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Maria Costanza Torri

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## **The JAMU System in Indonesia : Linking Small-Scale Enterprises, Traditional Knowledge and Social Empowerment Among Women in Indonesia**

By Maria Costanza Torri<sup>1</sup>

### **Abstract**

Medicinal plants have been used extensively in numerous countries, Indonesia included, in the domain of traditional medicine and of natural product industry. Few studies have focused on the commercial aspects of medicinal plants in local communities and on its potential impact on gender development in urban and peri-urban areas. This article aims to analyze the impact of women enterprises active in the traditional herbal sector (jamu) in Indonesia in terms of household revenues and social status. The paper emphasizes how, despite the important socio-economic results of small-scale enterprises in the jamu sector in the city of Jogjakarta, some challenges of the potential of this commercial activity on local women still remain.

*Keywords:* jamu, traditional medicine, Indonesia, local livelihoods, gender empowerment

### **Introduction**

World demand for natural health products (NHP), including herbal products of medicine, has been growing steadily. This global market is estimated at around \$16 billion (Howard 2003). Despite the growing performance of this sector, the local communities, including indigenous communities worldwide, who have traditionally been related to natural resources, are too often marginalized. For that reason, there is a concern that an important opportunity for local communities to increase their livelihoods is lost at the very moment when renewed effort is needed to reduce their marginalization and improve their social status.

Although medicinal plants have been used extensively in many countries, including Indonesia, especially in the context of traditional medicine as well as more recently, by the natural product industry, there are few studies that have focused on the commercial aspects of this phenomenon and its potential to enhance gender development for women living in urban and peri-urban areas (Suharmiati 1996; Suharmiati & Handayani 1998; Suparto 2000; Handayani et al 2001; UNFPA 2004).

Gender, the socially constructed roles and characteristics assigned to women and men in a specific culture, plays a key role in people's access to, use of and control over biodiversity (Howard 2003). This is especially relevant in the case of medicinal plants, as in numerous societies, women have primary responsibility for health care at the household level. Literature shows that, worldwide, it is mainly women who are wild plant gatherers and managers, home gardeners and plant domesticators, herbalists and healers, as well as seed custodians (Howard-Borjas 2002, Howard 2003). Previous work on this issue (Herrmann 2003) has led to the conclusion that women's local knowledge in plant use and traditional medicinal practices is fundamental to guarantee livelihoods, as well as household and community health care; hence women's involvement and empowerment

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<sup>1</sup>Lecturer, Department of Social Sciences, University of Toronto Scarborough

are needed to enhance women's status and local livelihoods. This article aims to investigate, through the analysis of a case study from the sale of traditional *jamu* in Indonesia, the possible link between women-based businesses in herbal products, local livelihoods and gender empowerment.

The traditional pharmacopia (*jamu*) in Java, Indonesia, includes a huge range of herbal preparations used by women in different phases of their lives. *Jamu*, which is stored in bottles, is a liquid made out of local plants and roots to enhance health and to cure some specific diseases. It is usually sold by women, who carry the bottles in bamboo baskets slung on their backs. *Jamu* is wide spread in Java, more in the cities, than in rural areas. The Javanese community can easily buy *jamu* from one of many traditional markets almost anywhere on the island. The provinces of Yogyakarta and Central Java, which are well-known cultural centres, have many traditional markets where *jamu* peddlers sell the traditional herbal medicine.

The research questions explored in the paper are the following:

- What are the links between small-scale enterprise focusing on medicinal plants and socio-economic development of women?
- What is the role played by traditional knowledge and practices in these entrepreneurial activities?
- What are the challenges for the creation of forms of entrepreneurship that can produce a significant and lasting impact both on local livelihoods and gender empowerment?

This paper begins by briefly presenting the issue of gender enterprises and traditional medicine in Indonesia and by providing a literature review on the studies available on this topic. The socio-economic impact of these small-scale entrepreneurial activities centered around *jamu* in the city of Jogjakarta are subsequently analyzed.

### **Gender entrepreneurship and medicinal plants**

Poverty alleviation together with gender equality has been placed high on the international development agenda following the adoption of the United Nations Millennium Development Goals (MDGs) in 2000. Numerous studies have left little doubt that natural products derived from biodiversity, such as medicinal plants, contribute to the well-being and, sometimes, the very survival of millions of poor rural households (Arnold, 2002, Belcher et al., 2005, Fischer, 2004, Godoy et al., 2000, Narendran et al., 2001, Scherr et al., 2004). The processing and sale of medicinal plants certainly offers a low barrier to entry and widely available option to generate cash income that is progressively being taken up by rural dwellers in many countries, including Indonesia, as a means to cope with economic hardship. Indeed, in some situations medicinal plants may be harvested for subsistence purposes and/or as commodities that can be offered for sale in the market in raw or processed form to the rural poor, and women in particular (Campbell et al., 2002 and Shackleton, 2004). The use and sale of products may take place on a regular basis, seasonally as a gap filler, or only in times of emergency providing an important fallback option or safety net (McSweeney, 2004, Takasaki et al., 2004). Natural product markets have been shown to be significant in assisting rural households to realize some, if not all, of their cash requirements (Marshall and Newton,

2003, Marshall et al., 2006, Narendran et al., 2001, Ndoye et al., 2001), and are particularly crucial for the most marginalized and vulnerable segments of society (Beck and Nesmith, 2001, Cavendish, 2000), women included.

While this “picture” of the significance of the medicinal plants trade for livelihoods exists, the situation in reality is complex and variable, and limited empirical data from across a range of regions, vegetation types, and socio-economic contexts are available to assess the ability of these products to create lasting opportunities for local livelihood enhancement (FAO, 2003). Indeed, the refocusing of the development agenda on poverty has led to recent reassessment of the role that biodiversity and medicinal plants play in livelihoods and poverty alleviation.

A profusion of new commentary has emerged. Many authors note that the most disadvantaged populations are less likely to succeed in the herbal market (Arnold and Ruiz-Perez 2001). Generally the members of these communities selling plants species including medicinal ones and derived products receive a minimum percentage of the price paid by consumers. This poses many new questions, and, to some extent, tempers previous optimism regarding the ability of this sector to make a difference by providing a more subtle and complex picture of livelihood–biodiversity linkages (e.g., Arnold, 2002, Belcher, 2005, Koziell, 2001, Lawrence, 2003, Ros-Tonen and Wiersum, 2005, Scherr et al., 2004, Wunder, 2001).

Central to these new enquiries is a more perceptive and nuanced appreciation of (a) the links between natural resource dependence and the potential of the natural product trade to provide pathways out of poverty;” and (b) the extent to which opportunities associated with natural product production and sale can be made more pro-poor and thus contribute to the efforts to combat poverty and vulnerability (FAO, 2003) and Koziell, 2001). A key area of debate is whether the trade in natural products can assist in improving livelihoods and income, or alternatively, whether it offers limited options serving only as a last resort, possibly contributing to persistent poverty (Belcher, 2005, Ros-Tonen and Wiersum, 2005 and Wunder, 2001). This article aims to analyze what has been the impact of small-scale enterprises lead by women active in the traditional herbal sector (*jamu*) in Indonesia on household revenues and social status. The paper aims to fill the gap in the literature available on *jamu* sector. To our knowledge, the studies available on the *jamu* system are mainly studies of ethnopharmacology which are based in rather general works that document the use and constituents of plant substances used medicinally (Ali et al. 2005; Vera-Toscano et al. 2004). Several of the more comprehensive presentations are at least implicitly ecological in orientation, as they divide attention among the climatologic and human histories of the region and the use, not only of medicinal plants, but also of flora and fauna in diet, manufacture and other applications (Anderson and Jack, 2002; Bodeker, 1999). For the greatest part, these ethnobotanical inventories present botanical and pharmacologic data disembodied from their social and cultural contexts; they cannot accommodate theoretical or conceptual issues, and in fact contain little by way of analysis, or even interpretation (Hersch-Martinez, 1997; Schippmann and Leaman, 2003). They lack careful attention to the specific circumstances and contexts in which plant utilization occurs- i.e. data regarding mode of preparation and gathering of medicinal plants.

In contrast to general inventories are few studies that attempt more broadly to contextualize features of perceptions about plants and of plant use, pharmacology and

socio-cultural aspects of *jamu* (Mafra and Stadler, 2007). These studies explore both biological and behavioural and cultural parameters to formulate questions within the broad outlines of a human ecology that seeks to understand human-plant interactions in the most comprehensive sense and to assess the impact of such behaviours on health.

In this article we analyze small scale entrepreneurial activities in the *jamu* sector among women in the city of Jogjakarta (Java), Indonesia by investigating the socio-economic impact of these enterprises in terms of local livelihoods and gender empowerment. Traditional medicinal system in urban areas has been previously analyzed in the literature (Kellert, 1996, Schippmann and Leaman, 2003; Anderson and Jack, 2002) but no study is available on the interlinkages existing between small-scale enterprise focusing on *jamu* and socio-economic development of women in Indonesia. The intent of this analysis is to show how ethnographic and pharmacological research on herbal medicines can improve our understanding of the economic and social values of traditional ethnopharmacy among urban women in Indonesia.

## **Methods**

The study took place in Indonesia (Java) in the city of Jogjakarta between June and July 2010. The number of women interviewed was 35, having different ages and socio-economic background. The age of the women ranged between 26 and 64. The sample has been selected among the *jamu* sellers in the streets or in the local markets of the city. In order to see the points of view and the perceptions among young *jamu* sellers, the majority of women selected were women in their reproductive age and had between 3 and 5 children. Most *jamu* sellers interviewed come from the peri-urban or rural areas around Jogjakarta. They belong to a low socio-economic stratum, and have a low level of education, usually elementary school, with a very small percentage having attained a secondary school diploma.

The interviews consisted of structured and semi-structured components. Structured questions aimed to collect quantitative data (income from the participation to commercial activities and total household budget) while semi-structured questions aimed to gain insights on the process of empowerment and social status among the participants. Two group interviews - consisting of 12 participants each - were also organized on occasion of a meeting of a *Jamu* Association active in the neighbourhood of Karanggayan. The selected women were *jamu* sellers who belonged to the *Jamu* Association but who had not been previously interviewed. Upon consent of research participants, the interviews have been audio-recorded and subsequently transcribed. In this article, quotations are presented in English, which have been translated from Javanese.

## **Results and discussion**

### **Jamu and local sellers in Jogjakarta**

The materials that the local *jamu* sellers use to make *jamu* consist of plants and spices. These include turmeric, ginger, *kencur*, *kunci* and garlic. Some fruits, like *nipis* lemon (*Citrus aurantifolia*) and onion are also used. Plants growing in the yard, garden, or rice fields - whether planted or growing wild - may also be used. Fresh materials are extracted from certain parts of plants (leaves, roots, flowers, fruits, trunk, seeds), or from the entire plant. A number of plants are deliberately cultivated in the garden for their

fruits, leaves or seeds. These include papaya, guava, *pares* (*Momordica charantia*), *nipis* lemon, *daun ungu* (*Pseuderthemum andersoniil*), and *pecut kuda* (*Stachytarpheta jamaicensis*). Among the wild plants that are commonly used are *sambiloto* (*Andrographis paniculata*), *tapak liman* (*Elephantopus scaber*), *patikan kebo* (*Euphorbia hirta*), *tapak dara* (*Vinca rosea*), *ciplukan* (*Physalis minima*), *kudu* (*Morinda citrifolia*), *gempur batu* (*Ruellia naifera*), and *sembung* (*Blumea balsamifera*).

To make *jamu* drinks or external medicines, these herbs or spices are simply processed. The process of making *jamu* requires boiling, and kitchen utensils such as ceramic pots may be used. A traditional tool called *lumpang* or *pipisan*, made of stone, can be used for pounding. *Jamu* drinks can be made in the form of percolates (water-extracted) or concentrates of *jamu* materials. To obtain the essence of the raw materials, they are often cleaned and chewed. Home-made *jamu* is usually made when the need arises, so it is always fresh. The unused *jamu* is disposed of. The *jamu* producers usually utilize a number of plant species; rarely is just a single plant used. The number of plant species used for a particular kind of *jamu* usually ranges from 5–10. Certain *jamus* contain 30–40 species.

There are different types of *jamu* that are believed to be effective for different complaints. *Kudu laos jamu* is believed to be good for hypertension and for improving blood circulation; *Jamu pahitan* relieves the itching caused by allergies, parasitic infections and diabetes mellitus; *Jamu cabe puyang* is good for muscle stiffness and fatigue; while *jamu sinom* refreshes and cools the body; *Jamu beras kencur* improves the appetite and relieves fatigue; *Jamu kunci suruh* is helpful in cases of leucorrhoea or excessive vaginal discharge, and *jamu uyup-uyup* stimulates lactation. *Jamu* is also believed to enhance the immune system and to fight body infections.

#### Jamu and household livelihood for *jamu* sellers

Two-thirds of the interviewees emphasized how being a *jamu* seller has improved their livelihoods, allowing them to increase their monthly revenue. According to the interviewees, the sale of *jamu* accounts for 1/3 of the final revenue of the family, being around 100-150 US\$ per month. The average number of clients is around 80-100, depending on the area of the city and the time of the year. The street vendors have also highlighted that the revenues obtained from the sales of *jamu* are inconsistent, normally depending on the weather conditions. Indeed, between end of June and August, being the rainy season, the clients are lower and revenues decrease. Less than two thirds of the women interviewed (21) affirmed that they have started their *jamu* business quite recently, around 10-15 years ago. The economic crisis that hit Indonesia at the end of the 1990s has strongly contributed to the increase of the informal sector among the city dwellers in the island of Java, Jogjakarta included (Pramono, 2002).

In economic terms, the interviewees emphasized how the capital to start a small *jamu* business is very limited, consisting of raw material and some basic equipment already available in the kitchen. The limited investment necessary to enter this sector makes it particularly appealing for the local women by limiting the entry barriers which exist in other business. The interviews highlighted that being a *J* seller does not represent the only commercial activity undertaken by the women. The majority of them (24 out of 35) declared that selling *jamu* was one of their occupations. Among the most cited second occupations were ambulant seller, masseuse and seasonal worker in local factories.

Being involved in different jobs, the women have to endure long working hours. It is pertinent to ponder upon whether the involvement in the *jamu* sector has in actual fact improved the living conditions of the women involved with this commercial activity. One-third of the women interviewed emphasized how being a *jamu* seller has increased their workload. The *jamu* is normally sold early in the morning, starting at 7-8 am and needs to be freshly prepared some hours before. These women affirmed that they had to get up very early in the morning at 3-4 am to prepare the *jamu* before the sale. After the sale of the *jamu* that takes place until noon, the women involved in the *jamu* commerce have to take care of family and children and are busy with other productive occupations. Fifteen out of thirty-five interviewees stated that they were continuing their working day in the afternoon as ambulant sellers of other products (e.g. sweets, drinks etc.) or as workers in local factories. As a consequence, the women had no time for themselves and for their own needs.

The interviews also show that there are sometimes some conflicts arising between the productive and reproductive tasks of *jamu* sellers. Seventeen out of thirty-five of the *jamu* sellers, especially those with young children, affirmed that they found it problematic to conciliate their working activity outside their home with children rearing. As one of the *jamu* sellers put it:

“I come to the market every day early in the morning to sell my *jamu*... As soon as I am done, around 1-2 in the afternoon I go home. Sometimes I need to go selling the *jamu* in the evening too, as many clients are coming in this time of the day. I feel guilty as I don't have much time to spend with my children. My mother did the same thing with me: she used to work many hours each day, I was often left alone. I suffered for that and I did not want that the same thing happened to my kids but it seems inevitable. When you are poor you have to work many hours per day. That's it.”.

The difficult trade off between family commitments and work for *jamu* (heretofore: *jamu*) sellers can hinder the development of this commercial activity. When the *jamu* sellers have been asked if they had any ideas or projects to expand their commercial activity and attract more clients, two-thirds of them affirmed that their objective was not increasing their sales but to keep the number of clients steady as they were unable to cope with more work. One young woman in her thirties affirmed that she had some ideas to improve the quality of the different types of *jamu* she was producing and start producing new ones by looking for some information on websites and books, but that she had no time to do that due to her family commitments. She also declared that her priority was not to be “*a successful business woman but a successful wife and mother.*”

The association between fertility and women's labour force activity reflects the incompatibility between caring for children and participating in economically productive work outside the home that typifies emerging countries. In spite of certain studies (Johnson, 2005; Mann and Huffman 2005; Nussbaum, 2000) which have demonstrated that men are equally susceptible to work-family conflict, in Asian societies, the motherhood mandate (Russo, 1976) is firmly entrenched and therefore, married women

may have more difficulties than men in managing the work-family interface, and thereby experience more work-family conflict. It is interesting to observe how the commercial activity started by the women has been taken over, in some cases, by their husbands or has become a joint business. This can possibly be explained by the fact that women are generally busy with several productive activities and are unable to cope, on certain occasions, with the number of clients. Another explanation of the presence of men in this traditionally feminine activity is that an increasing number of men have lost their jobs due to the increased financial instability and that they find themselves unemployed. In the jamu sector, the contribution of men is to help their wives during the productive phase or in buying and cleaning the plants and roots to be used. The presence of men is generally more limited in the sales, being that jamu traditionally is a feminine commercial activity and is mainly consumed and bought by women. In some cases, the contribution of men in the preparation of jamu has been temporary, being determined by contingent factors such as male unemployment.

As a middle-aged woman affirms:

“My husband helped me in the preparation of jamu.. he lost his job in a local factory and he had more free time at that moment and he used to go to the local market to buy the ingredients we use to prepare the jamu.. We used to get up together very early in the morning and start preparing jamu till dawn. He used to help me transporting the jamu at the local market and then he would go home while I was remaining there to sell it....now my husband found another job in a construction industry and has no more time to help me, so I am preparing the jamu alone... ”

It is interesting to note how the approach of joint business is generally transitory and that jamu selling culturally remains a feminine activity and a feminine tradition, especially among the middle-aged and older jamu sellers. In some rare cases, (i.e. 4 out of 25), the jamu sellers declared that their husbands were envisaging working with them full time and for the long term. As a woman in her mid-thirties affirmed:

“My husband decided to work with me in the jamu business.. We prefer working independently... it is true that you cannot rely on a steady salary but as a counterpart, we can decide when and where to work... I have started being a jamu sellers ten years ago... before my mother was a jamu seller and when she was too tired and old to continue I took over.... I prepare a very good jamu and I am quite well known in the area... Because of the long time I have been involved in this activity, we have now many steady clients and my popularity is increased.. I have more than 150 clients every day, that is why I need help... the jamu business is quite profitable and my husband, my little son and I can all live on that....”

Regarding the economic impact of jamu at household level, it is worth noting how this commercial activity contributes to poverty alleviation by reducing costs due to primary health expenditure among jamu sellers. The interviews highlighted that the health expenditure incurred by the jamu producers was around



two times lower than before the women started being involved in the jamu commercial activity. The minimum benefit of annual savings in terms of primary healthcare related expenses through use of traditional jamu is reported to be between 5 to 7 US dollars per month. One of the jamu sellers interviewed affirmed:

‘Since when I started producing and selling jamu, my family and I started consuming in on regular basis..we consume jamu especially during the rainy season, when there is a higher risk of getting ill with colds and flu. As jamu reinforces the immune system of the body, drinking jamu is very good to fight flu. Before my children had cold and flu and I used to go to the doctor and spend quite a lot of money for that but now they get hardly ill..’.

Despite the role of jamu for health has been emphasized by numerous jamu sellers (24), only a limited number of them (7) affirmed that they reduced their costs for primary health care. One-fourth of the jamu sellers (8), especially the younger ones clearly declared that they did not consume jamu in their family and that they mainly saw this traditional medicinal system as a way to improve their livelihoods. In this respect, a young jamu seller in her late twenties affirms:

‘I have learnt how to produce jamu from my mother who was a jamu seller too.. I don’t know if jamu is really effective, I don’t consume jamu too much.. in any case jamu is very popular in this neighbourhood, I have many clients and this makes good money at the end of the day...’.

This point of view shows how the commercialization of traditional knowledge and ethnomedicine made by local communities could become a form of commodification which deprives these traditional practices from their cultural and therapeutic values reducing them to mere “merchandise”.

#### Social outcomes for jamu sellers

The data show that the participation of women in the jamu sector has been successful in producing wider social outcomes than only economic benefits. This includes an enhanced social recognition within the family and sometimes a better access to power at household level. The extent of “empowerment” varied with each aspect examined. For example, one third of the women interviewed affirmed that their self-confidence and self-esteem had increased considerably. Taking part into an economic activity such as the jamu enhanced their pride particularly since they were able to generate income for their families and to improve their living standard. As a young woman declared it:

‘Selling jamu has increased the revenues of my family.. I feel happy as I can contribute to the expenditures and also buy better food for my children.. When we moved from the countryside to Jogjakarta my mother in law told me: “how are you doing to do there? Living in the city is quite expensive and

you have three children...” but now my in laws are happy as they saw that I can work and gain some money for the family too...”

Despite this, some conflicts could arise inside the household, especially regarding the decision of how to spend the money. Fourteen women out of thirty-five have emphasized how the increased revenue available in the family has led to conflicts with their husbands and in-laws. The women often reiterate their right to have a say on this topic but their priorities and ideas are not always kept in consideration. This is especially the case for the young women living with their parents or in-laws. The latter have the tendency to impose their point of view in regards with the allocation of money. The phenomenon of gender conflicts within the household regarding allocation of money is common and has been widely described in the literature of women’s entrepreneurship (Mayoux, 1995; Parrenas, 2000; Moghadam, 2006; Liedholm, 2002). This aspect needs to be taken into account in order to create equitable and fair relationships within the household and to promote this form of gender entrepreneurship.

Taking part into the jamu business has also allowed the jamu sellers to gain more social visibility by becoming members of the jamu associations. Jamu associations regrouping jamu sellers have been created in several neighbourhood of Jogjakarta. The objectives of these associations are to bring the jamu sellers together to discuss about common issues, to work on common projects and occasionally organize training sessions. About half of the selected members agreed that their communication skills have improved significantly after joining the groups; but most of them happen to be group leaders. They strongly agree that they can now participate in non-family meetings, interact effectively in the public sphere, and enjoyed better mobility. These women are often able to use the need to travel to meetings and for marketing as a means of developing a range contacts outside their immediate family and community.

Recently, there has been a shifting vision of the entrepreneur and the enterprise, seen as embedded in a network of relationships, especially at the local level (Johannisson et al, 2002; Bandura, 1988). Social capital is not tangible in the way that products and services normally are, but it facilitates the productive activity by providing access to other resources, such as knowledge and capital (Anderson and Jack, 2002; Coleman, 1988; Stromquist, 1995). Granovetter proposes that economic action is always embedded in “concrete, ongoing systems of social relations” (Granovetter, 1985). The concept of embeddedness has been applied to, and has expanded the scope of, approaches often noted for limited economic assumptions, such as the study of inter-firm or industry networks. However, it is also evident that organizations are embedded in other concrete structures of social relations, of which the local community is possibly the most significant.

In regards to the social impact of the use of herbal gardens, there were a few women, especially poorer ones, who emphasized how taking part in the jamu sector has indirectly allowed them and their family to have a higher social stand in the local neighbourhood. There is a custom (*nyumbang*) in Java, according to which every household should contribute with money during some community celebrations or events, such as weddings and funerals. Fifteen out of thirty-five women interviewed highlighted that before starting their jamu business, they could sporadically contribute to these community expenditures and that, as a consequence their social consideration and

popularity in the neighbourhood was limited. These women noticed that by increasing their quota, their social reputation and consideration in the community increased.

In some cases, the fact of being a jamu seller is associated by the interviewees with the opportunity to enlarge their social network and to increase their circle of acquaintances and potential friends. This “social” aspect of jamu activity was especially emphasized by single mothers and widows. In this respect, one jamu seller affirms:

“I live alone, my husband died several years ago. Since when I am a jamu seller I am never alone, I meet many people every day and interact with them. I feel happy now.”

It is important to note how this aspect of reciprocity and of reinforcement of social links with the neighbourhood is considered to be very important for the interviewees and it represents an important step for the construction of social networks and social capital in the community. The social recognition is not only considered important to enhance the personal or the family social status but it is also seen an essential instrument to increase social and economic security.

A middle-aged jamu seller affirms:

“It is very important to be known and respected in the community.. the reputation of the family is a fundamental thing... in order to be respected you have to have a good reputation, to be considered an honest and hardworking person... it is also important to take part and to contribute to the nyumbang (quotas to be given for community celebrations) as it shows that you are participating and caring for the community events..If you do that, when you are in need and ask for community support people will help you and take care of you...Once my husband was very ill and he could not work... We did not have enough money but the people of the neighbourhood helped us as we had previously contributed generously to the nyumbang in the past...”

The presence of social capital is very important and is emphasized by this narrative. Studies on community development initiatives among poor communities suggest that the employment of social capital within communities can be a key strategy in fostering social security and sense of belonging (Lyons, 2002; World Bank, 2007). The presence of social ties provides a social resource (Thomas and Mueller, 2000) and increases the self-confidence and the sense of security (Hunt and Levis, 2003).

## **Conclusion**

The sector of herbal products could represent an interesting area for establishing rural women’s entrepreneurship. New trends in health care and the search for natural products, meaning those who have no additional chemicals and are made with artisanal methods, has become a growing niche market with good potential for local development in Indonesia. The data show that the local jamu entrepreneurs have been able to improve their livelihoods by increasing their revenues and reducing the costs for primary health care. The interviews have also emphasized how taking part in this commercial activities

has enable them to increase their social networks, to improve their social status within the community and in part within their households.

Despite the important socio-economic results of small-scale enterprises in the jamu sector in urban Jogjakarta, some challenges still remain regarding the real potential of this commercial activity on local women. As the data show, it cannot be assumed that increases in income will necessarily translate into increased control over that income or increased well-being or changes in other aspects of gender inequality. Without measures to address gender inequality, such as capacity building initiatives, enterprise development may increase women's workload and responsibilities without increasing their control over income. At the same time, it is also important to point out how, there is also the risk that the creation of enterprises based on traditional knowledge and ethnomedicine could become a form of commodification which deprives these traditional practices from their cultural and therapeutic values. Thus, the challenge is to work closely with local governmental and non-governmental organizations to promote and capitalize not only the economic potential of jamu sector but also to focus on its cultural value and in the cultural richness of traditional knowledge.

There is considerable scope for further work to explore the evolution and impact of small-scale enterprises based on jamu, and to expand the understanding of these and other factors connected with the formation, evolution, and performance of this form of enterprises based on traditional medicinal knowledge. The conditions that could enhance this form of gender entrepreneurship in different environments (e.g., rural, urban areas) need to be analyzed, in order to explore possible differences and similarities. Further studies to identify the how the market, NGOs and other corporate bodies may interact with small-scale jamu enterprises to support their operation are also necessary.

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