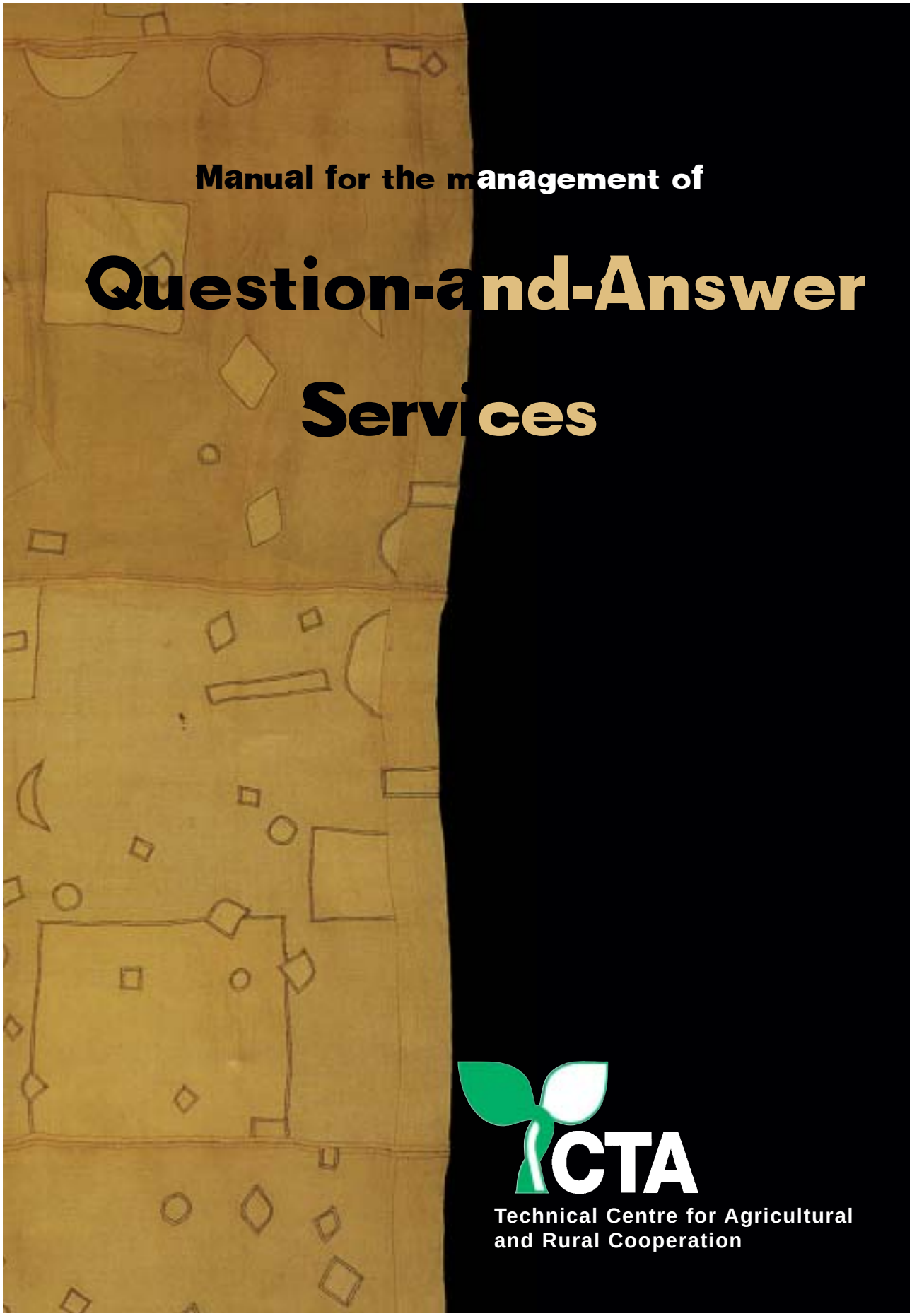


Manual for the management of

Question-and-Answer Services

CTA
Technical Centre for Agricultural and Rural Cooperation

Manual for the management of question-and-answer services

Manual for the management of

Question-and-Answer Services

Technical Centre for Agricultural and Rural Cooperation
(ACP-EC Cotonou Agreement)

Technical Centre for Agricultural and Rural Cooperation
(ACP-EC Cotonou Agreement)

CTA Headquarters
Agro Business Park 2
6708 PW Wageningen
The Netherlands

Tel. (31) 317 467100; fax (31) 317 460067
E-mail cta@cta.nl

Postal address
Postbus 380
6700 AJ Wageningen
The Netherlands

Brussels Branch Office
Rue Montoyer 39
1040 Brussels
Belgium

Tel. (32) 2 513 7436/2 502 2319; fax (32) 2 511 3868
E-mail ctabxl@compuserve.com

Caribbean Regional Branch Office
Caribbean Agricultural Research and Development Institute (CARDI)
University Campus
St Augustine
Trinidad WI

Tel. (1) 868 645 1205; fax (1) 868 645 1208
E-mail infocentre@cardi.org

Pacific Regional Branch Office
Institute for Research, Extension and Training in Agriculture (IRETA)
University of the South Pacific
Alafua Campus
Private Mail Bag
Apia
Samoa

Tel. (0685) 22372/21882; fax (0685) 22933/22347; telex 251 usp sx
E-mail uspireta@samoa.usp.ac.fj

CTA Website: http://www.cta.nl

Contents

Preface

This manual has been written as a guide for managers involved in setting up a question-and-answer service (QAS), specifically those services concerned with providing information on agriculture and related subjects. The contents will also be of interest to advisers whose task is to review existing QASs and recommend modifications for improvement. The manual has been prepared for publication by CTA by staff of the Management for Development Foundation.

The text will help readers:

- Define or redefine the concept of a QAS;
- Determine target groups, their needs, and the required information services and priorities;
- Identify potential partners and cooperators;
- Define the type of collaboration to be established;
- Identify major information sources;
- Develop work processes for a QAS and calculate its cost-effectiveness;
- Define promotional activities;
- Specify quality requirements and indicators;
- Specify requirements for related information systems.

Three case studies are included in the appendices as comparative examples for reference. The fourth appendix is a workbook with formats that will assist in the systematic assessment of the major stages in establishing or reviewing a QAS.

The manual thus provides background information and suggestions through which the user may address the principles and questions that arise in this important activity in the development of ACP agriculture.

Introduction

The question-and-answer service (QAS) at CTA was established in 1985. It was based on the resources of the CTA library, the in-house expertise of the Centre's staff, access to major online and CD-ROM databases, and contact with other European information services (as collaborating agencies). The service is organised from CTA's headquarters in Wageningen, The Netherlands, as well as from its regional offices in the Caribbean and the Pacific.

The number of requests received and processed by CTA's QAS has increased steadily since 1985, reaching an average by the year 2000 of about 1000 letters containing some 1500 inquiries per year. The questions include a wide variety of topics in agriculture and related industries. Increasingly, they focus on marketing, food processing, and extension, and they tend to have a local context.

Evaluation of CTA's QAS

In 1997 a major evaluation of CTA's QAS was carried out. The major findings were as follows:

Structure of the service

- The QAS was too dependent upon the effective management and administration by one person;
- The eight collaborating agencies complained about various aspects of the service, including delays and problems with communication, contracts and payments;
- It was questionable whether having eight collaborating agencies was cost-effective.

Quality of the service

- The delays in providing answers;
- The limited use/relevance of information provided;
- The relatively small number of users;
- The limited focus on promoting the service.

A new strategy focused on training

Taking into account this evaluation and CTA's Mid-Term Plan 1997–2000, which aimed to strengthen ACP capacity in information and communication management, it was decided

to develop a strategy to promote the establishment of QASs in various existing organisations in ACP countries.

In view of the problems faced by CTA with its own QAS, it was felt that a major element in this capacity-building exercise should be a training programme for those involved in establishing and managing such services.

Thus, a training course was organised by CTA in collaboration with the University of the Orange Free State in Bloemfontein, South Africa. The course was run by the Management for Development Foundation and was held in Bloemfontein from 16 to 20 August 1999.

Experience and examples from existing QASs were collected, and served as base data in the preparation of training materials. Specific attention was given, as case studies, to the ISAT QAS of GATE/GTZ and to the Programme for Agricultural Information Services (PRAIS) operated by the University of the Orange Free State.

The training course in QAS management, August 1999

The course aimed to provide participants with the approaches, tools and techniques that would ensure adequate management of a QAS that provides the right clients with the right information at the right time.

Among the participants were 13 managers and propsective managers of formal or informal QASs from organisations in various ACP countries, including Ethiopia, Fiji, Ghana, Kenya, Mauritius, St Lucia, Samoa, Seychelles, South Africa, Trinidad and Tobago, and Uganda. All the participants were fluent in written and spoken English.

The participants were expected to learn how to:

- Define the role of a QAS in the context of the overall information services of its parent organisation;
- Categorise and prioritise users (characteristics, needs, constraints, information requirements);
- Define the scope of services to be provided (priority themes, geographical coverage, portfolio of products and services) with regard to budget and resource constraints;
- Identify stakeholders and partners;
- Develop networking strategies;
- Develop information resources (collection of documents, use of internal and local expertise, links with external sources, subscription to CD-ROM services, etc.);
- Develop a procedures manual for the service;
- Develop promotional activities (brochure, news bulletin, Web pages, meetings, user training).

Participants were also expected to understand:

- Work processes and flows;
- Customer service orientation and interpersonal relations;
- Strategies for maximising resources (e.g., by studying frequently asked questions [FAQs]);
- The use of monitoring and evaluation mechanisms that measure effect and impact.

TABLE 1

DAY	MORNING	AFTERNOON
1	Opening of the course Introduction The concepts of a QAS	History and concept of PRAIS Sharing experiences of QASs Group work on concept of a QAS
2	Users' needs analysis and scope of services	Visit to PRAIS and the Agricultural Department
3	Stakeholders and partners Networking strategies	Information resource base
4	Work processes and flows Procedures manual for the service	Promotional activities Customer service orientation
5	Visit to university library and computer laboratory Practical use of information systems	Round-up, evaluation, and closing speeches

This manual is derived from the course teaching materials, and incorporates modifications made in the light of discussions among participants and staff during the course.

1. What is a question-and-answer service?

Information has become a determining factor in the effective formulation and implementation of development projects because of growing complexities in the way these projects are organised. For those who run development projects or related activities, the problem to address is often not so much *how to develop* new technologies but *how to access* useful information that has already been generated by others. But not all of that information is directly accessible to them, nor do they know for certain whether data on a particular technology, or other desired information, already exist in a usable form.

An adequate QAS might be able to provide solutions to such problems. However, because most large development organisations offer a range of information services, it is unlikely that a QAS which functions on its own could offer an effective and efficient service. It is therefore useful to examine the information services that such organisations normally provide, and how a QAS relates to these services. Such services include:

- Documentation;
- Publishing/distribution;
- Extension/advisory services;
- News bulletins;
- Research;
- Online services with Internet access;
- QAS.

There may even be other related services that a QAS could complement, such as:

- Training and exposure visits and study tours;
- Financing;
- Supply and distribution of goods (e.g., equipment and software programs).

Thus, in creating a QAS, the following aspects of its functions within its host organisation need to be considered:

- The organisation's *mission statement*. This will normally describe the stakeholders and partners and indicate whether the service should be profit-making or run as a development service. The statement will emphasise certain target groups and services and exclude others;

- The *background and experience* of the organisation. Staff expertise and experience will dictate the type of questions that can be answered;
- The *potential target groups*, their major problems and needs. An analysis of these needs will reveal the type of services to develop and the type of information to concentrate upon;
- *Other actors* who provide overlapping information services. If overlap exists, it will influence the range of services to be provided by the QAS, and offer possibilities for collaboration in serving a common clientele;
- The organisation's *general policy environment* and related external factors. These may restrict or widen the range and type of services to be developed.

Five basic concepts of a QAS

QAS as an integral part of knowledge transfer

Some development organisations have adopted a strategy in which knowledge transfer plays an important role in their efforts to alleviate poverty. For them, knowledge transfer is an important way to help the poor as a target group to address priority problems. In this work, a QAS can provide access to essential information. It can often function in addition to other knowledge transfer services, including training and extension work. It fills gaps that are not addressed during these activities, and it offers a resource base for trainers, advisers, and extension staff.

EXAMPLE OF A QAS AS A KNOWLEDGE TRANSFER AGENCY
An agriculture research institute offering a QAS for disseminating its research findings.

QAS as an essential complementary service

A QAS can provide a complementary service that enables research and extension services to function adequately and ensures a reliable supply of equipment and computer software. Other service-oriented companies or organisations (e.g., utility or insurance companies) operate similar 'front-line offices'.

EXAMPLE OF A QAS AS A COMPLEMENTARY SERVICE
A software supplier operating a 'help desk' to ensure that problems experienced by clients in the use of software are adequately addressed.

QAS as a knowledge broker

The role of a QAS may not be solely to provide information from its own sources. If the expertise or documentation centre on which it is based is too limited in scope, a QAS will

need to ensure, with guidance from 'gatekeeping' intermediaries, that there are adequate linkages between inquirers and additional information sources.

EXAMPLE OF A QAS AS A KNOWLEDGE BROKER
An NGO network operating databases on information sources, consultants, experts and suppliers in appropriate building technology.

QAS as a promotional strategy

A QAS can also promote the use of other activities of the organisation, such as the documentation centre or training activities. It could provide a low-entry point for potential target groups who wish to familiarise themselves with the work of the organisation before committing themselves to time- or cost-consuming exchanges. A QAS may also assist in widening the organisation's network of contacts.

EXAMPLE OF A QAS AS A PROMOTIONAL TOOL
A library using a QAS to publicise its documentation and information services.

QAS for income generation

The provision of knowledge and information can be seen as a service with a value. Commercial QASs use this principle to develop information services aimed at target groups that can afford to pay for these services.

EXAMPLE OF A QAS FOR INCOME GENERATION
A QAS providing paid services to commercial companies, including providing marketing information, statistics and data on import/export regulations for specific economic sectors.

Summary of the five concepts

In planning to establish a QAS, it is very important, as Table 2 shows (overleaf), to understand the relationships between the concepts on which it is to be based, the objectives to be achieved, and the information requirements involved. In practice, one concept is normally adopted as the primary focus of a QAS, supplemented by one or more other concepts of subsidiary importance.

It can be seen that different objectives have different information requirements, which may be conflicting. Widely based knowledge transfer may conflict with generating income, because smallholder farmers may not be able to afford QAS products. Knowledge transfer may involve the open publication of frequently asked questions (FAQs). Income generation could imply keeping knowledge to yourself unless someone is willing to pay for it.

It is therefore important to decide which concept/objective is the most relevant, in order to determine the QAS priorities. This does not imply that other concepts/objectives are not

TABLE 2

BASIC CONCEPT	MAIN OBJECTIVE	MAJOR INFORMATION REQUIREMENT
Knowledge transfer	Distribution of available knowledge and expertise	Having specific information and expertise; own documentation centre
Complementary service	Improved implementation of primary services (e.g., extension, training, and specific supplies)	Concentrating on information necessary for adequate implementation of primary activities
Knowledge brokering	Linking inquirer with information source	Knowing how to access relevant information sources
Promotional activity	Promotion of primary activities	Concentrating on information linked to primary activities
Income generation	Generating income/profit by offering QASs	Having vital, unique information that is difficult to find elsewhere and that has value for target groups who can afford it

important. A general focus on knowledge transfer may still provide some promotion for the organisation as a whole (e.g., when students register at a university because of the QAS its library offers).

Formulating the concepts for a new QAS

It is important to consider the *background and experience of the organisation*. It always takes a lot of time and energy to develop an information service from scratch. So there is greater likelihood of success if new information services are developed for target groups with which the organisation is already in contact, or if existing information services are modified to meet the needs of new target groups.

Also, the *image of the organisation* among beneficiaries may not facilitate the development of certain information services under its umbrella. And the organisation's capacity in terms of *management, staff and resources* may limit the possibilities of including certain target groups and activities within its information service programme.

Careful planning is therefore necessary when QAS concepts are being formulated. Those involved will find their task simplified by considering the following four factors: core assignment; core approach; core values; and long-term objective.

Core assignment

The core assignment comprises the main objective of the QAS – the reason why the QAS is being established and its major function for its stakeholders. It also shows the *direction* of the service, as well as its *limitations* in terms of activities and target groups.

EXAMPLE OF A CORE ASSIGNMENT
To assist organisations and projects serving poor and marginalised groups by providing information on request about small-scale agricultural technologies.

Core approach

The core approach is the strategy used to fulfil the core assignment. It shows how the activities are being carried out and the main working methods. It also shows which target groups and services will have priority.

EXAMPLE OF A CORE APPROACH
To invite target groups to write letters. To use own documentation centre and expertise of own projects, and referral to selected partners. To give priority to own projects and to inquirers actively involved in projects and organisations serving the poor and marginalised.

Core values

The core values indicate what the organisation considers is important in providing the QAS.

EXAMPLE OF CORE VALUES
Reliability, relevance, timeliness, client orientation, cost-effectiveness.

Long-term objective

The long-term objective (5–10 years) indicates the direction in which the QAS is expected to develop itself.

EXAMPLE OF A LONG-TERM OBJECTIVE
In 5 years' time the QAS should be well known by all target groups and used by 75% of the project staff involved in small-scale agricultural technologies.

Main steps required in developing a QAS

Step 1. *Describing the present situation*

- Mission of the organisation;
- Current services and target groups, with the emphasis on existing information services;
- Major strengths (knowledge/expertise, etc.) and major weaknesses;
- Current major partners of the organisation.

Step 2. *Formulating the concept*

- Core assignment;
- Core approach;
- Core values;
- Long-term objective.

Step 3. *Working out the approach*

The following require attention, in appropriate detail:

- Analysing target group needs;
- Defining the scope of services to be offered;
- Identifying stakeholders and partners, and developing networking strategies;
- Designing the information resource base;
- Designing work processes and flows;
- Defining quality requirements and monitoring procedures;
- Developing promotional activities;
- Selecting appropriate information systems.

Sustainability

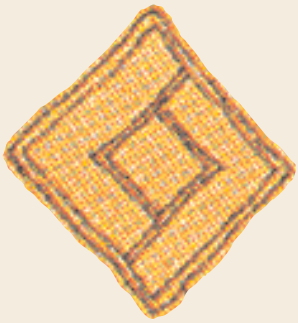
Often a QAS does not survive because it cannot sustain the scale of services it aims to provide. There is sometimes high dependence upon external financing. It is therefore very important to give attention to the following points.

To ensure *effectiveness* it is necessary to:

- Prioritise the target group in terms of potential effect/impact on development;
- Determine the type of information services to be offered;
- Provide sufficient information to the target group on the scope of the services through promotional activities;
- Limit the scale of QAS activities in terms of the number of questions to be addressed;
- Monitor the use and impact of the answers provided to inquirers.

To ensure *efficiency* it is necessary to:

- Limit the time it takes to answer a question by establishing a maximum time;
- Monitor the average time spent on answering a question;
- Limit investment in documentation on information systems to the essential;
- Make adequate use of other expertise and existing information sources, including the Internet.



2. What are the users' needs?

A key activity in designing a QAS or improving an existing one is identifying the target groups and developing the services that will best meet these users' needs. It is also important to know if the user – whether a group or an individual – has the capacity to act upon the answer given in response to the question.

So it is necessary to analyse users' needs with regard to the following questions:

- To what type of organisation is the potential user affiliated?
- What is the user's function?
- What is the user's educational level?
- What subjects is the user interested in?
- To what use is the information provided likely to be put?
- How should the information be supplied in terms of format, language and means of communication?

Collecting relevant information for analysing users' needs

Some or all of the following information-gathering activities may be relevant:

- An analysis of current questions and answers, if a QAS already exists, regarding the following:
  - what new trends there might be in future information requests
  - whether the scope of the existing QAS has been defined too rigidly
  - where the information base may be inadequate
  - where promotion has been inadequate
  - where existing QAS application forms lack clarity
- Dispatch of a questionnaire to existing/potential users, based on the above questions, and taking into account the suggested classifications below;
- Follow-up interviews with selected existing/potential users;
- Group discussions with selected beneficiaries;
- Interviews/discussions with partner organisations;
- Assessment of statistical data from professional sources (e.g., bureau of statistics) or formal registers (e.g., trade or company registers).

Suggested classifications for use in a target group needs analysis

The following examples of classifications and categories are given because they help in identifying users' needs, and thus in matching them with relevant services.

Type of organisation

- Organisation or individual;
- Developing country or developed country;
- Government, NGO or private;
- Policy-maker, researcher, information service, extension/training group, end-user, etc.

Potential user organisations can thus be categorised as shown in Table 3.

TABLE 3

CATEGORY	TYPE OF ORGANISATION
Policy and financing	Government organisations National NGOs International development agencies Financial institutions Unions and business associations
Research and development	Universities and agricultural colleges Research institutions
Information services	Libraries Documentation centres Media (television, radio, newspapers, magazines)
Extension and practical training	Extension agencies Education and training institutions Business associations/organisations Farmers' cooperatives/associations/unions
End users	Farmers Farmer groups Commercial companies, traders, exporters, processors Private individuals

Type of user

In the case of an individual working in agriculture and related sectors, it is helpful to know the user's *function*. The classification shown in Table 4 may be useful.

TABLE 4

FUNCTION OF THE USER
Farmer
Trader
Processor
Extension worker
Librarian
Researcher
Planner
Economist
Manager
Politician
Consultant
Trainer/teacher
Student

TABLE 5

TOPIC
Agriculture in general
Crop production and protection
Animal husbandry and veterinary science
Socioeconomics
Post-harvest technologies
Food science
Environment
Marketing and access to markets
Funding and financial support
Training and education
Agrobusiness and processing
Information science and technology
Other

Additionally, it will be useful to know the user's *educational level*, because this will influence the understanding of the information received.

Sectors and topics

The QAS may have a specific focus on one or more economic sectors, ranging from very broad to narrowly focused, as in these examples:

- Sectors (e.g., agriculture, trade, services, industry);
- Subsectors (e.g., agroprocessing, construction, mechanisation);
- A particular technology (e.g., maize milling, biogas technology, storage techniques).

For an agriculture-related QAS the categorisation of topics shown in Table 5 may be relevant.

Geographical focus and ecological zoning

A QAS will normally have a particular geographical focus and/or limitation. These may comprise continents, regions, countries or districts, or agroecological zones such as the arid or semi-arid tropics, subhumid areas or wetlands.

If the geographical area to be served is extensive, the QAS will need to be proportionately limited in the topic(s) it covers, because it would clearly be impossible to have the capacity to answer all questions relating to, say, a continent or an agroecological zone. A study of other QASs that provide specialised services will reveal the relationship between geographical zoning and topics currently covered.

TABLE 6

USE OF THE INFORMATION
Primary production (crop, livestock, etc.)
Agroprocessing
Marketing data
Policy and legislation
Lobbying
Extension, practical training, educating others
Lecture/address
Research
Project formulation and design
Management of organisations, projects, etc.
Personal use/own education/ self-advancement
Other

TABLE 7

TYPE OF INFORMATION PROVIDED
Books and documents
Statistical data
CD-ROMs, diskettes
Videos
Pictures/ picture strips
Tapes, tape-slide series
Photocopies of journal/article/book extracts
Reference lists of books and articles
Newspaper cuttings (clipped)
Contact addresses of relevant organisations
List of Internet addresses
Tailor-made advice on specific problems
Information on training/advisory support
Information on financial support sources
GROUP APPROACHES
Power-point presentations
Drama presentations
PROACTIVE APPROACH TO PRE-EMPT QUESTIONS
Selective dissemination of information (SDI)
Documenting and publishing FAQs
Newsletters
Radio programmes

Use of the information to be provided

It is also important to find out how information will be used, because this indicates the degree of comprehensiveness required in the information provided. The checklist given in Table 6 outlines a variety of potential uses for agriculture-related information.

Type of information services

Different users may require a variety of information services, as suggested in Table 7.

Analysing users' information needs

Identifying users' particular interests

The classifications above, and the data obtained in applying them, make it possible to create matrices about information needs that show which organisations have an interest in which topics and their relative importance. An example is given in Table 8.

The same type of matrix could de drawn up to show the relationship between topics and the functions of the users.

TABLE 8

TOPICS	NATIONAL GOVT	LOCAL GOVT	INTER-NATIONAL DEV. AGENCIES	LOCAL NGOs	RESEARCH INSTITUTES	INTER-NATIONAL COMPANIES/ CONSULT-ANTS	LOCAL COMPANIES/ CONSULT-ANTS	STUDENTS
Agriculture in general	XX	XX	X		X			X
Crop production and protection	X	XXX	XX	XX	XX	XX	XX	X
Animal husbandry/ veterinary science	X	XX	XX	XX	XX	X	XX	X
Socio-economics	XX	XX	XX	XX	XX			XXX
Post-harvest technologies	XX	XX	XX	XX	XX	XX	XX	X
Food science	XX	XX	XX	XX	XXX		X	X
Environment	X	X	XX	X	X	X	X	XX
Marketing and access to markets	XX	X	XXX	XX	XXX	X	X	XX
Funding and financial support				XXX	X		X	
Training and education	XX	XX		XX			XX	XX
Agrobusiness and processing	XX	XX	XX	XX	XX	XXX	XXX	XX
Information science and technology	XXX		XX	XX	XX	X	XX	

XXX = major interest; XX = substantial interest; X = some interest

Users' needs: the use of the information

In the process of analysis, a similarly useful matrix can be created to indicate which users will use which information for which purposes, and what its major uses are (Table 9). This example shows that NGOs, international development agencies and companies have the

TABLE 9

USE OF THE INFORMATION SERVICES	NATIONAL GOVT	LOCAL GOVT	INTER-NATIONAL DEV. AGENCIES	LOCAL NGOs	RESEARCH INSTITUTES	INTER-NATIONAL COMPANIES/ CONSULT-ANTS	LOCAL COMPANIES	PRIVATE INDIVID-UALS
Primary production (crops, live-stock, etc.)							XXX	XX
Agro-processing			XX	XX		XXX	XXX	XX
Marketing information				XX		XX	XXX	XXX
Policy development	XXX	XX	X	XX		X		
Education and training of others			XXX	XXX		XX		
Lecture/ address	XX	X	X	XX		X	XX	X
Research			X	XX	XXX			
Project formulation	XX	XX	XXX	XX	XXX	X		
Personal use/own education	X	X	X					XX

XXX = major use; XX = substantial use; X = some use

widest range of uses. Governments are more interested in policy and project formulation, while companies and private people emphasise practical applications.

Users' needs: type of information service needed

A third matrix will help in analysing which users are likely to require which type of information service (Table 10). It indicates the extent to which different information services should be used in addressing the questions of different users.

Users' needs: information requirements of major user groups

Different user groups have different information requirements. Table 11 gives an overview of some general differences in the information requirements of different groups.

TABLE 10

TYPE OF INFORMATION SERVICE NEEDED	FARMERS	TRADERS/ PROCESSORS	EXTENSION WORKERS	POLICY-MAKERS	RESEARCHERS	LECTURERS/ TRAINERS	STUDENTS
Pictures/strips/ illustrated brochures	XXX	XXX	XXX				
Books/ documents			XXX		XXX	XXX	
Photocopies of journal/article/ book exttracts			XXX				
Tapes/tape-slide series			XXX				
Videos			XXX				
CD-ROMs/ computer files			XXX		XXX		
Statistical data				XXX	XXX	XXX	XXX
Reference lists of books and journals			X		XXX	XXX	XXX
Contact addresses of experts/ consultants		XX	XXX	X	XXX	XXX	XXX
Lists of Internet addresses			XX	X	XXX	XXX	XXX
Forthcoming conferences				XX	XXX	XXX	
Advice on a specific topic or problem	XXX	XXX	XXX	XXX			
Information on financial support	XXX	XXX	XXX				
Information on training and advisory support	XXX	XXX	XXX				

XXX = major interest; XX = substantial interest; X = some interest

TABLE 11

INFORMATION REQUIREMENT	AGRI-CULTURAL PRODUCERS	BUSINESS STAFF	EXTENSION STAFF	POLICY-MAKERS	RESEARCHERS	LECTURERS/ TRAINERS	STUDENTS
Practical information (how to...), short and to the point	XXX	XXX	XXX			X	X
Visuals: pictures, picture strips, videos	XXX	XXX	XXX				
Warning on major limitations in applicability	XXX	XXX	XXX				
Practical experience and, if possible, reference addresses elsewhere (contacts with practitioners)	XXX	XXX	XXX	XX	XXX	X	
Sources of expertise/ knowledge for personal advice	XXX	XXX	XXX		XXX		
Comprehensive information, complete, factual and analytical				XXX	XXX	XX	XX
Development theories				XXX	XXX	XX	XX
Latest developments in technology and research	X	X	X	XXX	XXX	X	X
Indication of source of information and accuracy and reliability of sources	X	X	X	XXX	XXX	XX	XX

XXX = major relevance; XX = substantial relevance; X = some relevance

Determining the priority of potential users

A final analytical matrix (Table 12) concerns determining the priority of potential target groups in relation to the following criteria:

- The priority of the group in relation to the development goals of the organisation;
- Present relationship between the organisation and this user group (easy access);
- The group's access to other information sources;
- Potential for replicating/distributing information;
- Potential for practical application of the information;
- Ability of the user group to pay/contribute.

TABLE 12

TARGET/USER GROUP	RELEVANCE FOR POOR TARGET GROUP	EXISTING RELATIONSHIP WITH THIS USER GROUP	PROBLEMS IN ACCESSING OTHER SOURCES OF INFORMATION	OVERALL PRIORITY
Other development projects	High	High	Low	High
International development agencies	High	High	Low	High
Local NGOs	High	Medium	High	High
Government development agencies and research institutes	High	Low	Medium	Medium
Private individuals from developing countries	Medium	Low	High	Medium
Companies/ consultants from developing countries	Medium	Low	Medium	Medium
Companies/ consultants from developed countries	Medium	Low	Low	Low
Students from developed countries	Low	Low	High	Low
Private individuals ouside the development context	Low	Low	High	Low

3. Who are the stakeholders and partners?

Different cultures and geographical areas are characterised by organisations and institutions that each have a particular function. If they pursue complementary activities they may work together; or they may compete if they have contradictory interests. Commonly, organisations follow their own path without too much concern about the others.

However, to establish a QAS that is effective and efficient, it is necessary to know what the functions of other services in the same field are, and to incorporate this knowledge into the implementation plans. It is important to know, for instance, who is doing what, who communicates with whom, and who delivers services to which target groups.

This process, typical of all development interventions, is called *knowing the institutional setting*, where the setting is described as 'all organisations and institutions, including their interrelationships, that influence the functioning of a development service at different levels'.

Thus, an analysis of the institutional setting of a QAS helps to:

- Identify the stakeholders involved, create optimal support, and minimise the threat of isolation;
- Identify possibilities for coordination and cooperation;
- Avoid unnecessary competition with other agencies;
- Improve the sustainability of the QAS.

This chapter presents two ways of analysing the institutional setting through, first, an organisational chart, which helps identify the actors and their interrelationships and, second, a coverage matrix, which shows the type of target group and activity in which the actors are involved.

The organisational chart

An organisational chart is the end product of a study of the institutional setting of a development intervention in diagrammatic form and is an image of the relationships between institutions active in a particular field. For a QAS, such a chart would need to show: the relevant actors involved; the relationships between actors; and the closeness and adequacy of the relationships.

Actors

These may be formal and informal organisations, institutions and important personalities (e.g., a provincial governor, who may be the 'spider' in the network of organisations and activities in the province; or a religious leader at village level, who exerts a strong influence on village development). In general, however, an organisational chart will include all organisations that play a role in planning, approving, supporting, coordinating or executing an intervention. A chart of this type for a QAS will usually include at least the following:

- *The end-users: the ultimate beneficiaries.* These include farmers, farmer groups and agrobusinesses. Since the purpose of a QAS related to agriculture is to contribute to the development of agriculture in a region, it is desirable to identify the ultimate beneficiaries and know how the information provided will reach them;

- *Extension and training bodies*. These are existing organisations that enhance human resources among farmers and agrobusinesses;

- *Research and development organisations*. These are organisations involved in improving agriculture and related products, services and technologies, such as universities, research institutions and industrial companies;

- *Existing organisations that provide information services to the target group.* These may include documentation centres, media services and other QASs. The services they provide may not be exactly the same as those planned (or offered) by the QAS under analysis, but it is helpful to understand their functions so that they may become users and partners as well as competitors;

- *Policy-makers, financiers and other influential actors.* These may include government agencies, international agencies (e.g., World Bank and FAO) and other development agencies that influence the demand for information, or regulate research programmes, the adoption of new technologies, etc.

Organisations within the chart may be active at different *levels*: from the international, via the national, to the local level. Not all levels may be equally relevant. For example, when the target group is the staff of an agricultural extension project in a specific region, it will be sufficient to liaise with relevant sections within the regional office of the Ministry of Agriculture, rather than to include all ministry departments in the capital city.

Relationships between the actors

Working relationships within organisations under analysis can affect how information is handled in the following ways:

- The *influence of hierarchies*. It is important to analyse who is hierarchically responsible to whom, who can give orders to whom, who is represented on the board/steering committee of which body, etc. On the one hand, such knowledge helps identify where problems in cooperation occur, because they may originate from other levels. On the other hand, line-management influence can be solicited and used to initiate changes that improve cooperation;

- It is also important to find out who already works in *cooperation* with whom in major information activities;

- Similarly, it is useful to know who provides *services* in present operational linkages: particularly, who helps whom with the supply of, for instance, hardware, software, etc.;

- Also, *funding sources* reveal working relationships or links that may not be self-evident from other organisational data.

An organisational chart should naturally depict reality and, as such, should include formal (vertical, contractual/official) as well as informal (horizontal, unofficial) relationships between organisations and individuals. Thus, where appropriate, distinctions between formal and informal relationships can be indicated in the chart itself.

Closeness of the relationships

It is often useful to show the *closeness* of the relationships – who is cooperating frequently with whom; to which recipients does an organisation deliver many services; who provides more funds than others, etc.

Closeness can be identified in terms of volume (e.g., number of services, clients, the amount of money involved), frequency (e.g., frequency of messages, number of contacts) and/or importance of the relationship – its usefulness in routine operations.

The *adequacy* of the relationship depicts whether it is good (adequate for its purpose) or strained (not adequate for its purpose). Inadequate relationships would relate to problems with:

- timing (e.g., late delivery of goods/messages);
- insufficient volume of services/information flows;
- inadequate quality of services/information.

Steps in making an organisational chart

An example of a QAS organisational chart is given in Figure 1 (page 21).

Step 1. *Define the field of analysis*

- The sector: water, health, enterprise development, etc.;
- The geographical area: region, country, province, city, etc.;
- Present or future operations.

Step 2. *Define the orientation*

- Project-centred, in which the focus is on relationships between a project or organisation and other actors;
- Or relationship-centred, focused on relationships between all actors.

Step 3. *Define the type of actors, including*

- Organisations (public, private, sectoral);
- Level of analysis (individual, unit, department, organisation, clusters of organisations);
- Target group(s) (farmers, entrepreneurs, etc.).

Step 4. *Define the type of relationships*

- Hierarchical/formal (who gives orders to whom);
- Cooperative (who cooperates with whom);
- Service-based/operational (who provides inputs/services to whom);
- Financial (who funds/pays whom).

Step 5. *Draw a map indicating the actors involved*

- Depict the actual situation (not just the formal structure), using different types of lines for different types of relationships.

Step 6. *Indicate the closeness of the relationships*

- Frequency/volume;
- Importance.

Step 7. *Identify the adequacy of the relationships*

- Timeliness;
- Quantity/volume sufficiency;
- Quality acceptability.

Step 8. *Analyse the network*

- Which relationships are the most problematic;
- Which relationships can be developed (new opportunities/improvements);
- Which relationships should be accorded lower priority;
- What can be done to strengthen the network?

Summary of insights gained by creating an organisational chart

The *institutional setting* is composed of all relevant actors and their relationships in a particular field of development.

An *organisational chart* is an image representing this institutional setting depicting the actors and their relationships, with an indication of which relationships are close (and therefore important) and which ones are adequate.

Thus, in establishing a QAS, drawing an organisational chart may help in:

- Understanding the complexity of the environment;
- Avoiding the exclusion of important organisations and actors in the planning and designing process;
- Understanding that, although other organisations may deliver services and products in the same field that therefore impose planning constraints, their existence nevertheless offers opportunities for cooperation;
- Identifying organisations and individuals that already have many formal and informal relationships, contact with which may well be crucial for the success of the QAS;
- Creating a common understanding among participants of the nature of the institutional setting.

Analysis of the coverage of a QAS network

In analysing the coverage of the QAS network it is necessary to consider to what extent the network covers relevant activities (services/products) and to what extent it covers the intended target group.

There are two major factors to note:

- The activities being carried out within the context of the network (which organisations in the network are involved in these activities, and to what extent);
- The extent to which target groups and subgroups are covered by actors in the network.

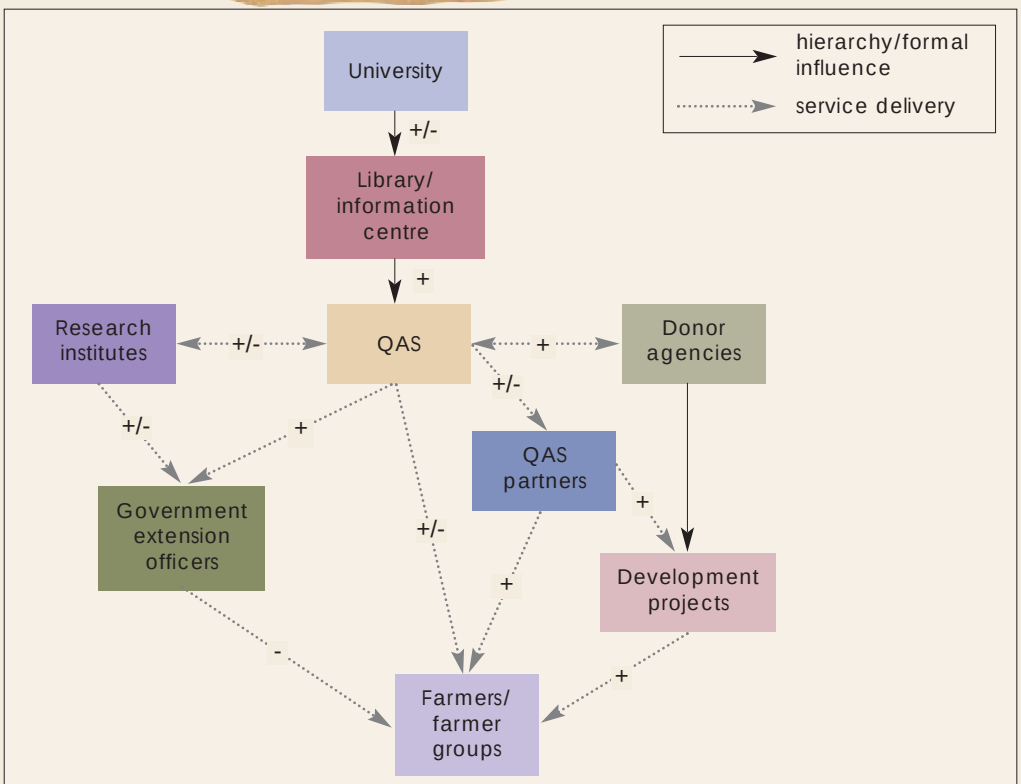
Both overviews furnish information about gaps, duplication and cooperation potential among the organisations concerned.

Creating and using coverage matrices

Matrices are instruments that help in determining which actors in the institutional setting are active in what way: who is involved in which target group, and what related activities apply.

The matrices help in identifying opportunities for collaboration and coordination. They provide an overview of overlaps and gaps in servicing the target groups and QAS activities. They show where there are weak spots (gaps), areas of duplication, and possibilities for cooperation and coordination. Thus, they help QAS staff achieve a better focus in their activities.

FIGURE 1 Example of a QAS organisational chart



The data in this chart show that:
- The target group is satisfied with the services it receives;
- The support of the library is adequate, although relationships between the library and university could be improved;
- Relationships with research institutions could be improved, particularly regarding the provision of more relevant information to extension staff;
- The extension staff are not very effective, and require more support;
- Relationships with QAS partners could be further developed.

The major steps in creating a coverage matrix are:

- Define the field of analysis (which information services and where);
- Identify the various actors involved in these services;
- Identify the various activities or potential user-groups;
- Specify the involvement of each actor with respect to an activity or user-group;
- Analyse the gaps and overlaps, and identify the possibilities for coordination and collaboration.

A coverage matrix can be made on an individual basis or a group basis consisting of representatives of various organisations. It is useful to invite several stakeholders to

contribute, but note that, because it is often difficult to determine the quantity of the activities studied, an assessment of level of involvement may be rather subjective. Also, a coverage matrix does not show the quality of the services, nor does it reveal the cooperation that may exist between partner organisations.

The remaining part of this chapter therefore presents *examples of coverage matrices* for a QAS, to show how they may be created for different user-groups (Table 13), different topics (Table 14), and different information services (Table 15).

Coverage by user group

The matrix in Table 13 reveals which QAS has close relationships with which user group. It thus helps in identifying gaps (user groups that are not well covered), overlaps (user groups that are too well addressed) and/or possibilities for coordination.

TABLE 13

USER GROUP	QAS 1	QAS 2	QAS 3	QAS 4	QAS 5	QAS 6
International NGOs	X	XXX	X		X	X
Local NGOs	XXX					
Government organisations and research institutions	X		XXX		X	
Companies/consultants	X			XXX		
Students		XX				XXX
Private individuals				X	X	X

XXX = major attention (>25% of requests); XX = substantial attention (10–25% of requests);
X = minor attention (0.1–10% of requests)

Coverage by topic

The matrix in Table 14 helps in identifying specialisations among QAS/information services. It also helps in identifying gaps and overlaps, and the possibilities for collaboration and/or referral.

Coverage by type of information service

It is also useful to show which organisations offer information services of relevance, and their priorities. The example in Table 15 shows who is involved in which type of information service, what gaps and overlaps there are, and what possibilities for coordination and cooperation there may be.

TABLE 14

TOPIC	QAS 1	QAS 2	QAS 3	QAS 4	QAS 5	QAS 6
Agriculture in general	X	X	X	X	X	X
Crop production and protection	XXX	XX	XX	XX	XX	XX
Animal husbandry and veterinary science	X	X	XXX		XX	
Socioeconomics	X	X	X	X	XX	X
Post-harvest technology	XX	XX	XX		XX	
Food science	XX	X	XX	X	XX	X
Environment			XX			
Marketing and access to markets		XX			XXX	
Funding and financial support	X	X	X		X	XXX
Training and education					X	XX
Agrobusiness and processing	XX	XXX	XX	XX	XX	XX
Information science and technology			XX		XX	

XXX = major attention (>25% of requests); XX = substantial attention (10–25% of requests);
X = minor attention (0.1–10% of requests)

TABLE 15

SERVICE/ACTIVITIES	ORG. 1	ORG. 2	ORG. 3	ORG. 4	ORG. 5	ORG. 6
Consultancy/extension	XX		XXX	X	XX	
Training	XXX	XX		XX		
Library services	XX	X	X	XXX	X	X
Distribution of reference books		X			X	XXX
Magazines		X	X		XX	XXX
FAQs/summaries			XX			X
Internet sources		X		XXX		X
QAS	X	XXX	X	X	XXX	X

XXX = major attention (major activity); XX = substantial attention; X = minor attention

4. What does networking involve?

A network can be defined as:

- Formal or informal cooperation among three or more organisations,
- with a common interest,
- which aim to achieve together an implicitly, or explicitly, formulated common goal.

A network may involve various relationships, including relationships with other organisational departments, customers, suppliers, competitors, stakeholders and communities.

Examples of QAS-related networks:

- Cooperation between research staff, extension workers, farmer groups and a QAS for the purpose of delivering practical information to farmers;
- Cooperation between various QASs for exchanging information and drawing on each other's expertise;
- Cooperation between a QAS and various research institutes whereby the institutes provide information to the QAS and the QAS answers questions from extension staff.

The following are important clarifications in this definition:

- Relationships between two organisations only are not considered to be a network;
- The cooperation does not have to be formalised with a written agreement;
- There should be some kind of common interest that leads to activities focused on a common goal;
- Participating organisations have a certain independence, which implies that there is no clear hierarchical structure;
- There are activities in which participating organisations depend on each other or complement each other's efforts (e.g., with information, services);
- Despite common interests there may also be conflicting interests;
- A network has a limited scope (geographical, sectoral, or topical).

Cooperative relationships

Objectives

Cooperation between partner organisations in relation to a QAS can have the following objectives:

- *Exchange of information.* For example: exchange of information and experience on working methods and organisational structure; exchange of information sources (such as databases on documentation, experts, suppliers, publishers, Websites);
- *Cooperation in the delivery of services or outputs.* For example: referral of questions to partners; joint answering of questions based on expertise; shared Websites or databases;
- *Cooperation in obtaining inputs.* For example: collaborative acquisition of information; shared use of buildings, equipment and transport;
- *Influencing policy through joint or coordinated action.* For example: a joint approach to decision-makers, and joint public statements.

Character of the relationships

The following relationships may be differentiated according to their level of formality:

- *Personal relationships.* These are informal, with an emphasis on exchange of information and mutual benefits. An example is the regular or occasional exchange of experiences between QAS information staff;
- *Informal organisational relationships.* Cooperation takes the form of a mutual exchange of services between organisations, without payment. It is based on informal agreements. An example is a meeting of staff from participating libraries every 3 months;
- *Formal organisational relationships.* Here the cooperation is formalised in explicit short- or long-term contracts, and the delivery of products or services is based on payment. An example is a QAS contracting a partner for a period of 1 year;
- *Institutionalised relationships.* These occur when there is a long-term relationship, or where a separate organisational entity exists to manage such a relationship. Examples:
  - joint venture: two organisations starting a joint QAS for their target groups
  - service organisation: an organisation network starting a QAS to serve the network members

  Cooperation through such institutionalisation generally has a long-term objective.

These various relationships can exist in a network side by side. Personal informal liaison in one area of cooperation can exist together with a formal contract in another area.

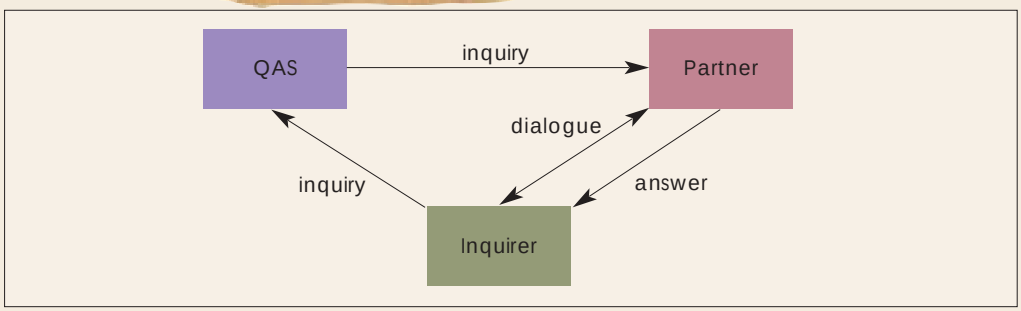
Models for QAS collaboration

Four models for cooperation between partners in a QAS can be distinguished, based on: decentralisation, an information network, a partner acting as a consultant, or a complete back-up service.

Decentralisation

In a decentralised system the QAS may receive the inquiry, but will channel it to its partner, which will enter into dialogue with the inquirer and provide the answer (Figure 2).

FIGURE 2 Model of a decentralised QAS



Advantages:

- Intensive dialogue between partner and inquirer;
- Minimised workload at the QAS.

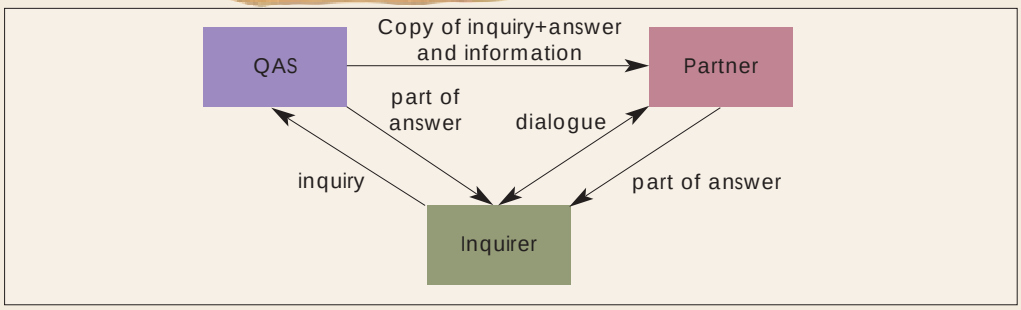
Disadvantages:

- No uniform standards of quality because there is little information on how the partner acts. Is the client satisfied?
- The partner requires long-term financing by the QAS to provide the service.

Information network

A second option is to establish an information network in which the partners may have differing expertise (Figure 3). The QAS will answer an inquiry as far as it can, and will then refer the inquiry, the answer and relevant additional information to the partner, which may set up a dialogue with the client in providing the (remaining part of the) answer.

FIGURE 3 Model of a network-based QAS



Advantage:

- Access to additional expertise.

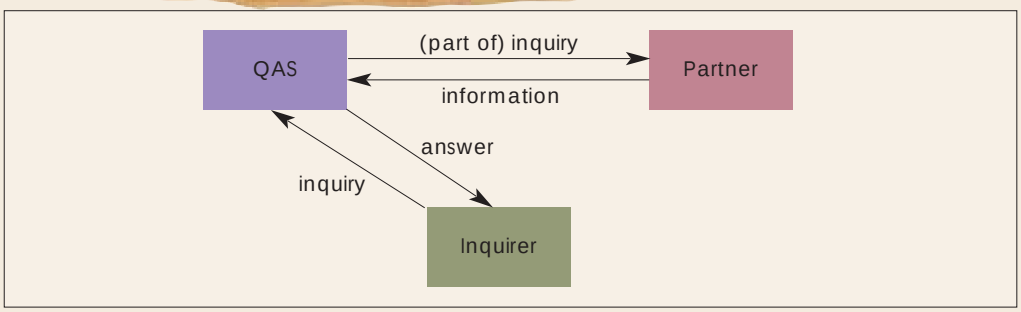
Disadvantages:

- High expenditure (cost-intensive);
- Complex, non-transparent structure for the client because two organisations are involved, not one. Questions to be solved are: who is responsible for the dialogue; and who retains the contact in the follow-up?

Partner as consultant

In the third option the partner acts as a consultant for the QAS (Figure 4). The QAS receives the inquiry, channels it (or the part of it that it cannot answer) to the partner, the partner returns the information to the QAS, which then provides the answer to the client.

FIGURE 4 Model for a QAS in which the partner is a consultant



Advantages:

- Uniform standards of quality;
- Access to the partner's additional expertise.

Disadvantages:

- Very high expenditure (cost-intensive);
- For a high-quality of service various partners with differing expertise are required.

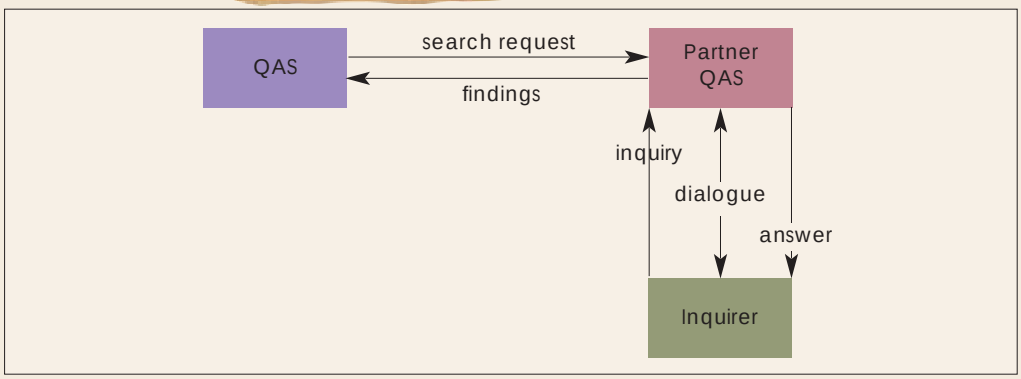
Back-up service

In this model, interaction with the inquirer is carried out completely by partner QASs (Figure 5). The QAS is now only a back-up service to these partner QASs.

Advantages:

- Intensive dialogue between partner and inquirer (often South-South);
- Minimised workload at the QAS;
- Potential for undertaking specialised searches via other QASs.

FIGURE 5 Model of a back-up QAS



Disadvantages:

- No uniform quality standards: little information about how the partner acts is available. Is the client satisfied?
- The partner requires long-term financing by the QAS.

Choosing a model

The four models offer options relevant to differing requirements. Where quality control is required, the consultant model may be most suitable. Where the QAS and its partners clearly have complementary expertise, the network model may apply. Where the partner is a professional organisation with sufficient expertise to deal with the complete inquiry, the decentralisation or back-up models may apply.

Assessment of the cooperation

Organisations cooperate to make themselves more effective and efficient or to increase their chances of survival (sustainability/continuity). However, cooperation may not function as smoothly as planned. Table 16 provides an overview of the factors that favour cooperation and those that do not, in relation to various organisational elements.

The creation of strong relationships between partners in providing information services depends upon adopting the 'formula' of *mutual understanding and mutual benefit.*

Factors to consider in creating cooperative relationships:

- Understanding and commitment at both operational and managerial levels;
- Clarity concerning anticipated mutual benefits, and mutual understanding of each other's expectations and contributions;
- Complementarity in cooperative activities;
- Compatibility between partners' internal organisations;

TABLE 16

ORGANISATIONAL ASPECTS	FACTORS FAVOURING COOPERATION	UNFAVOURABLE FACTORS
Environment	External pressure for cooperation Dependency on others (procedural/technical) A common 'enemy'	External pressure for independence Lack of legitimacy/acceptance
Objectives	Common goals/visions	Conflicting goals/visions
Inputs	Economies of scale Cost-sharing Mutual benefits	Lack of resources to contribute Imbalance between benefits and contributions
Outputs	Complementary services to equal target groups Similar services to different segments of target group	Equal services to equal segments of target group
Internal organisation	Compatible strategies and approaches Compatible systems and procedures Compatible leadership styles Common language Respect/trust	Conflicting strategies/approaches Incompatible systems and procedures Different leadership styles Misunderstanding Disrespect/mistrust

- Repeated interaction and continuous communication through personal relationships;
- Mutual respect and trust;
- Flexibility and relative autonomy of the partners in the partnership.

The collaboration matrix

When decisions need to be made about establishing a major cooperative relationship through formal collaboration, a collaboration matrix should be drawn up to help in identifying relevant criteria. Table 17 provides an example of collaboration between a QAS and an extension agency.

This matrix indicates that there are major difficulties regarding: image, funds, geographical distance, and differences in procedures and approach. Such unfavourable factors would have to be discussed and addressed before collaboration could be proposed and agreed.

Using a collaboration matrix as a decision-making instrument

The steps in creating a matrix include:

- Defining the type of collaboration intended;
- Identifying favourable and unfavourable factors for each organisational aspect (environment, objectives, inputs, outputs, internal organisation);

TABLE 17

ORGANISATIONAL ASPECTS	FACTORS FAVOURING COOPERATION	ASSESSMENT OF STRENGTH FACTOR ← + – →	UNFAVOURABLE FACTORS
Environment		→	Bad public image of extension agency
Objectives	Common goals (development and smallholder farmers)	←	
Output	Complementary services (information and extension)	←	
Inputs	Ability to complement technical skills and being 'close' to target group	← →	Lack of funds for extension agency
Internal organisation	Similar professional background (agriculture)	← → →	Geographical distance Differences in procedures and approach

- Defining the strength of these factors;
- Identifying the major factors and proposing relevant action.

A collaboration matrix can be created by one partner, or jointly by two partners together. If tensions or sensitive issues arise, two matrices made by each party separately can be compared with the help of an external adviser. Group sessions for this would normally take about 1.5 hours.

Note that, because assessing the strength of the favourable and unfavourable factors is subject to personal interpretation, improved results can be obtained if both partners make independent assessments and then match the results. Note also that this process requires substantial information about the actors involved.

Components of agreements

The following is a minimal list of the topics that should be addressed in agreements between partners, whether these agreements are formal or informal:

- Background and reason;
- Objectives;
- Expected activities;
- Working procedures, including formats to be used;
- Time limits;
- Level of staff to be involved;
- Price (per question, or a lump sum/budget for a certain number of questions);
- Technical assistance to be provided to the partner;
- Payment conditions;
- Quality requirements;
- Performance indicators;
- Frequency of reports and their contents;
- Evaluation procedures;
- Duration of the contract;
- Valid circumstances for terminating the contract.

Phases in developing a partnership

There are usually four main phases in developing a partnership.

Phase 1. *Orientation/familiarisation*
Involves exchanges of information on:

- What do the partners do (products, services, clients)?
- How do the partners work (organisational approach)?
- What are their fields of expertise and their strengths and weaknesses?
- What are their objectives and expectations?
- What major problems are experienced by both partners?

Phase 2. *Informal cooperation between network partners*
Initiated through:

- Agreements concerning services and reciprocal services;
- Experiencing each other's methods and approaches and related strengths and weaknesses.

Phase 3. *Formal cooperation between network partners*
Based on:

- Clarity on complementarity, mutual benefits and contributions;
- Clarity on problems, opportunities and favourable/unfavourable factors;
- Agreements on activities, financial benefits and performance indicators;
- A long-term contract specifying division of tasks and responsibilities, investments, financing and decision-making.

Phase 4. *Institutionalisation*
Achieved by:

- Creating an organisational structure for collaboration;
- Drawing up a clear business plan for the new organisational structure;
- Clear agreement about which clients will be served, what activities will be undertaken, and the division of tasks, responsibilities and financing;
- Making an appropriate legal registration.

5. What information resources are available?

The information resource base is the driving force behind a QAS. Without adequate sources of information, questions cannot be properly and efficiently answered. It is therefore important to review QAS activities regularly and explore what possibilities exist for expanding the information resource base from such sources as:

- Documentation available in a documentation centre related to the QAS;
- Target groups;
- Experts' views;
- Media (radio, television, newspapers, journals);
- Databases;
- Internet.

Documentation available in a documentation centre

Adequate documentation is essential for responding to requests from clients. In many cases, documentation work will be organised separately from the QAS by the documentation centre or the library of the organisation that offers the QAS. But, whether or not this is the case, adequate coordination between the documentation function and the QAS is of major importance. It is therefore very useful to define explicitly (and regularly review):

- Topics that are of importance to the QAS;
- How to obtain relevant documentation;
- How information is made accessible;
- How to make the documentation available to QAS clients.

Topics of importance to the QAS

When, in information retrieval, appropriate documentation is sought or ordered, it is important to define the topics that are relevant. For staff of a documentation centre the main problem is not how to collect documentation, but to collect documentation which is *relevant* and can thus be used by the client.

How to obtain relevant documentation

In updating information in a documentation centre, it is also useful to be aware of possible sources. These could include:

- QAS clients – asking them to share their experiences;
- The organisation's own staff, or consultants used by the organisation – ensuring that all relevant project reports are made available to the documentation centre;
- Other projects or organisations working in relevant fields of development – asking them also to provide relevant reports to the documentation centre;
- Students and university staff – asking them to provide the centre with copies of relevant studies;
- Publishing houses – ordering materials based on their catalogues.

In interacting with such sources it is important to be precise about the type of information sought. Otherwise a documentation centre may receive documents that are not really relevant, which therefore occupy storage space without being used.

It is also useful to offer incentives to people who provide documents for use in the documentation centre because, in a cooperative arrangement, one has to take account of mutual benefits. Without them, others may not want to put in the effort needed. Appropriate incentives may thus take the form of free use of the documentation centre, or a free copy of a bulletin or a file of FAQs.

How information is made accessible

In running a documentation centre it is also important to know how the documentation is made accessible, and to streamline this accessibility with the requirements of the QAS. Most documentation centres have databases containing indexes to authors, titles and topics. Sometimes, geographical entries may also be indexed. It is therefore useful for documentation centres and QAS staff to discuss how the topics are standardised, and to what extent the standardisation is appropriate for the QAS.

How to make the documentation available to QAS clients

There are several different ways of making documentation available. It is therefore useful to consider which of the following services the documentation centre can provide, and to agree on what charges are appropriate for its services:

- Access to documents for reading in the centre;
- Borrowing of documents by clients;
- Sale of books to clients;
- Ordering of books on behalf of clients;

- Provision of: bibliographic references; articles; statistics; information on CD-ROM; contact addresses (experts, suppliers, etc.); information on funding sources or training opportunities; and advice on specific topics.

Target groups

These may consist of farmers, extension staff, researchers, librarians, managers, and so on. They may therefore be a good source of information based on their experience in using agricultural technologies. When asked, they may provide a QAS with additional information through letters or interviews, particularly if researchers or extension staff are involved. In the case of end-users (farmers), this information cannot usually be obtained in written form, but has to be collected orally – a rather time-consuming process.

Experts' views

It is useful for a QAS to be in contact with a pool of internal and external experts who are willing to provide the service with information related to specific, or frequently asked, questions. Experts, including policy-makers and subject-matter specialists, may be found in:

- Consultancy firms;
- Industrial companies;
- Government agencies;
- Unions and business associations.

Media

Communication channels and methods of potential use in identifying relevant information for the QAS may include:

- Advertisements, brochures, flyers, pamphlets;
- Newsletters;
- Scientific journals;
- Conference proceedings;
- Manuscripts;
- Grey literature, research reports, NGO documents, project documents, etc.

Databases

An increasing amount of information is now being stored in computerised databases. Of particular relevance to agriculture-based QASs are those of:

- International organisations (e.g., FAO, CABI);
- Universities/research institutes;
- Bureaux of statistics;
- NGOs, development organisations, and projects;
- Government ministries;
- Sectoral (e.g., branch) organisations.

Knowledge of the contents of major databases can be very useful in addressing specific questions. In setting up a QAS it is therefore important to make an inventory and overview of such databases, with particular regard to:

- Their quality (the validity and completeness of information provided);
- How frequently they are updated;
- How they can be accessed.

Setting up and maintaining one's own databases, in addition to those required for the documentation and monitoring of the QAS, may not always be practical. This is because establishing any database is a time-consuming and cost-intensive activity, and organising its maintenance is often even more difficult.

Internet

More and more information sources are now to be found on the Internet. Various organisations offer free publications, while others provide access to databases. It is therefore useful to create an overview of major Websites relevant to the range of topics covered by the QAS. Some major Websites related to agriculture are:

http://www.fao.org
http://www.cta.nl.org
http://www.cgiar.org
http://www.nalusda.gov

These sites provide substantial information, with helpful links to other agricultural sites. Other organisations involved in information services include: Agricola, CABI, CARDI, IICA, ILO, ISNAR, IT, PACT, PROCI, UNECLAC, UNESCO, World Bank and WTO. See also the list of relevant Websites (pages 37–38).

Creating and maintaining a Website for the QAS may be an expensive undertaking, but will become increasingly viable in the coming years. A Website is useful for the following purposes:

- To provide information about the QAS (and other activities of the organisation);
- To make FAQs directly accessible (supplemented by referring follow-up questions from the client to an expert, as is the procedure, for example, at Questor; see Appendix 3);

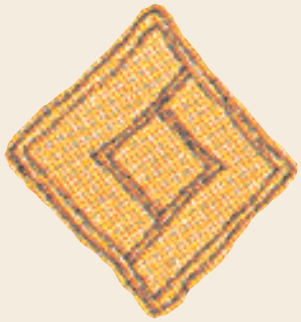
- To make databases directly accessible (e.g., the BASIN project; see Appendix 2);
- To refer clients easily to other, more relevant, organisations via listed links.

Using Internet facilities will, of course, require that a substantial proportion of QAS clients also have access to Internet.

Useful agricultural Website addresses

Website address	*Organisation/Website name*
http://:demiurge.wn.apc.org:80/africa	African Internet Connectivity
http://www.oneworld.org/inasp/ajol/index.html	African Journals Online
http://agecon.lib.umn.edu	AgEcon Search: Research in Agricultural and Applied Economics
http://www.gennis.com/aglinks.html	Ag-Links
http://www.nal.usda.gov/ag98	Agricola
http://www.agriinfo.co.za	Agriinfo
http://www.arc.agric.za/lnr/benza	Benza & Betty
http://www.bdt.org.br/bioline/info/bioline.about	Bioline Publications
http://www.nal.usda.gov/bic	Biotechnology Information Centre
http://www.gtz.de/basin	Building Advisory Service and Information Network (BASIN)
http://www.comesa.int	Common Market for Eastern and Southern Africa (COMESA)
http://www.cta.nl	Technical Centre for Agricultural and Rural Cooperation (CTA)
http://www.fao.org	Food and Agriculture Organisation of the United Nations (FAO)
http://www.forages.css.orst.edu/organisations	Forage Information System
http://www.cgiar.org/icrisat	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
http://gophisb.biochem.vt.edu	Information Systems for Biotechnology
http://www.itu.int	International Telecommunications Union

http://www.nal.usda.gov/acq/intscsel.html	Internet Resources in Agriculture (1)
http://www.aglib.vt.edu/lbmhp/interag.html	Internet Resources in Agriculture (2)
http://www.listi.com/landbou	Landbou-Net
http://webmsiri.intnet.mu	Mauritius Sugar Industry Research Institute
http://www.snymor.edu/~drewwe/njc	Not Just Cows
http://wodan.stoas.nl/evbpbg	Questor
http://www.sitia.org	Service for Information Technology in International Agriculture (SITIA)
http://www.agricta.org/spore.htm	Spore
http://www.ulb.ac.be/ceese/meta/sustvl.html	Sustainable Development
http://www3.undp.org	Sustainable Development Networking Programme



6. How should work processes and flows be organised?

An important aspect in understanding what is going on in the organisation is observing how the system works and how things are done, and by describing and analysing the relevant processes within the organisation. This can assist in:

- Identifying problems and bottlenecks in the sequence of activities;
- Identifying possibilities for improvement;
- Clarifying misunderstandings between persons and units, and coordinating activities;
- Explaining complex processes to newcomers.

It is therefore necessary to consider the following:

- What is a process?
- What are the processes in the organisation?
- Which ones need to be described?
- In which way may such processes be described?
- How may the relevant processes be analysed?

Process analysis

A process is a sequence of activities that transforms inputs (means) into outputs (results).

Examples are: production processes, development processes, and decision-making processes. It should be noted that an activity within a process can be seen as a (sub)process with a (sub)sequence of (sub)activities.

Different processes in an organisation

To be able to influence the performance of the organisation, we need to understand *how* various inputs are transformed into outputs. Thus, it is useful to distinguish between the primary processes, the support processes and the control processes.

Primary processes are those that are directly related to the transformation of inputs into the outputs of the organisation (e.g., the production of shoes in a shoe factory). It is very important to analyse these core processes because such analyses can result in major improvements in the efficiency and effectiveness of the organisation.

Primary processes in a QAS include:

- Providing information to potential users;
- Receiving requests and answering questions;
- Conducting literature searches.

Support processes are those that are required to facilitate the primary processes (e.g., in the shoe factory, the procurement of leather is an important support process). Thus, keeping administrative records is an example of a key support process.

Support processes in a QAS often comprise:

- Photocopying and printing;
- Handling incoming and outgoing mail;
- Acquiring documents;
- Developing databases;
- Providing an SDI service;
- Responding to FAQs;
- Producing newsletters;
- Producing brochures;
- Drawing up accounts.

Control processes are those that guarantee the targeted quality of the primary processes. In the shoe factory example, quality control during production or at time of delivery of the leather is a control process.

Control processes related to a QAS include:

- Monitoring procedures (data collection, registration, quality control);
- Reporting procedures (periodic overviews of results);
- Evaluation procedures;
- Planning and budgeting.

Describing processes: steps in developing a flow chart

One important tool for describing processes is the flow chart technique, which uses different symbols for the activities described.

The format presented in Table 18 includes selected key symbols for use in the description and analysis of most processes in development projects and organisations. The technique is also suitable for describing and analysing processes within a group (e.g., a project team).

The steps in developing a flow chart are:

TABLE 18

SYMBOL	EXPLANATION
	Starting point Outcome
	Divide the process into 5–10 activities that are roughly of the same level of analysis (e.g., 'giving a presentation' is on a different level from 'conducting a course'; 'giving a presentation' could be seen as a sub-activity of 'conducting a course'
	Identify decision moments. Describe these moments in yes/no questions. Ensure that both the 'yes' side and the 'no' side have a follow-up activity (e.g., 'proposal approved?' Yes = send confirmation; No = inform client)
	For each activity identify the responsible person/unit. All activities/decision moments that follow the symbol are the responsibility of the person/unit indicated
	Identify all information coming into the process and all information going out of the proccess. The arrow of the connecting lines indicate whether the information is going in or out
	Connect the symbols with lines with arrows pointing out what is following what. Include loops to show that an earlier activity should be repeated

The flow chart technique is related to the critical path method (CPM). CPM is often used in technical design and development processes that optimise the flow of activities. CPM requires quantitative data on the duration of activities.

1. Define the level of analysis

- Which process is going to be analysed?
- Define the starting point and specify the outcome/result of the process.

2. Describe the process

- Describe the process using the flow chart technique indicated in Table 18.

Qualitative analysis

When the flow chart technique is used, a process can be analysed using the following three steps.

1. Identify possible bottlenecks

For each activity and for each decision point, ask yourself:

- Why does this activity take place?
- Why does it take place at this point in the sequence?

- How much time does it take and why does it have to take that time?
- Is the activity difficult to carry out and, if so, why is it difficult?
- Why is this specific person responsible for this activity?
- What are the risks involved in this activity/what can go wrong?

2. Identify improvements

As a result of the answers to the above questions, ask yourself:

- Could you *leave out* activities, decision points or information?
- Could you *combine/change* activities, decision points or information?
- Could you *simplify* activities, decision points or information?
- Could you change the *responsibility*?

3. Evaluate improvements

Evaluate your ideas for improvement by asking yourself if the improved activities or sequence of activities:

- Improve the *quality of services*;
- Require *fewer resources*;
- Require *less effort*;
- Take *less time*;
- Improve *working conditions* for the staff.

Quantitative analysis

Given that sufficient data are available, a process can also be analysed quantitatively. In this context, three major types of quantitative data may be relevant:

- The *volume* of work at different stages. For example, are we talking about 100 clients served or 20 training courses conducted, or just one or two? This provides an indication of the magnitude of certain problems;
- The *duration* of an activity. For example, does it take 3 months between the application for a loan and its approval, or just 2 weeks? This indicates how fast clients are served and where the main bottlenecks occur;
- The *time spent* on an activity. For example, does the intake of a client take, on average, half an hour or half a day? Does participating in making a business plan take 2 days or 2 weeks? Such questions suggest where major efficiency measures could be implemented.

Analysing a QAS process

Steps in a QAS process

The main steps in a QAS process are registering an inquiry, answering routine and technical inquiries, forwarding inquiries to experts, registering answers, follow-up and filing.

Registering an inquiry

Inquiries are registered in the QAS database by the QAS secretary. This permits monitoring and provides information for management purposes. In general, it is recommended that a database be used to facilitate monitoring to simplify the extraction of management information.

The scanning of typewritten letters could also be beneficial because this reduces the space required in conventional filing systems, and it facilitates the use of e-mail in exchanges with external experts. Handwritten letters, however, would still require filing-cabinet storage space.

Registration of an inquiry should at least include:

- Date of receipt;
- Name and address of the client and organisation;
- Type of question;
- Question theme;
- Type of organisation;
- Function of user;
- Country/district/town of origin.

Answering a routine inquiry

Routine inquiries for publications or for general information with standardised answers can be dealt with directly by the QAS secretary.

Answering a technical inquiry

Technical inquiries often have to be answered with specific survey data, teaching materials or expert knowledge. Some inquiries may be dealt with directly by the QAS expert.

Forwarding to an expert

In answering specific technical inquiries, the QAS expert should be able to make use of a network of partners and other experts. It is important that these responses should be monitored.

Registering answers

Answers can be classified in different ways:

- Standardised;
- Tailor-made;
- Standard publications;
- Referred to other agencies;
- Outside scope of the programme.

Follow-up

This may be undertaken in different ways:

- An evaluation of the satisfaction and usefulness of the information, directly after the answer has been received;
- An assessment of the implementation of the answer given (i.e., of impact) 6–9 months later;
- Addressing new questions from clients in active and passive ways.

Filing

After finalising the process, the question and its answer should be properly filed, to ensure they can be retrieved easily for future reference.

Flow chart of a QAS process

Figure 6 summarises the above procedure in diagrammatic form.

There may be delays between:

- Receipt and registration;
- Registration and assessment;
- Assessment and compiling the answer;
- Compiling the answer and final dispatch.

Table 19 identifies potential bottlenecks at different stages in the process and suggests possible solutions.

Cost-effectiveness of a QAS process

Cost calculation

The following text and tables provide an example of the steps to take in calculating the cost of providing a QAS.

FIGURE 6 Process flow chart for a QAS

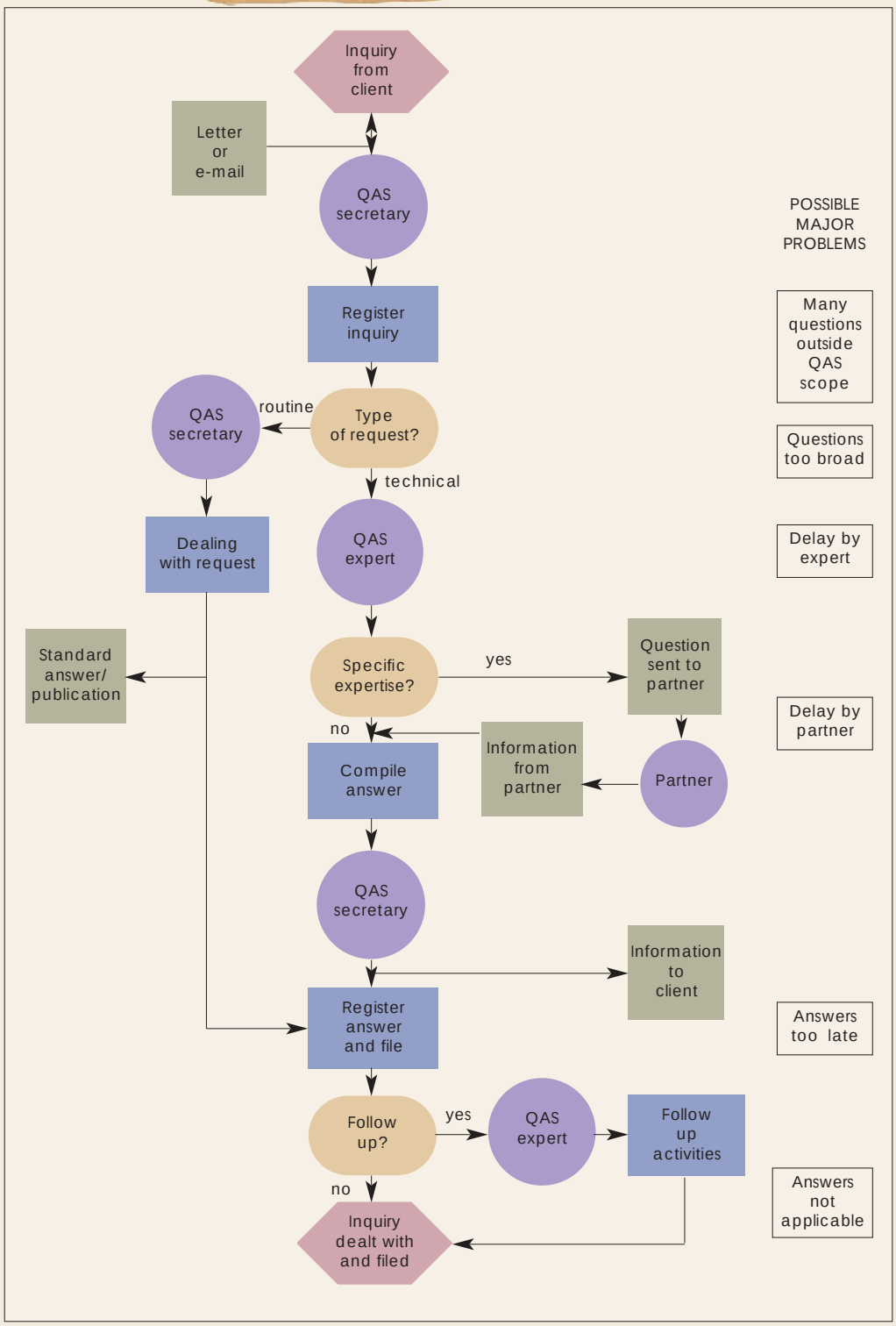


TABLE 19

STEP	POTENTIAL BOTTLENECKS/ PROBLEMS	POSSIBLE SOLUTIONS
Receiving requests	Many applications outside QAS scope (region, topic, target group)	Improving information sent to clients Standard regret letter Giving referral address Providing standard, basic information
	Many broad/incomplete/ unclear requests	Stimulate use of request form (e.g., attach it to newsletter) Improve clarity of questions
	Different language	Improve information sent to client Find translator
Registration	Registration incomplete	Check registration
	Registration information not used	Simplify registration Design monitoring and reporting system
Use of partner or experts	Partner does not have same priorities; delays occur	Specify time limits in contracts Offer financial incentives for timeliness
	No information provided about the answer given	Ask for duplicate of answer
	Partner does not provide a quality answer	Ask for duplicate of answer Conduct an evaluation comparing own answers with those of partner Make answer publically available/ accessible (via Internet)
Own search/ compilation of answer	Search takes too much time	Improve own documentation Improve own databases Improve knowledge/skills in search strategy
	Photocopying delays	Discuss and agree priority of client-related copying in management
Sending the answer	Answer not relevant	Ask for feedback on relevance of the answer
	Answer too late	Monitor questions received for their timeliness Discuss questions that are delayed
Registration and filing	Filing work gets low priority/ files not up-to-date	Set time limit for filing, and discuss any difficulties that remain

Step 1. *Calculating QAS costs and the cost per question in general*

A QAS is often part of a documentation centre or library and may not have a separate budget and accounts. In analysing costs, therefore, the first step is to calculate the QAS costs as a percentage of overall costs. Some costs can be directly extracted/calculated

from the overall budget (e.g., the *cost of contracts* with QAS partners and the *direct costs* of materials such as CD-ROMs and books). The other costs (*overheads*) have to be estimated as a percentage of the overall costs of the library. This percentage may be based on the number of professional full-time staff working for the QAS compared with those for the whole library. Some other percentages may be estimated to be higher (e.g., postage), based on day-to-day experience.

In the example given in Table 20, in which the costs of the QAS are shown as 411,000 currency units, we can calculate the cost per question based on the number of questions received in the corresponding period (i.e., 1000), giving an average cost per question of 411 currency units. The direct costs shown were calculated for the corresponding number of answers that included a book, a CD-ROM, etc., thus indicating the average additional costs for this type of service.

Step 2. *Calculating the time spent per question*

In step 2, the time spent performing different activities in answering questions is estimated (see example in Table 21). If an adequate time-registration system exists, the total hours

TABLE 20

OVERHEADS	RELEVANT LIBRARY COSTS	PERCENTAGE ALLOCATED TO QAS	COSTS OF QAS	NUMBER OF QUESTIONS	COST PER QUESTION
Personnel	1,000,000	10%	1,000,000	1,000	100
Building rental	200,000	10%	20,000	1,000	20
Equipment	300,000	10%	30,000	1,000	30
Stationery	150,000	10%	15,000	1,000	15
Postage	120,000	25%	30,000	1,000	30
Administration	100,000	10%	10,000	1,000	10
Other costs	400,000	10%	40,000	1,000	40
			……+		
Total overheads			245,000	1,000	245
Contracts with partners			140,000	500	280
			……+		
Total contracts			140,000	1,000	140
Other direct costs					
Photocopies			5,000	500	10
Books/documents			1,000	200	5
CD-ROMs			15,000	100	150
Tapes			1,250	50	25
Tape-slide series			1,250	25	50
Videos			2,500	25	100
			……+		
Total direct costs			26,000	1,000	26
Total cost			411,000	1,000	411

TABLE 21

TASK	NUMBER OF QUESTIONS	TOTAL HOURS SPENT	HOURS PER QUESTION
Reception and registration	1,000	250	0.25
Elementary search	300	150	0.50
Advanced search	200	400	2.00
Contacting experts	500	250	0.50
Compiling answer	1,000	500	0.50
Registration and sending	1,000	250	0.25
Follow-up	1,000	250	0.25
Promotion and management	1,000	450	0.45
Total number of hours per question	1,000	2,500	2.50

spent may be known and, based on the number of questions dealt with, the hours per question can be calculated. But if the total time is not known with any precision, an estimate of the time taken to deal with each question can be made and, based on that, the total time involved can be calculated. A recommended check in such a calculation is to compare the figure with the number of staff working in the QAS (e.g., is 2,500 hours spent on the QAS realistic, compared with the number of staff involved?).

Step 3. *Calculating the cost per hour*

Now that the total overheads of the QAS (step 1) and the total time spent (step 2) are known, we can calculate the overhead costs per hour, as shown in Table 22.

TABLE 22

Overheads (in currency units)	245,000		
Staff time spent (hours)	2,500		
Overhead cost per hour (in currency units)	98		

Step 4. *Calculating the cost per type of question*

As we know the costs per hour, we can calculate the costs for each type of service that we offer, provided that we know how much time we spent on it. In Table 23, the time is estimated for three services: elementary searches using the QAS databases, advanced searches using the Internet, and expert advice. Based on the total time spent on each type of question, the overhead costs per question can be calculated. The average direct costs (partner contracts and materials) are added to arrive at the total costs for each type of question.

TABLE 23

TASK	TOTAL	HOURS PER QUESTION ELEMENTARY SEARCH	ADVANCED SEARCH	EXPERT ADVICE
Reception and registration	0.25	0.25	0.25	0.25
Elementary search	0.50	0.50	0	0
Advanced search	2.00	0	2.00	0
Contacting experts	0.50	0	0	0.50
Compiling answer	0.50	0.50	0.50	0.50
Registration and sending	0.25	0.25	0.25	0.25
Follow-up	0.25	0.25	0.25	0.25
Promotion and management	0.45	0.45	0.45	0.45
		……+	……+	……+
Average number of hours per question	2.50	2.20	3.70	2.20
	……x	……x	……x	……x
Cost of overheads/hour (currency unit)	98	98	98	98
Cost of overheads/question (currency unit)	245	216	363	216
Contracts with experts/ question (currency unit)	140	0	0	280
Direct costs/question (currency unit)	26	26	26	26
	……+	……+	……+	……+
Total costs/ question (currency unit)	411	242	389	522
Number of questions	1,000	300	200	500
Costs (currency unit)	411,000	72,600	77,800	261,000

In this example it can be seen that elementary searches are cheaper than advanced searches, and that those are cheaper than expert advice. Consideration should therefore be given to reducing the number of advanced searches and contracts with experts by expanding or improving the QAS's own databases.

Strategies for cost-effectiveness

The following strategies can be considered when it is necessary to reduce costs and improve cost-effectiveness:

- Employ only a small number of permanent staff (thus reducing overheads) and use part-timers or external experts to answer the questions;
- Improve the promotional material, minimising requests outside the QAS's scope;
- Improve the quality of requests, reducing dialogues with clients;

- Create a sufficient volume of requests to reduce overheads per question;
- Limit the number of clients/questions that can be dealt with in a year;
- Establish priorities among the clients so that, if time becomes a constraint, only the higher-priority groups will be dealt with;
- Standardise answers provided in the form of FAQs;
- Make FAQs easily accessible;
- Use newsletters to publish FAQs;
- Use intermediaries to create better outreach, reducing the number of individual requests;
- Use e-mail where possible for sending answers, reducing photocopying work;
- Use Websites for publicising the questionnaire and receiving questions directly;
- Use the Internet to provide access to publications, FAQs, etc.;
- Minimise the steps required in the QAS process (opening mail, registration, etc.);
- Reduce search time by improving databases and search strategies;
- Reduce the reporting time by computerising reporting formats;
- Channel requests directly to partners (if possible).

7. How should a QAS be publicised?

Promotional activities are important in ensuring that a QAS functions adequately. But they are easily undervalued or, in some cases, may run out of control. Too little publicity may mean that only a few clients make use of the service (i.e., it has minimal impact). But too much may result in too many clients approaching the QAS, which may then not be able to cope or to maintain its standards (e.g., through lengthening of the response time). If publicity is not directed towards the right target group, many requests may have to be turned down, which would naturally have an adverse effect on the QAS's image. High promotional costs, and substantial time spent on dealing with irrelevant questions, would increase the QAS's costs in relation to the number of effective answers provided.

A good promotional strategy is therefore essential, and should be directed towards attracting the right clients (and *not* to getting as many clients as possible). Answers to the following questions provide key elements in such a strategy:

- For whom is the QAS intended; who is excluded; what are the priority target groups?
- What type of question is the QAS most qualified to answer; what questions will not be answered?
- What can realistically be expected of the answer (comprehensiveness, references, literature provided, etc.); what will not be provided (e.g., books)?
- What procedure is to be followed, within what general time limits?
- What is expected of the client (financial contribution, readiness for dialogue, etc.)?
- How are requests to be submitted (format requirements, addresses, etc.)?

Brochures

Small brochures, flyers or pamphlets, with well-thought-out contents, are convenient items for visitors to take away as reference material and to pass on to others. For the distribution of such promotional material by post, the following checklist of potential recipients suggests which organisations should be contacted:

- Development organisations and projects;
- Documentation centres and libraries;
- Other public places visited by target group members (where display boards are used);
- Individuals who may have substantial contacts among target group members, such as consultants, trainers and development workers.

Advertisements

Advertisements can be useful, especially when it is possible to obtain free publicity in journals or newsletters published by other organisations. But placing advertisements can also be quite costly. It is therefore important to consider what range of publications is read by the target groups the QAS wishes to contact. Relevant media for advertising an agriculture-related QAS include:

- Agricultural magazines, including those specifically for farmers;
- Development publications issued by various donor agencies, including sectoral publications such as agricultural and enterprise journals;
- Local radio and television stations, especially those with agricultural programmes;
- Newspapers;
- NGO newsletters;
- Scientific journals.

Internet/Websites

If the QAS has a Website, its services may be publicised through the site. If not, promotion via the Internet may be achieved through the collaborative use of a partner organisation's Website. It can also be useful to create links with Websites of partner institutions.

Using networks and word-of-mouth publicity

Networks of experts, specialists, practitioners, etc., as well as working groups among the users of the QAS, can be important vehicles for making its services better known through meetings, seminars, conferences or publications sponsored by the networks.

Word-of-mouth is always an important vehicle for promotion – a satisfied client will recommend the QAS to others. By contrast, a dissatisfied client can easily damage a good reputation because bad news often spreads faster than good news, particularly as dissatisfaction will rarely be expressed directly to QAS staff. It is therefore essential to monitor the QAS's performance in relation to clients' assessments of timeliness, tailor-made services, attention given to unusual problems, subsequent follow-up, etc.

Other promotional methods

These include:

- Exhibitions and displays (e.g., at agricultural shows);
- Open days arranged by institutes, universities, agro-industries, etc.;

- Farmers' extension field days, demonstrations, on-farm trials;
- Collaboration with shops selling pesticides and other agricultural inputs;
- Staff participation in conferences and lecture tours;
- Posters and banners;
- Video productions;
- Competitions;
- The sale or gift of T-shirts, key-rings, etc.

8. Why is quality control important for the client?

A product or a service can be divided into its component parts, in the same way that a chair comprises its legs, the seat, the back, etc. Each component has its own requirements as far as the client is concerned, to the extent that the components of a product can be subjected to quite critical assessment by the user. For instance, in the purchase of a television set, the components determining a customer's judgement of quality may include the clarity of the manual and the efficiency of the after-sales service.

It is therefore important for an organisation that provides a service to be aware of the client's reaction when he or she comes into *contact* with the organisation by starting to use its services. It is during this initial contact (the 'moment of truth') that a client makes an assessment of the quality of the service.

Specifying client requirements

Surveys show that customers value the following characteristics of *service* delivery[1]:

- *Reliability:* does the organisation provide the services that were promised?
- *Reaction:* how fast does the organisation react to a request?
- *Trust:* can the organisation be trusted?
- *Empathy:* does the organisation show concern for its clients?
- *Physical aspects:* e.g., buildings, materials, the way the staff dress, attractiveness of brochures, all of which affect the level of confidence that clients have in the capabilities of an organisation.

People expect good products and services without boastful exaggeration in promotional literature. They want results and not empty promises. Clients do not expect extraordinary treatment, but *reliability* is one of their most important requirements.

So the services offered should be realistic and achievable. But an important element is the *surprise factor*: giving clients more than they normally expect. This can be achieved through attention to speed and politeness in responding to requests, and by encouraging staff to show competence, concern and commitment.

1 Berry, L.L., Pasuraman, A. and Zeithaml, V.A. 1994. Improving service quality in America: lessons learned. *Academy of Management Executive*, vol. 8.

Figure 7 provides an example of how the quality aspects of a QAS (the moments of contact between the organisation and its clients) may be divided into related quality requirements, from which indicators can be developed and target values specified.

By giving the indicators clear target values or norms (e.g., 'fewer than 10% of clients are dissatisfied with the answer'), one can develop useful instruments for analysing and adjusting the services provided, if current activities do not function within the norms.

It should be clear that, in observing the moments of contact between the organisation and the client, *the emphasis is, and should be, on the service as experienced by the client* and not on how staff of the organisation itself perceive the service given.

Process analysis and quality control

Customers' appreciation of the basic services they expect depends on how well all services are *coordinated*. The components include the people, the equipment, and the environment in which the services are being delivered. It is often the *details* that determine the client's assessment – the provision of an expensive and comprehensive book does not make sense in quality terms if the client's question has not been properly addressed.

Analysis of the service provided can thus assist in revealing and redressing deficiencies. In general terms, Table 24 suggests the steps to take in assessing to what extent this process is providing a satisfactory service.

Control of quality implies control of each step of the process shown, in which the concepts of feedback and amelioration become relevant.

Feedback implies that, based on the information received, mistakes already made can be rectified. Some examples of QAS feedback that enables mistakes to be rectified are:

- Re-doing a search after a client has indicated that the initial results were irrelevant;
- Providing additional documentation after a client felt that the initial documentation was not comprehensive enough;
- Contacting a partner when the partner has not answered the question promptly.

Amelioration implies that future processes and procedures are modified as a result of previous experience. Some examples of QAS amelioration that prevents mistakes being repeated are:

- Changing the contract with the partners to stimulate them to be timely in their responses and to provide answers of good quality;
- Changing the application forms, after many broad/unclear requests have been received;
- Improving the databases used, after realising that many requests cannot be answered.

FIGURE 7 Example of the quality requirements of a QAS

	SERVICES	QUALITY REQUIREMENTS	POSSIBLE INDICATORS	POSSIBLE ACCEPTABLE NORM
QAS	INFORMING CLIENTS ABOUT THE QAS	Adequate information on scope of services	% of requests outside scope	Less than 5%
	APPLICATION/ SENDING REQUEST	Adequate information on procedure	% of clients asking questions on procedure	Less than 10%
		Simple application form	% of requests that are incomplete or unclear	Less than 10%
	ACKNOWLEDGEMENT AND DIALOGUE	Clarity of questions	% of requests that are vague or broad % of requests requiring dialogue	Less than 5% Less than 10%
		Prompt information about delays	% of clients asking questions on processing of request	Less than 2.5%
		Efficiency of dialogue	% of dialogues requiring more than one contact (letter, phone call)	Less than 25%
	RECEIVING THE ANSWER	Duration of process	% of clients complaining about duration	Less than 2.5%
		Relevance of answer	% of clients not satisfied with relevance of answer	Less than 2.5%
		Comprehensiveness of answer	% of clients not satisfied with comprehensiveness of answer	Less than 2.5%
	FOLLOW-UP	Timeliness of answer	% of clients not satisfied with timeliness of answer	Less than 2.5%
		Simplicity of evaluation forms	% of forms returned % of forms returned incomplete or unclear	More than 35% Less than 10%
		Timeliness of evaluation forms	% of forms sent after 1 year	Less than 2.5%
		Adequacy of follow-up service	% of clients not satisfied with follow-up service	Less than 2.5%

TABLE 24

	STEPS	QUALITY REQUIREMENTS	QUALITY CONTROL MEASURES
1	Target group needs analysis/market analysis	Needs adequately identified from correct target group	Checking actual questions with needs analysis
2	Specifying scope of service	Scope of service in line with needs of clients	Monitoring questions outside the scope of service
3	Developing an information resource base	Resource base should be able to address most questions	Monitoring questions that cannot be answered
4	Informing clients about the service	Clients know exactly what to use the QAS for, and how to apply	Monitoring requests that do not fit the QAS objectives or procedures
5	Answering questions	Relevance, timeliness and comprehensiveness of answers	Monitoring satisfaction of clients with relevance, timing and comprehensiveness of answers Monitoring own defined standards
6	Evaluation and follow-up	Timeliness and adequacy of follow-up	Monitoring response on evaluation and satisfaction with follow-up

Often, a combination of feedback and amelioration mechanisms have to be used to ensure that immediate problems are addressed and that the impact of new problems is minimised.

As the quality of a QAS depends on the quality of each step in the process, it follows that an analysis of the process as suggested above enables the staff to identify potential bottlenecks. And thus, by preventing or monitoring the bottlenecks, the staff can improve upon the quality of the services offered.

It is therefore clear that attention to quality is something that concerns the whole organisation. All actors, all departments and all levels of staff should be involved in quality improvement. Only in this way can achievable measures be identified, and realistic and acceptable quality indicators be agreed upon.

9. What internal information systems are necessary?

In managing a QAS it is necessary to distinguish between information systems at two different levels:

- At the operational level, where it is necessary to have multiple sources of information (see Chapter 5) for responding to questions effectively;

- At the management level, for:
  – monitoring the QAS's performance
  – making strategic choices (which target groups, which topics, which partners, etc.)

The operational information system

This system, required for the answering of questions, could include databases on the following topics:

- Already-processed questions and answers;
- FAQs;
- Documentation and reference materials related to these topics (books, reports, etc.);
- Experts/expertise (addresses and fields of expertise/CVs);
- Suppliers of technology (equipment, software, seeds, pesticides, etc.);
- Addresses of major suppliers of farmers' produce and of traders and agroprocessors;
- Addresses of other information sources (documentation centres, databases, Websites, etc.);
- Addresses of other QASs.

In a well-established QAS all these components could be included in automated and connected databases. However, in a less complex QAS, some components may just be filed in a paper archive, or listed on a sheet of paper.

Monitoring information

It is necessary to monitor information in order to control QAS processes. Flexibility will be required in adapting methods and procedures. In general, it is important to monitor the effectiveness (volume and quality) of the service, its efficiency (time and costs), and the performance of the partners.

Key management questions and related indicators can be developed for each of these components, as shown in Table 25. Refer also to Chapters 7 and 8 for supplementary information.

It will, of course, be important to register the above information adequately, preferably in a specific QAS database, recording the information given for each item (see 'Documentation, and suggested code systems' below). This accumulated information could be used to generate three types of management reports, perhaps on a monthly basis, for discussion by management and QAS staff:

- Effectiveness of the QAS (volume and quality);
- Efficiency (time and costs spent on the QAS);
- Performance of the partners.

The information could additionally be used for learning purposes, through sharing questions, answers, and search strategies among staff in regular meetings. Holding such learning meetings would be of particular relevance when a new QAS is being established with new staff.

Strategic information

This information is necessary for making strategic choices (e.g., selecting priority target groups, priorities in topics, etc.). Relevant key management questions and related indicators are shown in Table 26.

Important management reports may include:

- Overview of users;
- Overview of questions, topics/subjects, and themes;
- Costs per question;
- Use of databases.

It will normally be useful to produce and discuss these reports on a quarterly basis.

Documentation, and suggested code systems for use in QAS databases

Progress monitoring

- QAS number;
- Client name, address;
- Date receipt;

TABLE 25

EFFECTIVENESS: VOLUME	INDICATOR
Is the number of questions increasing or decreasing?	Number and type of questions received
EFFECTIVENESS: QUALITY (see also Chapter 8)	
Are clients satisfied with the service?	% of clients satisfied
Are questions adequately addressed?	% of clients not satisfied with relevance and comprehensiveness of answers
Are the answers provided in time?	% of clients not satisfied with timeliness % of answers not given within set time limits
Can we give the answers? Are our information sources adequate?	% of requests that cannot be answered
Is our procedure adequate?	% of requests that are incomplete/unclear % of requests that are vague/broad % of requests requiring dialogue % of clients' questions on processing of request % of dialogues requiring more than one contact (letter, phone call) % of clients complaining about delay
Is our promotion adequate?	Increase/decrease in number of requests % of clients asking questions on procedure % of requests outside the scope of the QAS
Is the follow-up adequate?	% of forms returned % of forms returned incomplete/unclear % of evaluation forms sent after 1 year % of clients not satisfied with follow-up service
What unusual questions did we receive?	Type and number
EFFICIENCY (see also Chapter 7)	
Are costs and time spent within accepted limits?	Costs per question Time spent per question Time spent per step
How many clients are paying?	% of clients paying Average amount paid
Are clients paying on time?	% of clients paying late List of names of clients in arrears
PERFORMANCE OF PARTNERS	
Do partners adhere to the contracts?	% of questions dealt with adequately
Are partners providing information on time?	% of answers that are late
Do they provide relevant and comprehensive answers?	% of partners' answers given with which clients are not satisfied
How efficient is the use of partners?	Costs per question Time spent per question

TABLE 26

MANAGEMENT QUESTION	INDICATOR
Which users (function, organisation) make most use of the QAS? To which ones should we send more promotional material?	Type of clients (organisations, functions/ professions) Satisfaction of type of clients per type of question
Which questions, topics/subjects and themes are most frequently addressed, which services are being provided, and which ones should we publicise more?	Type of questions received Type of information service provided Satisfaction of type of clients per type of question Number and type of questions that are outside the scope of the QAS Satisfaction of clients per information service provided
Which are the more costly and less costly services?	Cost per type of service
Which databases should we expand?	Frequency of use of different databases Number and type of questions within the QAS's scope that could not be answered

- Date registration, person;
- Date first assessment, time spent, person;
- Date external referral, organisation and person;
- Date receipt external contribution, time spent, organisation and person;
- Date internal compilation, time spent, person;
- Date dispatch, person;
- Date receipt evaluation questionnaire;
- Date dispatch follow-up questionnaire;
- Date receipt follow-up questionnaire.

Function of the user

- Farmer;
- Trader;
- Processor;
- Extension worker;
- Librarian;
- Researcher;
- Planner;
- Politician;
- Trainer/teacher;
- Student.

Level of education of user

- Primary school (= practical experience);
- Secondary school (vocational level);
- Secondary school (university entrance);
- College/university degree (e.g., BSc);
- Postgraduate degree/diploma (e.g., MSc);
- PhD.

Type of organisation

- Government organisation;
- National NGO;
- International development agency;
- University/agricultural college;
- Research institute;
- Commercial company;
- Bank;
- Farm;
- Farmers' group;
- Farmers' cooperative/association;
- Private person.

Evaluation

- Satisfaction with answer quality;
- Satisfaction with timeliness;
- Satisfaction with presentation of the information;
- General satisfaction with service.

Use of information (or reason for the request)

- Primary production (crop, livestock, etc.);
- Agroprocessing;
- Marketing information;
- Policy development;
- Education and training of others;
- Lecture/address;
- Research;
- Project formulation;
- Personal use/own education/self-advancement;
- Other.

Usefulness of information

- Assisted in decision;
- Assisted in successful implementation;
- Assisted, but unsuccessful implementation;
- Assisted in further study;
- Did not assist.

Type of question/request (also, type of service provided)

- Books/documents;
- Photocopy of journal article/book extracts;
- Pictures/picture strips;
- Tapes/tape-slide series;
- Videos;
- CD-ROM/computer files;
- Statistical information;
- Reference list of books and journals (bibliography);
- Contact addresses of other organisations;
- List of Internet addresses;
- Advice on a specific topic or problem;
- Information on financial support;
- Information on training and advisory support.

Possible division by subject areas (see also, for example, the AGRIS/CARIS categorisation scheme)

- Agriculture in general;
- Crop production and protection;
- Animal husbandry and veterinary science;
- Agrobusiness and processing;
- Post-harvest technology;
- Food science;
- Environment;
- Socioeconomics;
- Marketing and access to markets;
- Funding and financial support;
- Training and education;
- Information science and technology;
- Other.

Another possible division by topic

- Field crops;
- Plantation crops;
- Horticulture;
- Livestock;
- Poultry;
- Fisheries;
- Environment;
- Water resources;
- Soil conservation;
- Forestry;
- Food and nutrition;
- Other.