

2 Standardized data collection on trade in palm products

2.1 Introduction

This study is focussed on commercial aspects of Neotropical palms, palm products, product (pre-)processing and value chains; with the aim to characterize the current trade of palm products and their likely development in the future. One of the primary objectives was the design and development of a standardized research protocol (SRP; Appendix A) as a basis for the collection of significant and interoperable data on commercialization of palm products in the countries under study (Bolivia, Colombia, Ecuador, and Peru), across the different palm species and their products.

Palms provide a huge variety of products, ranging from construction material through domestic implements and fibre products to raw materials for food and cosmetics (Stagegaard *et al.*, 2002; Balslev *et al.*, 2008; see Chapter 3.3). The degree of commercialization is even more divergent than the products themselves and covers a range extending from the personal use and local barter to national and international trade, and from direct consumption to complex processing. As a result, total volumes harvested and marketed, and also the degree of sophistication in harvest, processing and commercialization vary widely. However, there are few detailed data on the absolute and relative economic importance of individual commodities and products, as well as on the corresponding value chains.

The main objectives in designing this protocol were the following: (I) to achieve a consensus between the desire for a maximum of useful data and the need for interview forms that can be applied in practice without losing time and without exhausting respondents; (II) make them widely applicable, regardless of product, species, role of the informant, region, and scope of marketing. After testing of the protocol in the field and a first check of the data obtained, all data from the different interviews were captured and summarized in a corresponding data capture table for subsequent interpretation and processing.

2.2 Protocol design

Already existing protocols for obtaining this type of data are – generally – focusing on a single value chain and need different types of forms for the various actors (e.g., Guel & Penn, 2009). Our protocol aims to be universal, i.e., applicable to any actor and product, so we only need a single universal form for each to collect relevant data at any level. The standardized research protocol (SRP) was designed to capture a representative set of data for each respondent, including: amount and source of raw material and type of product commer-

cialized, value chain, trade routes, type of (pre-)processing, market and limiting factors of trade. This protocol was developed in six stages: (I) Identification of types of relevant data, (II) design of draft versions, (III) field testing of draft versions in Colombia and Peru (GB, MM and NV), (IV) revision and sending of protocols to the FP7-PALMS project partners for comments, (V) second revision and presentation in the FP7-PALMS project workshop (Villa Tunari, Bolivia), (VI) third revision and incorporation of changes suggested in Villa Tunari.

The draft protocol version turned out to be quite large and unwieldy when tested in the field, so we needed to remove and rearrange questions in order to reduce the overall number of questions, and thus the time needed per interview. The final version consists of only two forms of one page each so a personal interview can be done in 20–60 minutes, depending on product complexity and role of the respondent in the trade with palm products. This final version was also tested in field studies in Bolivia in early August 2010 (GB, MM). It was verified that this version is easy to use in the field and allows to obtain a maximum of relevant data in a minimum of time.

2.3 Structure and use of the protocol

In its final design, this protocol can be applied for structured interviews with open and semi-open questions. In this way, the protocol consists out of three components that are used in data collection.

2.3.1 Interview forms

The interview forms consist of a master sheet and an annex (Appendix A2), one page each. There is (only) one master sheet to be filled in for each interview, which compiles basic data (e.g., interviewer, interviewee, date, exact geographic location, role of interviewee in commerce of palm products, list of species/products). For each product a separate annex is filled in; the annex summarizes all the quantitative and qualitative data corresponding to each product, such as the amount of raw material that is used in absolute and relative terms (ratio of raw material and finished product), how and where raw material is harvested, which (pre-)processing steps are performed, what costs and benefits incur, where and to whom the raw material/product is sold and how it is transported, and what are the limiting factors of production/sale of a given product.

2.3.2 Manual

A manual provides detailed instructions on how to use the interview forms and contains a questionnaire that spells out all necessary questions (Appendix A1).

2.3.3 Data capture table

For further processing and interpretation, obtained interview data need to be tabulated. For this process an EXCEL spreadsheet was designed, i.e., a data capture table (DCT; Appendix A3) that corresponds to the interview forms, in order to facilitate raw data transfer without necessity of prior reorganisation or interpretation of data. Once completed, every line of the DCT corresponds to a distinct product (commonly more than one product is registered per interview), which simplifies the direct comparison of equal or highly similar products coming from different palm species, interviewees, and locations of the study.

2.4 Data storage and exchange

This SRP may be applied in order to obtain data by means of interviews. The original interview sheets completed during field work are archived and the data is transferred to the DCT, which permits an easy exchange among investigators and provides the basis for further processing and evaluation of the data. If participating researchers complete all their information correctly, the resulting data tables should be fully compatible and the unification of several data sets into a single database is just a matter of „copy and paste“. Accordingly, the DCT is the only format that should be used for data transfer.

2.5 Problems and limitations

Despite supreme effort to ensure best usefulness of the here presented SRP, its implementation is characterized by inherent limits. Particularly, primary producers of raw materials and also representatives of small handicraft manufactures often only have a limited comprehension of amounts of time and resources that they invest in the different work processes of harvest, manufacture, transport, and sale. A standardization of investments per amount of commercialized product is here rather seldomly applied and thus exact data on time and money needed for each work process often remain unavailable. Time, that is invested in the production and sale of individual products, may vary extremely, and also deriving stakeholder income may differ drastically among months and years, which should be considered when performing an interview. Own observations should always be made, e.g., when interviewees perform relevant work processes, such as harvest or other types of management (Guel & Penn, 2009). Obtained interview data should be considered information from verbal reports with well known associated problems, such as lack of objectivity, poor memory, or imprecise articulation. Therefore it is recommended to verify obtained interview data with help of additional information sources (Yin, 2003), which may be literature, own observations, and a comparison with data from similar studies or data obtained from other stakeholders that participate in the same business.

In the here presented SRP some data (e.g., prices, amounts, cash income) are solicited intentionally as duplicative entries in overlapping questions to later be able to evaluate the data consistency. By that a rough estimation of the level of confidence for individual data entries is possible; an internal control, e.g., through a closer look on the answers to the following questions: „What is the total amount of the finished product that is sold per unit time?“, „What is the sales price per unit finished product?“, and „What is the total income from the finished product per unit time?“ In theory, the sold amount of a finished product per unit time multiplied by the price should equal the revenue per unit time. In practice, however, there may be minor or major discrepancies between these figures reported by individual stakeholders, which should be controlled, and data sets that were identified as incoherent should be discarded.

By contrast, in more elaborate business sectors (e.g., the trade with palmito or tagua, see Chapter 3.3.8 and Chapter 4.41), respondents of all stages of the production chain are generally well aware of exact figures on, e.g., trade volumes, costs, and benefits. However, often there is limited willingness to share that information with outsiders, as there is a fear that such information is misused by competitors; and some stakeholders simply consider data of that kind as confidential business secrets. Quantity and quality of confidable data obtained, thus, depends largely on the interviewer's demeanour, performance, and commitment, apart from the interviewee's knowledge and motivation, and scores from the data tests on consistency, as mentioned above.

Overall, it is crucial to overcome the reluctance of stakeholders to share information, which may be accomplished through a clear explanation of the motivation and objectives of the study in order to build trust on the part of participating interviewees. It is important to ensure that respondents understand that the interviewer's desire neither is to steal business secrets, nor to establish restrictive regulations, or to affect the trade in palm products. The goal is to obtain basic data, which is needed to be able to give recommendations and assistance in the medium-term development of a healthy and sustainable market. Currently, many wild palm species are exploited beyond sustainable limits. In order to ensure the continued existence of the market for palm products and – if possible – to foster its medium-term growth, a sustainable use of raw material sources is of vital importance.

2.6 Perspective

Data on production and commercialization of palm products obtained from small industries and commerce represent a meaningful basis for the description of the current situation and the possible future development in the trade with palm products, and will be crucial for studies on sustainability and formulation of policies: In NW South America, the current wild harvest of palms is not sustainable and while harvested amounts and the relative and absolute

importance of exploited species largely remain unknown, it is very difficult to identify the most relevant target species and thus formulate realistic strategies for conservation and research in order to achieve sustainable commercial exploitation. Furthermore, while there are numerous laws that regulate and limit the extraction of wild resources in the four countries under study (Bolivia, Colombia, Ecuador, and Peru), there is only limited knowledge and understanding of the actual effect of these laws. The here presented protocol was designed with the purpose to partially fill this gap in our understanding.

Trade volumes and the relative and absolute importance of palm products are the most important arguments when confronting the administration and politicians with matters of research, conservation, and sustainability policies. The more extensive and cohesive data on production and marketing of palms are available, the more persuasive they will be to trigger economic and political changes.

Relevance and Sustainability of Wild Plant Collection in
NW South America

Insights from the Plant Families Arecaceae and
Krameriaceae

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