

# **HOMeworkERS AND ICTs** **-- SOUTH-EAST ASIA --**

PROJECT FUNDED BY THE  
INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC)  
GRANT NO. 102792 – 001

**Regional Report**  
August 30, 06

Submitted by: eHomemakers (Corpcom Services Sdn Bhd), Malaysia

## **REGIONAL REPORT**

### **HOMEWORKERS AND ICTs**

**-- SOUTH-EAST ASIA --**

#### **Regional Team, Malaysia: eHomemakers**

Chong Sheau Ching, Project Director  
Czarina Saloma, Gender/Research Consultant  
Tham Lai Chun/Wong Peck Lin, Assistant Project Director  
Lee Lee Loh-Ludher, Final Country Report Coordinator  
Sumathi Dilling, Final Country Report Assistant  
John Dilling, Final County Report Assistant

#### **Country Team, Indonesia: The ASEAN Foundation**

Eddy Bahfen & Jon Baggaley, Project Leader  
Pande K Trimayuni, Project Coordinator  
Lilis Mulyani, Research Assistant  
Dewi Harfina, Research Assistant  
Lastrawan, Research Assistant  
Dyah Ratih, Research Assistant  
Cecilia Susilo Retno, Research Assistant

#### **Country Team, Thailand : Sukhothaimathirath Open University**

**Kamolrat Intaratat**, Project Leader  
**Vanida Choosamay**, Project Coordinator  
**Porntip Yenjabok**, Researcher

#### **Country Team, Malaysia : eHomemakers**

Lee Lee Loh-Ludher, Project Leader  
Shamini Sandrakasan, Project Coordinator  
Sue Mah Lai Kheng, Research Assistant  
Fidel Ho Fai Fong, Research Assistant  
Saidatul Ashikin Abu Hassan, Research Assistant  
Amy Lim Pei Yen, Research Assistant  
Roshan Ravichandran, Research Assistant

## Table of Contents:

### TABLE OF CONTENTS

	Page	
1	Synthesis	4
2	Research Problem and Conceptual Framework	6
3	Methodology	7
4	Literature Review	9
5	Research findings	10
6	Conclusions and Recommendations	22
7	Fulfillment of Objectives	25
8	Project Design and Implementation	26
9	Project Outputs and Dissemination	27
10	Capacity Building	28
11	Project Management	30
12	Impact	30
13	Overall Assessment	32
14	Recommendations to IDRC	34
	<i>Appendices</i>	
A	<i>Project Management Guide</i>	
B	<i>Research Manual (Research Design)</i>	
C	<i>Research Manual (Research Instruments)</i>	
D	<i>VO Manual</i>	
E	<i>Indonesian Country Report</i>	
F	<i>Thai Country Report</i>	
G	<i>Malaysian Country Report</i>	

## 1. SYNTHESIS

This research project focuses on key gender-specific issues and challenges affecting poor urban women homeworkers and their use of Information, Communication Technology (ICT) in three countries of South-east Asia, namely Indonesia, Malaysia and Thailand. It studies the context, structures and mechanisms within which the homeworkers operate and how these issues support the utilization of ICT for their work within the household, community and country.

The study focuses on the enabling/disabling environment for the material wellbeing of women homeworkers; their level of awareness and ability to improve their situation; their access to and control of resources to use ICTs to develop their business. It examines the activities related to gender equality issues in their use of ICT and the effects of these efforts for gender governance.

The secondary data are gleaned from 47 resource centers and over 350 related literature and data on women homeworkers were studied. Of these, 128 were found relevant. However, those directly related to homeworkers and their use of ICTs are scarce. This area has not been the focus of study in these countries, thus this research will significantly contribute to the body of knowledge in this field.

The project involved 257 women homeworkers who were interviewed. The findings based on interviews of 121 sectoral stakeholders who work directly or indirectly with homeworkers. The homeworkers interviewed were selected from three sites in each country and included those from vulnerable groups. All are from urban households earning close to the official poverty line in each country. As the sites are in the cities and the high cost of living is higher, the homeworkers who are above poverty lines are also included to determine why they are successful. To gain further insights on gender issues beyond the coverage of the interviews, focus group discussions, oral histories and case studies/observations were carried out.

The majority of the homeworkers were married with children and have entered homeworking mainly because they are spatially confined by their religious and traditional sense of duty and their responsibility to their families. Homeworking gives them a viable alternative to provide for their families either as primary or secondary earners, often in the absence of husbands. However, the existing piece-work and sub-contracting arrangements for homeworkers heavily exploit them even though their input added higher values to the products. Often, their homeworking conditions also predispose the homeworkers and their families to unhealthy and dangerous situations.

Homeworkers who earn good income are those who own their own home-based businesses with a small number of family members or neighbors as workers, and who use ICT to manage their businesses. In contrast, those who are the poorest are the most vulnerable, as their mobility is most limited and therefore they have the least access to information and resources.

While the Governments, funders and NGOs may provide assistance schemes, most homeworkers, except those in Thailand, are denied the access due to their not being recognized as workers. The study shows that group and network formation empowers homeworkers and help them to evolve from single-waged homeworkers to become homepreneurs and trainers to assist others less fortunate than themselves.

While governments heavily invest into ICT infrastructure and increase its penetration, there is a need to narrow the digital divide to enable these homeworkers to access and own ICT tools and exploit its potentiality for work. However, due to their limited education, lack of literacy or their inability to demystify technology, some are fearful of attending training to explore the full potential of ICTs for their home-based work. The majority, in varying degrees, have learnt to use ICT tools for their work to gain greater access beyond the bounds of domestic confines.

There is a need for recognition of homeworkers in Indonesia and Malaysia so as to provide them with the necessary legal protection and work benefits. If programs similar to OTOP of Thailand are implemented in Indonesia and Malaysia, the homeworkers will be able to access resources and acquire appropriate technology and ICT tools under integrated programmes with capacity building elements. Innovative ICT solutions such as the web-to-handphone solution of eHomemakers are needed especially for Thailand and Indonesia. With greater gender justice, these homeworkers will be able to transform their gender relations to technology into empowerment platform to access wider markets, skills and opportunities and uplift their lives and that of their families.

## 2. RESEARCH PROBLEM AND CONCEPTUAL FRAMEWORK

The ‘Homeworkers and ICTs in Southeast Asia’ Research Project aims to gather data on relevant issues concerning urban home-based work and women homeworkers in Indonesia, Thailand, and Malaysia.

The main research question is: *How can ICTs empower women homeworkers, especially those in the vulnerable groups, to achieve self-reliance and empowerment?* To answer this question, the study seeks to understand how ICT can address specific gender and socio-economic challenges facing women homeworkers in Southeast Asia.

The specific objectives are:

- To gather statistics and qualitative data on development challenges facing the informal sector of home-based work and women homeworkers
- To uncover gender-specific issues for women homeworkers in ICT deployment
- To identify opportunities afforded by ICTs for women homeworkers in work, networking and governance
- To probe technology appropriateness for home-based work and identify characteristics of technology understanding among women homeworkers
- To undertake more in-depth research on ICT/entrepreneurial barriers and indicators as revealed in the research conducted by e-Homemakers (2004) “Empowering Homemakers To Become Homepreneurs and e-Homepreneurs Through A Gender Governance Framework” project
- To disseminate research findings to the policy community in the three participating countries

To examine the interconnectedness of gender relations and ICTs, this research project utilizes the Gender Equality and Women Empowerment Framework (UNICEF 1994) and Gender Governance Framework (Chong et al 2004). The starting point of this framework is the women homeworkers’ experiences of varying levels of well-being (welfare), and their access to and control of resources. As soon as homeworkers become aware of their situation and the need for change, they can take the initiative to improve their situations. One of the ways in which women homeworkers can achieve gender equality and empowerment is through gender governance. Gender governance involves women taking ownership or control of the management of social networks, information sharing and other activities that enable and empower them to work from home. This outcome is a result of a 5A Process of Change, which involves the following: a) awareness of the problem, b) acceptance of the need for change, c) actions to be taken, d) assimilation to maintain the change, and e) assessment of progress.

The first three stages of the 5A Process of Change require women homeworkers to realize and accept that they can change their situations by undertaking certain actions towards the changes that are necessary to improve their lives. In e-entrepreneurship, the “assimilation” stage is the beginning of the process of change where a woman is able to use ICT to do business by networking and managing information resources on her own to

ensure her business is viable. When she reaches the “assessment” stage, she completes the process of change to reach gender governance as she is able to evaluate her own efforts to overcome the barriers and take actions to overcome them without heavy costs (monetary and non-monetary) to herself. She is then able to grow her business with ICT usage and becomes an active member in business and cyber support networks. Her feedback, inputs and responsive actions to the networks’ needs form part of the governance of the information networks she belongs to.

The 5A Process of Change was operationalized by:

- 1) examining the context of home-based work (.i.e., enabling/disabling environment, initiatives to address gender equality issues), and
- 2) based on the classic literature in gender and technology studies, collecting empirical evidence of issues such as the masculine culture of technology (e.g., the view that technologies *are* for men), marginalization of women (e.g., which type of homeworkers have access to which type of ICTs), and the invisibility of women in the economy (e.g., what value-added products are created by homeworkers, how are homeworkers’ needs recognized in the design of ICTs, what ICT features would correspond to homeworkers’ needs).

Both the context of home-based work, and the ability of homeworkers to deal with various gender and technology issues determine the extent to which gender governance can take place, or the potential for ICT-empowered women homeworkers.

By using a three-country case study, the research project provides insights into the different socio-cultural, political and economic contexts of Southeast Asian urban home-based work. The governments of the three countries have introduced various initiatives for the informal sector, with Malaysia and Thailand being quite advanced in the provision of ICT physical infrastructure (e.g., Malaysia’s Multimedia Super Corridor, e-Thailand, Ipoh City in Malaysia, Khonkaen ICT City in Khonkaen). Yet, in all three countries, none - perhaps, with the exception of the Thai One Tambon One Product (OTOP) program - of these initiatives appears to be specifically designed for homeworkers.

### **3. METHODOLOGY**

The methodology adopted by the study recognizes the need to establish the patterns under which poor urban homeworkers pursue their work, and then to provide nuanced details of these patterns.

Secondary data analysis (i.e., analysis of written works and statistics) provided research teams with the initial ideas as to what issues are relevant to the study of homeworkers and their utilization of ICTs.

Key informant interviews provided information on patterns in homeworkers’ enabling environment, activities provided by government, non-government organizations,

and other sectors to assist homeworkers, and the effects of efforts to address homeworkers' conditions.

Focus group discussions, oral history collection and observations, done after the analysis of key informant interviews, provided analytically informed descriptions of the everyday experiences of homeworkers, which were otherwise not accessible from key informant interviews. For example, direct observations generated data on homeworkers who are using ICT and how the issues on gender and ICT use which were already known from the key informant interviews are manifested in everyday life (e.g., at home, at work).

Thus, the use of triangulation alerted researchers to patterns which they can later pursue and present as detailed illustrations. For example, the FGDs were used to gather why and how questions of particular issues first mentioned in the key informant interviews. In another example, the observations became the basis of a detailed write-up of what life is like for a homemaker who uses ICTs.

### **Research Methods**

In the secondary data analysis, the research teams reviewed materials from university libraries and resource centers of institutions which have a fundamental connection to home-based work and homeworkers. They also reviewed online resources. The Indonesian research team reviewed 80 materials from 23 Indonesia (Java)-based resource centers; fourteen government agencies' online sites; information centers of international organizations, research institutes and universities, and other non-governmental organizations. The Malaysian research team reviewed materials from twelve university and government libraries and resource centers located in the research sites. They found 28 relevant materials, whereas the Thai research team visited seventeen libraries and resource centers of international and local organizations, government agencies and universities, and their online resources. They found nineteen relevant materials.

For the primary data gathering, each research team conducted 90 key informant interviews, two case studies or direct observations, ten oral histories, and 36 FGDs in three research sites.

Ninety key informant interviews were conducted in each country – 30 cases per research location – to allow the research teams to maximize the use of the key informant interviews. With this number of cases, the teams were able to create a small statistical database on homeworkers. This also allowed it to conform to a highly accepted practice in non-probability sampling: to have a minimum sample size of 30. In general, these figures were achieved except for the weather disturbances in Thailand which caused the Thai research team to reduce their number of informant interviews. At the end of the research, a total of 257 homeworkers from the three countries were interviewed. The research also included interviews with 121 stakeholders from related government, private sector and non-governmental organisations (NGOs).

### **Research Setting**

The research teams conducted secondary data analysis conducted from May to June 2005, and gathered primary data from June to August 2005. The following are the sites covered by the research project: Indonesia (Jakarta, Surabaya and Yogyakarta); and Malaysia (Penang, Ipoh and Klang Valley), and Thailand (Bangkok and greater Bangkok, Chiangmai and Khonkaen).

The study sites chosen by the Malaysian research team have been designated priority areas for ICT development by the Malaysian government. The Indonesian research team, on the other hand, chose their sites to be in Java, the most populated island in Indonesia, while the Thai research team chose their research sites based on the high concentration of homeworkers and presence of home-based industries that have growth potentials.

## **4. LITERATURE REVIEW**

The research project consciously locates itself within existing works on home-based work and women homeworkers in Indonesia, Malaysia and Thailand. However, there is an uneven distribution of literature on home-based work and homeworkers for the three participating countries. The Indonesian team covered 80 materials on women, homeworkers and ICTs in 23 resources centers. Much of the material focus on either on homeworkers and the nature of their work (Ministry of Manpower 1999, 2000; Mehrotra and Biggeri 2002; Istiti 2002; Sarwestri and Darwis 2001), or on ICT – availability and usage (Widarti 2004; CastleAsia, 2002, Aryani. 2003). Some, although are not specific to Indonesia homeworkers or their use of ICT, they are useful in understanding this area of research (Dhaliwal, 1998, Green, 2001). Almost none is specific to the subject of homeworkers and their use of ICT, but a few include some information on it (Utomo, 2001; Suryahadi and Fillaili 2004)

The available materials on Malaysian home-based workers are few and far in between (i.e., the team only found 28 relevant materials). This arises from the Malaysian government policy, which does not define or “recognize” the informal sector and its contribution to the economy (Loh-Ludher, 2002). Home-based work in Malaysia, although mentioned in some of the literature ((pre-1997 literature; Samuel, 1996; ILO-EASMAT, 1996; Loh-Ludher 1994; Chong and Loh-Ludher, 1993) is generally not the main focus of study. There are only two recent major works giving the profile and characteristics of home-based workers in Kuala Lumpur (Loh-Ludher, 2002, eHomemakers, 2004). On the use of ICT for work, there are also only a few articles (Ng, 2001, Ng and Thambiah, 1999).

The Thai research team surveyed nineteen libraries and resource centres of international and local organizations, government agencies, and universities, and their online resources. A total of 21 relevant materials were found. Although much has been written about homeworkers in Thailand (Arunyawat 2003; Kasetsart University 1999;

Office of National Statistics 2002; Chasombat 1999 ; Rakawin 1997) and some on issues related to the use of information and communication technology (ICT), ([www.tla.tiac.or.th](http://www.tla.tiac.or.th); [www.col.org](http://www.col.org)), there is little concerning homeworkers and their use of ICT.

Thus the research covered 47 resource centers and reviewed over 350 literature and studied 128 relevant literature.

In general, the review of secondary data indicates the following:

- a) Lack of specific materials and data on home-based work, homeworkers, and ICTs *and* home-based work or homeworkers
- b) The lack of a clear definition of categories central to the research (e.g., “informal sector”, “homeworker”, “contract worker”, “informal sector”, “homepreneur”). In Thailand, unclear definitions of the sector (e.g., what is home-based work), policies, and assignments of organizations and individuals who would be directly involved with home-based work, have made it difficult for stakeholders from the government to do their work, and for Thai research team to identify relevant stakeholders. This is doubly made difficult by the restructuring of the government (including the Cabinet and the organizational levels) which resulted in the creation of new organizations under whose area of responsibility home-based work fall. Consequently, some of the stakeholders are still very new in the field of home-based work. In Malaysia, the link between home-based work and ICTs is mainly in the area of teleworking (Ng, 2001; Ng and Thambiah, 1999). Research in these areas, however, does not differentiate those who work from home from those who do not. Moreover, they do not focus on the poverty groups or give information according to location of work (e.g., rural, urban).
- c) The literature and other secondary data materials gave some useful general information about industries using home-based work. However, there are no disaggregated industry and sector information for home-based work. There are no data on women homeworkers’ characteristics (e.g., civil status, physically impaired, chronically ill, with aged and sick dependents), and such information can only be obtained in part from very limited researches of specific areas.

## **5. RESEARCH FINDINGS**

Findings from the research project come from the analysis of secondary data and from data the country teams collected themselves through key informant interviews involving 257 homeworkers and 121 sectoral stakeholders, case studies and focus group discussions.

## **Primary Data Analysis**

The findings from key informant interviews, case studies, and focus group discussions are organized into three areas:

- a) The enabling environment or the contexts, structures and mechanisms supporting women homeworkers and their use of ICTs for work;
- b) Activities or efforts to address gender issues of urban women homeworkers; and;
- c) Understanding the potential for ICT-empowered women homeworkers and gender governance

### **a) Enabling Environment**

This section of research findings focus on the homeworkers and their families, and examines the contexts, structures and mechanisms which enable or disable the homeworkers in relation to the homeworking. These gender-specific issues and challenges faced by these urban poor women within their homes and communities facilitates or hinders home-based work. In addition it discusses the factors that facilitate or hinder their use of ICT for work.

#### **i) Profile of Home-Based Work**

In all three countries, the women homeworkers are involved in home-based work related to the dexterous skills of the women. Textile and garment-related home-based work is most prevalent in all three countries. There is an apparent lack of food-processing work in Thailand compared to Malaysia and Indonesia. Food processing is the most common among homeworkers in Indonesia in the study. The making of Handicrafts is common in both Thailand and Indonesia. Compared to their Malaysian counterparts, more homeworkers in Thailand and Indonesia are involved in producing high value-added products that require special skills. For example, Indonesian homeworkers in Jakarta produce beautiful household utensils; those in Yogyakarta produce *batik* clothes; Thai homeworkers weave silk products.

Only in the Malaysian findings, there are cases of knowledge-based workers using ICT for home-based work. These homeworkers are involved in secretarial and accounting work, translation work, telemarketing, data-entry and typing.

#### **ii) Homeworkers' Personal Characteristics**

In all three countries, most homeworkers are between 30 to 49 years of age, married and have children. Cultural and religious responsibilities towards family, especially care of children, confine many of the women to stay home. Compared to Malaysia, Thailand and Indonesia have a higher incidence of 'absentee' husbands who work away from home and send little or no remittance for the maintenance of the family.

These women homeworkers must therefore earn to provide or supplement income and bear both productive and reproductive responsibility.

The majority of the homeworkers interviewed from the three countries have low educational attainment and thus have difficulties entering the formal employment sector. This problem is compounded as younger homeworkers tend to have higher educational attainment than older ones and as factories exercise a preference for younger, unmarried workers. Married and older women find home-based work a viable alternative for income-generation.

In all three countries, deliberate efforts were made to include vulnerable groups in the research. Thus the number of physically disabled or chronically ill respondents may not accurately reflect the true percentage in each country. In Malaysia, ten percent of homeworkers were physically disabled, chronically ill or had physically disabled children. In Thailand, there were seven (13% of 52 homeworkers interviewed) who were HIV/AIDS positive respondents and ten with lead poisoning. Some older women in Indonesia who have done home-based work for more than five years suffer poor sight, back pain, and *asam urat* (a disease that attacks the joint of bones, tendons and nerves).

### **iii) Socio-Economic Features of Household and Home-based Work**

All homeworkers interviewed are among the urban poor although the income of many households' is above the respective countries' poverty lines. Since the cost of living in urban cities is much higher than in the rural areas, a higher cut-off for poverty lines was accepted in the research. In Malaysia, the monthly household income level was fixed at US\$500 although the poverty line is presently US\$134. In Thailand the highest income earned by the homeworkers in the study is US\$740 compared to a poverty line of US\$50 and in Indonesia the cut off point was US\$78.9 compared to a poverty line of US\$13.

The majority of homeworkers interviewed in all three countries do not own their dwelling places. Their accommodation included squatter huts, low cost apartments and more spacious houses around the city fringes. While the small house size often limits the occupancy to the nuclear family in the city, 'temporary' occupants and tenants are common as relatives and village-folks migrate to the city in search of work as evident in the case of Thailand. Because of the Asian financial crisis of 1997 there was a reversal of migration back to the villages in Thailand which has led to linkages between homeworkers in the cities and their respective homeworking groups in their home villages.

In Indonesia and Thailand, the migration of men to the cities and overseas for work has led to women homeworkers as household providers. However, it is rare for women to be regarded as heads of households since there are other adult male members such as their own sons present in the families. It results in the phenomena of 'disappearing husbands' and the 'hidden women' in Indonesia and Thailand. In Indonesia, the culture and religious factors lead to male members of the households

making decisions even though the women are the 'de facto' owners. There are cases where in the absences of the husbands, male distant relatives are consulted or have an influence in decisions of the homeworkers. The Thai women have greater control in their business as are evident with the husbands giving support rather than taking over the business.

Single mothers -- divorced, widowed or abandoned -- are common among the Malaysian subjects. These women homeworkers thus manage their household responsibilities, sacrificing leisure and rest to meet the demands of productive work to provide for their families. This clear divisions of labour along gender lines within the family in reproductive work are also in Thailand and Indonesia. The women in the family assume full responsibility for the household chores giving priority to the care of dependents be they children, elderly parents, relatives who are unemployed or disabled members of their families. The women are the first to rise and last to retire. Homeworking add to the burden of the women especially the vulnerable ones but without the income from the homeworking, it would be difficult for them to survive.

There is a gender division of labour for other members of the family in most households of the homeworkers. The daughters and women family members are more likely to help homeworkers with their domestic and productive work in all three countries. Husbands may help when they appreciate the economic returns/contributions of their wives' home-based work. However, the work they undertake tends to be 'man's work' including heavy chores, together with distribution and collection of materials and finished products. In this way, they gain access to wives' incomes. This is particularly the case for the spatially confined homeworkers in Malaysia.

In all three countries, waged homeworkers or piece-rate subcontractors earn the least as they have low bargaining powers while homepreneurs enjoy a much higher percentage of the gross income. Factories externalize their costs to homeworkers by placing machines in their homes rent free and transferring overhead variables such as electricity to these homeworkers. Homeworkers in Indonesia earn a monthly income between US\$5.26 and US\$78.9 while the majority in Malaysia earn between US\$151 to US\$250. Those in Thailand generally earn between US\$51 to US\$150. Those in the knowledge based jobs like tuitions, teaching classical dances and accounting in Malaysia earn more than sewing subcontractors. In Thailand, the Benjarong pottery owner and other homepreneur employing waged homeworkers, and able to export their products in niche markets earn close to \$700 per month compared to the fishing net workers or sewing subcontractors who earn about \$2.5 a day or about \$80 a month.

Homeworkers in Indonesia and Malaysia are not recognized as 'workers' and consequently do not have access to the benefits and protection normally enjoyed by workers. Government agencies, NGOs and private sector organizations have done little to encourage and facilitate home-based work. In Malaysia, homeworkers are marginalized with the Ministry of Human Resources and Social Security not classifying homeworkers as 'workers' but as 'self-employed' or 'contract workers'. As a result, there are few networks of homeworkers and less community and mutual support.

In Thailand, however, homeworkers can register with the Ministry of Labour and encouraged to group themselves. There are clear evidence of empowerment of homeworkers through group formation. These groups provide mutual supports as well as enable greater access to assistance programs and resources. If they are organized into groups with elected leaders and clear operational objectives, they are able to receive assistance from the many projects and programmes including ‘*One Tambon One Product*’ (OTOP) and ‘One Million Baht Village Fund’. The One Million Baht Village Fund provides seed money for capital and loans for investments. The OTOF project assists homeworkers to use their skills to develop products with the assistance of public and private sectors into high quality products for export and niche markets. Experts offer consultancy services and advice to develop agro-based products and businesses to reduce wastage of trees and plants after harvest. They also assist the homeworkers to acquire production and promotional capabilities and facilitate the marketing of the products through e-commerce as well as fairs and exhibitions domestically and abroad.

In Malaysia, projects like *Salaam Wanita* by e-Homemakers and *Amanah Ikhtiar* by the government, equip women with production and entrepreneurial skills, develop branding for their products, and help them reach wider markets. In Indonesia, there seems to be a lack of organizations and agencies to provide help and support to the homeworkers.

Because of the lack of understanding, appreciation and recognition of homeworkers in Indonesia and Malaysia, most homeworkers have difficulty accessing credit and formal assistance due to ignorance, poverty and financial institutions’ requirements for evidences of income and formality. Most assistance programmes do not target homeworkers as a specific group and so it is difficult to receive training and product development assistance. In both Malaysia and Indonesia, there are complaints of harassments of authorities and local thugs. Many complained of occasional harassment from authorities including the confiscation of their products, exploitation and extortion by *preman* (local thugs) or even unscrupulous security officers. Without a strong male members at home, these women are seen as weak and are threatened due to the informal nature of their work.

Homeworkers with chronic illnesses, those who are visually-challenged, the hearing impaired and the physically challenged are faced with the inconvenience of going outside of the home to work. Despite the difficulties faced by the disabled in travelling to and from home to places of employment, Malaysian NGOs serving this group try to find jobs instead of encouraging them to enter home-based work. This is unlike Thailand which mandates its many agencies to facilitate the development of homeworkers’ groups as a means of employment creation. There is no definite policy in Indonesia for such assistance for vulnerable groups.

Homeworkers, particularly those who are active in community organizations or homemaker groups, who are armed with access to local networks and information about assistance for homeworkers are better able to develop their business. Those without

access to networks and resources, which is common for many homeworkers in Malaysia and Indonesia, are dependent on their own resources or assistance from family members for developing the business. The OTOP groups in Thailand and the Salaam Wanita groups in Malaysia, for example, are assisted to develop entrepreneurial skills to become homepreneurs earning 40% or more of the retail prices.

#### **iv) Skills and Training**

All three countries have homeworkers subcontracting from factories but there are more successful homepreneurs in Thailand than in Indonesia and Malaysia as the OTOP program require the Thai homeworkers to organise themselves in groups and systematically assist them to develop into homepreneurs.

With the exception of the knowledge-based workers in Malaysia who are engaged in non-traditional female work such as accounting, translation or data processing, most of the homeworkers gained little training from formal school education. A significant number of the homeworkers gained these skills from previous jobs in the formal sector but are confronted by the lack of opportunities to re-enter the formal economy after marriage and child-birth.

Many acquired traditional skills passed from one generation to another. In Thailand and to a lesser extent Indonesia, traditional skills combined with local wisdom, innovation and creativity have resulted in niche products such as silk and pottery production to meet the demands of the export markets. In Malaysia, there is a lack of product development among homeworkers in food processing and handicrafts developments, especially those not organised or involved in networks. This is because the sector is unrecognized so there is no incentive for research and development appropriate to the micro-scale of the homeworkers. This is also the consequence of the homeworkers' output not considered as economic contribution in national accounting.

#### **v) ICT Usage in the Community**

All three countries have national ICT policies and plans to further increase ICT penetration. However, due to its geographical situation, a large population and a greater prevalence of poverty, Indonesia's implementation of its plan has been slow and difficult. Thailand and Malaysia have invested heavily to make their national ICT plans a reality. Malaysia's efforts to bridge the digital divide between the rich and the poor, have to some extent, enabled homeworkers to gain access to ICT even in more remote areas such as islands like Pulau Aman in Penang and the Asli village on the outskirts of Ipoh. Municipal Councils in all three sites in Malaysia have invested heavily in ICT resulting in the creation of e-Cities. This resulted in an ICT infrastructure which not only facilitates the payment of bills and applications for licences by telephone and Internet (a boon for those who are home-bound) but also provides hotspots for the free use of Internet. In Thailand, IT 2000 and ICT 2010 Master Plan aim at providing ICT for development that would offer great potential for homeworkers. While all three countries focus on

infrastructures, little effort is made to supply the necessary training or to make provision for cheaper packages for micro-businesses.

Television and radio are used by almost all homeworkers in the three countries, albeit, more for entertainment than for business. The use of highly accessible community radio and broadcasting towers, which are appropriate for localized community development, is unique to Thailand. Thai residents are encouraged and assisted to manage their own radio station consequently creating opportunities to share information and address topics of interest in the community.

The use of fax machines is not common in any of the three countries and, within the parameters of the research, their use is generally limited to organizations or groups of homeworkers. Only a few homeworkers have their own individual fax machines. Neither the computer nor the Internet is common because of the high costs and the general perception of computers being complicated and sophisticated machines beyond the comprehension and utilization of lowly-educated homeworkers.

Telephones, both fixed line and mobile, are almost ubiquitous in the three countries. All homeworkers have access to phones even though they may not own them. Mobile phones have been made very cheap (from about \$10 a unit) and the costs of calls and SMS is very affordable in Thailand. Similarly the costs of SMS in Malaysia and Indonesia have decreased. In Indonesia, most homeworkers have access to ICTs through phone kiosks (*warung telepon* or *wartel*). All in all, Mobile phones are no longer perceived as luxury items but a necessity by most of the homeworkers.

Community sharing of ICT such as *wartel* in Indonesia, cybercafés and community ICT centers in Malaysia are not regarded as the solutions for the homeworkers as it is inconvenient for homeworkers to leave their work to access ICT facilities. They are also reluctant to be seen sharing these facilities with youths and men. Household ownership is still preferred.

## **b) Activities or Efforts to Address Gender Issues of Urban Women Homeworkers**

From the earlier discussions, it is evident that homeworkers are empowered if they can be grouped. There are more successful homeworkers and homepreneurs when there is a strong community structure and recognition, resulting in public and government assistance and endorsement, provide official channels to address grievances through community leaders and government agencies. As a result, the women are more confident and have more opportunities to try their talents and skills.

### **i) Promotion of Awareness of Gender Gaps and Acceptance of the Need for Change**

Homeworkers are often isolated and not unionized in Indonesia and Malaysia. They lack the organizational support and thus suffer from the inequality of power relations with middlepersons and contracting agencies. There are no provisions for

medical benefits, paid maternity leave, social security, and protection of family members against any accident or hazard arising from their home-based work. In Thailand the worker's benefits' under labor legislations are not necessarily extended to homeworkers, even though homeworkers are registered and organized into groups. Like in Indonesia and Malaysia, waged homeworkers or subcontractors are subjected to imbalance of power relations. Contract-for-work is often verbal and based on trust. This often results in disputes about payments with the homeworkers acquiescing for fear of losing future contracts. The aggressors, not always male, sometimes try to soften the harshness of this reality with social reciprocal relationships. In all three countries, there is no evidence of adequate measures introduced to address this.

In Indonesia, the social safety net programs such as those from the Canadian International Development Agency and World Vision, launched after the Asian Financial Crisis, empower women to enter homeworking and be self-employed rather than relying on outside employment. Similarly, in Thailand, the OTOP programme, the non-government initiatives from HomeNet Thailand, Rural Women's Craft Cooperative (FEDRA), and other government projects, assist retrenched migrant workers to venture into home-based work and help develop them into homepreneurs.

In all three countries, the waged homeworkers and home-based subcontractors suffer from exploitation. Most are paid a small fraction (normally from 5% to 20%) of the whole price. Homeworkers who are spatially confined by environment or disabling conditions are also subjected to more exploitation as the market and distribution channels available to them are limited. Their work is given low value even though their skills have added much value to the products sold. The higher the value of the 'up-market' fashion products, the greater the disparity between the piece rate paid and the retail price.

## **ii) Action Towards ICT-enabled Home-based Work**

The governments of the three countries have introduced various initiatives, with Malaysia and Thailand being quite advanced in the provision of ICT physical infrastructures (e.g., Malaysia's Multimedia Super Corridor, e-Thailand, Ipoh City in Malaysia, Khonkaen ICT City in Khonkaen). Yet, in all three countries, none of these initiatives - with the exception of the IT component in the Thai 'One Tambon One Product' (OTOP) programme - is specifically designed for homeworkers.

ICT tools like television and radio are often regarded and utilized for entertainment although homeworkers in all three countries admitted that they have gained social knowledge from these tools. The homeworkers, from their observations of their employers or husbands using ICTs, particularly telephones realizes the benefit of ICTs for business communication.

The successful homeworkers know how to use ICT for business development while those who are doing piece work or rely on others to give them contract work do not know how they may use ICTs for business development for themselves.

The aim of the Thai government's initiatives (e.g., e-Thailand through projects like e- society, e-education, e-commerce, and e-industry) is to lessen the digital gap between the 'haves', and the 'have-nots', between the urban and the rural people. Yet, despite the implementation of numerous programmes and activities to fulfil the said objectives (i.e., the Community Tele-Centre, the School Net, The Low-Cost PC, the Satellite for Rural Telephone and Internet), the gender digital gap does not appear to have narrowed. The case of Malaysia is similar. This is primarily due to the lack of sustained emphasis on the training of the staff of the public and private organizations serving women, including homeworkers, to understand women's specific training needs. Training programmes are often conducted by IT professionals, very often men, and the women, especially the poor and less educated, feel intimidated by these professionals. Other reasons for Malaysian women homeworkers' non-use of ICTs are: a) Non-affordability; b) Inability to see a need for ICTs for small businesses; c) Lack of time to learn new tools; and d) Perceived age barriers to learning new tools or technologies. The low penetration rate of ICT and the lack of training to assist the homeworkers to use these tools for business limit the extent of the use of ICTs by homeworkers. In Thailand, the lack of awareness of the staff assisting homeworkers has resulted in the lack of encouragement and training of homeworkers to use ICT effectively. There is also the lack of appropriate software for homeworkers' needs.

### **c) Understanding the Potential for ICT-empowered Women Homeworkers**

The first three stages of the 5A Process of Change – the necessary process toward achieving gender governance - require women homeworkers to realize and accept that they can change their social conditions (level of welfare) by undertaking certain actions toward improving their lives. It involves homeworkers being able to maximize existing resources (i.e., enabling environment such as possession of relevant skills and knowledge, one's personal relations with one another, access to broader networks of social relations) and at the same time, overcoming barriers. These barriers range from personal characteristics to societal factors. General barriers include homeworkers' personal and social characteristics (low level of self-confidence and self-esteem, lack of relevant skills and knowledge). At the societal level, homeworkers have to deal with barriers such as gender-insensitive policies of institutions, lack of ICT infrastructure, and features of larger social systems such as kinship, stratification, knowledge, religion that promote gender inequality.

The potential for gender governance can be assessed in terms of how general, ICT, and entrepreneurial barriers – first identified in eHomemaker's Salaam Wanita project - can be addressed by activities aiming at addressing gender issues faced by women homeworkers, in particular, activities toward the transformation of meanings attached to gender and technology, prevention of the marginalization of women in the labour force and promotion of women's visibility in the economy.

### **i) Transformation of Meanings Attached to Gender and Technology**

Homeworkers across the three countries have some form of access to ICTs and are keen to utilize them for their work. In all three countries, homeworkers who are members of organizations are better able to access local networks and information for personal capacity building. However, they are unaware of how these can be used to attain better access to the resources and information that will be beneficial to their work. Although many homeworkers use telephones quite comprehensively for their business (e.g., selling products or buying raw materials, contacting contractors about jobs), the usage does not extend beyond this level. (Why/ Lack of exposure? the TV/radio program have no programs on homeworkers and also how urban poor women use ICT to better their lives.?)

The majority of the homeworkers are aware that high-end ICTs such as computer and internet can assist them in their work but do not know how and perceive computers and Internet as beyond their capacity. They are of the opinion that their businesses are too small to need such sophisticated tools. Few organizations have developed appropriate software applications and trained homeworkers to use them except eHomemakers in Malaysia. Even fewer encourage homeworkers to become knowledge workers using ICT in the emerging information economy.

### **ii) Preventing Marginalization of Women in the Labour Force**

Homeworkers in all three countries gained significant self-confidence and self-esteem from their ability to provide primary or supplementary income for their families. Where women are culturally or religiously regarded as 'dependents', and not the heads of households in the presence of adult male members, home-based work enables homeworkers to play a central role providing and uplifting the well-being of their families.

Women, traditionally and culturally regarded as dependents of their husbands in all three countries, gain much self-confidence and self-esteem from their ability to earn a living and provide primary or supplementary income for their families. Homeworkers like the 'Benjarong' pottery home entrepreneur or the Salaam Wanita basket weavers, ventured into homeworking integrating local wisdom and traditional skills with innovative designs to create the value-added high quality products. They have gone 'from nobody to become somebody and from a worker to become an entrepreneur, and then a trainer who is able to help those less fortunate.'

In Malaysia and Indonesia, women homeworkers themselves are conditioned to accept the undervaluation of their work. Trade organizations of industries that rely heavily on homeworkers have almost no systematic assistance programs to bring homeworkers into the mainstream. With greater exposure and access to knowledge through ICT, these homeworkers will be in a better position to fight for a position of strength. In Thailand, the homeworkers that are registered and organized into groups have improved bargaining power.

In all three countries, women homeworkers once empowered are keen to assist others less fortunate than themselves. They become trainers of those from vulnerable groups and share their experience and knowledge. They are all determined that their daughters, should be given education and training to be better than themselves.

In Thailand, e-commerce and e-industry aims to promote income-generating activities to eradicate poverty and targets homeworkers from both urban and rural areas. The OTOP policy and strategies, combined with full support from all levels of the relevant stakeholders in Thailand, develops many of the homeworkers into homepreneurs who are then able to enjoy the fruits of their labour. ICT accessibility has taken their products like the silk flowers and pottery to the world stage. It has helped them to develop a proactive market and facilitated her logistical requirements. Unfortunately, similar efforts have not been made in Indonesia and Malaysia.

The utilization of ICTs will help alleviate the isolated nature of homeworking and allow greater access to networks and linkages. By simply owning a mobile phone the status of the homemaker is immediately elevated to that of being a modern 'techno-savvy' homemaker. Learning to use computers can help them to prepare business cards, brochures including e-brochures and a website that is also linked to other websites like Thaitambon.com or ehomemakers.net. It allows their products to move into the global arena including the high-end and niche markets. This will free them from the exploitation they suffer from the middleperson because of imbalance of power relations. The eHomemakers's model of web to handphone solutions and its non-profit mission model is an excellent example of how this can be achieved.

Being electronically connected, empowers homeworkers to access additional sources of knowledge and support from others beyond their immediate environment and opens windows of opportunity for them beyond the confines of their home.

### **iii) Making Women Visible in the Economy**

Women in Malaysia and Indonesia, where the economy has not recognized or valued the contributions of homeworkers, are conditioned to think that the kind of skills required by the work they are engaged in are basic and representative of low educational attainment requiring no experience and thus offering easy entry. Some women consider the skills needed to start home-based work as 'not that special'. Most of them consider sewing and cooking skills as 'basic and common skills among women'. As expressed in Indonesia, these skills are related to the perceived 'women's work' of '*masak*' (cooking), '*manak*' (giving birth) and '*macak*' (using cosmetics). However, with some awareness creation and conscientization, these homeworkers have developed an appreciation of their own talents and skills and the beauty expressed through their products.

Women homeworkers in all three countries, who are engaged in sub-contract work, often produce unfinished work in the production chain like those sewing or decorating or gluing gold ornaments on batik. As a result their work is not visible and

not highly appreciated even though their work adds significant value to the finished product. If aided to access markets directly, these homeworkers can combine traditional skills, local wisdom and innovative ways to produce high value products on their own. This will increase the visibility of their products and attract the attention of potential buyers.

In Thailand, where homeworkers are registered and their products assisted to evolve into niche products and product champions for export markets, the value and contribution of homeworkers are more evident and appreciated. Branding and product differentiation add visibility to the homeworkers' products. The OTOP fairs and exhibitions provide a stage for the home-based products domestically and abroad. In addition, websites give homeworkers e-commerce opportunities extending beyond the confines of their respective countries.

#### **iv) Resolving Women in Technology Question**

The telephone is the most familiar ICT tool among women homeworkers. Most of them know how to use the telephone, but the extent of telephone use for work depends on the type of home-based work and the scale of the work. Homepreneurs and those producing for exports are more likely to extensively use all types of ICT tools than someone like the doughnut lady in Chiangmai producing for a very localised market. Exposure to others using ICT such as those in eHomemakers where successful homeworkers using handphone were shown to women before encouraging them to do so. Although the use of telephones does not always increase their earnings directly, most of the women homeworkers admit that it can save them time and reduce the inconvenience of travel. Displaying the contact details on the packaging or on the business card allows buyers to call in for orders. Difficulties arise when foreign buyers who are unable to communicate in the local language - Indonesian, Malay or Thai - wish to place orders. Homeworkers often have to resort to a third party who can speak the foreign language. This is not always efficient as ambiguity and confusion often arises. The usage of text messages -- mobile or email -- such as in the case in eHomemakers' web-to-handphone integrated solution eliminates these problems and offers greater clarity and cost savings.

The fear of technology is the main barrier for homeworkers learning and using computers although limited language skills are another widespread obstacle. Both factors are indicative of the level of education. In all three countries, all those without formal education are non-users of SMS or computers. Some homeworkers, though literate, have low reading and writing ability, thus causing them to feel intimidated by higher end ICT tools. Those with no interest in ICT are the older respondents with a few years of primary education. They feel they are too old to learn and perceive mastering the computer as a formidable task beyond their capacity.

Efforts to address the gender and technology issue are focused on the young in all three countries. This includes basic computer skills being introduced in schools. However, the gender digital divide seems to be deeply embedded in the culture. In families that own mobile phones and a computer, it is invariably the men and the boys

have more access to them. In some cases, even when the homeworkers purchase the mobile phones or computer and require them for their work, their sons dominate the utilization of the tools to play games. The mothers sacrifice their own access to the tools to their sons even though earning income is very important as a consequence of cultural and religious socialization of women in these communities.

#### **v) Resolving Technology Question**

Most homeworkers in all three countries give priority to their domestic responsibilities and organize their productive work around the domestic tasks. When orders have to be met, they forego personal leisure and rest to meet deadlines. To ease housework, most purchase labour-saving appliances, often with their hard earned personal money. It is evident that they understand the role of technology in easing their double burden and the consequent demands on their time and energy. With the escalating gasoline prices in all three countries, more extensive use of ICTs will definitely reduce unnecessary expenditure thereby improving the earnings of these poor homeworkers.

Family support for women homeworkers to undertake ICT-enabled work is embedded within the support given to home-based work. Homeworkers do not perceive their home-based work as being ICT-enabled, although a significant number indicate that ICTs give them access to horizontal knowledge. Likewise, homeworkers who belong to certain organizations like eHomemakers and OTOP groups have access to horizontal knowledge. Peer to peer learning and access to resources facilitated by these organisations enable them to develop. However, most of them have not participated in any development or empowerment programme. While some received training from government agencies and NGOs focus on skills or proprietary computer software, most of these training activities were sporadic and not continuous. They are not asked about what kind of training they need and how it can be made more convenient for them. However, when older homeworkers master the use of SMS, computers and the Internet, they become inspiring examples and models for the others. They can be better trainers for their fellow homeworkers than the professional trainers as they understand their needs and fears.

The extensive use of community radio and broadcasting towers in Thailand is a good example for Malaysia and Indonesia to emulate. This localized development communication is a cost effective channel for continuous learning. Internet savvy announcers can access experiences and lessons from other countries as examples to educate the community. Radio DJs who are aware of the needs of homeworkers are more likely to surf for the appropriate and relevant information to use in their programs to educate homeworkers and provide announcements on opportunities and exhibitions for their benefits. Homeworkers too can use this channel to advertise their products, ask for collaborators to meet orders for complementary products and seek for additional workers or homeworkers to supply products to meet any unusually large orders.

Hand-phones and computers are the most likely ICT tools that homeworkers will use to enhance home-based work Handphone is the most widely used, affordable and

portable tool while computers together with Internet offer accessibility to knowledge, resources and markets beyond the confines of the homeworkers' environment. However, many find these ICT tools to be non-user-friendly. Homeworkers in food processing and handicraft, wish for more convenient features which will enable them to continue using their hands while answering the telephone. The multi-tasking nature of homeworkers' productive and reproductive work necessitate more convenient features to free their hands for their work. A voice-activated hand-free phone or computer, and a bigger LCD screen on the phone are among the technological features that homeworkers wish ICT tools would have. The cramped quarters with tons of raw materials around electrical outlet pose fire hazards. Features like wireless or those without usage of electricity will be useful for these homeworkers.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

The study of home-based work and homeworkers in Indonesia, Malaysia, and Thailand highlights similarities and differences in the characteristics of homeworkers and their work, the enabling environment, experiences of gender and technology issues, and potentials for ICT-empowered homeworkers. The following are the relevant patterns:

- a) Most homeworkers are in a particular age group (30-49 years old) and work individually from home, although some are members of organizations. They are mostly in food processing, and garment and tailoring, although a significant number are producing handicrafts that require special skills (e.g. silk weaving and pottery). Certain factors predispose some women to do home-based work. One such factor is the inability to participate in the formal economy due to family conditions (e.g., married with children), lack of education, skills and information about existing opportunities. Gender-related issues such as access to ICTs, household support for home-based work, production of low value-added products are also commonly shared by homeworkers.
- b) Within countries, the enabling environment of homeworkers varies according to area of residence or area of work. For example, there is a higher percentage of homeworkers in primary urban areas like Bangkok and Jakarta who do not own houses compared to secondary urban areas like Chiangmai and Khonkaen. Another example: the incidence of HIV infection among homeworkers is significant in Chiangmai and Khonkaen, while blood poisoning is significant among fishnet makers. In general, relative to the national average, the incomes of homeworkers in Malaysia are higher compared to their counterparts in Indonesia and Thailand. Initiatives aimed at helping homeworkers would have to consider the concrete particularities of their situation. Findings from the country reports provide some insights into the contexts of home-based work.
- c) Poor urban women who are spatially confined to their homes because of domestic responsibilities enter homeworking to meaningfully use their time to earn an income to provide for their families as primary or supplementary earners. In Indonesia and Malaysia their work and contributions are generally not recognized

by the economy, industry or community. In Thailand, however, the homeworkers are registered with the Ministry of Labour and receive significant assistance resulting in over 10,000 homeworkers' products being exported. The income generated exceeding 5 billion Baht per year. Thus the example of Thailand, if followed in Malaysia and Indonesia, will ensure some degree of formal acknowledgement by the government, industry and community. The homeworker should be entitled to basic protection and privileges like paid sick/maternity leave and social security. NGOs can provide critical support as advocates for its implementation.

- d) Home-based subcontractors, waged homeworkers and 'piece-rate' homeworkers are often exploited due to their low bargaining power. They need to be assisted in a systematic and organised way, with seed funding and consultancy from experts like OTOP to become homepreneurs or work in groups to produce high quality products, improve their marketing and benefit more from their production.
- e) In terms of potential for ICT governance, homeworkers across the three countries have some form of access to ICTs. However, they are unaware about how these can be used to access resources and information that will be beneficial to their work. The government and/or NGOs can raise the knowledge and awareness of the women homeworkers regarding the use of ICTs. Production, managerial and marketing skills are required to develop high-end produce resulting in a wide variety of diverse value-added products which may earn them significantly greater income if they can be marketed directly to potential customers both domestically and internationally. Information and communication technologies (ICT) offer great potential for women to access a wider market. Government and NGOs can raise the knowledge and awareness of homeworkers regarding the use of ICTs in their work, by providing training and capacity building opportunities.
- f) Community radio and broadcasting towers are examples of localised community development tools used quite effectively in Thailand. The governments of Malaysia and Indonesia can be more liberal in the licensing and training of staff to use these tools. The staff can learn from the Thailand example and provide homeworkers with greater access to additional knowledge including information relevant to production and health and gender issues.
- g) Due to the cramped quarters and smallness of homes, homeworkers often work in hazardous environment because of the raw materials, cooking or production equipments or poisonous material. In cases where electrical outlet and equipments pose fire hazards, appropriate technology using wireless and without usage of electricity, will be needed to assist them. With increasing fuel costs and thus increase in electricity costs in these 3 countries, solar-activated or alternative energy ICT gadgets will be useful. The service-based teleworkers with disabled children will need computers that are not stationery or something they may not need to type with hands. These imply the need of more research and development work encouraged by governments and funding agencies to help find appropriate affordable technology to assist homeworkers as well as to enable them to multi-task while carrying out their reproductive and productive work.

- h) While most homeworkers across the three countries have access to ICTs, the type of ICTs available varies. In Malaysia, personal mobile phones are common among homeworkers while homeworkers in Thailand rely on community-based ICTs such as community radios and broadcasting towers. Likewise, homeworkers in Indonesia rely more on public telephone facilities. Nevertheless, the mobile phone is almost ubiquitous in all three countries and has the greatest potential for penetration in all three countries. It opens the possibility of reaching remote and rural locations. The public and private sectors can both be encouraged to produce appropriate and inexpensive technology including hardware and software. This can be used to facilitate homeworkers in all stages of their production as well as for the marketing of their products. The eHomemakers' web-to-handphone application is an example of how homeworkers' network and groups can be trained in various aspects of effective communication with suppliers and customers. This training would range from using short messaging for orders and sales to promoting and sale of products on the Pan Mall.

## **7. FULFILLMENT OF OBJECTIVES**

The general objective of the study is to understand how ICT can address specific gender and socio-economic challenges facing women homeworkers in Southeast Asia. A three-pronged approach was carried out with a gender specialist to assist in drawing up issues, themes and indicators on how ICT and gender issues affect women homeworkers' lives. A workshop was conducted on gender-sensitizing. The Regional team drew up manuals on research guidelines so that findings can be aggregated.

The second approach to understand ICT and gender issues was the use of secondary sources to build fundamental research principles to identify the overall situation on home-based work and homeworkers. This background information was important to further develop and refine the manuals for more detailed discussion guides for interviews and case studies. Through literature survey, statistics and other qualitative information were extracted to support findings and recommendations. The third approach - primary data collection through interviews, focus groups and observations - was an avenue for women homeworkers to share their opinions and experiences based on their experiences.

Both the second and third approaches were complementary in order to provide an extensive knowledge portfolio to define the experiences of women homeworkers and allow the teams to explore the challenges faced by these women in using ICT for economic activities.

The study fulfilled all the specific objectives by gathering statistics and qualitative data on development challenges facing home-based work and homeworkers; uncovering gender-specific issues and opportunities afforded by ICTs for women homeworkers in work, networking and governance; probing technology appropriateness; identifying characteristics of technology understanding among women homeworkers; and undertook

more in-depth research on ICT/entrepreneurial barriers and indicators as revealed in the research conducted by eHomemakers (2004) “Empowering Homemakers To Become Homepreneurs and e-Homepreneurs Through A Gender Governance Framework” project. The research findings will be disseminated to the policy community in the three participating countries after the final reports are accepted by IDRC.

More data could have been verified on how ICTs can empower women homeworkers, especially those in the vulnerable groups, to achieve self reliance and empowerment if there was a higher level of capacity in conducting systematic data gathering, analysis, and issue consolidation. However, this lack of ability does not diminish the value of data collected. The data can still be subjected to a second look in secondary analysis. The first achievement of the research project is to provide a database on women homeworkers made up of quantitative and qualitative data. The second is the continued examination of an existing area of inquiry: the nature and process of gender governance.

## **8. PROJECT DESIGN AND IMPLEMENTATION**

By using the three-pronged approach (See Appendix A - Research Guide for details), the study approached the research problem in a systematic manner. Activities supported under the study are: literature survey, key informant interviews with stakeholders and homeworkers, case studies – observations, focus group discussions and oral histories (Refer to the ‘Methodology’ Section). Due to the varying expertise and research experiences amongst the country teams, they were guided during the research period through two research guides - Appendix B - Research Manual 1 and Appendix C - Research Manual 2, besides online and phone discussions with the Regional team. A virtual office was formed between the four teams to store research information and key threads of discussions (Please refer to Appendix D - VO Manual).

The scope of the project was expanded because: a) 90 homeworkers (30 in each site) in each country were studied instead of 50-60 to create a small statistical database for non-probability sampling - a minimum sample size of 30. b) more social-gender issues were uncovered during the focus group discussions which required further probing to ascertain if the teams had identified the appropriate key issues.

From the literature survey, statistics and gender-specific issues for women homeworkers in ICT deployment were uncovered. Findings gathered were used as the basis for the selection of interviewees (homeworkers and stakeholders) for the project. From the interviews, the teams mapped the universe of homeworkers in each particular site. Gender issues were addressed by identifying the issues and obstacles to the attainment of gender equality or similar goals within the community through focus groups and oral histories. As gender analysis is multifaceted, the Gender Governance Framework was used to identify the difficulties experienced by women in using ICTs as it is linked to factors such as limited accessibility and infrastructure, high costs, time requirement, language constraints, fear of harassment by men, inappropriate use of information, skill deficiencies, and lack of gender and home-based worker sensitive training and tools.

Indicators concerning women homeworkers were developed along three major key themes:

- The enabling environment or the contexts, structures and mechanisms supporting women homeworkers and their use of ICTs for work
- Activities or actual efforts to address gender equality issues of urban women homeworkers
- Effects of efforts to address gender equality issues and potentials for Gender Governance

Based on the above three themes, the teams gathered information from both primary and secondary resources. A special effort was made by the country teams to present their gender findings to the homeworkers who participated in the study so that they were informed of the social-economic dynamics surrounding them. Their input was taken into consideration when reviewing the findings.

## 9. PROJECT OUTPUTS AND DISSEMINATION

There were six general categories of outputs:

a) Progress reports -- The project outputs in the form of monthly progress reports created knowledge to enable teams to make adjustments and understand issues concerning gender and ICT. The progress report was a monthly monitoring tool for assessing and tracking progress of work by the project leaders and Regional team. Among others, it gave an understanding on the stage of completion for each research activity and also served to remind the teams on the study objectives.

The Initial Findings Report from each country team provided the first opportunity to discuss, revise and adjust any aspect of the study. The findings were described and interpreted to highlight the use of knowledge to achieve the objectives of each research activity.

b) Financial reports – A bi-monthly report with signed receipts and payment vouchers was submitted to the Regional team to justify the progress of the work.

c) Research and management guides -- A Research Guide was compiled for the workshop in May 05 for all country teams to ensure all were clear about the scope, depth and methodology. Further guidance was disseminated through Research Manual 1 and findings were standardized with formats and tables from Research Manual 2. Information sharing and dissemination efforts were made through a virtual office system Yahoo Manual Group HISEA (<http://groups.yahoo.com/group/hisea>).

d) A workshop was held in month six to train country teams in gender analysis and to gather input from them so as to polish the methodology.

e) Interviews with stakeholders: These meetings in particular those with government agencies produced commitment to ICT4D especially in Thailand. The Thai team leader convinced the Thai government to adopt ICT to develop its One Village One Tambun program so as to assist more homeworkers. Senior Malaysian and Indonesian government officials are more interested in issues about homeworkers as a result of the study. Relationships are built between research teams and the government officials for future development work on homeworkers. These outputs can't be quantified, nevertheless, they are very important to ensure the meaningful application of the last objective of the study - dissemination of findings to policy community.

f) Press launches: A press launch was held in April 06 Kuala Lumpur to announce the key findings of the Regional/Malaysian teams. The Indonesian team held its press launch in June 06 while the Thai team held it in April 06. The press launches generated press write-ups, TV news and public interest.

## 10. CAPACITY-BUILDING

The majority of team members had neither been involved in qualitative nor gender research before. Writing international standard research report was also a first-time experience for most although they were all qualified research professionals. The Regional team built the research capacity during the short research period through:

- a) A workshop in the sixth month - Project leaders and coordinators were trained by a gender specialist on the proper approaches for gender-sensitizing activities. In turn, project leaders took the lead to train the respective team members including researchers and research assistants.
- b) Research manuals – Two research manuals provided guidelines and formats for country teams to materialize their findings.
- c) Online and phone discussions -- Learnings in issue identification, consolidation and data summarizing were acquired through these channels. The teams learnt to co-operate online and participate in discourse analysis.
- d) ICT usage – country teams were exposed to virtual office tool such as the Yahoo Breifcase and VOIP.

In addition, through key informant interviews and case studies, awareness of gender issues was created among women homeworkers who participated in the study. The focus group discussions served as a starting point for them to deliberate on how gender and ICT intertwined in their lives and to accept that they needed to make changes to lift themselves out of poverty. This was the initiation of Gender Governance Framework for empowerment.

As the Regional team and the project leaders uncovered more research issues, discussions and varying opinions formed a healthy environment for more learnings in how to conduct ICT and gender research, and what direction the gender analysis should take. The research skills were enhanced as each discourse on concept and methodology was clarified and agreed by all parties. The report writing period was a critical learning period where logical thinking and summarizing capability were tested. They had to improve their basic skills in usage of computer through Microsoft Word, file folder and email management. Throughout all these, the Regional team learnt many lessons about online training, adult e-learning habits and managing a project relying on ICT besides acquiring tremendous learnings in issue comparison and contrast.

As a result, gender research awareness was created in the partner institutions. The teams will surely be able to contribute more to their institutions in terms of qualitative and gender research.

If a study is done on a similar scale with four research partners in South-east Asia, research capacity building in the form of a second workshop with longer duration is a must. The country team leaders should also come together in one place to discuss the final writing of the report and issue correlation with a gender specialist.

## **11. PROJECT MANAGEMENT**

Since the project commenced in December, 2004, there were minor interruptions to the project flow. Except for a minor change of personnel in the Regional team in month eight and in the Indonesian team in month ten, all team members remained till their contracts ended. The project leaders and coordinators jointly managed administration and management for each team. Expenses were monitored closely by the project leaders and Regional team to ensure that the allocated budget was utilized properly. The project coordinator coordinated research activities and the assistants.

Drastic fuel increased in all three countries did reduce the number of visits by research assistants in some cases. There was a slight shortfall in the number of interviewees at one of the Thai sites due to flooding during the research period.

Due to unstable Internet connection, varying firewall requirements, lack of personal habit to use Internet-based communication channels, and other commitments to partner institutions, the country teams were unable to fully utilize the virtual office and a locally developed VOIP solution, Signature, to share and edit documents together.

Some country team members were unused to online comments, track changes, and renaming of files for each edited versions. As a result, old versions often overwrote the new ones, and questions raised by the Regional team were inadequately answered. Resulting confusions led to repeat editing work by Regional team. Fortunately, the extension of the project allowed all the questions to be fully answered, information to be reorganized and learnings to be internalized.

IDRC's input into the final report writing helped the teams to present the findings in a more consistent manner without duplication while retaining a standardized format. The teams considered this input as a capacity enhancing effort by IDRC.

## **12. IMPACT:**

The impact of the study is shown at three levels:

### Research

There is no known research on homeworkers and their use of ICT in South-east Asia. Most work done in this area is related to teleworkers or sector-based homeworking. Moreover, they do not focus on the poverty groups or give information according to location of work (e.g., rural, urban). There is also little information about vulnerable homeworkers such as those who are disabled and chronically ill. In addition, most of the researches on homeworking provide only quantitative findings. Although information on the use and spread of ICT tools in each country is available, it does not give gender segregated information nor any data on homeworkers' usage.

Consequently, it is difficult for governments and development agencies to help this digital divide group and their children/dependents as there is little supporting evidence on how best to help them in social-economic improvement.

This study pioneered gender-based findings on urban poor women homeworkers and ICT with a special focus on vulnerable women. It looks at aspects of homeworkers' lives which are not captured by statistical databases. For example, who has the most access to household ICT resources instead of just the quantitative data on the presence of ICT in the household; and how far people have to walk to community e-centers in a community instead of just the number of e-centers in the locality. This study therefore conceptualizes poor women homeworkers' barriers from their perspectives.

Information gathered from this study will spur more interest in the development and creation of knowledge about urban poor homeworkers and of the planning and implementation of knowledge networks targeting such women.

### **ICT4D**

The recent United Nations report, "State of the World's Cities 2006/07", confirms that next year, for the first time in human history, more people will live in cities than in the countryside. Such trends pose tremendous challenges to developing countries who are struggling with increasing urban poverty. Urban poverty leads to social instability. It is especially worrisome for Asia which will have 70% of its population living in the urban area in five years. The poorest of the poor are women and many are homeworkers as homeworking is one of few ways to earn a living. The HIV/AIDS scourge also leave patients with few income-earning choices except low-value home-based work with ease of entry.

Solutions to alleviate poverty have been focused on welfare-based programs, charity-oriented activities, or low-paying employment opportunities outside of the home. The urban poor remain deprived even though they are surrounded by resources – information, materials and infrastructure. The development community has realized that it is not enough to simply give people fish, one has to teach them how to fish for themselves. Hence, a growing number of poverty alleviation programs with elements such as skill training and micro-credits are deployed, but the impact is not as high as desired.

This research has revealed a best practice model for governments and development agencies to embark on a sector-based approach where gender-governance is the basic principle: Seed the growth of community-based homeworkers groups like those in Indonesia so that women know how to participate in collaborative activities with governance principles. Complement this with sector-wide assistance similar to the Thai's OTOP program where there is a coordinated product development and marketing approach at all implementation levels with elements of product branding and information provision to combat key homeworking issues such as safety, health, and low confidence. Then use an innovative ICT solution like the Malaysian eHomemakers' affordable and efficient ICT solution and business model to enable the women to manage information and micro-e-businesses by themselves for themselves.

## **Policy**

Meetings with senior government officials and the publicity from the press launches generated an unprecedented interest on homeworkers and poverty amongst several Malaysian government agencies, and interest in ICT4D for poor homeworkers amongst Thai agencies charged with the development of homebased sector and poverty alleviation. The findings of this study will surely have an impact on government policies in years to come. Sustained advocacy by the partner institutions with more concrete research findings will result in concrete government assistance in ICT4D for poor homeworkers.

## **13. OVERALL ASSESSMENT**

### **Research**

Due to the short length of the research period, the study could not identify more primary data (qualitative, quantitative) on gender dynamics between homeworkers and ICTs which could have revealed more information especially pertaining to the vulnerable ones. The lack of detailed data (quantitative and qualitative) about homeworkers and the informal sector in the secondary research shows that more research in homeworkers is essential to provide baseline data for any meaningful policy analysis for development assistance.

A key challenge to the sampling of the interviewees is that the target key informants are poor homeworkers with poverty-related factors. Factors such as low literacy in language and computers and lack of capability, self-confidence and risk taking affect their use of ICT. As a result, it was difficult to find homeworkers with long history of using ICT to illuminate on issues related to their experiences in the use of ICT for their work. This has led to some team members refuting the need for ICT4D for homeworkers.

### **Implication of Findings**

The United Nations Millennium Project Task Force on Gender Equality defines gender equality in three domains: equality in human capability (education, health, nutrition), equality in opportunities (access to productive resources), and equality in agency (decision-making on transformative outcomes). The barriers to gender equality are the lack of access to capability, opportunities and agency. Gender inequality therefore leads to human poverty. Globally, women and girls are the poorest, least educated, most unhealthy and most marginalized.

In order to address human poverty, the United Nations has recognized that the ICT4D agenda should be broadened to include ICTs for overcoming women's human poverty especially in the face of globalization.

Information empowerment is about human capital development. This study reinforces the link between ICT and women homeworkers' empowerment, and acknowledges that ICT be used as a means for sustainable livelihood. It also shows that improved information capacity contributes to homebased workers' higher earnings, lifting them out of poverty. The anecdotal evidence of a best practice model, combining the best of each country's feature, suggests that urban poor homeworkers will indeed benefit from a more deliberate, sector-wide approach to ICT assistance.

This study looked inwards into the community and recreated the personal histories of women as a base to create group histories, and then finally, a community history that binds men and women together, and helps to solve problems in order to move forward. The case histories revealed by women also show that a 'grassroot voice' for policy and governance reform is feasible through qualitative research. Conceptualizing barriers and needs through the grassroot perspective can promote greater government responsiveness such as the OTOP program in Thailand even when structural inequities exist in the distribution of assets such as education and finance.

The eHomemakers case shows that direct and independent access to information about prices and order transform the relationship between the producers and the middlemen/subcontractors. This finding indicates that a research, policy and governance agenda is required to research how markets and trade practices should be reformed to enable poor women homeworkers to overcome their human poverty to benefit from ICTs in a globalized world.

The study also reveals that local culture heavily influences the women question in technology. Barriers to ICT usage and micro-e-businesses have led to the lack of access to capability, opportunities and agency. But overcoming the barriers require paradigm shift about ICTs: We must move away from ICT-driven poverty alleviation solutions to a solution which include transformative research, policy and gender governance. Instead of asking 'What can we do with this ICT tool?' we should look at urban poor homeworkers' needs and ask, 'How do we meet these needs with ICT-based transformative solutions?'

In conclusion, this study demonstrates that in order for ICT4D to be effective, the power relations between women and men, the information haves (such as the subcontractors with the information on final retail prices) and the information have-nots must be redressed.

## 14. RECOMMENDATIONS TO IDRC:

This report recommends IDRC to :

### a) embark on active advocacy to the South-east Asian governments to:

1. include homeworkers' and gender analysis in research, development policies, awareness initiatives and ICT4D programs
2. consider 'engendered policy' approach when constructing policy options by including gender dis-segregated research, and supporting training and resource enrichment for women homeworkers, and enabling women homeworkers to access and use ICT such as efforts to decrease travel time to phone kiosk and telecenters.
3. acknowledge that ICT4D is a means to alleviate poverty among the urban poor women who are mostly homeworkers, and that ICT4D means more than the provision of infrastructures and hardware, it means addressing the issues of access for the have-nots in policies, affordable technology, human capital development and social-gender issues.
4. provide funds and resources for the informatization of homeworkers and homebased enterprises.
5. encourage media to portray positive homeworkers model and their ICT usage to motivate the poor to use ICT to empower themselves.

### b) broaden its research agenda to include transformative research, policy and gender governance for the poor by :

1. forming different e-communities of practice around women's poverty alleviation from a wide cross-section of stakeholders, researchers, activists, donors, development agencies and civil societies.
2. funding the research and development of ICT technologies that meet homeworkers' needs. Such ICTs can also be used for the poor in the rural areas as tools for business opportunity creation to raise incomes.
3. fund more research (qualitative, quantitative and gender disegregated) in sector-based home-based work, mapping of homeworkers, health and safety issues in home-based work and ICTs dynamics in gender relations. In the case of Indonesia and Malaysia, policy research in the definition of home-based work, homeworkers, economic contribution of homeworkers, and specific home-based sectors is imperative for advocacy for informal sector recognition.
4. fund more research on using ICT to work @ home by different digital divide groups to advocate for ICT4D assistance in the face of fuel price increased and economic hardships.
5. fund the R and D of an integrated ICT platform for homeworkers. It will have an interface that modelled after the Pan Mall with an English language main platform as an

umbrella for sub-platforms (country-based) which will have local font and local content contributed by homeworkers. This innovative platform will serve as a base for informal sector development advocacy, marketing platform for their products to Fair Trade organizations, and ICT networking and development center for disparate homeworkers' groups. Participating homeworkers will be active information and resource contributors. Those who are more ICT savvy will be trained to manage smaller information networks at local levels which contribute to the in-country platform. Ultimately, this will facilitate gender governance.



