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Rapid Reconnaissance Surveys in Market Research

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Introduction

This paper gives a practical introduction to using rapid reconnaissance surveys for marketing in agroforestry. This first section provides an explanation of the rapid reconnaissance survey and introduces the idea of a sub-sector survey. This is followed by guidance on when a rapid reconnaissance survey should be used and when another type of methodology should be used instead. The preparation required to undertake a survey is detailed followed by a guide to the activities carried out in the field. The last section of this paper provides some directions that can be taken when analysing the data.

A rapid reconnaissance survey can be an extremely useful tool to quickly gain a broad picture of the marketing of one or more commodities in a subsystem, particularly when little is known about the operation of the market. It can provide a broad and preliminary overview of the organisation, operation and performance of a market sub-sector and can be used to identify system constraints and opportunities. A rapid reconnaissance survey can be particularly useful when identifying system dynamics, linkages and promising tree products for further domestication research.

Morris (1995) defined a sub-sector as an economic unit of analysis specific to a particular commodity or commodity group (e.g., fruit, timber, maize or cereals). (For more information on sub-sector analysis see the marketing lecture in module 6). The sub-sector approach includes examining horizontal and vertically linked economic market relationships such as assembly, transportation and storage (as shown in the example for potato in Figure 1).

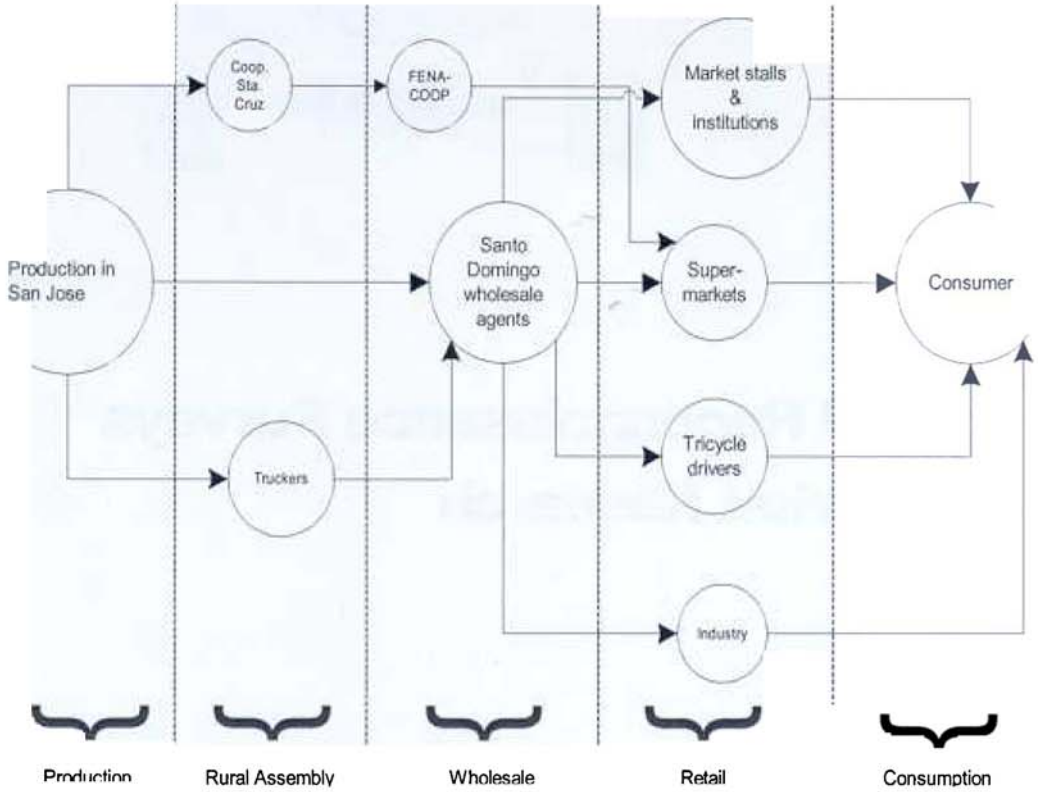


Figure 1: Marketing channels for potatoes in Santo Domingo, Dominican Republic *(Adapted from Mendoza, 1995)*

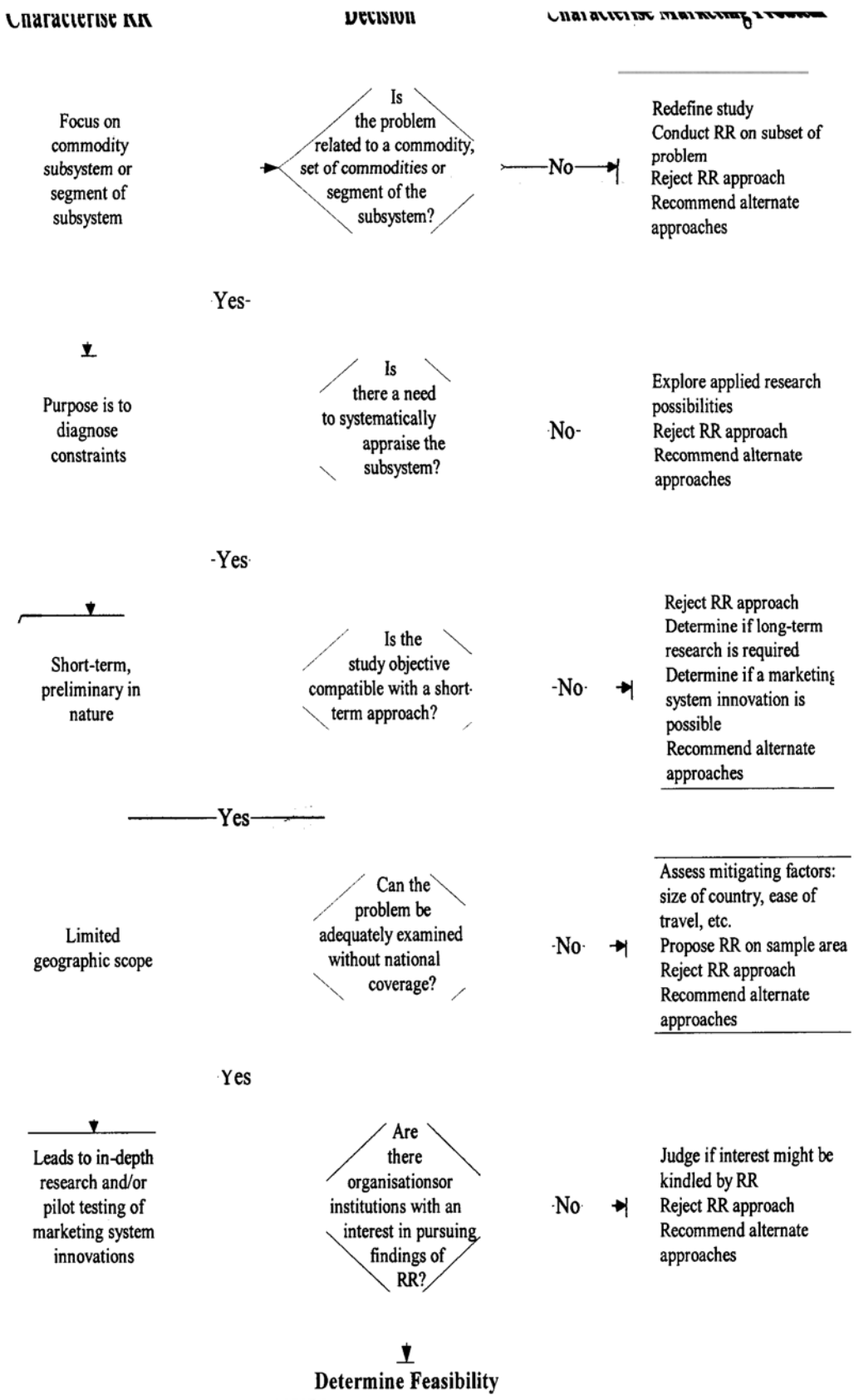
The Rapid Reconnaissance methodology uses a practical and timely approach and is generally a good method to use when seeking information about a commodity subsystem that is not found amongst normal agricultural or forestry data collection, or when the available data is secondary (such as FAO and national agricultural statistics) is inconsistent and/or unreliable.

One of the most common uses for rapid reconnaissance surveys in the past has been for studying agricultural marketing issues. More recent studies have been used in the agroforestry domain. Surveys carried out by ICRAF staff and collaborators have included market analysis of tamarind (Kenya), timber (Kenya), bush mango (Cameroon), medicinals (Cameroon) and indigenous fruits (Equatorial Guinea and Nigeria).

In the literature, terms such as rapid appraisal, rapid assessment and rapid diagnostic assessment may be encountered in place of rapid reconnaissance. Though this session describes a rapid approach to market assessment, this is not to be confused with participatory approaches. Discussion and presentation of in depth market studies and participatory approaches to marketing analysis can be found in Module 6

When to use a Rapid Reconnaissance survey

Holtzman (1993) suggests that to decide whether rapid reconnaissance is an appropriate tool, the following guidelines should be used (as shown in Figure 2). This decision making process is initiated by defining the commodity or product to be researched.



Adapted from (Holtzman et al., 1993)

Figure 2: Guidelines for the Application of the Rapid Reconnaissance Sub-sector Marketing Approach

If the answers to the application guideline questions are negative then rapid reconnaissance may not be the most appropriate methodology to study the problem. These guidelines are not rigid so it may be that one of the questions can be negatively answered but a rapid reconnaissance approach is still considered appropriate. However rapid reconnaissance is essentially a diagnostic tool.

The determination of feasibility is when the researcher considers the following factors to decide whether the rapid reconnaissance survey can go ahead. Firstly, the researcher needs to ascertain whether there are sufficient human and financial resources, either within the organisation or with partner organisations to carry out the rapid reconnaissance. There must be an enabling environment for a successful rapid reconnaissance in that no major constraining factors should affect the survey, i.e. a constraining factor would be if government agencies did not permit the work to be carried out. The quantity and quality of secondary data will affect the conduct of the survey. Depending upon the commodity, the seasonality of the commodity can be of key importance; for example it may be difficult to conduct a survey on a particular fruit if it is not available in the market.

It is important that a rapid reconnaissance does not encompass too many disparate products, for this reason commodities are classified into groups such as fruits, timber products, medicinal products and so on. Groups can be used where the organisation and operation of the commodity sub-sector is similar. A rapid reconnaissance team may concentrate on one commodity in a group, i.e. avocado rather than fruit in general for a variety of reasons including representativeness of the sub-sector, importance in terms of volume or value, the most problematic or the product with the most potential for increased farmer income. It is best if a maximum of two or three commodities are focused on because if the rapid reconnaissance is too wide, sufficient depth may not be reached.

The rapid reconnaissance approach can also be used outside of a single commodity focus, such as assessing the distribution network or, particularly if there are specific difficulties, on individual industries such as fruit processing or timber production

The geographic breadth of rapid reconnaissance may vary depending on the objective and the resources available. The rapid reconnaissance may be limited to one region or to a major urban market and the rural areas where the product is produced. If there are enough researchers available then the rapid reconnaissance may be carried out in more than one region concurrently.

One of the purposes of using the rapid reconnaissance approach is to get results rapidly; therefore the surveys take from a few weeks to three months in duration (Holtzman, 1986). A difficulty with the rapid reconnaissance approach can be that due to the time period of the survey it is not possible to collect data and observe over the entire agricultural (or forestry) production and marketing cycle. However, this difficulty can be minimised if secondary data sources are used. The survey should be conducted at an appropriate time in the year, depending on the survey objective such as when the product is harvested, stored or when labour utilisation is at its highest on the farm.

Rapid Reconnaissance survey preparation

Once it has been decided that a rapid reconnaissance survey will be a suitable research methodology to solve the identified problem, there are a range of tasks that must be done before carrying out the fieldwork:

1. Study objectives

General objectives of the study should be developed at this stage and a short outline developed.

2. Choosing the team

To carry out an effective rapid reconnaissance survey, researchers need to have intellectual flexibility, excellent listening skills, an ability to think on one's feet and be able to follow up vague or unclear responses with appropriate, probing questions and a willingness to pursue cross-disciplinary issues and themes (Holzman et al. 1995).

Holtzman et al. (1993, Holtzman, 1986) suggest that one researcher can conduct the rapid reconnaissance. However, the author's experience suggests that a minimum of two researchers compose the team so that the data is captured effectively and that all relevant points raised during the discussion with informants are followed up. The composition of the team may vary depending on the objective of the survey; team members with complementary disciplines (such as an agricultural economist, economic anthropologist and horticulturalist) rather than multi-disciplinary teams are normally best for this type of marketing sub-sector survey. Language may also be a deciding factor in the team composition as a translator may be necessary; it is often beneficial to have at least one member of the team who can speak the local dialect, for example whilst many people in Kenya speak Kiswahili and some English, respondents may be more informative if a team member can speak Ki-Meru or Kikuyu when working in the Mt. Kenya area. Another approach may be to have two team members plus a third member who changes according to the market, this third person should be known (or their function known) to the market actors, for example it may be possible to work with a locally based collaborator who can act as a facilitator.

The roles and tasks of the team members should be defined at this stage.

3. Review Relevant Market Studies and Secondary Data:

Information should be collected on any studies that have been carried out that have any relevance to agricultural/forestry marketing and to commodity subsystems in the country of research. Export and import data may also be of relevance depending upon the objective of the study. Obtaining this type of data may often mean contacting a variety of organisations including government officials and international organisations, researchers should ensure that make prior appointments with holders of secondary data and that they carry sufficient documentation identifying their mission and organisation. The Internet may also be a useful tool to use in information gathering.

The aim of obtaining this data is to learn about the organisation and performance of the commodity marketing system being researched, assess commodity competitiveness and develop some initial hypotheses on the system performance and find out what areas of research that have either previously been well-covered or not investigated.

4. Clarify objectives

The researcher should now have sufficient information to be able to define specific objectives (rather than general objectives as in step 1.).

5. Define the Key Areas of the Survey:

Rapid reconnaissance surveys are not intended to provide a complete analysis of the entire system and it is important to establish the key factors in the system and identify the key areas to investigate.

Key areas (suggested by Holzman et al. 1995, Holtzman et al. 1993, Holtzman, 1986) include: commodity characteristics; consumption patterns; supply situation, price relationships and seasonality; marketing system participants and organisation; sub-sector and marketing system operation or behaviour; marketing system infrastructure; government marketing institutions and policies, international trade and commodity competitiveness. The key areas selected will depend on the specific objectives of the study and the data obtained from secondary sources.

All variables are not quantified, however some precise estimates i.e. marketing costs (particularly disproportionately high marketing costs) may be required depending upon the objective of the survey.

6. Select Key Informants

Key informants may be involved in the sub-sector under study (sub-sector participants) or outside the system (knowledgeable observers).

A few sub-sector participants may have a good overall understanding of the system for a variety of reasons, i.e., they may simultaneously fulfil a number of functions within a system such as transporting, wholesale and exporting activities or they may have been involved in the sub-sector for a number of years. Alternatively sub-sector participants may be able to give useful observations about their level of operation within the system. It can be useful to ensure that at least one sub-sector participant is selected at each level of the system.

Knowledgeable observers will vary from survey to survey but will probably have a useful perspective of the market system. Examples include analysts in government agencies, researchers (in universities or institutes), and NGO workers. Some knowledgeable observers may be able to assist before commencing the fieldwork; this can be particularly useful when identifying whether a commodity is currently in the market and when the market days occur. If possible knowledgeable observers based in the field should be contacted ahead of time and appointments made.

7. Preliminary report

An initial outline of the final report should be drafted before starting the fieldwork.

8. Team meetings and Training

The rapid reconnaissance team need to discuss methodology, review literature and secondary data prior to undertaking fieldwork.

If the researcher plans to use more than one team and/or there is a need to train the rapid reconnaissance team members then this should take place at this time. Practicing in a market that is not going to be used in the survey can be a useful training tool and is particularly recommended when team members are unused to participatory methodologies.

9. Develop a Fieldwork Plan, Interview Guidelines and Checklist

Interview strategies need to be developed and guidelines created on relevant issues.

The fieldwork plan should include information for each day's itinerary including locations and people to visit (transport issues should be addressed at this stage). Good planning can be vital for the success of rapid reconnaissance; for example, many markets only operate on particular days during defined hours (in rural areas these markets are often very early or late in the day). It is also useful to find out whether there are times in the week when it is difficult to visit people, i.e. if people are involved in social or religious activities. However, the plan should be flexible to allow the researchers to take advantage of any opportunities that arise or to overcome any problems that may occur.

A checklist of questions should be created by the researchers (examples are given in the literature). The checklist is not the same as a questionnaire, it should be memorised and used by the researcher as a guide to focus the discussions with respondents.

Fieldwork

The first fieldwork action is market observation; this enables the researcher get an overall picture of how the market is operating and to decide how to sample the market population. Depending on the market situation it is useful to visit the market before the survey (or the previous afternoon) to understand how the market operates during the day. It can be very effective to meet with the market administrator at this point and explain the reason for the research to them. The market administrator can also provide information on the market operation i.e. when the market starts and finishes, when the wholesalers arrive and so on.

Sampling

The aim of the sample frame is to ensure that all the elements in the marketing chain that can be found in the market are covered. The steps in sampling are as follows:

1. Visit the representative markets and observe the activities and actors.

2. Estimate the population (number of people) engaged in the market in the commodity being researched.

3. Each type of actor population should be included in the survey. Remember that as well as producers, transporters and traders there are people performing more than one function. These are the different actors that form the marketing channel and are well described by Mendoza (1995). Also that there will be different types of traders including wholesalers and retailers, in some markets wholesalers may be found in a particular section of the market or at a certain point in the day e.g. early morning. If researching some products such as a particular fruit i.e. avocado, note that some

traders may specialise in avocado whereas others may sell a range of fruits. Seek to interview all levels of actor so that information can be crosschecked and compared.

4. Choose a representative sample of each population to interview; this should reflect the situation in the market. As Medonza (1995) states, there is no fixed rule to decide the number of interviews needed at each stage or segment of the marketing chain. The main reason for this is that the situation can vary tremendously, for example one may find less than 5 wholesalers in a rural market for one particular product and more than 50 wholesalers in an urban market. In practice the author recommends that at least 3 people be interviewed from each market segment. Compare the information that has been given, if the data is variable then continue interviewing until clear data emerges. Aim to cover the breadth of actor found in the market.

5. If the survey is to be conducted outside the market then a similar strategy can be adopted but to seek to stratify the market first. For example, if conducting a rapid survey of timber including portable sawmillers, timber yards and sawmills then it is probable that the divisional forestry officer can advise on the location, type and size of these organisations.

Interviewing

Interviews are informal but, using the guidelines previously prepared, the researchers will attempt to cover issues in a particular order. Interviews will vary in time and format depending upon a variety of factors such as the respondent's answers, demeanour and knowledge, in this way the researchers can concentrate on potentially useful lines of discussion. Different respondents in the same layer in the marketing system may be asked different questions depending on how much time the respondent has available and whether a particular aspect has been sufficiently covered.

It is important to appreciate that actors in the marketing system are liable to be busy and may only have a limited amount of time available at their disposal; it may be necessary, for example at a timber yard or fruit market stall, to let the respondent deal with a customer before continuing the interview – don't forget this also provides an opportunity to learn. If interviews are being carried out in a busy market it can be useful, depending on the market and the study objectives, to try and get the bulk of the interviewing done early in the day before the market gets really crowded.

Researchers need to focus the interview on specific issues and problems. Respondents often welcome the opportunity to speak about issues that they find especially interesting or frustrating. Challenging a respondent on their views can reap benefits if it is done in a non-aggressive manner, this approach can be useful when answers are incomplete or when the information appears to contradict information gained from other sources.

As mentioned in the sampling section above it is essential to incorporate all levels of the market channel in the survey from porters to the market administrator. It can be helpful after the initial meeting with the market administrator (before the survey) to make an appointment for after the interviews held in the market. The reason for this is that the market administrator is a good example of a key informant (see above section on preparation) and they may have a good amount of data available or alternatively can often help with facilitating the survey particularly if some informants are suspicious of strangers.

When market key informants such as particularly knowledgeable wholesalers or producers are located it is often useful to offer a soda or tea at a local bar or café (an appointment can be made for later in the day). It is then easier to have an in-depth interview where notes can be taken.

As with any fieldwork it is important to record information in a timely manner, preferably straight after each interview so that notes are as complete and accurate as possible.

If more than one rapid reconnaissance team is being used to carry out fieldwork then regular meetings and communication should take place so that the survey stays focused and goes in the same direction. The frequency of the meetings will depend on the logistics of the survey.

(For more information on participatory interviewing techniques review the module on on participatory techniques)

Data collection

The data collected depends largely on the specific objectives of the survey. However, there the following data may be appropriate:

- Determine the different types of agents at each stage of the marketing chain and the possible size (number of stages) of the marketing channel.
- Assess the geographic spread of the commodity trade, this means seeking to understand where the production, selling and consumer locations are.
- Understand the different marketing margins (the share of the final selling price that is captured by a actor in the marketing chain). Depending on the objectives this type of data collection is normally necessary only at a superficial level.
- Main constraints found by the different agents in the marketing channel.

Data can be kept initially per market before being compared and amalgamated. It is useful to keep the original data for each market so that if there is a query it is possible to find out where the data came from. In this type of survey it is not practical to use a database to store data it is better when kept as text.

Data analysis

The techniques for data analysis listed below are not intended to include every suitable technique, rather to give some idea on the insights that can be derived from the data gathered in the rapid reconnaissance survey. The data analysis that will be suitable for a particular rapid reconnaissance will depend on the objective of the survey and the data available through literature reviews and secondary data collection.

The aim for the data analysis is frequently to achieve a broad overview of a particular commodity trade because there is often a lack of available information. Due to the short period of time in this type of survey it is not possible (or desirable) to get exhaustive detail a range of different trade aspects. Therefore the goal is to concentrate on a range of areas rather than one specific area to the detriment of the other aspects. For example the survey on tamarind in Kenya (Betser, 1999) lasted one month and assessed the geographic spread of the trade, the marketing channels, marketing margins, seasonal demand and supply fluctuations, key constraints and product quality issues.

However if the rapid reconnaissance survey is designed solely to assess one aspect of the trade such as storage then the researchers should ensure that they do not get sidetracked into researching all the other issues that are involved in the trade.

Specific examples in the use of historical production and price data, and marketing channels and margins in rapid reconnaissance are given by Morris (1995) to demonstrate some of the key findings from the utilisation of two of these techniques.

Price Analysis: There are various types of price analysis that can be used in rapid reconnaissance including trends in real prices; relative price relationships, international/domestic price comparison; seasonal price variation; interspatial price variation; marketing margins, commodity/input price ratio and processed product/raw material price ratio (Holtzman, 1986).

Analysis of historical production and price data: It can be useful to assess historical production and price date to ascertain how one commodity has behaved compared with alternative commodities. An example of the type of perceptions that can be gained using this form of data analysis is described as follows:

After completing a rapid reconnaissance Survey for maize in Paraguay, Morris (1995) compared maize with wheat, soybean, cotton, cassava and bean between 1978 and 1989. Morris (1995) was able to make several conclusions using this analysis. Using historical price data information from the Paraguay ministry of Agriculture and Livestock and a survey an investigation was made into farmers claims that maize prices were highly variable. Results showed that the problem of maize price instability was mainly a result of excessive seasonal variability rather than of variability from one year to the next. Farmers felt prices were highly variable partly because the variability in maize (with no international market) was high compared to the prices of other crops in the farming system such as soybean and cotton, because the prices of these other crops are based on international prices and had lower variability within the year.

Marketing Channels and Margins: Marketing is generally viewed as a 'system' because it is made up of several, interrelated structures that together with production, distribution, and consumption, underpin the economic process (Mendoza, 1995). The analysis of marketing channels is undertaken to obtain a systematic knowledge of the flow of goods and services from producer to consumer. This information is achieved by studying the market actors (or participants).

Marketing margins are the added incomes achieved as the commodity is exchanged along the marketing channel. However, this income is not total profit and a large marketing margin does not indicate how much profit a seller may have achieved; net marketing margins measure the share of the final selling price that is captured by a particular agent in the marketing chain.

An example of using marketing margins is in the case study for tamarind in Kenya (Betser, 1999). These results showed that the profits of wholesalers (45%) were estimated to be almost double those of the retail traders (23%). The study could not assess the costs of the farmers so their profit margin could not be assessed however the fact that the farmers received only 5% of the gross marketing margin indicated that their net marketing margin was likely to be very small and possibly non-existent if labour costs were included. It was also clearly indicated that selling to the export market was highly lucrative as few additional costs were required.

Rapid Reconnaissance Surveys within the Domestication Process

This type of market analysis can feed into the domestication process in a number of ways including specific surveys on certain topics such as storage, genetic variation (in products), tree management (i.e timber or fruit quality). Two specific examples are given below:

1. **Priority Setting:** Rapid market surveys can be an important component within the priority setting process to quickly capture the market perspective on certain products compared with farmer's knowledge. One example can be seen in the recent rapid reconnaissance surveys conducted in Central Africa in 2000 that clearly demonstrated the high regional demand for *Enantia chlorantha.* This species was not included after the first priority setting exercise, but since priority setting is an iterative process the species is now being researched by ICRAF and the vegetative propagation requirements for this species investigated

2. **Selection:** Studies that include the market perception on quality and preferences of specific traits can be useful. For example, understanding the market preferences of fruits such as Dacryodes edulis and Irvingia spp. aids farmers in selecting and their germplasm so that they can have trees selected for market orientated characteristics as well as their own preferences. This information can also be part of the cultivar selection process.

Conclusion

If the aim is to achieve a good general understanding of a commodity sub-sector in a timely fashion, using minimal resources then rapid reconnaissance can be used effectively. Although useful, rapid reconnaissance is not always the most suitable tool in for sub-sector marketing analysis. On the one hand when the problems are already well known, a more narrow focused study based on more formal research methods, is often more suitable. On the other hand if the objective is to develop markets for tree products with and/or for farmers, then even at the outset of the marketing research for tree domestication it is important to incorporate farmers analysis into market surveys. The implementation of in depth market analysis, and participatory market analysis and development are further discussed in module 6.

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