents from using equipment (ILO, 2004; Patel, 2002; Arphorn et al., 2010). Even though they should receive attention from the municipal government since these marginalised occasionally live in the heart of the cities, health and safety protections are rare, causing health inequality to occur.

3.0 Methodology

A desktop study was conducted to gather information and findings from previous researches

regarding the informal sector and health-associated expenditure, and the results serve as the basis in formulating a questionnaire as the assessment tools. To enrich the perspective of this paper, the authors conducted a discussion with a panel of environmental health experts.

4.0 Results and Discussions

From 1967 to 1996, the total number and percentage of the urban poor have decreased gradually in Indonesia, but the monetary crisis in Asian countries since 1997 had caused poverty to widely reappear, especially in urban areas. In 1998, terminations of employments extensively occurred causing thousands of ex-formal workers from low-income communities to become jobless, thrive in non-formal sectors, or migrate to their home villages (Kamaludin, 2004). This is one of factors that probably caused the informal sector to increase since 1998 when the economic and political crisis hit Indonesia hardest. Ever since, the number of informal workers continued to increase (Figure 1).

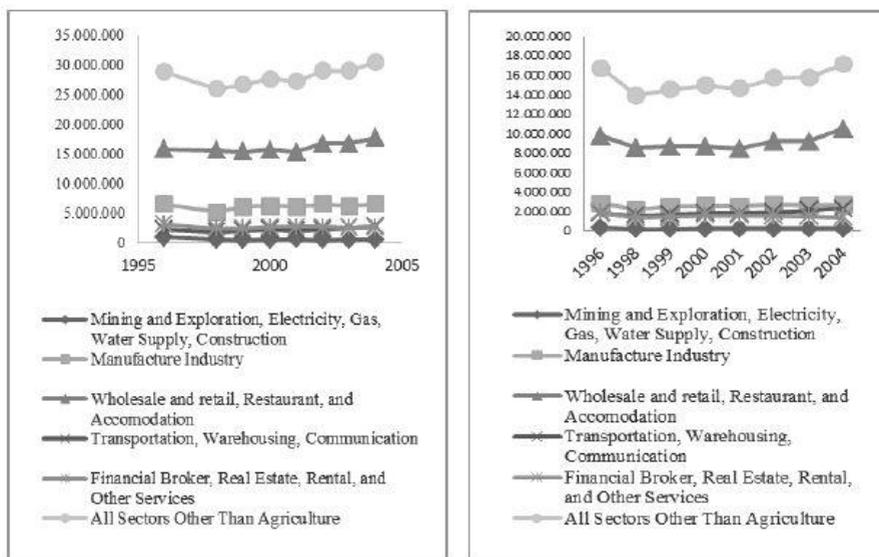


Figure 1: Informal Workers (Left) and Informal Entities (Right) in Five Sectors Other than Agriculture in Indonesia from 1996 to 2004 were Known to Grown Since Economic Crisis Hit in 1998
 Source : (data was taken from official website of Statistical Center Agency, www.bps.go.id, 2010)

The informal sector is considered as the last resort for the poor, especially when development failed to help them. Dewi (2005) examined the role of the street vendors, typical urban informal workers and possible bridging with the formal sectors through relocation. Ali &

Sakano (2009) studied the informal recycling business in which ecological and economic contributions were measured. Muljarjadi and Thio (2008) valued the urban informal economic activities of the flea market traders through a willingness-to-pay survey. Common concluding remarks of those studies included the ability of the informal sectors in absorbing workforces which were unaccepted by the formal sectors, apparent contribution of informal economic activities to the whole urban economy, and linkage with poverty. Subsequently, the findings from previous studies of the occupational, safety and health (OSH) and health-associated expenditure will be presented, followed by the development of the questionnaire as an assessment tool.

During the 1990s, Indonesia had undergone a period of rapid growth until 1997 in which the number of work-related injuries tended to increase and it suffered subsequently from the financial crisis as mentioned before in which the OSH became one of the first areas to be curtailed (Markkanen, 2004). It has been reported that workers in the informal economy in Indonesia suffered from malnutrition, parasitic diseases, asthma, skin allergies and cancers, chemical poisoning, food poisoning, musculoskeletal disorders, respiratory track problems, lymphoid and blood diseases, and etc. Their work hazards included noise, vibration, heat stress, poor lighting and unsafe electrical wiring, exposure to dust and chemicals, and poor ergonomics (Joedoatmodjo, 1999 in Markkanen, 2004).

Attempts in providing data in the workforce had long been implemented through Indonesia's Labour Force Survey or "Sakernas", as a component of Indonesia's Statistics system of household surveys. However, estimates were generated only for individual household members aged 15 years and older. Most importantly, Sakernas did not openly categorise formal and informal occupation status in the tabulation. This lack of informal data interpretations have led to minimum attention to informal sector employment. Moreover, Sakernas did not have sufficient questions for determining the poverty status; therefore, it was difficult to determine the informality status based on wage approach (Cuevas et al., 2009). To validate these perceptions, comparative analysis of wages, benefits and working conditions between formal/informal workers by employment status can be undertaken. These results will be informative on the risks faced by informal workers and could also become the basis for designing appropriate social and legal protections for the informal workforce. Attempting to revise Sakernas, in 2009, under the Asian Development Bank's regional technical assistance, Badan Pusat Statistik piloted an Informal Sector Survey in two provinces: Yogyakarta and Banten, which incorporated expanded labour survey and identified Household Unincorporated Enterprises with some Market Production/HUEMs (BPS, 2009). The results of this survey showed that the labour market was dominated by informal employment, particularly in less developed areas. These results showed that in terms of economic production, as measured by the GRDP, the share of the informal sector was much less than that of the formal sector. However, with regard to jobs, informal employment was a vital source of income to the employed population (BPS, 2010). Informal Sector Survey (BPS, 2009) collected the data in two phases. The first phase identified the household/individual unit

while the second phase identified the production unit as the subset of the first phase results. The questionnaire included questions on work status, income, and expenditure which would be useful in developing health cost survey in the informal sector.

Some health outcomes were found in most occupations, such as musculoskeletal disorders and sanitation-related health outcomes in the informal industry environment. Nevertheless, some findings elaborated earlier indicated that safety and health hazards and risks were specific for each type of job. Therefore, the assessment tools for the informal sector must be adjustable according to the type of jobs.

Considering the magnitude of the informal sector as a small-scale and household based, Joshi & Dahal (2008) summarised the procedural guidelines to assess such industries as follows: walk-through surveys, identification of hazards, sampling (exposure assessment), health assessment, occupational history, post sickness absence review, biological effect monitoring, and review of medical records. However, this guideline requires high cost and needs to be developed further to calculate the statistical significance of the association between exposure and disease outcome.

The important determinants of health care expenditure were illness rate, income level, family size, and education level (Satayavongthip, 2001). Arphorn et al. (2010) developed an interview questionnaire for rubber tappers in Thailand to measure the impact of the health and safety intervention into three parts, as follows:

1. Personal factors covering general details including age, sex, number of average daily working hours, number of sleeping hours, number of years, and daily income;
2. Costs for healthcare and the prevention of work-related accidents, injuries and illnesses (including training, personal protective equipment, exercise, supplementary food and herb, and annual medical check-up); and
3. Costs for treatment of work-related accidents, injuries and illnesses. The work-related accidents in the third component of the questionnaire were specific for rubber-tapping work, and included loss of income, self-care, and medical care.

Mock et al. (2005) carried out a more detailed household survey of the occupational injuries in Ghana which included annual incidence rates, injuries by occupational category, mechanism of injury, and out-of-pocket expenses, whether by modern practitioners or traditional healers, as part of the discussion. This study showed that occupational injuries had greater fatality rates than non-occupational injuries, and led to a much longer disability period and time off work.

The health-associated cost is assessed through a questionnaire, which is developed into three main parts: A. Basic Information (identity of respondent and household member); B. Economic and Occupational Assessment; and C. Working Condition and Occupational Injury. Using this questionnaire, researchers are able to predict the percentage of the health expenditure to

income, particularly for occupational injury. The developed questionnaire in this study is elaborated in Table 1. The first part deals with basic information, such as age and latest education level of each household member who currently resides in the same dwelling as the informal worker. This part also covers the migration history, to identify whether the respondent is a migrant and has local identification. Absence of the official identification of the present residency often complicates a settler to obtain the appropriate health care or social protection. Part A also identifies the health history of the respondent and family member and age of the head of the household as well as the factors affecting catastrophic health expenditure in a household. The second part aims to collect detailed household income and expenditure data under 30 days and 12 months recollection period. The third part gathers the condition of the work place and occupational and non-occupational injury data as well as the related direct and indirect costs under 12 months of the recollection period. The informality of the respondent's occupation is determined based on the registration status of his workplace or business (in Part C), along with other identified characteristics of informal employment in Part B.

Table 1: Developed Questionnaire Framework

A. Identity of Respondent and Household Member	B. Economic and Occupational Assessment	C. Working Condition and Occupational Injury
A.1 General information: gender; age; relationship; education; occupation; monthly income.	B.1 Occupation Pattern: recruitment; work duration; work level; contractual aspect; working hours; working days; casual income; severances; work benefits (day-off, nutrition, medical); bank account; payment method; casual task.	C.1 Workplace Condition: location; number of workers (including women and children); registration status and tax status of workplace.
A.2 Migration history: place of birth; previous living places; reason for migration.	B.2 Household Income: monthly income from primary wage, overtime pay, secondary job, and family business; monthly income of own household member; remittances in.	C.2 Occupational Accident: frequency of accident; injured body parts; type of injury; task during accident.
A.3 Health History: history of acute and chronic diseases of respondent; history of acute and chronic disease of family member; age of head of household.	B.3 Household Expenditure: non-food expenditure (water, cooking fuel, transportation, electricity, solid waste management, communication, religious ritual, marriage, death, beauty, cigarette, recreational, business equipment, tax and contribution); food expenditure (including infant formula milk); others (education, clothes, electronic appliances, health); remittances out, expense on other family members.	C.3 Health-expenditure and behaviour: day-loss; preference of medical facilities; information regarding drugs (self-prescription); transportation cost; inpatient cost (cost of emergency room, prescription drugs, household member attending in hospital, and doctor); outpatient cost; follow-up treatment; sources of health information; loss of productivity; disability loss.

Several challenges that must be addressed in designing an assessment tool are elaborated as follows. First, the OSHA hazards are specific for each type of jobs; and the questionnaire must be adjusted according to the type of jobs surveyed. Therefore, hazard and risk analyses must be conducted prior to investigating the health-associated cost. Second, determining the target population may be difficult since informal workers are rarely registered, and their work location are commonly scattered. Therefore, a walkthrough survey must be conducted to scrutinise the context of the targeted informal workers. Third, bias from occupational and non-occupational cost and household and individual expenditure may be present. Fourth, the validation method must be determined to ensure reliability of results, using production cost of health service. Fifth, the questionnaire is designed for household setting to identify the coping strategies due to catastrophic health expenditure; but differentiating the health expenditure for individuals who work in the informal sector and the expenditure for family members may be confusing for the respondent.

5.0 Conclusion

While the informal sector largely contributed to the economy of developing countries, such as Indonesia, it was unofficially recognised and rarely controlled. Apart from the unstable income, poor working conditions, and unregulated working hours, a series of occupational and safety hazards posed a serious threat to the well-being of the workers, who were unprotected by formal means. This paper offered a framework in quantifying the socio- economic parameters of informal employment.

Data collection in informal setting faced different biases which potentially reduced the level of validation. The assessment tool in predicting the associated health cost of occupational accident and injury in the informal sector should be able to minimise those biases to which the design of the layout of the questionnaire played an important role. The position of the informal workers and socio-economic relationship in their household should be considered and integrated in the assessment. To minimise distraction and indisposition, the survey was designed to take place in the worker's residence. Considering the possibility of multiple income contributors and different expenditures for each household member, the survey should collect the incorporated income and expenditure data of the whole members. Health associated costs should be detailed to specific units to unveil the hidden costs. The household survey assists the recollection activity during the interview with informal workers with which the household members will be able to corroborate the answers.

This paper, including the assessment tool, is useful to improve the nationwide workforce survey, such as Sakernas, by including the associated cost of the occupational health and safety elements. Furthermore, this paper is available as a policy-tool reference to improve the well-being of informal workers.

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