



Tobacco growers at the crossroads: Towards a comparison of diversification and ecosystem impacts

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ARTICLE INFO

Article history:

Received 2 May 2008

Received in revised form 2 October 2008

Accepted 16 January 2009

Keywords:

Land use transition

Tobacco transition

Agricultural alternatives

Crop substitution

Rural livelihood

Framework convention on tobacco control

Wood use

Deforestation

ABSTRACT

An international Framework Convention on Tobacco Control has been in force since 2005, also aimed at regulating tobacco farming: FCTC article 17 on diversification, and FCTC article 18 on socio-ecological issues. Relating to the FCTC, information was gained and evaluated from tobacco farmers of growing areas sampled from major world regions (Rio Grande do Sul/Brazil, Tabora/Tanzania, Meinung/Taiwan, and Germany/Europe). A local farming survey was carried out in 2007, using a common data protocol, which covered, among others, questions on area and production development, energy used in curing, workforce, economic livelihood situation, and diversification opportunities. In addition to the survey, secondary (national-scale) statistics, public testimonies and other published data were explored. We analyzed these data using a portfolio approach, which combined statistical analysis, meta-analytical study and descriptive narratives. The projected trend of a global shift of tobacco cultivation into the developing world is confirmed, but also refined. Wood is used in Brazil and Tanzania for curing Virginia green leaf, thus contradicting the projected continuous reduction of this energy source. Child labour remains a major component of family farm tobacco operations in Brazil and Tanzania, while the cost and availability of seasonal labour turns into a bottleneck of production in Germany. More diversification opportunities exist than generally claimed, but no efforts are seen to address poor and vulnerable growers, in particular. German and Taiwanese tobacco growers can reasonably be predicted to discontinue farming in the near future, while tobacco cultivation in Brazil and Tanzania is seen to expand, mainly due to the political economy of low-cost production. Conclusions are drawn with respect to the work of the UN Study Group on Economically Sustainable Alternatives to Tobacco Growing (ESATG), effective since 2007.

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Introduction

Land use, in general, is already a highly political activity, and tobacco, in particular, is one of the world's most controversial crops. This can chiefly be attributed to the synthesis of knowledge on the disease impact of smoking with concerted public action over the past decades. According to the World Bank, tobacco use is projected to claim a billion lives this century (Jha and Chaloupka, 1999), with smoking-related mortality responsible for half the diseases and deaths in developing countries (Beyer and Bridgen, 2003). Moreover, tobacco farming has been identified as a development issue with regard to environmental sustainability, especially in growing areas of the developing

world (UNECOSOC, 2004; Ramin, 2006; FCA, 2007; WHO, 2004a, 2007a,b).

With almost 130 producer countries, the commercial smoking product species *N. tabacum* is the most widely grown non-food crop globally (FAO, 2008). Decades ago, it has been identified to pose "a particularly difficult dilemma for development" (Goodland et al., 1984, p. 51), because long-term impacts on ecosystems and the livelihoods of growers/workers appear substantially to outweigh the perceived short-term benefits such as income generation and employment effects (Baris et al., 2000; Clay, 2004). In 1995, several multilateral aid agencies, development banks, non-governmental organizations (NGOs) and United Nations (UN) authorities portrayed tobacco as "a major threat to sustainable and equitable development", concluding that "in the developing world, tobacco poses a major challenge, not just to health, but also to social and economic development and to environmental sustainability" (Bailey et al., 1995, p. 1109).

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A global convention went into force in February 2005 with a host of measures designed to not only reduce the health burden caused by tobacco use but also address the economic, social and environmental implications of tobacco as a crop. The Framework Convention on Tobacco Control (FCTC), negotiated under the auspices of the World Health Organization (WHO), provides the basic tools for countries to enact comprehensive tobacco control legislation, policies and programmes at the national level (WHO, 2005). Parties to the convention – as of 30 April 2008, 168 signatories and 154 ratifying parties – are required to promote and facilitate the exchange of information regarding, among others, the cultivation of tobacco and related practices of the tobacco industry in the respective growing countries (article 20). The treaty further addresses key agricultural issues in two articles of part IV (measures relating to the reduction of the supply of tobacco) and part V (protection of the environment): article 17 asks for the “provision of support for economically viable alternative activities” for tobacco workers and growers (among others), and article 18 asks for “due regard to the protection of the environment and the health of persons in relation to the environment in respect of tobacco cultivation . . . within their respective territories” (WHO, 2005). The countries under study signed and ratified, respectively, the FCTC in 2003/2004 (Germany), 2003/2005 (Brazil) and 2004/2007 (Tanzania) (Taiwan is not a part of the UN system).

In contrast to other treaties, coalitions of non-state actors and new groups from developing countries were brought into the FCTC process such as environmental, human rights and women organizations. Described to be vocal, spirited, and leading the charge for most of the progressive provisions including articles 17 and 18, these organizations often fought the “intense pressure from a handful of countries, particularly the USA, Japan, and Germany” (with traditionally strong connections to the cigarette manufacturing industry) (Hammond and Assunta, 2003, p. 241). These strategic actors, partly supported by groups of tobacco growers, have continued to submit public testimonies on the detrimental aspects of tobacco farming, thus putting the issue of crop diversification – either based on, or away from tobacco – high on the agenda of global land use policy (Keyser, 2007; WHO, 2007c,d). The costs of tobacco cultivation have been summarized by Lightwood et al. (2000, p. 70) to include, among others, environmental damage such as soil degradation, deforestation, and water pollution.

At the first session of the Conference of the Parties (COP) to the FCTC in February 2006, it was decided to establish an ad hoc study group on alternative crops, and the Government of Brazil (along with the WHO) hosted the first meeting of the study group in February 2007, promoting the inclusion of article 17 as a priority within the COP agenda. The major outcomes can be summarized as follows (WHO, 2007c): (i) the FCTC does not aim to phase out tobacco production in the short-term, but alternatives to tobacco crops need to be explored since eventual and long-term decreases in demand, caused by (public health) tobacco control, are assumed to exert an impact on production; and (ii) the human–environmental concerns associated with growing and curing tobacco continue to be debated, since extensive research and evidence is missing about the detailed socio-ecological costs of tobacco farming. In July 2007, the corresponding report was presented at the second session of the COP, which mandated the study group to continue its work as UN Study Group on Economically Sustainable Alternatives to Tobacco Growing (ESATG). At its second meeting in June 2008, the study group developed a report to the COP at its forthcoming third session in November 2008 that would address, in particular, the issue of scientific evidence and economically sustainable diversification measures as an alternative to tobacco, including possibilities of non-agrarian livelihoods (WHO, 2008). While some progress was noted in the area of ESATG, it was identified as necessary to imple-

ment data collection and monitoring mechanisms to keep records of tobacco-growing impacts, conversion measures, corporate practices (to undermine the promotion of ESATG), as well as of trends in indicators of human well-being as part of a national policy framework to promote alternative development. It was recommended that monitoring should be done at the household level and that information should be made available to farmers and to the public (WHO, 2008).

Many tobacco-farming studies are either based upon secondary statistics (e.g., FAO, 2003a,b) or crop budget analyses (e.g., Keyser, 2007). Except for few studies (e.g., Altman et al., 1996; Ramsey and Smit, 2002; Ochola and Kosura, 2007; Craig, 2008), there has been little scientific investigation of what tobacco growers actually think, especially about the issues raised in the FCTC. It is poorly understood as to “farmers’ perception of the economic forces and policy alternatives that could affect their ability to sustain tobacco-farming enterprises” and “farmers’ attitudes towards and experience with diversification” (Altman et al., 1996, p. 193). Against this background, the WHO has identified, among others, the following themes as part of a global agenda for tobacco control research: (i) cultivation and curing practices at the country and subnational level, and the relationship of tobacco production to the destruction of the ecosystem, particularly concerning deforestation; and (ii) opportunities for alternative crops and alternative livelihoods (WHO, 2004b). This study links to these critical themes by inquiring information directly from growers in four major tobacco-growing areas of the world and applying a common data protocol, in addition to the use of other sources of information. It aims at contributing to data-driven efforts to establish a global tobacco surveillance and monitoring system centred around the articles 17 and 18 of the FCTC, especially for developing countries and countries with economies in transition (Jategaonkar and Huber, 2007; WHO, 2008). In previous attempts to monitor tobacco development, household interviews were found to be “most expensive” (WHO, 1998, p. 87) so that a small sample of growers is used here to generate selected and preliminary results. While the small N/low-cost approach may create a limitation with view upon quantitative comparisons across countries and growing areas in this study, it is meant to be a first step towards a standardized international comparison, with a wider cohort study to be developed and with multiple sources to be exploited.

Material and methods

Description of the databases

The study compiled information from diverse materials and sources. Described as “portfolio approach” (Young et al., 2006), it integrated national-level secondary statistics, an analysis of local farming survey data, and a meta-analytical study of published literature and public testimonies.

First, tobacco growers were sampled from the leading tobacco-growing zone in four producer countries across the world, using lists of farmers available from grower associations. The areas are Santa Cruz do Sul in southern Brazil, the Urambo district in central Tanzania, Meinung in southern Taiwan, and Germany. The selected farmers were visited between August and October in 2007. A structured and standardized questionnaire was used to generate data on four broad categories with more than 30 questions in total (Table 1). In each area, 25 farmers were interviewed to obtain the same absolute (total number) and relative measures (proportion, %) ($N = 100$). Given their low total number, only German tobacco growers were sampled according to the relative weight of the farmers per growing district (*Erzeugergemeinschaft*, EZG), i.e., one farmer from EZG North (4%), 2 farmers from EZG Bavaria (8%), 4 from EZG Northeast (16%),

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