CROP POST HARVEST PROGRAMME

Overcoming informational constraints: improving horticultural marketing and technical information flows to smallholders

R 7151 (ZB 0126)

FINAL TECHNICAL REPORT

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Executive Summary

This project concerns the organisation and performance of vegetable marketing in Ghana, Tanzania and Zimbabwe, representing three different regions of Sub-Saharan Africa (SSA). Smallholder farmers in these countries – and more widely in SSA - face a range of marketing problems, among which informational constraints are much cited but little researched. Producers experience a weak bargaining position vis-à-vis traders: often they do not have timely access to salient and accurate information on prices, locations of effective demand, preferred quality characteristics of horticultural produce, nor alternative and trustworthy marketing channels.

Solutions to such problems conventionally have been sought through state provision of information. The approach here is that market institutions will evolve to overcome the problems of uncertainty and the failures in public information systems. The project aims were to suggest mechanisms for improving information flows in markets serving poor producers and other stakeholders, and to find an appropriate balance between the coordinating role of the state and private initiatives.

The research in each country aimed to explore slightly different elements of informational problems. In Ghana, the issue was uncertainty: informational imperfections arising from limited business acumen among producers and high levels of mistrust between stakeholders. The research in Tanzania explored informational issues connected with social heterogeneity and market imperfections. In Zimbabwe, the focus was types of information needs and the potential for delivery by the public sector.

The research was a collaborative task undertaken by a team from the UK (Universities of Kingston, Reading and Wye College, London); University of Ghana at Legon; Sokoine University of Agriculture, Tanzania; and the Ministry of Agriculture (Agritex), Zimbabwe. Activities included desk research, project and stakeholder workshops and electronic consultations, field work, analysis and report writing. Field work included quantitative data collection, qualitative research through case studies, and action research through pilot information exercises.

Outputs are primarily knowledge-based. Collaborators, particularly in Zimbabwe, have gained new skills and knowledge of informational issues affecting smallholders. The Country Reports, Summary Report Literature Review and Briefing are the main outputs for dissemination. In addition, relevant information will be made available to the academic community and through the internet. The Reports' recommendations concern the use of standard form contracts to enhance contractual certainty in the supply chain, improving market knowledge and business orientation, appropriate information and delivery mechanisms, and further work.

Regarding development goals, livelihoods of poor people will be enhanced by the delivery of better information about market opportunities, and increased security of contractual arrangements between producers and traders. The recommendations and improved knowledge about vegetable marketing are likely to be relevant not only to the immediate target beneficiaries but also to stakeholders in other market systems and other countries. Recommendations will also contribute to the policy debate about the appropriate role for public and private initiatives in adjusting economies.

Background

In recent years major changes have taken place in mainstream development thinking. They centre around the reduction of the role of the state in economic management, and liberalising markets in order 'to unleash the creative forces of entrepreneurship, in particular within smallholder agriculture and indigenous trading systems' (Poulton, Dorward, Kydd, Poole and Smith, 1998: 2). Increasingly, a competitive and efficient private trading sector is recognised as being a necessary condition for the integration of rural communities into the processes of national development. Improvements in market institutions (the formal and informal rules and norms of behaviour, or 'rules of the game') and organisations (the political, economic and social bodies, or 'players') affect the performance of markets by reducing the costs of economic exchange (North, 1990). This presupposes not state control of the economy, but planning by individual economic agents such as smallholder farmers and traders, within an enabling environment that is conditioned by the state.

Researchable constraint: informational imperfections in SSA vegetable markets

Smallholder farmers in SSA face a range of marketing and exchange problems, among which informational constraints are much cited but little researched. Barriers to market access and information flows may be structural and behavioural. Barriers of a horizontal nature may be gender, family, educational levels, ethnicity and other social factors. Moreover, information that is available to rural communities may not be equally distributed, and smaller scale producers and those distanced further from the market are more likely to be disadvantaged. Vertical characteristics include personalised repeat dealing (clientisation), exclusivity, trust and reputation effects. The current significance of personalised relations in developing economies is receiving new research interest.

Analysis of imperfect market coordination in developing economies, and the solutions proposed to the problems and informational imperfections identified, must take account of these fundamental structural features of markets and behavioural characteristics of individuals and firms.

The importance of informational imperfections

The results of informational barriers are unexploited market opportunities, seasonal gluts and produce with inadequate quality specification and control, inequitable returns to producers, peri-harvest (in field pre-, and post-harvest) losses and fundamentally poor returns to the production and marketing system as a whole. In vegetable and fruit markets, the economic problems are magnified compared with other markets due to high product perishability and other technical aspects of horticultural products.

Researchers in each of the collaborating organisations have undertaken research previously into rural marketing systems in developing and other countries, but problems of marketing information have not been tackled directly. Previous work undertaken by other researchers has been cited in the references below, and a full account is contained in the Literature Review.

Ghana – levels of market knowledge, and mistrust

In Ghana, vegetable production is the latest in a series of commercial agricultural enterprises, following rubber, cocoa and maize, that have been practised in the Brong Ahafo Region (BAR). BAR is now an important source of vegetables for urban centres and the Region has the potential to supply larger quantities of a greater range of vegetables to markets such as Accra. Moreover, there is evidence of increasing exports to neighbouring Francophone

countries. Approximately 60% of the local population is said to be engaged in vegetable production in one way or another. The participation rate of women is high both in production and trade. A major feature of horticultural marketing is seasonal gluts, wildly fluctuating prices and considerable physical losses.

A major initiative with which project recommendations must be consistent is the Agricultural Services Sector Investment Programme (AGSSIP). The salient elements of the AGSSIP cover policy reforms, institutional reforms and investment programmes for:

- improving access to markets and promoting the production and export of selected commodities;
- facilitating access to agricultural technology;
- facilitating and increasing access to rural finance;
- providing rural infrastructure and utilities; and
- building institutional capacity.

AGSSIP recommends that market information gathering, analysis and dissemination should be strengthened. Market information should be disseminated in the local markets through the use of billboards, public address systems, marketing associations, in addition to the present system of radio and newspaper advertisements.

The Ministry of Food and Agriculture (1997) is more explicit about improvements to agricultural marketing and information systems. In Section 3.4 'Marketing and information' (pp. 15-16) the recommendations included the need to:

- study current agricultural marketing practices and remove exploitative elements;
- extend the use of radio to broadcast information through public-private enterprise collaboration;
- provide production and market information to farmers' associations through fortnightly bulletins of MOFA or District Assemblies.

Latterly, horticultural marketing in central Ghana has been the subject of a number of studies connected with the Integrated Food Crop Systems Project in Sunyani, an adaptive research initiative begun in 1994, which identified vegetable production as an important and increasing part of Ghana's farming systems, providing both income and food security (Orchard and IFCSP Team, 1997). Also, vegetable crops constitute one of the seventeen prioritised commodity programmes of the 1996-1998 Medium Term Action Plan (MTAP) of the National Agricultural Research Strategic Plan (NARSP) of the National Agricultural Research Project (NARP), initiated in 1991.

Among the information-related marketing problems reported in the Ghana horticultural sector are concerns about producers' business strategies and the mechanisms of vertical coordination (Lyon and IFCSP Team, 1997; Lyon, 1998):

- limited producer 'market knowledge' in respect of understanding market requirements and distribution channels, awareness of new crops and crop varieties, monitoring market signals and planning of production and sales activities;
- lack of cooperative vertical trading relationships because of pervasive mutual mistrust among farmers and vegetable traders.

The project aim was to investigate informational imperfections in the vegetable system of Brong Ahafo Region (BAR), identify potential mechanisms to overcome imperfections, and suggest an appropriate balance between the coordinating role of the state and private initiatives.

Tanzania – access effects of socioeconomic heterogeneity

Food marketing has strategic importance to the Tanzanian economy, but for decades traders have been seen by Tanzanians as pariahs. This contradiction partly explains why food production in the country has remained primarily a subsistence activity and why surplus production for sale has been difficult to encourage. The difficulties in encouraging smallholders to produce for markets have arisen from a fundamental mis-match between the motivation of the state and the markets on the one hand and the peasant farmers on the other. The Tanzanian government are increasingly interested in the potential that non-traditional crops may afford. One of the major problems for producers and traders alike is the seasonal peaks and troughs in the market.

A recent industry review conducted by the MDB identified the main constraints of fruit and vegetable production as limited supply of good quality seeds, the high costs of agrochemicals, and poor marketing infrastructure and insufficient market information among traders and producers (Mbelwa, 1994: 8). That report goes on to recommend studies to ensure that a more comprehensive understanding is gained of the industry. However, a recent consultants' report, while presenting a comprehensive study on certain aspects of the industry, devoted only one short paragraph from a 90 page report to the issue of market information (Kiriwaggulu, Mbelwa and Mashamba, 1996).

Among a number of recent studies on urban and peri-urban agriculture and horticulture in Tanzania, some have considered the issue of marketing, but few have devoted time to the issue of market information. Mascarenhas (1984), in particular, argued that the horticultural sector in Tanzania and in other SSA countries is of strategic significance to the nutritional status of the population. He argues that there is an urgent need to gain a better understanding of the production and marketing of horticultural crops. An aspect of the current deficiency to which he alludes is the inadequate information available about the markets.

Research conducted at the end of the 1980s on fruit and vegetable supply to the Dar es Salaam market showed that most farmers found radio broadcasts of market information more or less useless as the price at the Dar es Salaam wholesale market did not necessarily relate to the prices farmers could negotiate with rural buyers (Lynch, 1992). A later study also found that most horticultural traders found such radio broadcasts inadequate for their needs (Marketing Development Bureau, 1993). What traders mainly wanted from market information was not outdated prices but a guide to new market opportunities.

The studies on agriculture in Tanzania raise a number of research issues. These include the role of women, access to and control over productive resources, and informational constraints.

Zimbabwe – information types and delivery systems

Efficient and equitable performance of markets requires that relevant information be accessible to a wide range of incumbent market participants and potential new entrants. Information is required by traders for spatial and temporal arbitrage decisions, by producers

for production and marketing decisions, and by government for policy making, especially with regard to food security early warning functions. Where information flows are poor, the costs and risks of marketing activity are high, with negative consequences for both producers and consumers. Moreover, those with superior access to information will be able to garner monopoly profits and to expand market share at the expense of the less well-informed.

The geographical dispersion of smallholder producers and the under-developed nature of roads and communications infrastructure in many rural areas raise search costs for both producers and agricultural traders. The isolation of many smallholders from major markets weakens their bargaining position with traders who do come to their areas. Isolation also weakens their competitive position in major markets *vis-à-vis* producers in more accessible or better served areas. Thus, access to marketing information is a vital component of the competitiveness of different producer and trading groups within and across nations.

However, there is considerable debate not only on how marketing information should be made available to smallholder agricultural producers, but also on what information should be provided. As Robbins (1998) has argued, the most appropriate design for a market information system will vary according to the needs and circumstances of different countries, including the organisational capacity of different actors.

Some authors have suggested that it might be more profitable to provide other types of marketing information to producers. This concerns information on alternative marketing channels and their respective terms of business, quality requirements and (past and expected) trends in particular markets (Shepherd, 1997).

Agritex, the national extension agency in Zimbabwe, had already identified informational problems as an obstacle to better marketing by smallholders in Zimbabwe and was engaged in a fluid email debate with researchers in Wye College concerning informational problems in 1997. The research idea was generated during this time. The correspondence was submitted with the FPM.

In the Zimbabwe study, therefore, a pilot exercise was conducted to provide both current price and broader marketing information to smallholder horticultural producers in two districts of north-eastern Zimbabwe. This programme was coordinated by Agritex, in collaboration with the NGO Veco (formerly Coopibo).

Project Purpose

The purpose of Project 7151 was to *develop mechanisms to increase market awareness and market orientation of targeted [horticultural] farmers and traders*.

The Ghana and Tanzania studies emphasised the improvement of information flows and other services through better coordination between producers and traders, and the identification of mechanisms to overcome mistrust between market system stakeholders. Consideration was given to the potential role of local government. The Zimbabwe study examined the potential for a reasonably well-functioning government to provide appropriate marketing information to smallholders.

Research Activities

The research activities were a collaborative task undertaken by researchers in the UK (Universities of Kingston, Reading and Wye College, London), University of Ghana at

Legon, Sokoine University of Agriculture, Tanzania, and the Ministry of Agriculture (Agritex), Zimbabwe.

Activities included desk research, project and stakeholder workshops and electronic consultations, field work, analysis and report writing. Field work included quantitative data collection, qualitative research through case studies, and action research through pilot information and training exercises.

A summary account of the activities is given below (1-6) followed by a detailed account for each target country (Ghana, Tanzania and Zimbabwe). An overview of the results of data collection and analysis for each country (Knowledge and recommendations) is given under 'Outputs', wherein reference is made also to the various Reports.

1 Preparatory activities and overseas visits

Electronic consultations and workshops were held in the UK involving the UK principal researchers and collaborators to progress the overview and critical assessment of previous research, and to prepare the detailed research plan and methodology. Initial visits were also made to proposed sites of field work with the in-country collaborators. The results of UK-based discussions were communicated to in-target country collaborators and major points were discussed by electronic means.

2 Research plan

The final research plan was prepared in the UK by the principal investigators and collaborators, with certain details to be finalised during the second target country visits. This Detailed Research Plan was submitted to CPHP, and approval was secured for a modified methodology and activity chart for the Zimbabwe research.

3 Second visits to target countries, and field work

Second visits to target countries by the principal researchers were made to finalise practical methods and to initiate the field work.

The data collection methods were eclectic, employing qualitative methodologies in order to capture the complex and particular characteristics and incentive structures of relational contracting, including case studies and key informant interviews. These studies built on a variety of existing reports that contained relevant baseline data and information. The fieldwork methodology in Ghana paralleled that in Tanzania where the respective states of the horticultural sectors are comparable.

In Ghana and Tanzania, there were three principal investigative approaches:

- formal surveys conducted among producers to establish farmers' information sources and needs, testing for market orientation and access;
- case studies of successful producer organisations;
- trader interviews to identify the incentives for closer vertical coordination with producers.

In Zimbabwe, there is considerable polarisation of the agricultural system between large scale commercial farmers and smallholders. It became evident during the initial visit that the potential for smallholder inclusion in commercial horticultural markets serving the main destination markets – principally Harare – was very limited. A different research approach and methodology from those employed in Ghana and Tanzania were developed and agreed

with CPHP to test for the potential for formal provision of appropriate marketing information. The relatively high-level capacity of the public sector in Zimbabwe was a factor in making this choice. In order to match the progress of the horticultural production season, it followed a modified activity chart.

4/5 Third target country visits, country workshops and guidelines

Visits were made by UK researchers to target countries (Ghana and Tanzania in July 1999, and Zimbabwe in October/November 1999) to discuss the results of initial analyses with stakeholders in the workshops. Guidelines for action were discussed with in-country stakeholders, and subsequently in other fora in the UK. Reports were produced for each workshop. The recommendations were subsequently developed and incorporated in the final Country Reports.

6 Final reports

The final reports are the major dissemination mechanism. UK principal investigators were responsible for drafting and agreeing the three Country Reports with in-country collaborators. These were submitted to CPHP by electronic means in the first instance, and hard copies were sent on 20 January 2000. The initial literature review was also updated and at the time of writing has not been resubmitted to CPHP. A Summary Report and Briefing Note are being compiled to present the overall project in abbreviated formats for wider dissemination.

The activities are detailed below for each country.

Ghana

Preliminary visits

The field survey was preceded by two preliminary visits to the survey area by the principal investigator from Wye College and the local collaborator. The first visit in September 1998 was intended to establish contacts with officials in the agricultural system, that is, civil servants, researchers and others in non-formal organisations. It was also to seek local literature on vegetable markets and development strategies, establish contact with local organisations and familiarise the project team with the decentralisation of decision making in development policy to Region and District level.

The second visit in January 1999 was to select target areas, and test and initiate the data collection instruments. Discussions were held with the Regional Director of Agriculture, District Directors of Agriculture and their officials that provided guidelines for the selection of the villages for the survey itself.

Selection of field sites

In consultation with District officials of the Ministry of Agriculture, ten villages were selected from the five Districts for the survey. In Wenchi District, Awisa was selected mainly because it was on the main road and access was not a problem. Akrobi in the same District had proximity to Wenchi, the District capital, as an advantage while Badu, the third village selected for the District, was in a remote area with the road leading to the village untarred. All three villages produced a mixture of vegetables. Tuobodom and Tanoboase in the Techiman District and Manso in Nkoranza District were chosen mainly because tomato constitutes the major vegetable that is grown. Tuobodom also had a largely unsuccessful tomato farmers' association.

Abesim and Fiapre in Sunyani District both had the advantage of proximity to the regional capital and they represented additional variety in the sense that they offered opportunities for peri-urban horticultural production.

Dormaa District was selected for the survey mainly because it borders Côte D'Ivoire and enjoys opportunities for cross-border trade in horticultural products. Duasidan and Benekrom villages in the District were chosen because they produce mainly for the Abidjan market in Côte D'Ivoire. In addition, Duasidan was remote from the main Dormaa-Côte D'Ivoire road.

Data collection

The use of purposive sampling permitted identification of the Districts and villages where there might be replicable cases of enhanced marketing practices. Within the selected villages, convenience sampling was used under supervision of the field research team. Convenience sampling is a non-probability technique that has the advantages of reduced cost and ease of administration. Because the selection of the sampling units is usually left to the enumerator, selection bias is a serious potential problem (Malhotra, 1999). However, this was considered to be unimportant for this project, because the purpose was qualitative rather than quantitative, ie to identify enhanced marketing practices. It was not the intention to make population inferences from the sample.

Four skilled enumerators were employed locally in Sunyani and trained for the implementation of the questionnaires. The survey was effected under the supervision of the local collaborator from ISSER, University of Ghana at Legon, and a research assistant employed by the NGO Technoserve. The field research team accompanied the enumerator team from one village to another until the survey was completed.

Table 1 Distribution of farmers by village and District

Village	No. of Farmers	District	No. of Farmers	Percent of Farmers
Awisa	16	Wenchi	36	29.5
Akrobi	8	Wenchi		
Badu	12	Wenchi		
Abesim	12	Sunyani	24	19.7
Fiapre	12	Sunyani		
Tuobodom	14	Techiman	24	19.7
Tanoboase	10	Techiman		
Manso	14	Nkoranza	14	11.5
Benekrom	12	Dormaa	24	19.7
Duasidan	12	Dormaa		
Total	122		122	100.0

Table 1 shows the distribution of farmers interviewed by District. It was decided that a minimum of 8 and a maximum of 12 farmers should be interviewed in each selected village. The maximum was exceeded in Manso village because it was the only village selected for the Nkoranza District. A total of 122 farmers were interviewed.

Data analysis and presentation

Data were entered in Ghana (ISSER, University of Ghana, Legon) and checked at Wye College, University of London. They were analysed using descriptive statistical procedures of the SPSS programme. Initial results and potential recommendations were presented and

discussed at a project stakeholder workshop in Sunyani, BAR in July 1999[1], and a workshop at Wye College in July 1999[2], and again at a seminar at the University of Reading in December 1999[3].

Workshop and guidelines

A third visit was made by two members of the Wye team in July to attend the workshop with project stakeholders and hold further discussions with stakeholders, including District and Regional Ministry of Agriculture officials. The workshop was followed by follow-up discussions with the Regional Director of Agriculture. A report was produced specifically dealing with the workshop. Guidelines for project recommendations were developed as a result of the workshop, other presentations and feedback, and were incorporated in the Final Report.

Final Country Report

The final Country Report was based on the initial document prepared by in-country collaborators.

Tanzania

The field work was initiated by a preliminary visit in July 1998 by the Kingston University investigator to Tanzania to work with the Sokoine University of Agriculture (SUA) investigator to identify the field areas. This visit involved visiting a number of areas shortlisted, conducting interviews with key informants (village leaders, agricultural extension officers, NGO representatives, and researchers with complimentary interests) as well as other stakeholders in the horticultural marketing system. The outcome of this visit was the selection of five villages in two regions, Morogoro and Dodoma, the development of the proposed research plan and the generation of draft interview schedules.

A second visit took place in December 1998 to finalise the interview schedules, pilot the survey and begin the case study interviews. This involved visiting the five study villages, conducting a number of interviews, group discussions and beginning the farmer survey. In addition, further key informant interviews were carried out, including more Ministry of Agriculture officers.

The SUA investigator completed the data collection begun in December and supervised the data entry. This was checked and analysed in parallel at Kingston University and SUA.

A third visit took place in July 1999 by the Kingston University investigator and the principal investigator from Wye College to attend a workshop with the project stakeholders. This involved the presentation of the aim of the full project, including the elements in Zimbabwe and Ghana, a presentation of the preliminary results of the Tanzania investigation and discussion among the stakeholders about the key marketing information constraints and possible solutions.

[1] 'Improving Informational Constraints', workshop held in Sunyani, Brong Ahafo Region, Ghana, 5 July 1999.
[2] 'Information in Vegetable Markets in Ghana – a preliminary report', Poole, N.D. (1999), paper presented at the workshop 'Improving Smallholder Market Access in Remote Areas of Sub-Saharan Africa', Wye College, 8-9 July.
[3] 'Market Information and Access for Smallholders in Sub-Saharan Africa', Poole, N.D. (1999), seminar presented at the Department of Agricultural and Food Economics, University of Reading, 6 December.

Survey areas and production conditions

An initial short list of areas for focusing was drawn up as a result of the first visit of the Kingston University investigator to Tanzania. The data collection activities focused on:

- one case study which is well-linked to the market;
- two contrasting areas which are poorly linked to the market but which show potential for the production of horticultural crops;
- some data collection should take place in the key markets ie Dodoma and Dar es Salaam to see how these affect the production activities of the producers and the local traders.

The total 'sample' aimed to complete 100 interviews, 25 in each of four villages. Mvumi Mission and Mbabala A are approximately 45 minutes to one hour by car or bus from Dodoma. A further two villages were selected because they were relatively isolated from a major urban market, Malui and Ulaya Kibaoni both in Kilosa District, Morogoro Region. The fifth village Ngole, was added as it was alongside Ulaya Kibaoni and a number of the farmers interviewed had land in both villages, as they were both in the same ward, and were willing to participate.

The three villages in Kilosa District are located at various distances from Kilosa town where there is limited transport infrastructure. Malui has no bus service, and so villagers rely on travelling by foot or bicycle. In the case of the other two villages there are regular services offered by pickups operating as buses which pass between the Morogoro-Iringa Road and Kilosa Town. Table 2 presents the distribution of the respondents among the village locations. Within the villages the investigators attempted to spread 'sample' to ensure that interviews of farmers reflect farmer differentiation within each village as much as possible. This was to reflect features such as gender, level of wealth, access to resources, services and infrastructure.

Table 2 Distribution of farmer respondents by village and region

Village	No of Farmers	Region	No of Farmers	Percent
Mbabala A	29	Dodoma	57	27.1
Mvumi Mission	28	Dodoma		26.2
Malui	23	Morogoro	50	21.5
Ulaya Kibaoni	16	Morogoro		15.0
Ngole	11	Morogoro		10.3
Total	*107*		*107*	*100.0*

The intention was not to draw conclusions for the population, but to investigate the key themes. There was no attempt to use a rigorous sampling method, in order to reduce the time of execution and therefore the cost. The qualitative nature of the data collection makes the problem of bias less severe.

Three research assistants were recruited and trained to complete the survey. Taking part in various aspects of the first two visits, they were able to clarify the aims and objectives of the project. The SUA investigator supervised their data collection activities and two of the assistants took part in the data entry activities.

A successful producer group was also identified in the first visit as being a useful comparison to the villages, as it clearly has very good links with markets. This is the Atomic Speed Garden group, located close to Mantumbulu Village in Dodoma Urban District. An interview schedule was developed to investigate the relationship between the producers and those who buy from them, their information gathering strategies, how the market influences their production decisions and the relations between the members of the group.

While collecting data in both Dodoma and Morogoro Regions it became clear from interviewing the farmers that there had been a particularly difficult previous season. A recent report (Food and Agriculture Organisation, 1999) estimated that 1 million people in thirteen regions, but particularly in Dodoma, Singida and Morogoro, would require food assistance. The reason for this is related to the flooding caused by particularly heavy unseasonal rains during mid-1998, followed by the failure of the *Vuli* rains (the short rains which fall in November and December. It is to be expected that this poor season may affect the results reported by respondents.

Zimbabwe

The Zimbabwe study took the form of action research. An initial project visit to Zimbabwe was made in September 1998. It was decided that Agritex should provide information to smallholder horticultural producers in two pilot areas. The activities and impact of the programme were monitored to draw lessons relevant both to other parts of Zimbabwe and to other countries in Sub-Saharan Africa.

The pilot work proceeded according to the following stages:

- identification of farmers' existing knowledge and information requirements;
- information gathering (marketing research);
- dissemination of findings;
- evaluation of pilot programme and its impact.

Agritex field work

Following PRA exercises at the nine sites in February (Mudzi) and April (Mutoko) 1999, the following activities were undertaken by Agritex and staff from Veco:

- an investigation of market opportunities at the weekly market at Nyamapanda border crossing, where buyers from Mozambique come on foot to purchase a variety of products, including horticultural products;
- establishment of links with one seed and one chemical supplier, who met producers at target sites in both districts and, in the case of the seed supplier, provided producers at some sites with product samples to be grown on demonstration plots;
- organisation of a visit (in September 1999) to the two main independent wholesalers in Harare, in which two representatives from most sites participated. Those present learnt about the terms on which the wholesalers concerned do business and about some of the seasonal market opportunities that exist for particular commodities;
- preparation of an information pack, provided to all extension officers in the two districts, that included information on: seasonal market opportunities for particular horticultural commodities, crop selection and appropriate crop combinations for use in irrigation rotations, production notes for new / unfamiliar horticultural crops, and details of a range of input suppliers;

- farmers at some sites in Mutoko were trained in the production of summer tomatoes (the higher temperatures and greater humidity raise the incidence of pests and diseases) and in group dynamics;
- collection of current price information on local, provincial and national horticultural markets, and dissemination of this information within the districts through Agritex structures, farmer organisations and on the radio.

Evaluation of the pilot exercise

In late October 1999, an evaluation was carried out by the project team to assess the effectiveness of the horticultural marketing extension activities of Agritex to date and to identify any initial impacts from the provision of marketing information. Each of the nine sites was visited and two group questionnaires administered (generally one with those men present and one with the women). In addition, informal discussions were held with the relevant extension officers, with their district managers and with Veco staff.

Although the original intention had been to disseminate most of the information in the pilot exercise to producers at the nine sites by early April, in time to influence their planting decisions for the main winter season, little information was actually received by then. More information had been received by August/September and in some cases this had influenced the choice of crops in the ground at the time of the evaluation. The extent to which the information supplied to extension officers had been shared with farmers depended on the confidence of the individual officer in handling it.

Considerable interest had been generated by the visits to the independent wholesalers and by the contacts with input suppliers. However, there was wide variation in the extent to which the information gathered during the visit to the wholesalers had been disseminated to the other farmers at the sites. At three of the irrigation schemes in Mudzi, members hold a weekly meeting with the extension officer responsible for their ward. These meetings provided an excellent opportunity for feedback and information sharing. By contrast, in the less organised groupings in Mutoko, information flows amongst farmers were more problematic, with some suspicions that a few dominant members (generally men) kept the most useful information to themselves.

Regular dissemination of current price information had generally proved problematic. In Mudzi, prices could be relayed to irrigation scheme members at the regular weekly meetings, but only as and when such information was received. In Mutoko, although the Agritex district office was extremely creative in search of ways to get price information to field staff, transport and other difficulties meant that there were inevitably delays in getting prices to farmers.

A few of the respondents in Mutoko had sold produce to one or both of the main independent wholesalers during the preceding couple of months. In two cases this was prompted by the organised group visit, as the farmers concerned then realised that they already had crops in the ground that they could sell through the new channels. In the third case, the choice of channel was suggested by a contact in Harare, independent of the extension programme. All sellers were happy with the prices they received. However, there was doubt as to whether the prices offered by the independent wholesalers are always so attractive relative to Mbare prices, whilst the ability of poorer producers to supply to them is limited by their quality requirements, the payment procedures that they follow and by transport constraints. Despite

these reservations, several groups stated their intention to target the independent wholesalers with future harvests.

In terms of other changes already made, three groups had prepared tomatoes for summer production. Many other respondents expressed an interest in growing a variety of new crops, but invariably needed more technical advice before being confident to translate this interest into action.

Conversations with both producers and extension officers suggested that the programme is encouraging a change in thinking - towards greater market orientation - on the part of some groups who had previously treated marketing as merely an add-on to their production activities. In irrigation schemes in Mudzi, the information supplied to extension officers has assisted moves towards greater farmer participation in the planning of the cropping schedule. In Mutoko several respondents noted with appreciation that Agritex staff have started to pay attention to horticulture - in keeping with its importance to their livelihood strategies. The implications of the pilot exercise are drawn out in the section 'Contribution of outputs'.

Outputs

The outputs of the project are knowledge-based, and are not amenable to quantitative presentation. This section will be kept as brief as possible, commensurate with the risk of sacrificing valuable detail. Specific recommendations are given below. Detailed results of the field work and recommendations are included in the final Country Reports, and will be summarised in the Summary Report that is being compiled (see below).

- The initial outputs were the overview and critical assessment of previous research and knowledge and the outline of the research methodology. These were submitted to CPHP in November 1998 as required by Dr Nigel Poulter as a key milestone (4 March 1998). The research team will revise the literature review and disseminate it in due course.

- Increased knowledge and understanding of the local market systems and informational problems were presented first to CPHP as reports of the in-country field work, and formed the basis for the in-country workshops. Workshop reports were also presented to CPHP. The guidelines for action were not submitted separately but constitute the recommendations included in the three final Country Reports. These have also been disseminated to overseas collaborators and reproduction of the Reports is under way to facilitate further dissemination in-country and to interested parties who have already approached project management. Dissemination of particular results has also taken place through a workshop in Wye and a seminar in Reading[4].

It is considered that all the outputs were achieved. There is a question about the guidelines, which are more policy-oriented than those envisaged in the original proposal, which lacked clarity on this point. These have evolved into the recommendations included in the final reports.

[4] 'Information in Vegetable Markets in Ghana – a preliminary report', Poole, N.D. (1999), paper presented at the workshop 'Improving Smallholder Market Access in Remote Areas of Sub-Saharan Africa', Wye College, 8-9 July. Also, 'Market Information and Access for Smallholders in Sub-Saharan Africa', Poole, N.D. (1999), seminar presented at the Department of Agricultural and Food Economics, University of Reading, 6 December.

A summary of the knowledge generated and the appropriate recommendations are presented below by country.

Ghana outputs

New knowledge

The format of Table 3 below is derived from the research framework presented in the Detailed Research Plan. The Table summarises the results of the quantitative and qualitative field work in Ghana. Highlights are enumerated in the following sections.

Table 3 Factors influencing marketing strategies of active vegetable farmers, BAR

Resources	• **natural and climatic conditions** – production conditions are favourable, notwithstanding seasonal factors which constrain water supply, cultivation, harvesting and marketing • **factors of production** – land tenure takes various forms including female ownership and control, and renting is widespread – soil quality and water availability outside seasonal constraints are not limiting factors • **inputs and credit** – the production system is input-intensive in respect of agrochemicals, potentially compromising long-term sustainability – production is dependent on farm-saved seed, either by the individual producer or by neighbouring farmers; seed quality and varietal choice therefore are compromised – farmers argued that availability of seeds, fertilisers and pesticides is a constraint – use of credit to farmers is very restricted, and only rarely provided by formal sources
Personal attitudes, aptitudes and attributes	• **personal characteristics** – there is evidence of increasing participation rate of men – young male entry may be temporary and depends on greater use of rented land – female farmers apparently are disadvantaged by traditional sociocultural factors • **wealth and diversity of income sources** – considerable heterogeneity exists in the scale of vegetable production and in the level of diversification into other forms of agricultural production – considerable diversity exists in levels and sources of income, age and household size • **level of management skills, market knowledge and experiential learning** – only half of farmers consider that they are well informed about current market prices – most farmers adapt production and harvesting strategies according to historic price information and their own price expectations, but fewer than half keep records • **risk management and cooperative tendencies** – collective action by producers is an important potential mechanism to increase levels of market knowledge, enhance group solidarity and establish bargaining power – collective negotiation and 'loose associations' permit opportunism by free-riders – mistrust of traders by farmers is pervasive - and sometimes mutual – and centres on default on the terms of exchange, particularly payment problems – farm sales of produce on credit are partly impelled by cash needs, but both farmers and traders engage in unremunerative exchange to maintain the client relationship
External opportunities and constraints	• **product characteristics** – commodity-specific marketing constrains production patterns and trader activity – grading, quality control, standardisation and packaging are generally deficient – improved vertical coordination and better incentives through clientisation encourages superior production practices, grading, quality control, standardisation and packaging for the Francophone, especially Côte D'Ivoire (CDI) market • **physical infrastructure** – roads and transport are a direct constraint to traders, but only indirectly to farmers who bear extra costs where produce is advanced to traders on credit • **policy environment: incentives and constraints**

	– essentially free market and unregulated (with the exception of the transport system) – potential over-use/abuse of agrochemicals is a source of hazard and unsustainability – the extension role of local MOFA is limited to crop-specific knowledge – farmers have unrealistic expectations of public sector intervention • **organisations, institutions and market conditions** – obstacles to collective action in production and marketing functions can be mitigated, for example by exploiting the potential of the nucleus farmer concept – market power shifts during the season creating farmer-trader interdependencies – infrequent visits by traders reduce clientisation and competition at first buyer stage – informal networks dominate the provision of inputs, information and credit – there is little use of radio and other formal communication media

Market knowledge strategies

The findings support other empirical research that the primary channels for the provision of price and marketing information to producers are informal networks. However, current levels of market knowledge are sub-optimal for efficient exchange. Acquisition of information requires active strategies. Farmers can use their own sources of historic price information if they keep records from one year to the next. Free-flowing informal networks of community-sourced information are invaluable but cannot alone deliver new, accurate exogenous information on changing consumer preferences, new technologies, current prices and alternative market opportunities. New formal information sources are required.

Recommendation: training to build human capital

Sources of farmer training about record keeping, business management and active information acquisition should include formal extension activities of the local MOFA, NGOs and established farmer organisations. Technoserve in Accra have already indicated their interest in the research. Training in business principles should be integrated into school curricula. Relatively high levels of literacy and the 'information famine' highlight the training opportunity. Training should also embrace health, safety and sustainability concepts[5].

Recommendation: local FM radio for information acquisition and dissemination

Regarding acquisition of exogenous information, the potential use of radio and the value of satellite telephones were evident. Improved telecommunications are inevitable, and will serve to enhance reliable client relationships. Communities and associations need to be made aware of the potential of private investment in telecommunications such as mobile and satellite telephones. The commercial FM 'Radio BAR' should be considered as a potential dissemination mechanism by MOFA for daily current price information and other market knowledge.

MOFA should collect and process current price data in destination markets that can be disseminated by the local radio. Expert comment from market traders about market trends

[5] Use of locally generated materials is dealt with in depth by Carter, I. (1999). *Locally Generated Printed Materials in Agriculture: Experience from Uganda and Ghana. Education Paper.* **Serial No. 31**. July. London: Department For International Development.

Methodologies for farmer training that could be adapted to post-harvest management techniques have been developed by another DFID-funded project, R6730, reported in Galpin, M., Dorward, P. and Shepherd, D. (2000). *Participatory Farm Management methods for agricultural research and extension: a training manual*. January. Reading: University of Reading.

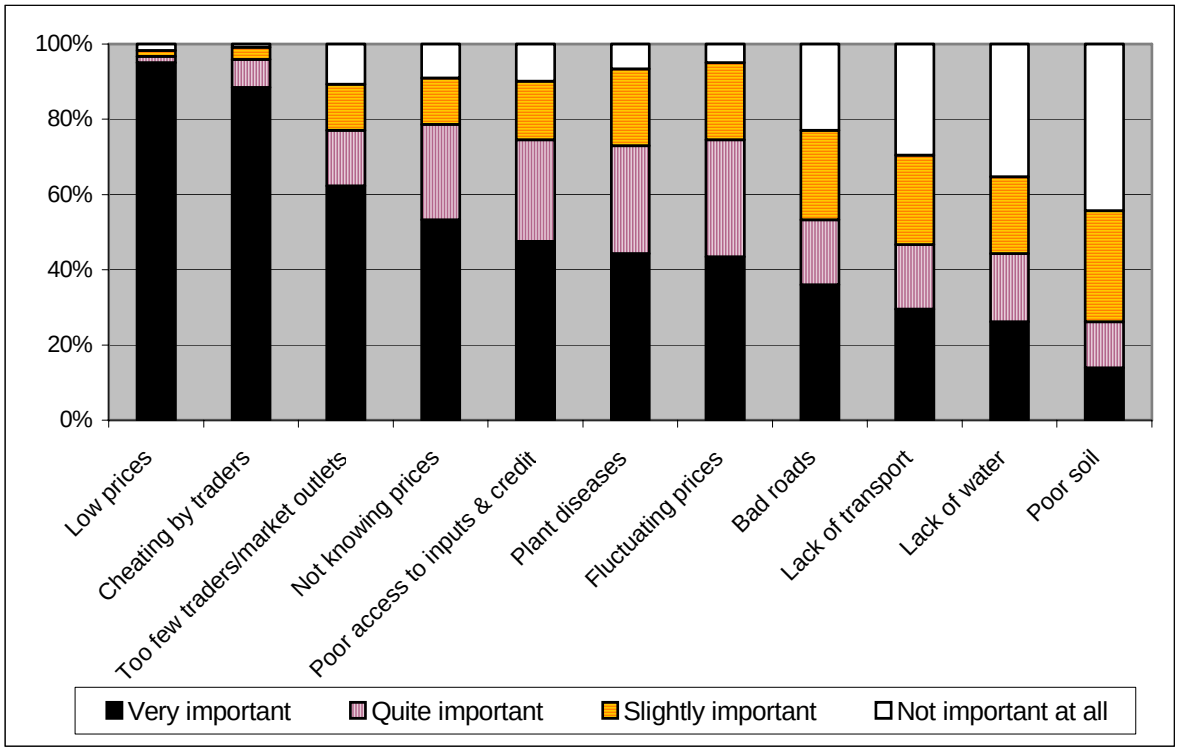
would serve to add context to the data. Given adequate advertising safeguards, sponsorship by commercial input suppliers is a potential means to provide funding[6].

Fostering closer vertical trading relationships

Additional sources of market knowledge include mutual information exchange between farmers and traders. Enhanced information sharing between otherwise competing market stakeholders requires a high level of trust or new institutional mechanisms to restructure incentives towards the adoption of joint business strategies.

Given trust, client relationships are an institutional mechanism to provide market services and reduce uncertainty. Under current conditions, uncertainty is pervasive, clientisation is uncommon, traders are not the expected source of inputs and credit, and producers (and sometimes traders) either run high marketing risks, or must incur considerable transaction costs to overcome informational imperfections. These conditions are illustrated in Figure 1 below. While low prices can be expected to be a source of risk, farmers highlighted cheating and other problems of vertical trading relationships as important risk sources:

Figure 1 Relative importance of risk factors to producers



[6] Although existing market information gathering and dissemination process of the PPMED of MOFA is weak and small in terms of coverage, collection of agricultural market information is a clear responsibility of the MOFA under the AGSSIP proposal. Incentives for Radio BAR would be to increase 'listnership' and listener satisfaction. This proposal is closely aligned with the (AGSSIP) recommendation to extend the use of radio to broadcast information through public-private enterprise collaboration. The Regional Director of Agriculture (BAR) commented favourably on the proposal about information collection and dissemination, emphasising that Radio BAR might need to be 'conscientised'. No discussions were held with potential private sponsors.

Recommendation: use of standard form contracts in vegetable marketing

Under conditions of pervasive mistrust, formal contracts are an alternative institutional mechanism to create information, reduce transaction costs and interlock information, input, credit and output markets[7]. We recommend that standard form contracts be considered as a mechanism to reduce transaction costs, overcome informational imperfections and improve the performance of the marketing system. Further details are given in the section 'Contribution of outputs' below.

Tanzania outputs

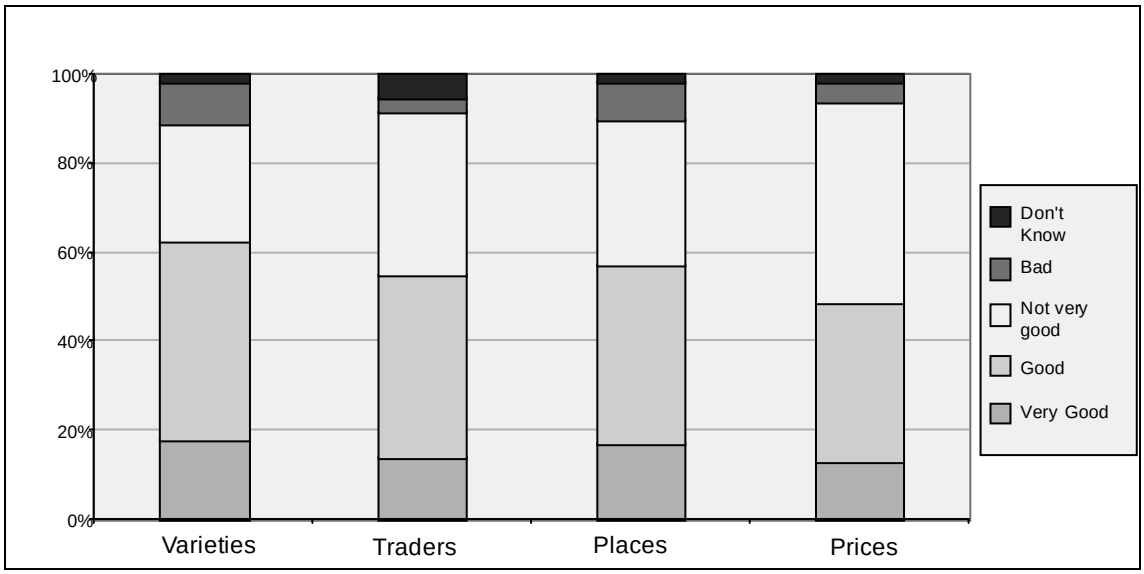
New knowledge

Production and marketing

Farmers identified a number of key risks, in particular, instability of prices and the small market. This is may be linked to the low level of repeat trading or 'clientisation'. The scale of trading is relatively small and traders do not return regularly, as happens in well-established production areas such as Mikuyuni, Morogoro Region. There is anecdotal evidence of traders not paying, delaying payment or not paying in full for crops - particularly where credit has been granted by the farmers. Respondents' reports, in relation to production decisions, suggest that much of the production is not necessarily driven by profit maximisation, but more by the reduction of production risks.

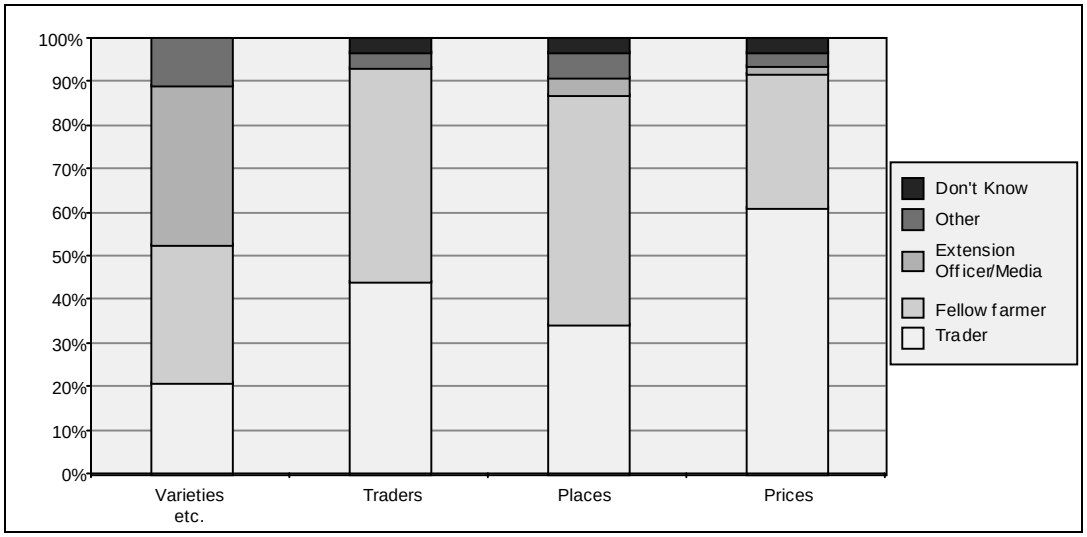
Levels of information about markets and marketing were poor (Figure 2). Traders and fellow farmers were most frequently cited as sources, as illustrated in Figure 3.

Figure 2 Perceived quality of market knowledge among producers



[7] The suggestion of instituting written contracts to mitigate mistrust was made independently by farmers who were discussing potential mechanisms for improving marketing in the parallel seminar in Tanzania.

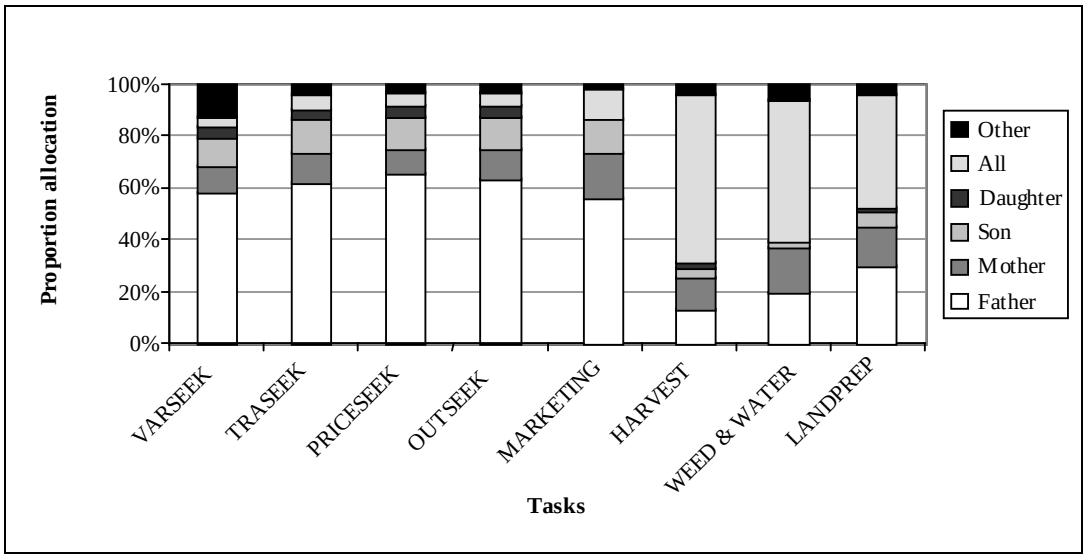
Figure 3 Sources of categories of market knowledge among producers



Intrahousehold dynamics

The importance of social heterogeneity is evident from Figure 4:

Figure 4 Division of various farming responsibilities among members of the household



Key

Category	Definition
VARSEEK	Who seeks the knowledge of varieties, fertiliser etc?
TRASEEK	Who seeks the knowledge of availability of traders?
PRICESEEK	Who seeks the knowledge of prices?
OUTSEEK	Who seeks the knowledge of regular traders based outside the village?
MARKETING	Who is responsible for marketing?
HARVESTING	Who is responsible for harvesting?
WEED & WATER	Who is responsible for weeding & watering?
LANDPREP	Who is responsible for land preparation?

Differentiation of household responsibilities in production and marketing activities is important. The male head of household dominates the activities involving traders and the market. This is in line with the orthodoxy that women, along with children, play a key role in contributing agricultural labour. However, it is evident from Figure 4 above that men

dominate the activities involved in seeking information and knowledge relating to new varieties, the availability of traders and information about prices.

Low levels of producer organisation, and therefore the cost of obtaining market information, are usually borne by the individual producer in both time and money, and this cost can be relatively high. The example of the Atomic Speed Garden group shows how important innovative and successful farmers have been to the development of a successful horticulture production project. However, the in-depth interviews suggest the organisation of the group, while effective, is not democratic and inclusive. While on the outside this may appear unfair, it may well be part of the success. Given the problems cited by farmers in the survey villages, any strategy of intervention in Tanzania may be better focused on innovative trading - be it traders, farmer-traders or farmers.

Market risk

Other key problems of the horticultural markets in Tanzania have been identified as:

- lack of data on market changes: the understanding of the market variations is poor and information that is available is considered be of little relevance;
- the problem of transportation, in terms of costs, length of journey to markets and risk of losing the load in an accident: communications in Tanzania can be very difficult from one city to another, making the integration of markets difficult;
- the burden of taxation is perceived to be very heavy, with market levies charged in rural markets, at District or Regional boundaries and at urban wholesale and retail markets.

Recommendations

Recommendations put forward by the workshop participants included processing, fundamental improvements to rural infrastructure and enhanced contracting:

- a network of telephones connecting the strategic wholesale markets throughout Tanzania;
- the improvement of the rural feeder-roads network;
- the promotion of a food processing industry to provide an assured market throughout the year. In addition, small-scale processing, such as drying, is being piloted by both individuals and a number of NGOs; the introduction of small-scale processing and cold stores to offset the extremes of supply and shortage;
- the very low level of trust between farmers and traders appears to be a major constraint on the development of the horticultural market. Some procedure of formalising the purchase could be introduced to overcome this problem. For example the introduction of contract forms, which could either be kept for records or be discarded after the agreement has been honoured. (This has been addressed and developed more fully in the sections on Ghana).
- the standardising of measurements of volume would simplify the negotiations of sale and the ability of stakeholders and institutions to meaningfully collect and manage marketing information. Standard form contracts would help to overcome these problems also.

Zimbabwe outputs

Knowledge

Perhaps not surprisingly, given the identity of the evaluators, respondents were unanimous that Agritex and VECO should continue the pilot exercise to supply marketing information. Most respondents also expressed a clear preference for information on crops and market

opportunities, rather than current price information, if Agritex had to focus on one or the other. A common refrain was that "You have to have the right crop at the right time if you want to get a good price." Respondents noted that current price information is often slow to arrive and does not tell them what prices they are likely to receive, as prices are notoriously volatile, particularly at Mbare. Nevertheless, a few interesting examples were encountered of the value of current price information. Producers in Mudzi used price information from local markets to inform their price setting when buyers came to their irrigation schemes to buy direct. "Sharp" farmers gradually converted current price information into historical price information over time, so as to inform planting decisions.

Although valuing marketing advice, respondents emphasised that they still needed production advice from Agritex - particularly if they were to exploit successfully the new market opportunities. The evaluation also highlighted the need for some additional training for Agritex extension officers to build their confidence in using the new information provided to them.

Recommendation: continued low-cost monitoring

It is evident from the pilot exercise that some types of information are beneficial to farmers and that timely dissemination of salient information by a competent public sector body is feasible. Some consideration of how this might be achieved is presented in the next section, 'Contribution of outputs'

Contribution of Outputs

Knowledge-based outputs such as those arising from this project have a particular relevance to policy formulation. Based on new knowledge, the recommendations serve to guide policy makers and development practitioners in governmental and other organisations about appropriate actions to overcome obstacles to poverty reduction and improve livelihoods, and most importantly, by whom effective action should be taken. This project provides guidance on the appropriate balance of responsibilities and activities among supra-national development efforts (eg DFID), national Ministries, Regional or District authorities, NGOs and private sector enterprises.

Dissemination issues concerning the outputs are addressed below, followed by a consideration of follow-up work. Thereafter a detailed account is given of further research into the potential of standard form contracts, further field research on enhanced marketing systems, and further support to the pilot information project.

Dissemination

Dissemination is critical for the knowledge-based outputs presented above. Some dissemination of initial results took place during the course of the project (see PCSS). The Country Reports are the major output. A Summary Report (containing an Introduction, summary Literature Review and abbreviated Country Reports and recommendations) is being compiled, to be followed by a shorter Briefing Paper. The full Literature Review will also be disseminated to relevant targets. Articles are being prepared and will be submitted to academic journals in the usual way. An account of the project will also be made available on the Wye website. Actual and proposed reports are listed below.

At the time of writing, the results have not been fully disseminated. The Tanzanian collaborator is absent for an extended period. Moreover, the Brong Ahafo Regional Director of Agriculture

who participated in the research process has been moved to Ashanti Region. These obstacles to the planned dissemination process are not at all insuperable. Further dissemination is envisaged.

Target organisations are public sector organisations, NGOs and the wider development community. Wye College will be responsible for disseminating results and recommendations to:

- national Ministries of Agriculture in the three target countries including planning and extension agencies; Regional agricultural offices (Morogoro, Brong Ahafo, Ashanti); ideally contact can be established with District assemblies such as Wenchi, BAR, but that may be done through Regional offices;
- national and international nongovernmental organisations (Veco, Technoserve, UK-based development organisations);
- other national governmental development organisations and the international development community (GTZ, EU, IFPRI, World Bank, etc);
- universities in Ghana, Tanzania and Zimbabwe;
- wider UK and international academic development community through journals and conferences (where appropriate).

The DFID community obviously is an important constituency. Stakeholders include the following sections: Africa and Southern, Eastern and Central overseas offices; Business Partnerships, Rural Livelihoods and Environment, Education, Social Development, Governance; in-country DFID and CPHP offices in Accra, Harare and Dar Es Salaam.

Selected farmer and trader organisations in-country will be appropriate targets for simplified outputs.

Reports to be disseminated

LYNCH, K. and ASHIMOGO, G. (2000). Tanzania Report: DFID Crop Post-Harvest Programme Project R7151 'Overcoming informational constraints: improving horticultural marketing and technical information flows to smallholders'. Wye, Kent, Wye College. 37 pp. January.

POOLE, N.D., KYDD, J., LOADER, R., LYNCH, K., POULTON, C. and WILKIN, K. (in preparation). Overcoming Informational Constraints in Developing Country Vegetable Markets: Literature Review for DFID Crop Post-Harvest Programme Project R7151. Wye, Kent, Wye College. February.

POOLE, N.D., KYDD, J., LYNCH, K. and POULTON, C. (in preparation). Overcoming Informational Constraints in Developing Country Vegetable Markets: Briefing Note. DFID Crop Post-Harvest Programme Project R7151. Wye, Kent, Wye College. February.

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POOLE, N.D., SEINI, A.W. and HEH, V. (2000). Ghana Report: DFID Crop Post-Harvest Programme Project R7151 'Overcoming informational constraints: improving horticultural marketing and technical information flows to smallholders'. Wye, Kent, Wye College. 69 pp. January.

POULTON, C., MUKWEREZA, L., CHAONWA, W., LOADER, R., MARIGA, K., MASANGANISE, P. and SANYATWE, D. (2000). Appendices to the Zimbabwe Report: DFID Crop Post-Harvest Programme Project R7151 'Overcoming informational constraints: improving horticultural marketing and technical information flows to smallholders'. Wye, Kent, Wye College. 34 pp. January.

POULTON, C., MUKWEREZA, L., CHAONWA, W., LOADER, R., MARIGA, K., MASANGANISE, P. and SANYATWE, D. (2000). Zimbabwe Report: DFID Crop Post-Harvest Programme Project R7151 'Overcoming informational constraints: improving horticultural marketing and technical information flows to smallholders'. Wye, Kent, Wye College. 27 pp. January.

Publications planned

LYNCH, K. et al. *Overcoming informational constraints in Tanzanian vegetable markets*

POOLE, N.D. et al. *Overcoming informational constraints in developing country vegetable markets: using standard form contracts*

POULTON, C. et al. *Markets and marketing information in Zimbabwe: the role of the public sector.*

Follow up action/research

Among the outputs are recommendations for further work. These are highlighted below.

Further work: fostering closer vertical trading relationships

The use of standard form contracts as a mechanism to improve marketing has been mentioned in the output section. The potential benefits of closer vertical coordination are not confined to information flows but may also enhance the performance of input and credit markets.

The recommendation below applies in the first instance to Ghana, but has relevance to Tanzania also, and probably more widely in SSA. On contracts, what follows is written in part from a UK perspective.

At least in UK law, an agreement need not be written for it to be legally enforceable. Contract law is used in two important ways. Use may be made of the remedies which the law provides if something goes wrong. But contract law is more commonly used to regulate the relationship between parties to an agreement, usually in respect of[8]:

- planning primary obligations in a sales contract, such as the item, price, delivery date, terms of payment;
- formulating mechanisms by which these primary obligations may be adjusted;
- establishing rights of the parties in the event of unavoidable contingencies.

The use of written standard form contracts may furnish two major advantages over verbal agreements. The first is the planning purpose: it may be that the greatest value of standard contracts is to reduce uncertainty by specifying the terms of an agreement by which

[8] Beale, H. and Dugdale, T. (1975). Contracts between businessmen: planning and the use of contractual remedies. *British Journal of Law and Society*, **2**: 45-60.

performance can be measured. Reducing uncertainty will reduce some of the transaction costs faced by both farmers and traders. Certain risks remain, but their incidence on different parties is made clear also by the terms of agreement.

Second, adoption of written agreements may boost the informal economic institutions (in the Northian sense) of business attitudes and ethics. That is to say, the express (and maybe implied) contractual terms will serve to provide clarity that in time may lead parties to adjust their attitudes accordingly and create a business climate more conducive to open exchange. Thus, moral obligation rather than the force of law may obtain. In the long-term, trust would be created between buyers and sellers.

A third point to note is that expectations of the remedial use of contract law should not be exaggerated in the event of non-performance. It may be preferable that certain 'unwritten' trade norms and customary law come into play rather than for parties to have recourse to the remedial use of contract law. Hence the importance of developing moral obligation. The sum of these advantages will lead to increasing client relationships between farmers and traders, thereby overcoming some or many of the imperfections in market coordination identified in the research, and potentially in other economic sectors and developing countries.

It should be noted that formalisation of business practices is consistent with the UK Government's policy in the White Paper on International Development to improve business procedures and enhance local institutional performance (eg sections 3.28 and 3.32).

Recommendation: feasibility study of instituting written buyer-seller contracts

A (voluntary) register of traders and farmers with certification of identity is envisaged, at the Regional or District level. The voluntary characteristic may serve to limit rent-seeking, maintain cooperation and freedom of association. In any event, compulsion may be infeasible. A standard form contract covering price, quantity and payment terms and delivery dates would also bear authentication of the agent's identity using the certificate of registration. Contracts could be disposed of on fulfilment, but may also serve as a database for improved market monitoring by farmers. Business practices would be enhanced thereby.

Registration could be annual. The holder of the register would probably be MOFA. Enforcement could be referred to the current associations, customary and judicial authorities. Independently, MOFA's sanction would be deregistration of offenders. It is not envisaged that offenders would be barred from exchange, but by deregistration offenders would lose authentication of trustworthiness.

Further research is necessary to design and test the feasibility of implementing written contracts, with the intention of setting up a pilot exercise in a suitable District (say Wenchi). Research should draw on experience with specification norms in the horticultural export sectors (eg pineapples) and in which smallholders already participate. Moreover, advice needs to be taken on Ghanaian contract law, criminal liability and the law of tort. Research should embrace the current formal types of business and contract. This includes the sale of, or the supply of goods on credit, the terms of contracts (particularly the certainty of terms, express and implied), the transfer of property, the performance of contracts, and legal and other remedies.

Trade with Francophone countries: enhanced vertical coordination

Recommendation: further research of marketing in the Francophone trade

The trade with Côte D'Ivoire is a significant example of enhanced production and marketing practices, and appears to be substantially different from the domestic vegetable system. Trade is much more quality oriented, better coordinated, apparently giving full due to quality standards and specifications, monitoring, consumer preferences and price premia.

Further research is needed to understand better the cross-border trade out of BAR, in particular the flow of incentives from final consumption to producers underlying the production and handling quality premia. Research into consumer preferences in the major Ghanaian markets and possibly neighbouring Francophone countries is necessary to identify the potential for a vegetable system of higher quality and greater innovation.

Public sector information delivery

Recommendation: further support to pilot research

The Marketing section of Agritex intends to continue and expand the marketing extension activities piloted in Mutoko and Mudzi, broadening their coverage within these two districts and then taking the experience gained to other districts and provinces. The initial evaluation suggests that marketing extension efforts should focus on highlighting market opportunities - and equipping farmers to respond to them - not just on gathering and disseminating current market prices.

Price collection should continue, including decentralised initiatives to monitor local markets, but the emphasis within dissemination activities should be less on current prices and more on the periodic provision of historical price analysis. This is easily within the capability of the Agritex marketing section, which already enters onto a spreadsheet the weekly price information that it gathers. Such information would usefully complement the information made available by the major independent wholesalers on seasonal market opportunities for various horticultural products.

As well as building the confidence of Agritex extension officers in handling marketing issues, there is a need to encourage a greater market orientation amongst farmers. This may be done through promotion of activities such as record keeping and the participatory production of price charts. Thereby farmers will be encouraged to compile their own historical price information, causing them to reflect more on the returns that they receive from their various production activities.

Farmers themselves also suggested that more "look and learn" tours be arranged, so that they could learn from the experiences of more market-oriented peers. In this the role of agencies such as Agritex and Veco should chiefly be one of facilitation, however, with participants paying towards the cost of the tours.

One of the critical questions for the pilot programme is that of sustainability. The pilot activities in Mutoko and Mudzi have received around £9,000 in recurrent cost support from Project R7151. Much of this has been used to fund the field activities of Harare-based Agritex staff and the Mashonaland East horticultural subject matter specialist whilst the basic approach was being piloted. There is some confidence that the work within the two districts can now continue largely within the ongoing Agritex programme and budget. However, even

if steps are taken to minimise the input of Harare-based staff, some “pump-priming” resources are likely to be required for the initial establishment of a marketing extension programme in a new area. On the other hand, once local officers understand the basic approach there are considerable economies of scale in collection of relevant information by the Marketing section in Harare and provision of this information to provinces and districts.

In order to generate firmer conclusions on the viability of marketing extension programmes in Zimbabwe and elsewhere in Sub-Saharan Africa, the continuation of the programme without external support (or possibly with a much reduced contribution from an extension of Project R7151) should be monitored. However, the initial finding of the pilot programme is that, in the Zimbabwe case, the extension service does provide a viable vehicle for dissemination of marketing information to smallholder horticultural producers.

Finally, it is worth remembering that, whilst improved information flows are valuable, farmers still have to overcome other constraints to enhanced production and marketing activity. In Mutoko and Mudzi, perhaps the most important of these are access to transport and problems with product quality (at both pre- and post-harvest stages). Both are exacerbated by capital constraints. It is too early to say how widely the benefits from increased information provision will be spread, but it seems inevitable that some farmers (the more enterprising, who are rarely the poorest) will benefit more than others.

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