Country practices in the implementation of Article 17 (Economically sustainable alternatives to tobacco growing) of the WHO Framework Convention on Tobacco Control

Report commissioned by the Convention Secretariat

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1. Introduction

Article 17 of the WHO Framework Convention on Tobacco Control (WHO FCTC) states that Parties shall, in cooperation with each other and with competent international and regional intergovernmental organizations, promote, as appropriate, economically viable alternatives for tobacco workers, growers and, as the case may be, individual sellers. The Conference of Parties (COP) adopted policy options and recommendations on economically sustainable alternatives to tobacco growing at COP6¹ (Moscow, Russian Federation, 13-18 October 2014).

At COP7, held in New Delhi, India, on 7-12 November 2016, the Convention Secretariat³ was called upon to continue to document experiences and lessons learnt concerning alternative livelihoods; to organise and periodically update international database of resources within the WHO FCTC coordination platform, of best practices, instruments; and to put in place measures to support the implementation of the policy options and recommendations adopted in 2014. This report has been prepared in line with this call by the COP.

To achieve the 2030 Agenda for Sustainable Development and achieve the Sustainable Development Goals (SDGs) implementation of Article 17 needs to be strengthened. This Article supports progress towards SDG target 3.a (implementation of the WHO FCTC) and numerous other SDGs, such as SDG 1 (reduce poverty), 3 (health and well-being), 5 (gender equality), 8 (decent work and employment), 12 (responsible consumption and production) and 15 (life on land).

This document is intended to document and share recent advances, practices and lessons learned from Parties in the implementation of Article 17, with a focus on measures contained in the policy options and recommendations.

2. Policy options and recommendations on economically sustainable alternatives to tobacco growing

In addition to reducing tobacco use and exposure to tobacco smoke, the WHO FCTC recognises the need to promote economically sustainable alternatives to tobacco growing as a mechanism to prevent adverse social and economic impacts of tobacco on populations whose livelihoods depend on tobacco production. The policy options and recommendations adopted by the COP in 2014 aims for identifying and developing effective strategies for introducing alternative crops and livelihoods. In brief, these recommendations are intended to:

1) promote research;
2) develop educational and training programmes for workers and growers;
3) remove obstacles to diversification or the shift to alternatives to tobacco farming;
4) ensure policy coherence among different ministries/departments;
5) identify and regulate tobacco industry strategies that promote tobacco farming and the manufacture of tobacco products;
6) mainstream alternative crops/livelihood options into government rural development programmes;
7) establish mechanisms within the existing system to support alternative livelihoods;
8) set up information and support centres for alternative livelihoods;

¹ Policy options and recommendations on economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the WHO FCTC). Available at: http://www.who.int/fctc/guidelines/adopted/Policy_options_recommendations_Articles17_18_COP6.pdf
9) ensure participation of civil society; and
10) ensure social, health and environmental protection in tobacco-growing regions.

3. Methodology

This report is based on desk research as well as on the analysis of information provided by the Parties through their WHO FCTC implementation reports submitted in accordance with Article 21 of the Convention. The following sources were taken into account during the preparation of this report: the WHO FCTC implementation database, particularly the Parties’ implementation reports submitted in the 2016 reporting cycle; presentations made during the fifth and sixth sessions of the COP, primarily at side events focusing on implementation of Articles 17 and 18 of the Convention; various publications of the Convention Secretariat, WHO, governments, research institutes and nongovernmental organizations on this subject. The WHO FCTC Secretariat’s technical focal points were contacted for additional information, where appropriate.

4. Party examples in implementing Article 17 of the Convention

This section presents measures Parties have taken to identify and promote economically viable alternatives to tobacco growing, including: generating political commitment; creating or updating legislative frameworks; introducing financial schemes to support diversification; conducting studies on tobacco farming; examples of support from nongovernmental organizations; and programmes to promote alternatives and South-South and triangular cooperation.

These measures are necessary to change the regulatory environment and attitudes; to provide the needed technical and financial support to tobacco farmers; to ensure proper planning and smooth transition to alternative livelihoods; and to understand the farmers’ concerns and the motivating factors that could ensure that programmes to promote alternatives are successful.

Parties are encouraged to learn from each other’s successes and challenges so that greater progress can be achieved in implementing Article 17 of the WHO FCTC.

A) Generating political commitment and amending legislative requirements

Strong political will and leadership have often been cited as key reasons for successful tobacco control. If those exist, they can result in public health policies that are aligned across the whole government, legislation that is properly implemented, monitored and enforced, and programmes that are adequately resourced to achieve the intended objectives. In what follows, three examples are presented to illustrate the above listed aims.

- Example 1: Sri Lanka and Egypt commit to become tobacco growing free countries
- Example 2: Bangladesh – Legislative requirements to discourage tobacco cultivation
- Example 3: Oman – Establishment of a Committee on Limiting Tobacco Plantation

Example 1: Sri Lanka and Egypt commit to be tobacco growing-free countries

Sri Lanka’s Minister of Health, Nutrition and Indigenous Medicine declared that Sri Lanka intends to ban tobacco growing as part of its obligations under the WHO FCTC Articles 17 and 18, during the WHO Global Conference on Noncommunicable Diseases on 18 October 2017 in Montevideo, Uruguay. Sri Lanka is leading the way by announcing its intention to phase out tobacco cultivation within five years, with a reduction of the sector’s output by approximately 15-20% per year. To reach this objective, the Ministry of Agriculture and the Ministry of Health, Nutrition and
Indigenous Medicine are working collaboratively with tobacco growers to raise awareness and develop new ideas on how to shift to alternative activities and crops.

Meanwhile, the Ministry of Agriculture of Egypt, when asked by the tobacco industry to start growing tobacco, publicly renewed its full support to the WHO FCTC by maintaining its status as a tobacco growing free country.

**Example 2: Bangladesh – Legislative requirements to discourage tobacco cultivation**

Tobacco began to be grown commercially in 1976. There are about 100,000 tobacco growers in the country, 25,000 of which are associated with British American Tobacco (BAT).ii

Tobacco is primarily grown in three districts in Bangladesh: Rangpur, Kushtia and Bandarban. The land where tobacco is cultivated grew from about 74,000 hectares in 2012-2013 to 108,000 hectares in 2013-2014, but has since decreased to 39,235 hectares in 2016-2017.iii,iv Although land area is decreasing, tobacco production is increasing because of the use of hybrid or high-yielding varieties.

Farmers have been slow in switching to other crops citing reasons such as: difficulty in obtaining inputs for other crops; difficulties in marketing and perishability of those other crops; difficulty in getting loans for other crops; poor technical knowledge on alternatives; and incentives provided by the tobacco industry to sustain tobacco growing, such as loans.v

Section 12 of the Smoking and Using of Tobacco Products (Control) Act 2005vi states that loans were to be provided for cultivation of alternative crops in lieu of tobacco products. It further specifies that:

- **(1)** the Government shall, for the purpose of discouraging the tobacco cultivator to cultivate tobacco product, and encouraging to cultivate alternative cash crops, grant loans on easy terms, such opportunity shall continue for a period of next five years after the commencement of this Act; and
- **(2)** the Government shall make necessary policies to comprehensively discourage the production and use of tobacco products and to discourage the establishment of tobacco products industry.

In the period 2005 to 2010, the Bangladesh Bank instructed all commercial banks to comply with the tobacco control law by giving soft loans to tobacco growers for growing alternative crops.vii The Government also established a district taskforce committee and sub-district taskforce committee to encourage farmers to shift to alternative crops. The Ministry of Agriculture has dropped tobacco from its cash crop list and the Ministry of Industry stopped giving subsidies on fertilizers to BAT. Between 2002 and 2009, the Northwest Crop Diversification Project covered 16 districts and 16 upazilas in the Northwest Region. There were efforts to do crop zoning and to better utilise the land, and support was given to market the agricultural products. From 2010 to 2016, there was a second crop diversification project covering 27 districts and 52 upazilas in the southwest and northwest regions. Support and credits were given to promote high-value crops.viii

The National Tobacco Control Cell (NTCC) under the Ministry of Health subsequently drafted the Health Improvement Surcharge Management Policy in 2016.ix This policy was approved by the Cabinet in October 2017. The plan is to use the surcharge on programmes that aim to reduce demand as well as supply of tobacco. The fund will support 14 sectors and support efforts to, among other things, discourage farmers from cultivating tobacco, create alternative employment opportunities and conduct research and training.x
Example 3: Oman – Establishment of a Committee on Limiting Tobacco Plantation

Tobacco cultivation may be of a small scale in Oman (only about 600 hectares), but still, the Ministry of Health and the Ministry of Agriculture and Fisheries (MAF) are keen to replace tobacco growing to reduce the burden of tobacco use and help the country to meet its obligations under the WHO FCTC. The MAF does not provide support to tobacco farmers and has implemented programmes to educate farmers about the harms of tobacco.\textsuperscript{xii}

Furthermore, following the Royal Decree No 20/2005 that approved the Sultanate’s accession to the WHO FCTC, and in accordance with the Royal Decree No 68/2012 that gives the MAF the prerogative to establish its organizational structure, the MAF issued a decision – Ministerial Decree No. 41/2010 – to form a Committee on Limiting Tobacco Plantation in the Sultanate.\textsuperscript{xii}

B) Financial schemes to support diversification

Tobacco cultivation is an entrenched and integrated production system, with the tobacco farmers being heavily reliant on tobacco companies. Governments that wish to implement diversification or alternative livelihoods programmes will need to put in place a long-term financial framework. The examples below describe such frameworks.

- Example 4: European Union (EU) – The EU’s conversion programme and shift away from tobacco farming subsidies
- Example 5: Bulgaria – Rural Development Programme
- Example 6: Spain – National budget and Rural Development Programme to support diversification and economic dynamization of tobacco-producing municipalities
- Example 7: Canada – Lessons learned from the Tobacco Transition Programme and opportunity under the new suit of Business Risk Management programmes
- Example 8: Brazil – National diversification programme

Example 4: European Union – the EU’s shift away from tobacco farming subsidies

Tobacco is grown in 12 EU countries with five EU countries (Italy, Bulgaria, Greece, Spain and Poland) accounting for over 85% of the EU tobacco cultivation area. The tobacco production in EU continues to decrease and in 2016 the area utilized for tobacco growing was 76,383 hectares, with about 45,000 primarily small-scale farmers.\textsuperscript{xiii}

Efforts to convert tobacco production to other crops or economic activities began in the late 1990s. The EU, under Council Regulation 1636/98, a modification of Article 13 of Council Regulation 2075/92, established a Community Tobacco Fund in 1998.\textsuperscript{xiv} This was financed from the support for coupled production.

The Fund supported two types of projects – one, activities aimed at improving knowledge about the harms of tobacco and two, measures directing community production towards other crops or other economic activities through producer training and creation of marketing structures for quality products other than tobacco.\textsuperscript{\textsuperscript{xv},\textsuperscript{xvi},\textsuperscript{xvii}}

Within the frame of the first project, 83 million euros were provided for programmes informing about the health risks of tobacco. As part of the second project, 51 million euros were provided to finance 72 studies, experiments and provision of advice and guidance, as well as the projects of 1,200 farmers. The last conversion measures funded were submitted in 2006 and the
support ended in 2010, at the time EU aid completely decoupled from production. This project found that: (1) there were barriers related to conversion, structure, organization, human resources and professional capacities, (2) investments have already been made in the form of existing crops and livestock, and (3) there were little innovations. xviii

Aside from the Community Tobacco Fund project, in the EU Council, agricultural ministers decided to reform the raw-tobacco sector in April 2004, following the principles of the 2003 Common Agricultural Policy (CAP) reform. Member States are to remove production quotas and decouple subsidies from production levels. This means producers can grow other crops – if they wish – while maintaining stable incomes. Tobacco-growing EU Member States were given a transition period to adjust, between 2006 and 2009. xix Since 2010, EU aid has been completely decoupled from production. For tobacco, half of the previous aid was incorporated into the direct payment system (CAP Pillar I) and the remaining half went into the EU's rural development programmes (CAP Pillar II), particularly in tobacco-growing regions. xxi

Under CAP Pillar I, subsidies have been converted into a flat rate support per hectare and farmers can produce what they consider is best for them. There is support for specific crops, but tobacco is not eligible for such support. Under CAP Pillar II, the rural development programme that is co-financed by the EU and the Member States aims to support restructuring, investment, diversification, reconversion to non-agricultural activities and agri-environmental measures. Half of the previous subsidies for tobacco has been redirected to this rural development programme with priority given to tobacco-growing areas, including the possibility to help small farmers to do re-conversion to non-agricultural activities. xxii

The EU also co-funded studies to identify economically viable alternatives to tobacco growing xxiii:

a) Leaves and cigarettes – modelling the tobacco industry. With applications to Italy and Greece; Financed by the Italian Ministry, Consiglio Nazionale de Richerce Agraria and DG AGRI (2004-2006)
b) ASTRA-project – Accomplishing Sustainability in Tobacco Reconversion Activities Program (2006-2007)
d) DIVAS: Diversification for Tobacco Growing Farms by alternative crop Stevia rebaudiana Bertoni (2009-2012)
e) Go4stevia-project – to solve the problem of livelihood for tobacco farmers with a new business opportunity: stevia. (2013-2016)

More information on these research programmes (DIVTOB, DIVAS and Go4Stevia) are available on https://cordis.europa.eu/home_en.html.

Example 5: Bulgaria – Rural Development Programme

The Bulgarian Rural Development Programme (RDP) for the period 2007-2013 indicated that support for tobacco growers will be focused on diversifying their holdings. The RDP supports tobacco growers to diversify in two ways: (1) diversification into non-agricultural activities in rural areas and (2) diversification into other agronomic activities within the farm. The RDP does not support tobacco production. The budget for this scheme was 37 million lev in 2014.
Tobacco growers were encouraged to shift towards farming cows, sheep and goats, either for milk or for meat or towards growing fruits and vegetables (e.g. tomatoes, cucumbers, peppers, apples, cherries, peaches, nectarines and apricots). To receive assistance, tobacco growers must have fulfilled certain criteria – for example, meet requirements for good agricultural condition, or grow at least four acres of vegetables and five acres of fruits. The Bulgarian Agency for Food Safety then assesses progress and monitors production using a set of quality indicators.

**Example 6: Spain – National budget and Rural Development Programme to support diversification and economic dynamization of tobacco-producing municipalities**

Spain had two types of support for diversification of tobacco crops: (1) from the national budget (aid for diversification and economic revitalization of tobacco municipalities), and (2) from financial grants provided by the European Agricultural Fund for Rural Development (EAFRD).

1. **National Aid**: On 10 October 2011, a collaboration agreement was signed between the Ministry of Environmental, Rural and Marine Affairs and the Government of Extremadura, to carry out a sustainable rural development programme in the Extremadura tobacco growing region. To support the project, Law No. 39/2010 of 22 December 2010 on the General State Budget for 2011 included a nominative grant with an endowment of 9 million euros (€).

To implement the agreement, the Ministry of Agriculture established, by Decree 42/2013 of 26 March 2013, the regulatory bases for granting of competitive aid, for the diversification and economic dynamism of tobacco-producing municipalities.

The agreement, with an amendment and extension agreement included, ended on 31 December 2014; and the agreement’s Monitoring Committee is currently managing its closure and liquidation. Under the agreement, 167 files had been certified with expenses amounting to around 5.7 million €, which included technical assistance for the management of the aid to the municipalities, in an amount of almost 260,000 €. The difference between the initial endowment of the agreement (9 million €) and the certified amount utilized was returned by the Junta de Extremadura to the Public Treasury.

2. **Aid co-financed by the EAFRD**: The second type of support was co-financed by the EAFRD grant programme and aid was provided to three Rural Development Programmes (RDP) in Andalucía, Extremadura and Castilla y León to support tobacco diversification.

The RDP of Andalusia, within the 2007-2013 framework, supported tobacco growers to diversify to agrarian and non-agrarian activities; around 1.6 million € were allocated for this project. However, the current RDP of Andalusia, within its 2014-2020 framework, does not include specific operations aimed at diversification from tobacco growing.

The RDP of Extremadura, within its 2007-2013 framework, included diversification activities toward non-agricultural activities, aid for the creation and development of microenterprises and promotion of tourism activities; more than 10 million € were allocated to this project.

The RDP of Castilla y León, within the period 2012-2014, provided support to farmers to progressively abandon tobacco cultivation and initiate another activity. At present, no assistance has been granted in this area.

In the current programming period 2014-2020, no rural development programme (RDP) under the EAFRD contains aid for tobacco diversification.
In the past few years there has been a reduction in the tobacco growing areas and also in the number of tobacco growers, as reflected in the graph below. Other than being attributable to the general decrease in consumption of tobacco, this decrease may also due to the elimination of subsidies provided for tobacco growing under the Common Agricultural Policy framework of the EU.

Example 7: Canada – The Tobacco Transition Programme and opportunities under the new Business Risk Management programmes

The Agriculture and Agri-Food Canada (AAFC)\(^2\) introduced the CAD $300 million Tobacco Transition Programme (TTP) in 2009. This program was aimed at supporting farmers in Ontario in moving from a supply-managed system to a more market driven licensing model. In this regard, the program paid farmers a set amount of money based on the amount of quota they held. To receive the payment, farmers had to accept several conditions that limit their, and their immediate families, right to seek a license to produce and sell tobacco in the future. The programme concluded on 31 March 2010.

Currently, AAFC does not provide tobacco-specific federal grants and there are no contribution programmes. There is also no tobacco-specific programmes delivered by provinces and territories under Canada’s current national agriculture policy framework (Growing Forward 2), whereby federal-provincial-territorial governments share the costs of a wide range of agricultural programmes.

Tobacco producers, however, are eligible to participate in AAFC’s suite of agricultural Business Risk Management (BRM) programmes, namely AgriInsurance, AgriStability, AgriInvest and AgriRecovery. For example, the AgriInvest program could be used to make investments in alternative measures while the AgriStability program could support the adjustments towards a new situation. Tobacco producers, including producers in transition, or their respective industry associations, may also qualify for support to transition from tobacco production under one of the three federal-only Growing Forward 2 programmes administered by AAFC: AgriInnovation. AgriCompetitiveness and

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\(^2\) The Department of Agriculture and Agri-Food, also referred to as Agriculture and Agri-Food Canada (AAFC) (in French: Agriculture et Agroalimentaire Canada), is the department of the government of Canada with responsibility for policies governing agriculture production, farming income, research and development, inspection, and the regulation of animals and plants. It also has responsibilities regarding rural development.
AgriMarketing. No applications have been received to date under the current non-BRM programmes which started in 2013 and which will end in 2018.

Example 8: Brazil – National diversification programme

The National Program of Diversification in Tobacco Growing Areas was launched in 2005, and is coordinated by the Secretariat of Family Farming (SFF). It aims to reduce tobacco growers’ economic dependence on the tobacco productive chain, supports research and training, and provides technical assistance and rural extension to enable diversification and new income generation opportunities. The goal is to strengthen sustainable development, enhance food security, diversify production systems, and mobilize participation of families including youth and women in the planning process to promote community cooperatives and associations to guarantee markets for new products.

The program is operationalized through grants offered by SFF. Local organizations and cooperatives can submit project proposals on the provision of technical assistance to tobacco farmers. In the implementation of the projects they can be supported by nongovernmental organizations, universities, research centers and tobacco growers’ associations. By 2017, 11,000 families in six tobacco-growing states (Rio Grande do Sul, Santa Catarina, Paraná, Bahia, Alagoas and Sergipe) were covered by this program.

The three-year contracts include support related to diversification of production and income, commercialization, value adding, farmer organization, and other activities related to the implementation of Articles 17 and 18 of the WHO FCTC, such as promoting the health of tobacco growers, protection and conservation of natural resources, and awareness raising.

Apart from diversification programmes, SFF also supports other programmes in municipalities that produce tobacco, to assist thousands of families in areas such as agroecology, dairy product and coffee production, etc. It also has a specific budget line for training of farmers, implementation of demonstration programmes on economically viable alternatives to tobacco and research concerning diversification.

C) Studies to understand the socioeconomic context of tobacco farming

Implementation of a successful diversification programme requires the conduct of studies and research, including situation analyses, to better understand the context for such programmes, in line with Article 20 of the Convention. The findings of research activities can be used to advocate for policy development and allocation of funds for diversification programmes.

Several types of research could support the implementation of Article 17 of the WHO FCTC. These include, among others: (1) profiling of the tobacco sector and economics of tobacco production, (2) demand forecast studies on food crops, (3) environmental and health impact studies, (4) development of alternatives to tobacco, (5) priority list of alternative crops for field trials, and (6) business plan for alternative crops.

Availability of research findings in these and other relevant areas could help governments in better designing their programmes promoting alternative crops and livelihoods, and address the concerns of tobacco farmers to enhance receptivity for diversification programmes. Below are some examples of research programmes and these are by no means exhaustive.

- Example 9: Brazil – Profiling tobacco farmers
Example 10: Philippines – Understanding the social and economic complexities of tobacco farming

Example 11: Research project on the political economy of tobacco farming in low- and middle-income countries

Example 9: Brazil – Profiling tobacco farmers

A nongovernmental organization, the Department of Rural Socioeconomic Studies (DESER), conducted a study in 2012 on 1652 tobacco growers to develop a profile of those involved in tobacco growing. The study found that most growers (53%) were aged 15-45, 26% were above 45 years old, but almost 21% were under 14 years old. Majority (54%) completed primary school, 45% secondary school and around 1% were illiterate.

When assessing the health risks and the conditions affecting tobacco growers, the top three symptoms reported were: back pain (by 68%), post-harvesting sickness (53%) and depression (42%). In terms of access to policies and support, 55% reported that they had access to investment credit, 50% to credit for planting, 16% to pension, 15% to programme credit and 10% to family benefits. In terms of access to technical assistance, majority (81%) indicated that they had access to technical assistance from the tobacco industry, 63% from public sources, 20% from nongovernmental organizations, 6% from private sources and 3% responded that such assistance came with the credit.

Interviewees were also asked about the reasons for growing tobacco. 75% cited the guaranteed income and market as the main reason, 20% the lack of alternatives for tobacco growing and 23% cited other reasons. Nearly half (43%) of tobacco growers reported an income below the minimum wage of US $300; 36% had an income of maximum two times of the minimum wage and 21% reported having an income of more than twice the minimum wage. More than three-quarters (79%) would like to shift to other alternatives and only 21% wished to continue growing tobacco. Of the specific reasons for the change, 49% indicated that the work is too hard and painful, 33% indicated health problems and 18% indicated availability of other labour.

Some of the farmers see tobacco as a profitable activity that, despite it being heavy labor, can be carried out in small areas of land, given the total volume produced per planted area. On the other hand, this production activity creates a situation of dependency and vulnerability that weakens the families and can lead to poverty and also carries risks.

Example 10: Philippines – Understanding the social and economic complexities of tobacco farming

The Philippines conducted a nationally representative survey of tobacco farmers. Focus group discussions were also carried out to understand the economic conditions, incentives and constraints of farmers and how these might affect their readiness to diversify from tobacco cultivation. The study looked at the socio-demographic characteristics of farmers and their families; assets, sources of income and total income; their recruitment into tobacco farming and membership in farming cooperatives or organizations; contract versus independent farming; their credits and debits; their likelihood of switching; child labour; food security; conditional cash transfer; and knowledge about the relevant laws and regulations.

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3 The Department of Rural Socioeconomic Studies (DESER) is a non-governmental organization founded in June of 1988 by several rural workers’ unions, rural grassroots movements, farmers’ associations, church related ministries, and consultanship entities of the three states of the Southern region of Brazil.
421 tobacco farmers were interviewed from 33 tobacco-growing municipalities. Interviewees were selected from a registry maintained by the National Tobacco Administration, and the interviews took place during the planting season 2013-2014.

The study revealed that tobacco growing is traditional in some regions; families are often involved in tobacco farming and the interviewed farmers have cultivated tobacco for an average of 18 years. Tobacco growing is the main source of income for the households of the farmers; and contract farmers tend to be more well-off and had greater access to loans from tobacco contractual partners than their independent counterparts. Loans enabled farmers to use the cash for additional inputs needed for tobacco production, for their children’s education and other household expenses. For tobacco farmers to be willing to make the shift to alternative crops, access to credit and improved markets for their new agricultural products would be key.


**Example 11: Research project on the political economy of tobacco farming in low- and middle-income countries**

The National Institute of Health Fogarty International Center funds an American Cancer Society research project from 2012 to 2022. The project focuses on the political economy of tobacco farming in low- and middle-income countries. It aims to examine the economic conditions of farmers in four major tobacco-growing LMICs – Indonesia, Kenya, Malawi and Zambia as well as the political and economic processes that influence their livelihoods.

Researchers from the aforementioned countries presented some of their research results during the session on “The Political Economy of Tobacco Farming in Low- and Middle-Income Countries” held on 7 March 2018 during the 17th World Conference on Tobacco or Health in Cape Town, South Africa. The findings suggest that tobacco farmers underestimate their costs and overestimate their returns as they do not take into account the cost of labour often provided by family members.

**D) Support from nongovernmental organisations**

Nongovernmental organisations play an important role in raising awareness on issues that concern tobacco farming and the farmers themselves. They can also disseminate information about the social, economic and environmental costs of tobacco farming; denounce abusive practices; help farmers access institutional support; create cooperatives; and provide technical and financial assistance to farmers. Some examples below describe the role of NGOs.

- **Example 12:** Brazil – Farming cooperatives
- **Example 13:** China – A tobacco crop substitution project in Yuxi, Yunnan Province
- **Example 14:** Kenya – Growing bamboo

**Example 12:** Brazil – Farming cooperatives

A key issue of any crop substitution programme is the returns from tobacco compared to alternative crops. Tobacco remains an attractive crop as it provides a higher net income yield per unit...
of land than other conventional food crops. An initiative within the Rio Pardo Valley was able to support alternative agriculture that offered comparable and sometimes even higher income for the farmers.

Efforts to support an alternative and sustainable model of rural development in Rio Pardo Valley resulted in initiatives to promote tobacco crop substitution, particularly through meeting agro-ecological endeavours. Nongovernmental organisations began providing technical assistance to groups of family farmers in the Valley in the late 1980s. It is perceived that a key factor for expansion of agro-ecological production in the region was the strong presence of family farms.

Agro-ecological production primarily aims to avoid using pesticides and minimise the use of inorganic chemical inputs. Efforts to consolidate agro-ecological production as an alternative to tobacco farming led to the emergence of new partners and stakeholders, such as farmers’ associations, municipal governments, the public extension agency of the state and NGOs. Agro-ecological production is usually based in family farms smaller than 15 hectares and produce more than 40 products (e.g. erva-mate, peaches, oranges, beans and corn, among others), which are then sold in fairs, regional and local supermarkets and to restaurants.

The Center of Assistance for Small Farmers (CAPA), associated with the Brazilian Evangelical Lutheran Church, is the main organisation in the Rio Pardo Valley working on crop substitution and diversification initiatives aimed at addressing production, distribution and sale of agro-ecological products. CAPA has offices in different states and represents several thousand farmers organized into cooperatives, groups and associations dealing with ecological food production and integral nourishment. CAPA also supports the establishment of agro-industries and operates a seed processing facility. CAPA also created a Regional Cooperative of Ecologists and Family Farmers (ECOVALE) composed of farmers dedicated to the production and marketing of agro-ecological products such as vegetables, rice and erva-mate. The main marketing channels were the weekly ecological fairs.

CAPA has been instrumental in promoting diversification and tobacco crop substitution initiatives in the tobacco-growing municipalities. The funding for the project was secured by CAPA through agreements with municipality authorities and partnerships with farmers’ associations, as well as through grants received from international and national agencies. Preliminary estimates of revenues showed that agro-ecological products attracted comparable or even higher profits than tobacco farming. The project teams were composed of agriculture, health, management and communication professionals.

**Example 13: China – A tobacco crop substitution project in Yuxi, Yunnan Province**

China is the world’s leading tobacco producer and Yunnan Province is home to 30% of China’s 15 million tobacco-producing households. Following encouraging results from a small-scale tobacco crop substitution study in 2007, the Yuxi Bureau of Agriculture and the University of California Los Angeles (UCLA) Fielding School of Public Health decided to embark on a larger scale pilot project. The project launched in 2008 established a for-profit farmers’ cooperative among those involved in tobacco substitution and conducted an evaluation of the impact on farmers’ income. The Yuxi Bureau of Agriculture worked with village heads and through village meetings and word of mouth recruited 458 farming families in three sites – 68 in Hongta District, 156 in Chengjiang County and 234 in Eshan County to participate in the project.

The farmers with assistance from the local bureau of agriculture established a cooperative, and they drew up their own charter and by-laws. The head of each cooperative was elected based on demonstrated abilities to lead and build consensus. The farmers in the cooperatives worked to
develop essential skills such as accounting and received training from local agricultural specialists; the training covered areas such as how to achieve the highest possible yield, seed selection, use of less toxic pesticides, market research, storage, distribution and sale of the products grown. Farmers worked together to identify the most suitable food crops to cultivate; and the cooperative facilitated bulk purchases of production inputs, thereby lowering the cost for its members.

The farmers running an enterprise in the project brought a higher income than that deriving from tobacco farming. In 2010, the annual incomes of participating farmers were estimated to be 21-110% higher than those of their peers who cultivated tobacco. Grapes were found to be the most profitable alternatives. The support of the Yuxi Bureau of Agriculture, the project team, county and township affiliates created conditions that was conducive to tobacco substitution and diversification. Since then, the Yuxi Bureau of Agriculture has received requests from other tobacco farmers to assist them in switching to alternative crops.

Example 14: Kenya – Growing bamboo

Worryingly, tobacco farming is expanding in Kenya and threatens traditional food crops and livestock activities.

The Tobacco Control Act 2007, in its Article 13, addresses the matter and promotes alternatives to tobacco growing, as follows:

(1) The Minister for the time being in charge of agriculture, shall put in place policies to promote, as appropriate, economically viable alternatives for tobacco growers.
(2) The Government through the relevant ministries shall put in place policies to promote, as appropriate, economically viable alternatives for tobacco workers, distributors, retailers and individual sellers.”

In spite of the legal requirements, diversification activities in Kenya have primarily been driven by nongovernmental organisations and the Kenya Anti-Tobacco Growing Association. Efforts have been focused on substituting tobacco with fruits, soya beans and pineapples.

To support diversification, a pilot project was carried out from 2006 to 2013/14 to assess whether bamboo is an economically viable alternative to tobacco farming and whether a market value chain can be developed for bamboo products. This was supported by South Eastern University with support from the International Development Research Center, in partnership with the International Network for Bamboo and Rattan and Maseno University.

Bamboo was chosen as it is a fast-growing plant, has high survival rates and is self-regenerating. Seeds were planted in similar conditions to those of tobacco (i.e. soil, altitude, rainfall and temperature), and there were extensive inputs, information and training. The experiment showed that bamboo production incomes/acre was 4-10 times higher than tobacco farming, and bamboo grows well in tobacco-farming zones. It also has potential to reforest the area, protect the river banks and clean the water. About 80% of the participating farmers reported that they greatly reduced the acreage for tobacco cultivation. The experience of the project also shows that farmers are increasingly engaged in handicrafts (e.g. production of baskets and furniture) and four community-based bamboo farmers’ cooperatives have been formed to market the bamboo products.

The managers of the project attribute the success to several factors, including the suitable location, political will, adequate preparation, participatory approach, clearly defined roles for the
participants, appropriate technology transfer and integration of gender aspects in the project. Quality inputs, financing or credits to farmers, education and training, value chain development, price assurance, sustainable markets, timely payments, low labour input, low occupational health risks and diversity of uses were also credited for the success of the project. xxxviii

There are challenges that remained to be addressed during the diversification project. These include the increasing demand for diversification support; the presence of the tobacco industry with inputs and an established market for tobacco leaves; tobacco industry interference; unstable market for alternative crops; insufficient knowledge and skills; insufficient availability of extension workers; cooperatives and transitional funds. xxxix

The project also underlined the need that the Government continues to implement policies that support farmers to make the shift away from tobacco growing, to support studies on viable alternatives and to facilitate the transfer of technologies and knowledge on alternative crop cultivation.

E) Programmes to identify and promote economically viable alternative crops

To establish economic viability of alternative crops, field trials may need be conducted. As conditions for finding alternatives to tobacco cultivation differ from country to country, there is a need to analyze the political, socioeconomic and environmental context in each country.

Unfairtobacco.org, a project run by the Berlin Working Group on Environment and Development, provides for more information on countries that have explored alternatives to tobacco growing. Information on alternative livelihoods to tobacco growing can be found on their website at https://unfairtobacco.org/en/tobacco-map/#alternatives and case studies analyzing the transition from tobacco to alternatives can be accessed at https://www.unfairtobacco.org/en/case-studies-on-alternative-livelihoods-to-tobacco/. Some of the case studies are referenced in the examples below.

- **Example 15**: EU – Go4Stevia project
- **Example 16**: Malaysia – Supporting kenaf as an alternative crop to tobacco
- **Example 17**: United Republic of Tanzania – Promoting alternative crops to tobacco and sustainable farming practices
- **Example 18**: Mexico – Reconversion of tobacco

**Example 15: EU – Go4Stevia project**

The project on “Diversification for Tobacco Growing Regions in the Southern European Union (DIVTOB)” aimed to search for sustainable alternatives for tobacco growers. It is targeted at farmers in Greece, Italy, Portugal and Spain, and could help them to make informed decisions about their livelihoods. Viable alternatives for small farms (< 15 hectares) that would enable them to maintain their income were: either organic or convention vegetable and fruit production, hydroponic production, aquaculture, and new crops such as pomegranate or Stevia. For tobacco farms to diversify, a large investment is needed to develop new production chains.xl

The plant *Stevia rebaudiana* is native to Brazil and Paraguay. From their leaves, a sweetener called stevia can be extracted. This plant was identified as a potential alternative to tobacco growing and the Go4Stevia project (2013-2016) was established to assess this option. The project was funded by the EU Commission and supervised by the Research Executive Agency.xi Stevia can be cultivated in 99% of areas where tobacco is grown. It has cultivation techniques like tobacco and low fertilization needs. The plant also has a low incidence of pests and diseases and their labour needs are similar to
those of tobacco plants. Local production is possible with very low investments and growing this plant has the capacity to improve the macroeconomic conditions of a country.\textsuperscript{xlii}

**Example 16: Malaysia – Supporting kenaf as an alternative crop to tobacco**

Malaysia assessed the growing of kenaf, a plant whose core and fibre can be used to produce environmentally-friendly products, an alternative crop for tobacco. It was first introduced to Malaysia in 2000\textsuperscript{xliii}. In 2005, the Malaysian government decided to initiate the phasing out of tobacco farming and from 2006 to 2010, kenaf was promoted to tobacco growers as an alternative.\textsuperscript{xliv}

In 2010 the National Kenaf and Tobacco Board (NKTB) replaced the National Tobacco Board through the coming into force of the National Kenaf and Tobacco Board Act 2009, repealing the National Tobacco Board (Incorporation) Act 1973. The NKTB functions are to implement policies and programmes to ensure viability of the kenaf industry, to implement policies to regulate the tobacco industry and to develop other economic activities and commercialize value-added products.\textsuperscript{xlv}

Malaysia included kenaf in its National Commodity Policy 2011-2020, and developed a Masterplan for the Development of Kenaf Industry in 2013. The Masterplan aims to make kenaf a commodity just as rubber and palm oil by 2020.\textsuperscript{xlvi, xlvii} In parallel, since 2013, the Government has ceased to support and promote tobacco.\textsuperscript{xlviii} To promote the growing of kenaf, the Government provided financial support (MYR 2300 per hectare), bonuses and other assistance to incentivize farmers to shift from tobacco to kenaf.\textsuperscript{xlix} The kenaf cultivation area and number of kenaf growers have been increasing since 2004 whilst those used for tobacco have decreased significantly. The area used for tobacco cultivation was 15 764 ha in 2000 which decreased to 2 354 ha in 2012; and the number of tobacco growers fell from 23 020 to 2 428 in that period.\textsuperscript{l}

The benefits of growing kenaf include: good return on investment; farmers are less likely to fall into debt; does not use as much chemicals as tobacco; grows fast and in crop rotation with rice; and children are not involved in its cultivation.\textsuperscript{li} However, there remain challenges associated with kenaf cultivation such as its economic viability (i.e. market demand); low yield; growers’ acceptance of kenaf; and a lack of awareness of the product.\textsuperscript{lii} There are also concerns on the long-term sustainability of the kenaf sector, as it is now heavily dependent on Government subsidies and other forms of assistance.\textsuperscript{liii}

To continue this effort, there is need to further support research, strengthen promotion of kenaf as a commercial and alternative crop to tobacco, identify suitable land for further extending the acreage, strengthen automatization for more efficient harvesting and processing, and involve growers in midstream activities. In the current phase (2016-2020), the focus is on commercializing new applications and branding of Malaysia’s kenaf products. The NKTB has worked to establish a market by collaborating with kenaf-based industries, and have exported manufactured goods to China, the Republic of Korea, Japan, Thailand and Europe.\textsuperscript{liv}

**Example 17: United Republic of Tanzania – Promoting alternative crops to tobacco and sustainable farming practices**

In 2006, the Tanzania Tobacco Control Forum (TTCF) initiated programmes to educate tobacco farmers about the harms of tobacco and to promote alternative crops. Between 2006 and 2014, production of maize, rice, pigeon peas and sunflowers increased by 352%, 277%, 5739% and 247%, respectively. Tobacco production had increased between 2006 and 2010 but has since been declining. Farmers testified that their economic status has improved though challenges remain, such as sustainable market access and infrastructure.\textsuperscript{lv}
Separately, the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) established a new partnership project entitled “Mainstreaming Sustainable Forest Management” in the Miombo Woodlands of western Tanzania. The objective of the project was to enable communities to adopt productive practices that can conserve local biodiversity, reduce carbon emissions related to land use and improve their livelihoods. The project was also aimed at reducing the dependence of the farmers and communities on tobacco growing, as this has contributed to deforestation and soil degradation in the Katavi and Tabora regions.

There is anecdotal evidence that a former tobacco farmer in Nsekwa Village (Mlele district, Katavi region) switched from growing tobacco to tomatoes. He was provided training and was able to obtain fertilizers and inputs from other agro-dealers who also participated in the workshop. The farmer found that growing tomatoes was nine times more profitable and less labour-intensive. He is now able to build his own house and is helping other growers whose gardens are next to his. Villagers have expressed the benefits of this strategy on the environment.

**Example 18: Mexico – Reconversion of tobacco**

In Mexico, tobacco cultivation area and production have been declining since 2000. The area utilized for tobacco growing decreased from 22674 hectares (ha) in 2000 to 4525 ha in 2011; in parallel, tobacco output also decreased from 45164 tons in 2000 to 9647 tons in 2011.

Between 2000 and 2012, the state of Nayarit in Mexico received support of 572 million Mexican pesos of which 67% were from the project called PROCAMPO. From 2005 to 2012, in Nayarit, a diversification project was implemented, and tobacco cultivation was replaced with the growing of other crops such as lemon, avocado, mango, beans, cane, fruits, corn, safflower, rice and other crops. A total of 23900 ha of land was converted and support was given to farmers in an amount of 86 million pesos.

A comparative analysis was then done to assess the profitability of cultivating tobacco versus other crops. The cost-benefit analysis found that beans, mango, sorghum, tomato, green chili, papaya and cucumber were comparatively more profitable than tobacco.

**F) South-south and triangular cooperation projects**

South-south and triangular cooperation is a relatively new approach used to support Parties in their implementation of the WHO FCTC. Exchange of experience and know-how between the WHO FCTC Parties is essential to promote international cooperation and is also useful for supporting Parties that face similar challenges in implementation of the WHO FCTC. Sharing best practices and providing peer support are valuable tools in helping Parties overcome practical challenges and to make progress in implementation especially in those areas of WHO FCTC implementation where progress has been slower.

**Example 19: Brazil sharing its experience with Jamaica, the Philippines and Uruguay**

As part of the south-south and triangular cooperation on promoting alternatives to tobacco growing, Brazil, as know-how provider, hosted a study visit for officials from Jamaica, the Philippines and Uruguay on 28-30 March 2016. The objective of this project was to share Brazil’s more than 15 years’ experience in supporting diversification from tobacco growing and identification of alternative livelihoods through the “National Program for Diversification in Tobacco Growing Areas”.

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4 The Program of Direct Supports to the Farmland (PROCAMPO) is a program of direct support to farmers. [https://www.sagarpa.gob.mx/procampo](https://www.sagarpa.gob.mx/procampo)
The representatives of countries that visited Brazil found the exercise useful and indicated that the lessons they have learned were multiple.

- **Uruguay** indicated that in their country, they face several challenges to making progress in this area. They explained that: there is insufficient understanding among tobacco farmers of the damage caused by tobacco cultivation; there are no regulations to protect children from labour abuses and there are no networks that could support diversification. They also highlighted that tobacco industry tries to sustain the dependence from tobacco growing of the farmers. Furthermore, their government still supports tobacco production. As a result of the project they felt that there may still be opportunities in promoting small organic farms in higher-income areas to replace tobacco growing and they see to bring the issue of tobacco cultivation to the attention of policy makers from a health perspective.

- **The Philippines** admitted that there is recognition of the importance of connecting the goods farmers produce to markets or government food programmes; they also admitted that there is need for more training programmes involving farmers; and conditions for crop diversification should also be improved. The team participating in the study visit have developed ideas for alternative agricultural activities, food processing and crafts and planned to develop a project concept in which family farmers could be directed towards contributing to school feeding programmes. They also considered providing new opportunities for farmers to increase their access to markets, to promote awareness about the harms of tobacco cultivation amongst them, to conduct management and production skills training for them, among others. They also recognized the relationship between farm lessees and farm owners as an important contextual element when promoting alternatives to tobacco growing.

- **Jamaica** noted that there must be a certain level of commitment of the farmers to shift away from tobacco cultivation to other crops; in this context, it is important for farmers to recognize the health risks associated with tobacco farming. Participants to the study visit noted that there might be some opportunities to encourage transition to alternative crops that could then be linked to school feeding programmes; to programmes promoting agro-ecological tourism; to programmes that aim to increase productivity and market access. They also felt it would be important to involve the Jamaica Organic Agriculture movement in tobacco diversification programmes.

The reflections above indicate that the study visit enlightened participants and generated ideas that could be transformed in project proposals and plans. The sharing of experiences has also led to a better understanding of the participants:

- on the importance of stimulating organic production to minimize risks to the health of farmers, consumers and the environment;
- of the need to develop policies that support farmers in their diversification efforts and give them a sense of security, such as access to credits, markets, technical assistance and capacity building programmes;
- on the importance of establishing cooperatives (networks) of growers and further developing the necessary infrastructure and value chain for the new crops. It is vital that alternative crops or livelihoods are profitable compared to tobacco.
5. Closing observations

Article 17 of the WHO FCTC is one of the most challenging and under-implemented articles of the Convention. This is at least partly because tobacco companies have established a system to keep tobacco farmers hooked to the contractual arrangements they concluded with them, which create a cycle of indebtedness or incentivizes them to stay within the tobacco value chain. Tobacco companies have also been effective in highlighting (and sometimes overestimating) their contribution to the local and national economy, whilst masking the true health, social and economic costs and consequences of tobacco cultivation and tobacco use. For regions and states where tobacco holds a relatively high level of economic importance and where there is a considerable group of growers dedicated to tobacco, promoting a shift to alternative crops may be more challenging.

It is also a complex question due to the fact that it requires strong collaboration between various government departments, including agriculture, health, finance, rural development, and others, and the coordination of such collaboration and sustaining it on the longer term is also challenging.

In spite of challenges, there are strategies that could increase the success of helping tobacco farmers make the shift to alternative crops. Some examples are:

- integration of tobacco diversification programmes in more comprehensive rural development programmes;

- providing support to farmers from government grants, farmers’ associations and nongovernmental organizations in launching of diversification and crop substitution initiatives and in identifying profitable market channels and opportunities;

- provision of training, technical and financial support to ease transition to alternative crops; and

- consideration given to the local or regional context in which diversification programmes are promoted, including the existing infrastructure that could enable the development of a suitable diversification or substitution strategy.

Parties to the Convention should meet their obligations under Article 17 of the Convention and rely on the policy options and recommendations adopted by the Conference of the Parties to lay down the foundations of sustainable strategies and programmes promoting economically sustainable alternatives to tobacco growing. Examples of good practices are available with the Parties and they can be utilized by and replicated in other Parties to strengthen shifting to alternatives to tobacco growing.

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REFERENCES


2 Presentation made during the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12-17 November 2012 in Seoul, Republic of Korea. Bangladesh: Economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the FCTC). Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentation-bangladesh-economically-sustainable-alternatives-tobacco-growing


5 Presentation made during the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12-17 November 2012 in Seoul, Republic of Korea. Bangladesh: Economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the FCTC). Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentation-bangladesh-economically-sustainable-alternatives-tobacco-growing


7 Bangladesh: 2010 implementation report. Available at: http://apps.who.int/fctc/implementation/database/article/article-17/indicators/5724/reports

8 Presentation made during the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12-17 November 2012 in Seoul, Republic of Korea. Bangladesh: Economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the FCTC). Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentation-bangladesh-economically-sustainable-alternatives-tobacco-growing


10 Oman to decide soon on tobacco farming ban. Muscat Daily, 7 July 2013. Available at: http://www.muscatdaily.com/Archive/Oman/Oman-to-decide-soon-on-tobacco-farming-ban-2e3h


12 Information from the European Commission DG Sante (Health and Food Safety), Tobacco Control Team who indicated figures from communication with EU Member States and associations of tobacco farmers. Available at: https://publications.europa.eu/en/publication-detail/-/publication/9d13533e-c089-4cceb653-d314fe5f6f0e

13 Presentation made at Sixth Session of the Conference of the Parties to the WHO FCTC, held 13-18 October 2014 in Moscow, Russia. Tobacco growing in the European Union – reconversion measures. Available at: http://apps.who.int/fctc/implementation/database/groups/cop6-presentation-tobacco-growing-european-union-reconversion-measures


Presentation made at Sixth Session of the Conference of the Parties to the WHO FCTC, held 13-18 October 2014 in Moscow, Russia. Tobacco growing in the European Union – reconversion measures. Available at: http://apps.who.int/fctc/implementation/database/groups/cop6-presentation-tobacco-growing-european-union-reconversion-measures

European Commission. The history of the common agricultural policy. Agriculture and Rural Development. Available at: https://ec.europa.eu/agriculture/cap-overview/history_en

European Commission. Raw tobacco. Agriculture and Rural Development. Available at: https://ec.europa.eu/agriculture/tobacco_en

Presentation made at Sixth Session of the Conference of the Parties to the WHO FCTC, held 13-18 October 2014 in Moscow, Russia. Tobacco growing in the European Union – reconversion measures. Available at: http://apps.who.int/fctc/implementation/database/groups/cop6-presentation-tobacco-growing-european-union-reconversion-measures


Cuestionario Básico del Instrumento de Presentación de informes del CMCT de OMS de 2018.


Presentation made at the Sixth Session of the Conference of the Parties to the WHO FCTC, held 13-18 October 2014 in Moscow, Russia. The National Programme for Diversification of Tobacco Areas: The case of Brazil. Available at: http://apps.who.int/fctc/implementation/database/groups/cop6-presentation-national-programme-diversification-tobacco-areas-brazil


Drope, J. American Cancer Society, Atlanta, USA. The political economy of tobacco farming in low- and middle-income countries. Grant description available at: http://grantome.com/grant/NIH/R01-TW010898-06


xxxiii Crop substitution in China: curbing tobacco production. UCLA Fielding School of Public Health. Available at: https://ph.ucla.edu/about-fsph/impact-stories/crop-substitution-china-curbing-tobacco-production

xxxiv Presentation made at the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Economically viable alternative livelihoods for tobacco farmers – Kenya’s experience. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-alternative-livelihoods-tobacco-farmers-kenya


xxxvi Presentation made at the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Economically viable alternative livelihoods for tobacco farmers – Kenya’s experience. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-alternative-livelihoods-tobacco-farmers-kenya

xxxvii Expert group consultation on alternative livelihoods for tobacco farmers and workers. WHO Regional Office for South-East Asia, 30-31 July 2015. Available at: http://www.searo.who.int/tobacco/documents/sea_tobacco_55.pdf


xxxix Presentation made at the Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Economically viable alternative livelihoods for tobacco farmers – Kenya’s experience. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-alternative-livelihoods-tobacco-farmers-kenya


xi Research project: Go4Stevia. Available at: https://go4stevia.uni-hohenheim.de/


xiii Presentation made at Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Kenaf as an alternative crop to tobacco growers in Malaysia. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-kenaf-alternative-crop-tobacco-malaysia


xvi Presentation made at Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Kenaf as an alternative crop to tobacco growers in Malaysia. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-kenaf-alternative-crop-tobacco-malaysia


Tobacco farming in the ASEAN Region. Southeast Asia Tobacco Control Alliance; March 2013. Available at: https://seatca.org/dmdocuments/Media_Farming%20Regional%20Paper_final.pdf

Presentation made at Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Kenaf as an alternative crop to tobacco growers in Malaysia. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-kenaf-alternative-crop-tobacco-malaysia


Presentation made at Fifth Session of the Conference of the Parties to the WHO FCTC, held 12 to 17 November 2012 in Seoul, Republic of Korea. Kenaf as an alternative crop to tobacco growers in Malaysia. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentations-kenaf-alternative-crop-tobacco-malaysia


Kokulinda Kagaruki, L. Alternative crops provide a better future for Tanzanian tobacco farmers. Farmers and other victims of tobacco. Special bulletin. Southeast Asia Tobacco Control Alliance. Available at: https://seatca.org/dmdocuments/Pull%20Out%20Delhi%20Day%204.pdf


Presentation made at the Fifth Session of the Conference of the Parties to the WHO FCTC. Crop reconversion of tobacco in Mexico, held 12 to 17 November 2012 in Seoul, Republic of Korea. Available at: http://apps.who.int/fctc/implementation/database/groups/cop5-presentation-tobacco-crop-reconversion-mexico

WHO FCTC. International cooperation for implementation of the WHO FCTC Article 17 – Economically sustainable alternatives to tobacco growing. Report of the study visit, 28-30 March 2016, Brazil. Available at: http://www.who.int/fctc/implementation/cooperation/Report_South_South_Art17.pdf?ua=1