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MODERNIZING TRADITIONAL MEDICINES IN JAVA: REGULATIONS, PRODUCTION AND DISTRIBUTION NETWORKS

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ABSTRACT

Traditional medicine (jamu) in Indonesia is continuously transforming due to a number of factors including the growing presence of the biomedical system promoted by the government and drug manufacturers, the requirement of more standardized and scientifically-proven medicinal products, and the declining popularity of herbal medicine among the young generation. Traditional medicines producers need to adjust continuously to the changing environment. This article seeks to examine these transformations by taking Java as its focus of attention. There are two major reasons for this choice. First, the island of Java is home for many traditional medicines producers, both small-scale, home-based industries and large-scale, company-based industries. Second, the largest proportion of the users of traditional medicines and distribution networks are also found in the island. The major questions the article seeks to address are: (1) what regulations have been set in place by the state authorities with regard to the production and distribution of traditional medicines in Java? How do the producers and the related partied respond the regulations?; (2) what efforts have been made by the producers of traditional medicines to accept modernization challenges and to improve the performance of their products; (3) how traditional medicines circulate and what are their distribution networks?

Keywords: modernization, traditional medicine, regulation, production, circulation, Java

ABSTRAK

Obat tradisional (jamu) di Indonesia terus berubah karena sejumlah faktor termasuk semakin tumbuhnya kehadirani sistem biomedis dipromosikan oleh pemerintah dan produsen obat, kebutuhan akan produk obat yang lebih standar dan terbukti secara ilmiah, dan menurunnya popularitas jamu di kalangan generasi muda. Produsen obat tradisional produsen perlu menyesuaikan terus menerus terhadap lingkungan yang berubah. Artikel ini ditujukan untuk mengkaji transformasi ini dengan mengambil Jawa sebagai fokus perhatian. Ada dua alasan utama untuk pilihan ini. Pertama, pulau Jawa adalah tempat bagi banyak produsen obat-obatan tradisional, baik skala kecil, industri rumahan dan skala besar, industri berbasis perusahaan. Kedua, proporsi terbesar dari para pengguna obat-obatan tradisional dan jaringan distribusi juga ditemukan di pulau ini. Pertanyaan-pertanyaan utama yang hendak dijawab dalam artikel ini adalah: (1) peraturan apakah yang telah ditetapkan oleh otoritas negara yang berkaitan dengan produksi dan distribusi obat-obatan tradisional di Jawa? Bagaimana respons produsen dan pihak terkait terhadap peraturan-peraturan yang berlaku?; (2) upaya apakah yang telah dilakukan oleh produsen obat tradisional untuk menjawab tantangan modernisasi dan untuk meningkatkan kinerja produk mereka; (3) bagaimana obat tradisional beredar dan apa jaringan distribusinya?

Kata kunci: modernisasi, obat tradisional, peraturan, produksi, sirkulasi, Java

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INTRODUCTION

Traditional medicines (*jamu)* have long occupied an important position in Java and elsewhere in Indonesia in health and socio-economic terms. The use of traditional medicine was a major part of the control against diseases among the inhabitants of Java (Sardjito, 1965:3). During the colonial era, the reliance on traditional medicines was remarkably strong even among the indigenous inhabitants in Batavia (Jakarta) where the western influences had deeply penetrated the society (Abeyasekere 1987:203). Elsewhere in colonial Java the use of traditional medicine was presumably more widely found among the inhabitants. During the time of crises the reliance of traditional medicine grew stronger because of the decline in purchasing power and the modern medicine in short supply. During the Japanese occupation period (1942-1945), for example, the use of traditional medicines was strongly encouraged. Six decades later the feature seems to have not changed very much. The 2010 Basic Health Research (*Riset Kesehatan Dasar*) indicates that more than 69 percent of the inhabitants of Jakarta Capital Territory had the habit of consuming traditional medicines. Meanwhile, in the other provinces of Java the percentages of traditional medicines consumers were respectively, 62.8 percent (West Java), 65.4 percent (Central Java), 78.5 percent (Special Region of Yogyakarta), and 71.8 percent (East Java) (Badan Penelitian, 2010:419).

In socio-economic terms, the importance of traditional medicines can be seen from the number of businesses and their contributions to the economy. Data by the Indonesian Association of Herbal Medicines Entrepreneurs Association (*Gabungan Pengusaha Jamu/GP Jamu*) suggest that in 2004 there were 1,166 businesses in the sector, consisting of 129 businesses under the category of large scale industry and 1,037 businesses under the category of small scale industry (Muslimin and Wicaksana 2009:1). An estimate by Charles Saerang, chair of the Association of Herbal Medicine Entrepreneurs, suggests that in 2012 the sector recorded about 1,400 businesses, of which 90 percent or 1,260 of the ventures formed a small-scale industry (Regulasi Jamu, 2015). The figures indicate that there was an increase in the number of traditional medicines businesses. It is estimated that around three millions people have been employed in this sector, acting as herbal material suppliers, factory workers, and product sellers. With its nearly 99 percent of raw materials constituting domestic products in the country, the sector is believed as capable of carrying multiplier effects which are quite significant in pushing the economic growth (Muslimin and Wicaksana 2009:2). The sale of traditional medicine reached IDR 5 trillion in 2006, and increased to IDR 6 trillion in 2007. By 2008 it went up to IDR 7 trillion pada tahun 2008 (Muslimin and Wicaksana, 2009:139).

There are several reasons responsible for the continuing use of traditional medicines in Java and elsewhere in Indonesia. First, the modern medicines are not yet fully and evenly accessible for all inhabitants. Having no other choices, many inhabitants especially those who live in rural areas have to depend largely on traditional medicines. Even for some urban inhabitants especially the poor, modern medicines often remain unaffordable. For the low income earners living both in rural and urban areas, traditional medicines serve the most accessible medication choice because of its cheap price (Slamet n.d., 1). The second reason is the limited access and deteriorating trust to modern medication for the unexpected side effects (Zainuddin, 2005:14). As a result, the traditional medicines are reported to have regained their importance among the people. Third, lifestyle trend focusing on back to nature also contributes to make the use of traditional medicines growing (Hutami 2014:1). The use of traditional medicine either as alternative or complementary medication is increasingly popular.

Based on the Indonesian Act No. 23 of 1992 on health, the term, "traditional medicine" can be defined as "ingredient or ingredients in the form of plant material, animal material, material minerals, preparats (*gelenik*), or a mixture of such ingredients which has been used from one generation to another for treatment based on experience". Meanwhile, according to the World Health Organization, a product can be referred to as traditional medicine if it has been used for three generations and has been proven safe (Muslimin and Wicaksana 2009:135). Traditional medicine is broadly used to cover three categories: 1) own-made medicine, 2) herbalist-made medicine, and 3) company-made medicine. The first category refers to medicine taken in self-medication effort using raw materials from the surrounding environment. The second category refers to traditional medicine sold by herbal sellers in the form of self-blended drinks using medicinal herbs or other ingredients. Factory-made traditional medicine refers to medicinal products of small-scale and large-scale traditional medicine industries. Small scale industries produce herbal medicine in the form of pills, powders, sliced, while large-scale traditional medicine industries produce herbal medicine in the forms of tablets, capsules, syrups, even in the form of drinks and sweets (Supardi *et.al.* 2011:276).

Despite the growing importance, little scholarly attention has been paid to examine the social aspects of traditional medicines and their historical development. Early writings on traditional medicine in Java mostly came from the palaces. Examples of written information about the herbal medicine well preserved to this day in the Library of Surakarta palace are *Serat Kawruh* (Book of Knowledge) and *Serat Centhini* (Book of Centhini). *Serat Kawruh* provides systematic information about herbs and contains 1,734 concoctions made from natural materials. However, the way of using them still mix with incantations (Depkes, 2007).

Scholarly attention on traditional medicines has been focused mainly on general aspects of traditional medication, of which traditional medicine is part of it. Joordan, for example, has produced a thorough and detailed work on Madurese society (Joordan 1985:223-224). Other works on one or various aspects of traditional medication have been produced for example, by Umiati and Santoso on East Java, Mahoni on Banyuwangi, Soedarsono on Javanese society, Nawiyanto and Badriyanto on Madurese and Javanese ethnic groups (Umiati and Susanto 1990/1991; Mahoni 2002; Badriyanto and Nawiyanto, 2011) To fill in the existing gap in our knowledge on the socio-economic aspects of the development of traditional medicines, the major questions this article seeks to address with are: The major questions the article seeks to address are: 1) what regulations have been set in place by the state authorities with regard to the production and distribution of traditional medicines in Java? How do the producers and the related partied respond the regulations?; 2) what efforts have been made by the producers of traditional medicines to accept modernization challenges and to improve the performance of their products; 3) how traditional medicines circulate in Java and what are their distribution networks?

Spatial scope of this article is focused on Java. There are two two major reasons for the choice. First, the island of Java is home for many traditional medicines producers, both small scale, home-based industries and large-scale, company-based industries. Even most of the traditional medicine industries in Indonesia, both large scale and smallscale, was located in Java. In 2008 for example, there were 851 small scale traditional medicine industries in Indonesia, of which 156 businesses were found in West Java, 215 in Central Java, and 192 in East Java (Muslimin and Wicaksana 2009:140). Second, the largest proportion of the users of traditional medicines and distribution networks are also found in the island. For example, an estimate suggests that in 2007 about 60 per cent of the

consumers of traditional medicines lived in Java (Muslimin and Wicaksana 2009:1).

REGULATIONS

Despite the use of traditional medicines for centuries in Java and elsewhere in Indonesia, its production and distribution have long remained unregulated. The Dutch colonial rule handed down a set of regulations, which partly continue to exist until today, but none of them concerning specifically on traditional medicines. The Dutch authorities had no much interest in dealing with traditional medicines. Much attention was paid to the promotion of imperial/modern medicines. Only during the independence era, regulations on traditional medicines gradually began to be set in place. The nationalist spirit became one of the major reasons for the newly-established government of Indonesia to incorporate traditional medicines as part of the national health system to improve the conditions of health of the nation. Even traditional medicines was regarded as playing an important role in "the completion the Indonesian revolution and the formation of socialist society" (Undang-Undang RI, No. 9 Tahun 1960).

The first legal foundation of the traditional medicines the Indonesian Law No. 9 of 1960 on Principles of Health. Article 11 point 4 of the law stipulates: "indigenous medicines of Indonesia to be investigated and utilized as well as possible". In the explanation section, it is stated that the use of Indonesian indigenous medicines also means "promoting its development". This mandate was spelt out in more detailed in the 1963 Pharmaceutical Law, which marked an important development of the legal status of traditional medicines. Article 7 of the law stipulates the obligation of the government to provide guidance and supervision to the traditional medicines. In Article 8, it is stated that the Indonesian Ministry of Health has the responsibility to develop research on the manufacturing and using of traditional medicines, and their properties and eficacy in curing and preventing ailments. Also part of the responsibility is to standardisize the use of traditional medicines. This regulation gave private entrepreneurs an opportunity in the field of pharmacy, especially in manufacturing traditional medicines (Article 9) (Undang-Undang RI No. 7 Tahun 1963).

Regulations on technical aspects of the production and distribution of traditional medicines began to be set in place from the 1970s. A notable progress occured in 1976. Two major events marked the progress. First, this year saw the establishment of the Supervisory Directorate of Traditional Medicines (*Direktorat Pengawasan Obat Tradisional*) under the Supervisory Board of Drugs and Food (BPOM), Minitery of Health. In the same year, the Minister of Health issued three regulations on traditional medicines: the Regulation of Minister of Health No. 179/Menkes/Per/VII/1976 on Production and Distribution of Traditional Medicines. Two other regulations were the Regulation of Minister of Health No 180/Menkes /Per/VII/1976 on Compulsory Registration for Traditional Medicines and the Regulation of Minister of Health No. 181/Men.Kes/ Per/VII 1976 on Packaging and Labelling of Traditional Medicines (Sirait 1992/1993:8). The regulations became the legal framework for the development of traditional medicines.

A number of shortcomings in the the regulations were gradually felt as time went by. The regulations contained no detailed stipulations on consumer protection against bad practices done by irresponsible traditional medicine producers ignoring safety and quality aspects for the sake of profits. No less important was the fact that the regulations only deal with the requirements of herbal medicines factory (*Pabrik Jamu*) dan herbal medicines business (*Perusahaan Jamu*) concerning legal status, implements, product forms, laboratory, building, environmental impact analysis, and prohibitions on pro-

duction, distribution, contents, and building use. The categorization of herbal medicine producers into two categories, herbal medicine factory and herbal medicine business were also seen as too broad. Other forms of herbal medicine business were left untouched, especially concocted herbal medicine (*jamu racikan)* and carried herbal medicine (*jamu gendhong).*

An improvement was made by the promulgation of the Regulation of Minister of Health No. 246/Menkes/Per/V/1990 on Industrial Business License of Traditional Medicines and Traditional Medicine Registration. This regulation was aimed at meeting the requirement of consumers for safe traditional medicinal products and preventing them from harmful medicinal products endangering their health. With this regulation, it was also expected that the circulation of medicinal products that did not conform the safety, efficacy, and quality standards could be stopped (Sirait, 1992/1993:2). Before being distributed domestically and internationally, all traditional medicine products manufactured by the large-scale and small-scale traditional medicine industries have to be registered and obtain an approval from the designated authorities (Minister of Health, Drugs and Foods Supervisory Board (BPOM) and the Head of Area Office of Health Ministry). For this purpose, herbal medicine products have to comply the regulations such as empirically-proven as safe and beneficial, produced through a standardized process, contain no synthetic substances and narcotics (Sirait 1993/1994:11). Excepted from the regulations are traditional medicines in the form of sliced, concocted herbal medicine, carried herbal medicine.

To produce traditional medicines that meet safety, efficacy, and quality standards, the government saw it neccessary to provide a guideline to achieve the objectives. In this connection, on October 1991 the Minister of Health, issued a decree stipulating the conditions and requirements to be fulfilled by traditional medicine producers (Decision of Minister of Health No. 659/MENKES/SK/X/1991 on How to make good traditional medicines (*Cara Pembuatan Obat Traditional yang Baik*/CPOTB). CPOTB is a way of making traditional medicines followed by thorough scrutiny and aims to provide traditional medicines that meet the applicable requirements. This decree was a follow up of the the Regulation of Minister of Health No. 246/Menkes/Per/1990 on Industrial Business License of Traditional Medicines and Traditional Medicine Registration. Article 9 of the regulation stipulates the obligation of the producers of the traditional medicines to follow the CPOTB guideline.

To develop traditional medicines as part of the national health system, the Ministry of Health issued the Regulation of Minister of Health No. 760/MENKES/PER/IX/1992 on Fitofarmaka. The regulation encourages traditional medicines to be developed into modern products which pass through a series of scientific tests to prove its safety, quality, and efficacy. The development priority is given to products which are claimed as having curative properties as anti diabetes, anti hipertensi and anti cholesterol and a few others. Products which pass the required clinical tests would get a recognition as safe, effective, and accountable for medication. Not only the consumers's right to safety is protected, but the products would also be more widely accepted for ailment medication in formal health service and able to compete with the factory-made modern medicines (Sirait, 1993/1994:41-42).

In order make it easier to guide and to supervise the development of traditional medicines, the existence of an association incorporating all players getting involved in the traditional medicines is seen as instrumental. In 1993 the Minister of Health issued a decision (No. 634/MenKes/SK/VV/1993) recognizing formally the Indonesian Association of Herbal Medicines Entrepreneurs (*Gabungan Pengusaha Jamu dan Obat Tradisional Indonesia/GP Jamu*) as the on-

ly association for the entrepreneurs of herbal medicines and traditional medicines in Indonesia. The GP Jamu accomodates all producers of traditional medicines without exception, distributors and and retailers, including business in simplisia (herbal ingredients). It also has the responsibility of desiminating information from the government and its member, and developing its members. For those who produce and distribute traditional medicines and subject to the regulation must have a license (Sirait, 1993/1994:68-69).

As a follow up, the BPOM issued technical guidelines to support the implementation of the existing regulations. On March 2, 2005 the BPOM issued a technical guideline on CPOTB contained in the BPOM Regulation No. HK.00.05.4.1380. It was followed with the issuance of the BPOM Regulation No. HK.00.05.41.1384 on Traditional Medicines Criteria and Registration Procedure for Traditional Medicines, Standardized Herbal Medicines, and fitofarmaka. The producers of traditional medicines should conform the guidelines in order to ensure the quality, safety, efficacy of their products (Hutami, 2014:3). The enforcement of the regulations are seen as urgent to protect the users of traditional medicines from irresponsible practices of adding chemical subtances which can do harm for a long use.

On 2007 the government promulgated two ministerial regulations to replace the 1990 ministerial regulation (the Regulation of Minister of Health No. 246/ Menkes/Per/V/1990) on Industrial Business License of Traditional Medicines and Traditional Medicine Registration. Under the new regulation, the two affairs are separately regulated. The license issue is contained in the Regulation of Minister of Health No. 006/2012, while the registration affairs is contained in the Regulation of Minister of Health No. 007/2012. The revisions have been made to accommodate new developments in science, technology and legal requirement, and also the needs to protect the consumers against unqualified traditional medicines.

Objections have been raised against the implementation of the new regulations on various aspects of traditional medicines. The Chairman of the Association of Herbal Medicines Entrepreneurs, Charles Saerang, states that the CPOTB would impede the national herbal industry and has the potential to destroy small herbal medicine industry. One of the points in the regulation requires the production of herbal medicines that must be done by a machine so sterile like the pharmaceutical industry. This regulation that refer to European standards if applied strictly in Indonesia would cause a lot of medium and small-scale medicine industry to go bankrupt. Large investment is required to construct such a factory which can cost a minimum of IDR 5 billions fund. The industry must have the capital estimated at least IDR 10 billions to operate according to regulations (Cigarskruie, 2015). This would be unaffordable by many herbal medicine companies. Under the new regulation, the number of herbal medicine companies surviving allegedly is estimated only about 10 large companies. The CPOTB regulation would turn off a lot of herbal medicine entrepreneurs and at least 1,418 herbal medicine entrepreneurs would be out of business (Dua Regulasi, 2015). In addition, the ministerial regulations (Permenkes No.6/2012) on traditional medicine licence and (Permenkes No. 7/2012) on Registration of Traditional Medicines are feared to cause the local herbal producers being complicated by licensing issue.

With the objections and difficulties in meeting the existing regulatios, the unlawful practices of making and circulating herbal products continue to occur in many parts of Java. The feature is clearly indicated by the confiscated herbal medicines taken by BPOM from market. For example, on October 2014 it was reported that BPOM pulled 51 herbal medicine products from circulation because of being suspected of containing harmful chemical subtances. Most of the confiscated prod-

ucts were pain relief, male sexual arousing herbal medicines and slimming herbal medicines added with a particular drug to have instant effect (Berita Ekpres, 2014). A year later, on 17 June 2015, the East Java Center for Drugs and Foods Control raided a storehouse in Rejoagung, Kedungwaru Tulungagung and on June 17 2015. In this operation, 16,544 herbal medicines products contained in bottles and packs at a value of roughly IDR 250 millions, were confiscated because of having no circulation license and allegedly containing chemical drugs (Solo Pos, June 18, 2015).

IMPROVING PRODUCTS

Traditional medicines are usually made from a variety of ingredients such as herbs, spices, rhizomes and a few others. Traditional medicines in Java can be broadly devided into three categories of product: herbal medicines (*jamu*), standardized herbal medicines, and fitomarmaka. This categorization is based on the way of testing the products. The first category grouped as *jamu* is based on a hereditary legacy and empirical experience. The second category, standardized herbal medicines, is based on scientific approach through pre-clinical tests. The third category "fitofarmaka" refers products which have been proven through clinical tests for their eficacy and safety. To certain extent, this categorization might be of use to see how the process of improving traditional medicines has actually taken in Java.

There is an impression that traditional medicines in Java and elsewhere in Indonesia seems to have slowly developed, in scientific and clinical terms, despite their widespread uses among the population for centuries. Such an impression might be easily created from the fact that until today most of the traditional medicine producers in Java fall under the category of *jamu*. A 2009 research report reveals that about 46 percent of the non-users of *jamu* regarded them as out-dated product (Muslimin and Wicaksana, 2009:190). As medicinal products applied to control diseases both in medication and prevention, the efficacy of traditional medicines are mostly based on practical experiences and beliefs, rather than on laboratory based-scientific examinations. The products are often processed on a manual basis, from the selection of materials to the packaging of final products without proper and adequate supervision. In addition, the manufacturing of products often make a use of simple, unstandardized, and unsterilized implements and technologies. The herbal products in a form of liquid are often contained in used plastic and glass bottles and other form are wrapped with used papers (Slamet n.d.:15-17), without considering the safety issue for their users. Until today, many of the traditional medicine producers have not yet fully meet the requirements of Good Way of Making Traditional Medicines.

However, it would be misleading to assume that there are no improvements in traditional medicines. Efforts have been made by a number of traditional medicine producers to improve their products. The development of modern medicines brought by the Dutch imperial power, which continued to take place during the independence era, has raised a growing fear about the future of traditional medicines. A number of traditional medicine producers become aware that improving their products is a matter of life and death for their businesses. They have been the first to feel the need for improving traditional medicines. Holding the responsibility to build a prosper and healthy nation, the Indonesian government has gradually realized its obligation to improve domestic traditional medicines as important part of the national health system. On the initiative of individuals and later with a growing push by the Indonesian government, traditional medicine products slowly but surely are moving towards modern medicines.

Most of the traditional medicine manufactures in Java began from a home

-based industry. There are three important examples that can be noted here, PT Jamu Ibu Jaya, PT Jamu Jago, and PT Nyonya Meneer. All the three companies have their origins in the Dutch colonial period and included among the oldest herbal medicine company in the country. PT Jamu Ibu Jaya, which was previously named as the Djamoe Industrie en Chemicalen Handel "IBOE" Tjap 2 Njonja, established in 1910 by Tan Swan Nio dan Siem Tjiong Nio in Surabaya (East Java) (Jamu Iboe, 2015). PT Jamu Jago was established in 1918 by T.K. Suprana (Phoa Tjong Kwan) and Mak Jago (Tjia Kiat Nio). It started from a small herbal medicine kiosk in Wonogiri Surakarta, before growing into a large herbal medicines industry locating in Semarang, the capital city of Central Java (Jamu Jago, 2015). Meanwhile, PT Nyonya Meneer, which was built in Semarang in 1919. The business grew from a personal experience in the early 1910s and for decades it had developed as home-based herbal business due to the growing popularity and demands. The production initially made a use of various simple implements in the form of mortar and pestle, as now displayed in the Jamu Nyonya Meneer Museum in Semarang, Central Java (Pangemanan 1984:22).

Not only for the companies with colonial origins, the same feature could also be found in the case of companies that were established during the post-colonial period. A case in point here is PT Air Mancur. This company grew from a small, home-based herbal medicine business initiated by Lambertus Wono Santoso in 1963 in Pucangsawit Surakarta. In running the business, Wono Santoso employed 13 workers, performing manual jobs of selecting, cleaning, making, and packaging herbal products. Traditional implements used in the process included mortar and pestle. The inspiration to use "Air Mancur" as a brand name for his medicinal products came from a fountain (*air mancur*) in Thamrin Street Jakarta when Wono Santoso marketed the products (Saputro, 2008:21). To develop the business, Wono Santoso cooperated with Kimun Ongkosandjaja and Rudy Hendrotanoyo and established a company, named PT Air Mancur on December 23, 1963. The company began to operate in a rent factory building located in Cubluk Wonogiri equipped with a machine that was previouly used to produce cassava flour (Yuliani, 2010:11-12).

The earlier producers of traditional medicines had sought to improve their herbal products in one way or another. Nyonya Meneer, for example, kept on learning of processing and mixing different herbs and medicinal plants to improve the eficacy of the products and to create more herbal products to market. Not only in the research stage, Nyonya Meneer herself supervised almost entirely aspects of the production, from the preparation of raw materials, processing and packaging, to the marketing of herbal products (Sumardono and Hanusz, 2007:15-16). The use of machinery in processing herbal products, however, were practically absent during the colonial era. Most of the jobs were manually performed.

The adoption of machinary in the manufaturing of herbal medicines already started from the early 1950s. For example, to increase the production capacity, in the 1950s Hans Ramana of PT Nyonya Meneer bought a grinding machine from Germany. By using this machine, the production capacity grew 100-fold (Sumardono and Hanusz, 2007:17). However, only from the 1970s there was a significant stage of the modernization of herbal medicine companies in Java. The process was marked by the adoption of modern machinery in the manufacturing of herbal medicines. Meanwhile, PT Air Mancur built a new factory in Karanganyar 1974 (Saputro 2008: 22). Similarly, PT Jamu Jago expanded its business operation by establishing modern factory and imported machinery from the United States (Jamu Jago, 2015). In 1979 PT Jamu Iboe adopted a new technology to improve its products by using

Pollycellonium packaging to protect its product from heat and humidity. By so doing the quality of product can be maintained until it reaches its customers (Jamu Iboe, 2015). Along with the process, a number of manufacturers issued natural medicinal products in the form of tablet, pill, capsule, and infusion. Previously, the majority of the herbal products were in the form of herbal powder and tonics.

In response to the challenges posed by the adoption of modern medicines, part of the traditional medicines manufacturers made various efforts to improve the quality of their products. PT Air Mancur for example, has selectively choosed ingredients used for its medicinal products to meet the company's quality standards. The materials obtained from the local farmers, traders, and other suppliers would only be accepted after passing the company's laboratory tests (Saputro, 2008:30). Many other herbal medicines companies also have already employed pharmacist in the production process to run quality control tests in their laboratories. However, no herbal medicine companies began to examine clinically their products as a prerequisite to obtain formal recognition from the modern medical world. According to the Association of Indonesian Doctors (IDI), herbal medicines could only be recommended for prescription if the products pass the clinical tests (Sumardono and Hanusz, 2007:101).

Under the initiative of Charles Saerang, acting as the President Director, in 1992 the Nyonya Meneer company began to run clinical examination for its products. The first product that was put under the process was anti-rheumatic product called Rheumaneer. The test was undertaken in cooperation with a team of experts from the Centre for Traditional Medicines at Yogyakarta-based Gadjah Mada University using latest research and technology. It costed the company hundreds milllion rupiah and in 1995 the clinical tests were completed. In 2000 Rheumaneer was launched by the Nyonya Meneer company as a fitofarmaka product that has passed clinical and toxicity tests and the Indonesian Minister of Health issued a license allowing it as a medication for rheumatism that is equal to other modern drugs (Sumardono and Hanusz, 2007:101)

A number of achievements in improving traditional medicines have been recorded in the form of fitofarmaka and standarized herbal medicine products. Data by BPOM reveal that in 2006 there were five products recognized as fitomarmaka: Nodiar, Rheumaneer, Stimuno, Tensigarp Agromed, and X-Gra. Meanwhile, 17 products have been registered as standardized herbal products. They included Diabmeneer, Diapet, Fitogaster, Fitolac, Glukogard, Hi Stimuno, Irex Max, Keranti Pegal Linu, Kiranti Sehat, Kuat Segar, Lelap, Psidi, Rheumakur, Sehat Tubuh, Songgolangit, Stop Dia Plus, and Virugon. In addition, 69 of the traditional medicine industries (*Industri Obat Traditional*, IOT category) reaching a total of 129 companies in 2006 have obtained the CPOTB certificate (Sumardono and Hanusz, 2007:140-146).

In the process of improving the traditional medicines, on March 2007 the Indonesian government has formulated a policy on national traditional medicines (*Kebijakan Obat Traditional Nasional*/ KOTRANAS), contained in the Regulation of Minister of Health No. 381/ Menkes/SK/III/2007. The background of this policy is the establishment of National Health System through the Ministry of Health Decree No. 131/Menkes/ SKII/2004. In the context of SKN, the development of traditional medicines is intended to obtain high quality and safe traditional drugs, which have real efficacy, scientifically tested, and widely used both for own treatment and also in formal health services. The policy is also seen as vital to anticipate the global trend showing a rising use of traditional medicines both in the developed and developing countries. World Health Organization (WHO) through the World Health Assembly has recommended the use of traditional medication, including traditional medicines in

the maintenance of public health, prevention and treatment of diseases, especially for chronic ailments, degenerative diseases and cancers (Depkes, 2007).

As explicitly stated in the considerations, the policy has also been formulated in response to the growing efforts at global and regional levels towards harmonization in the field of standards and quality of traditional medicines, so that traditional medicines can be commercialized cross-country with the same standard and quality. WHO has started with formulating several guidelines, such as strategy to develop traditional medicines, medicinal plants monographs, guidelines on quality and safety of traditional medicines, and how to manufacture good traditional medicines, and monitoring guidelines to unwanted effects of traditional medicines. At the ASEAN regional level there have been meetings discussing harmonization standards and regulations in the field of traditional medicines (Depkes, 2007).

The purposes of the National Traditional Medicines Policy (*Kotranas*) are as follows: 1. To encourage the use of natural resources and traditional herb continuing to be used as a traditional medicines in an effort to improving health services; 2. To Ensure the management of Indonesia's natural potential across sectors in order have high competitiveness as a source of community economic and sustainable foreign exchange; 3. To secure the availability of traditional medicines which guarantees the quality, efficacy, and safety scientifically tested and used widely both for the treatment itself and the formal health services; 4. To make traditional medicines as superior commodities that provide multiple benefits of improving economic growth, providing employment opportunities, and reducing poverty (Depkes, 2007).

Also important part of the effort to improve traditional medicines is the establishment of the National Commision of Herbal Medicines Scientification on 2010. Its formation is an implementation follow up of the Regulation of Minister of Health No. 003/MENKES/PER/I/2010 on Scientification of herbal Medicines towards Health Service-based Research. The major tasks of the Commision are, among others, to foster the implementation of herbal medicines scientification, to develop national guidelines related to the implementation of herbal medicines scientification. The term herbal medicines scientification refers to "scientific evidence-based test of herbal medicines through a health service-oriented research". Two main goals of the herbal medicines scientification are to provide a scientific basis for the use of herbal medicines and to improve the provision of safe herbal medicines that have real efficacy, scientific proves, and wide utilization either for own treatment or within health care facilities.

CIRCULATIONS AND DISTRIBUTION NETWORKS

Traditional medicines have circulated across Java, both in rural and urban areas of the island. There are many producers of herbal medicines with different characteristicts, in terms of production capacity, technological development, and marketing reach. Small scale, home-based traditional medicine producers, especially *jamu gendong* and *jamu racikan*, usually have local circulation, limited and simple distribution network. Meanwhile, company-based, midlle and large scale producers of traditional medicines have a wider circulation area and broader distribution networks beyond local market.

Quite often the producers of traditional medicines also act as a seller. In such a case, there is direct, personal relations between producers and users of traditional medicines. The products are usually sold at local market, either in one's own village or urban kampong. In marketing the herbal medicine products, the sellers often travel from one house to another in their own or neighbouring villages or kampongs. A variety of means of transport are used to reach the customers, including bicycle, driven-cart (*gerobak dorong*), and sometime also motorcycle. Many of them often also travel on foot to

find customers (Slamet n.d:24), while carrying the products on their back by using a plaited bamboo container (*bakul*). A number of sellers have a simple stall in the local markets to sell their traditional medicine products. All the practices are still commonly found accros Java until today.

Company-based traditional medicine producers especially who are categorized as Traditional Medicine Industries (*Industri Obat Traditional*/IOT) and Small Scale Traditional Medicine Industries (*Industri Kecil Obat Tradisional*/IKOT) have a larger marketing operation. At the early stage, however, many of them also grew from small players selling products in the near market. As the products grew in popularity, the circulation area also began to expand and their distribution network also grew larger. Circulating mainly in Surabaya and its adjacent areas in 1910s, the herbal products of Jamu Iboe gradually penetrated the other areas of Java (Jamu Iboe, 2015). Meanwhile, the products of Nyonya Meneer were marketed in Semarang, where the company was based. Around 1940 the circulation reached Cirebon, Yogyakarta, and Solo after Nyonya Meneer hired a number of agents to sell its products. In 1946 the products of Nyonya Meneer entered the Jakarta market after a selling agent was established in Pasar Baru (Sumardono and Hanusz, 2007:16).

Most of the traditional medicines produced in Java seemed to have been absorbed mostly in the island. Although the herbal products of Jamu Iboe was reported to have circulated in Bali in 1938 (Jamu Iboe, 2015), it was just a beginning. The market share of the sale outside Java practically remained neglectible. Other herbal medicines companies focused the distribution of their products almost exclusively in Java. During the Japanese occupation period (1942-1945), the market expansion to outside Java practically stoppped due to the problem of transport and the emphasis on local self-sufficiency. The situation seemed to remain unchanged during the early years of the independence era (1945-1950). Interestingly, the use of herbal medicines during that years was reported to have steeply grown due to the shortage of modern drugs available in the market. Even medical practitioners advocated various traditional remedies for diseases by using a number of plants with valuable properties as potential subtitute for imported medicines (Lamid, 1965:643).

In the 1950s and 1960s, the circulation and distribution networks of herbal medicines produced in Java gradually grew outside Java. The process continued to take place during most of the New Order Era (1970-1998). In the early 1970s, the Nyonya Meneer company, for example, had established a nation-wide circulation and distribution network. Its distributors and selling agents operated in many parts of the country. In 1995 the company has been supported by 40 distributors with a marketing area of 19 provinces and about 30,000 outlets channeling its products (Sumardono and Hanusz, 2007:41). Meanwhile, the Sido Muncul company reported to have owned 109 distributors accros the country in 2013 (Sido Muncul, 2015). Similarly, the Surakarta-based Air Mancur company has built a nation-wide distribution covering: 1) The area of West Java and Jakarta; 2) Special Region of Yogyakarta; 3) East Java; and 4) Regions outside Java, which includes: Sumatra, Sulawesi, Kalimantan, Maluku and Irian Jaya (Nugroho, 2010:27-28).

For a long time, little attention has been paid by the manufacturers to sell herbal medicine products in the export market. This began to change from around the mid-1980s. In order to boost the export of herbal medicines, the government encouraged the promotion of herbal medicines through participation in international trade fairs. Under the initiative of Charles Saerang, the Nyonya Meneer company started to promote its products in the international market. The company joined various trade exhibitions held, for example, in Brunei, Malaysia, Taiwan, and the Netherlands. Further-

more, in 1986 the Nyonya Meneer company became a co-sponsor of the Asian Games held in Seoul, South Korea (Sumardono and Hanusz, 2007:74). The result was the growth of export market for herbal medicine products from Java. Similarly, the Jamu Jago company also tried to enter the export market. It was reported that the company exported its products to other countries such as Malaysia, Vietnam, Taiwan, Japan, Australia, and the Netherlands (Jamu Jago, 2015). In addition, the Sido Muncul company has also been interested in merketing internationally its herbal medicine products. The export destinations include not only Southeast Asian countries like Malaysia, Singapore, and Brunei, but also some other countries such as Korea, Mongolia, Hongkong, Russia, Saudi Arabian, Australia and United States. Efforts have also been made to build cooperation with distributors and companies inl Thailand, Vietnam and Japan (Sido Muncul, 2015).

Despite the existing efforts, only a small fraction of the traditional medicines produced in Java have been sold in the export market. The major export destinations were Singapore and Malaysia (Hadiwinoto 1988), while other export markets start to grow. An estimate suggests that in 2010 traditional medicines export made up about 10 % of the total sale (Sido Muncul, 2015). Even though there was rising trend in the folowing years, the proportions of traditional mediciness exports remained relatively small. In terms of value, the exports of herbal medicines reached roughly IDR 21 trillions and increased to IDR 49 trillions in 2013. By 2014 the export value rose to roughly IDR 66 trillions (Republika, 3 August 2015). The major obstacles to promote traditional medicines exports to the international market include the difficulties in meeting the quality standards adopted in the importing countries. The difficulties have forced most of the traditional medicines manufacturers to maximize their shares in the domestic market, rather than export market (Muslimin and Wicaksana, 2009:2).

Broadly speaking, the distribution of industry-based traditional medicine products are usually channeled in two ways, short and long distribution networks. The short distribution network refers to distribution directly done from companies to consumers by using propaganda cars that has been provided by the company. In the 1970s the Air Mancur Company, for example, actively sent propaganda cars selling traditional medicines from one sub-district to another and to attract crowd they played movies at night in sub-district's square. In the 1980s, however, the use of propaganda cars for selling products was increasingly abandoned with the growing popularity of radio and later especially television among the rural inhabitants. In advertising their products, the companies began to rely on this "magic box" broadcasting visually herbal medicine advertisements. The shift strengthen the role of long distribution network for marketing herbal medicine products. In principle, the long distribution network refers to marketing product distribution from company to consumers via distributors, agents, sales and consumers (Nugroho, 2010:27-28). Often in many cases, *jamu gendong* sellers serve as a spear-head channeling industry -made traditional medicine products to their buyers both in urban and rural areas.

The popularity of traditional medicine brand clearly reflect circulation coverage and distribution network performance. A 2009 survey indicates that the most widely known traditional medicine brand is Sido Muncul with its great variety of products. In the second rank is Nyonya Meneer brand, followed by Djago brand in the third position (Muslimin and Wicaksana, 2009:37). These brands have obtained a good reputation not only due to the fact that the producers are old players in the traditional medicine business in Indonesia, but also due to the sistematic efforts to continuously modernize the performances of their companies in all aspects from production to marketing system.

CONCLUSION

This article has indicated that in Java the modernization of traditional madicine is a recent, post-colonial project. The process has gradually taken place during independence period, involving the roles of traditional medicines of government and traditional medicine manufacturers. The role of the government was manifestated especially in the issuance of regulations on traditional medicines production and distribution. Equally important was the making of policies to guide the development of traditional medicines toward modern medicines and to meet the rights of consumers for safe and effective products. The government has also established bureaucratic bodies at national and regional levels responsible for the implementation of regulations and policies on traditional medicines. Among the major implementation bodies are Drugs and Foods Supervisory Board (BPOM) and National Commision of Herbal Medicines Scientification. The formation of the bureaucratic bodies is meant to serve administrative, supervisory, and promotive functions of the government.

The role of the traditional medicine entrepeneurs in modernizing traditional medicines took the form of improving the quality and image of the products. The efforts were made for three major reasons. First, the improvement was felt as neccessary to win customers' trust in the increasingly competitive traditional medicines market. Many producers enganged the traditional medicine producing sector. Second, there was also a growing fear among the producers of traditional medicines that the spread of modern medicines would eventually replace traditional medicines. It was believed that the only way to secure the position of traditional medicines in the future is by modernizing it. A number of herbal medicine producers have already taken necessary steps to develop traditional medicines into modern products that pass clinical tests and fulfill requirements for medication in formal health care. Third, the efforts have also been taken to conform the government's regulations and guidelines to develop traditional medicines into modern products.

Almost all parties share the view that modernizing traditional medicines is neccesary. However, there is a different view on scope and parties that are subject to implement. Few traditional medicine producers find no objection to the implementation of regulations intended to modernize traditional medicines and to establish its scientific foundations. More producers, however, especially categorized as small and middle producers, find that certain aspects of regulations form a heavy financial burdens that seriously threaten the survival of traditional medicines need to be revised. CPOTB has been a case in point here. Its full implementation makes modernization efforts that have been partially made through fragmentary research, partial technical innovations in selecting ingredients, manufacturing products, and controlling product quality, would not sufficient enough to meet the legal requirements that have been set. The difficulties in meeting the regulations form a major obtacle for many producers of traditional medicines to promote traditional medicines in formal medication and to penetrate international export market. Therefore, most of the traditional medicine products in Java have been used locally and domestically, forming a growing domestic circulation and distribution networks. Only quite recently there have efforts to penetrate international market. This development presents a broad picture of gradual development of traditional medicines circulation and distribution networks from a local, national and to global orientation.

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