

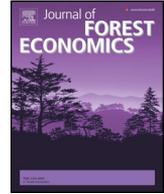


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## Journal of Forest Economics

journal homepage: [www.elsevier.com/locate/jfe](http://www.elsevier.com/locate/jfe)



# Market-driven production with transaction costs outlook: Gum arabic collection systems in Senegal



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### ARTICLE INFO

#### Article history:

Received 6 May 2014

Accepted 12 May 2015

Available online 9 June 2015

#### JEL classification:

D24

Q12

Q13

Q23

#### Keywords:

Transaction costs

Market-led production

Alternative-specific probit model

Semi-arid lands

Gum arabic

### ABSTRACT

Low returns from marketing of non-timber forest products such as gum arabic restrict the collection of these products. A hypothesis is tested that access to good markets motivates collectors to harvest and market gum arabic. Analyses of the choice of participation in group marketing, sale price, quantity of gum collected and the final choice of market outlet are done. Decision outcomes include fixed transaction costs at the collection stage and proportional costs at the marketing stage. Original data from 348 gum collectors in the Sylvopastoral zone and Eastern region of Senegal were used. Results confirm the stated hypothesis; indeed the marketing context and outcome play a big role in collection systems of gum arabic in Senegal. The costs incurred in finding the good market can be regarded as an investment, whereby the collector may continue to transact with the same trading partner (and hence in the same market). The need for infrastructural development, strengthening groups and market expansion are emphasised as key policy interventions.

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## Introduction

Marketing of agricultural products is the subject of several studies that view the farmers' limited participation in markets as a constraint to market-based development strategies for wealth creation and poverty reduction (Makhura et al., 2001). Studies on market participation including Goetz (1992), Key et al. (2000), Holloway et al. (2000) and Bellemare and Barrett (2006) focused on the decision that involves a choice of whether to participate in the market (buy, sell, or remain autarkic) and the volume to transact. These studies assumed that production is already optimised by households. Yet recently, Burke (2009) insisted on the need to recognise that products may not be produced by all households. This is because households make a conscious decision regarding whether to produce or not and how much to produce as a step prior to any market related decision. Burke's expanded framework addressed the possibility that market participation can be partially determined by exogenous factors.

High transaction costs were found to be key reasons for the failure of farmers to participate in markets (Skoufias, 1995; Key et al., 2000), or for the choice between different governance structures or different markets (Williamson, 1991, 1998; Hobbs, 1997; Fafchamps and Hill, 2005; Gong et al., 2006). Transaction costs create deviations between the effective buying and selling price (Sadoulet et al., 1998; Burke, 2009). They also have adverse effects on the amount traded (Skoufias, 1995) and productivity (Lanzona and Evenson, 1997). A distinction can be made between fixed and proportional transaction costs. Fixed transaction costs are independent of the quantity traded and are household specific, whereas proportional transaction costs vary with the quantity traded (De Janvry et al., 1991; Goetz, 1992; Allen, 2000; Key et al., 2000; Holloway et al., 2000; Vakis et al., 2003; Irlé and Sass, 2006). Fixed transactions costs include search, information, bargaining and monitoring costs (Goetz, 1992; Vakis et al., 2003). Goetz (1992) also included in these costs the physical distance to the market and use of transport mode. Proportional transactions costs include, for instance, the transport cost per unit of product (Vakis et al., 2003). Here, transport costs are an element of transaction costs. Transaction costs refer to all costs, material or immaterial engaged in the process of arbitrage (Mkenda and Campenhout, 2011); according to (Minot, 1999), transportation costs are simply the most concrete form of transaction costs, defined as the monetary and/or opportunity costs associated with carrying out sales or purchases. This cost changes between locations.

Trading is affected by both fixed and proportional transaction costs. Economies of scale can be gained in fixed transaction costs as quantity increases, whereas, once these costs are covered, the extent of participation (that is, amount traded) depends on proportional costs. Relationships between trading parties are instruments of reducing transaction costs. Relationships contribute to lowering the risk of opportunistic behaviour by one or more of the trading partners, such as misrepresenting quality or running away without making payment (Fafchamps and Gabre-Madhin, 2006). Relationships are fostered by the ability to identify a particular trading partner. Yet this trading partner does not very often change because the costs for searching and screening for a new partner may be very high or the change may not result in higher prices than those offered by a regular partner (Eaton et al., 2007). Regularity of trading with same partners that extends over a long period of time is important as it leads to a certain level of comprehension and "routines" (Slangen et al., 2008). These routines can reduce transaction costs such as in negotiating price or monitoring informal agreements. Routines are supported by reputation that becomes an enforcement mechanism (Pint and Baldwin, 1997).

This study analyses the process of decision-making by gum collectors as an important non-timber forest product in the research area. Previous literature was generally limited to defining transaction costs and investigating the link between these costs and market participation. However, the examination of how transaction costs influence production decisions and consequently market choice is scarce; this is the motivation for the current study. The theory of transaction costs provides a framework to analyse gum collectors' decision-making processes in relation to collection/production and marketing. It is assumed that (1) high transaction costs not only constrain the marketing decision but also collection itself. This is especially relevant to open access resources including gum arabic because the time lag between collection and market decision is short and (2) fixed transaction costs influence the decision to collect and market simultaneously. The quantity of gum collected depends on collection/production factors (the accessibility of trees and the labour effort exerted) and on important fixed transaction costs. Proportional transaction costs affect the market choice stage: the collector

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