

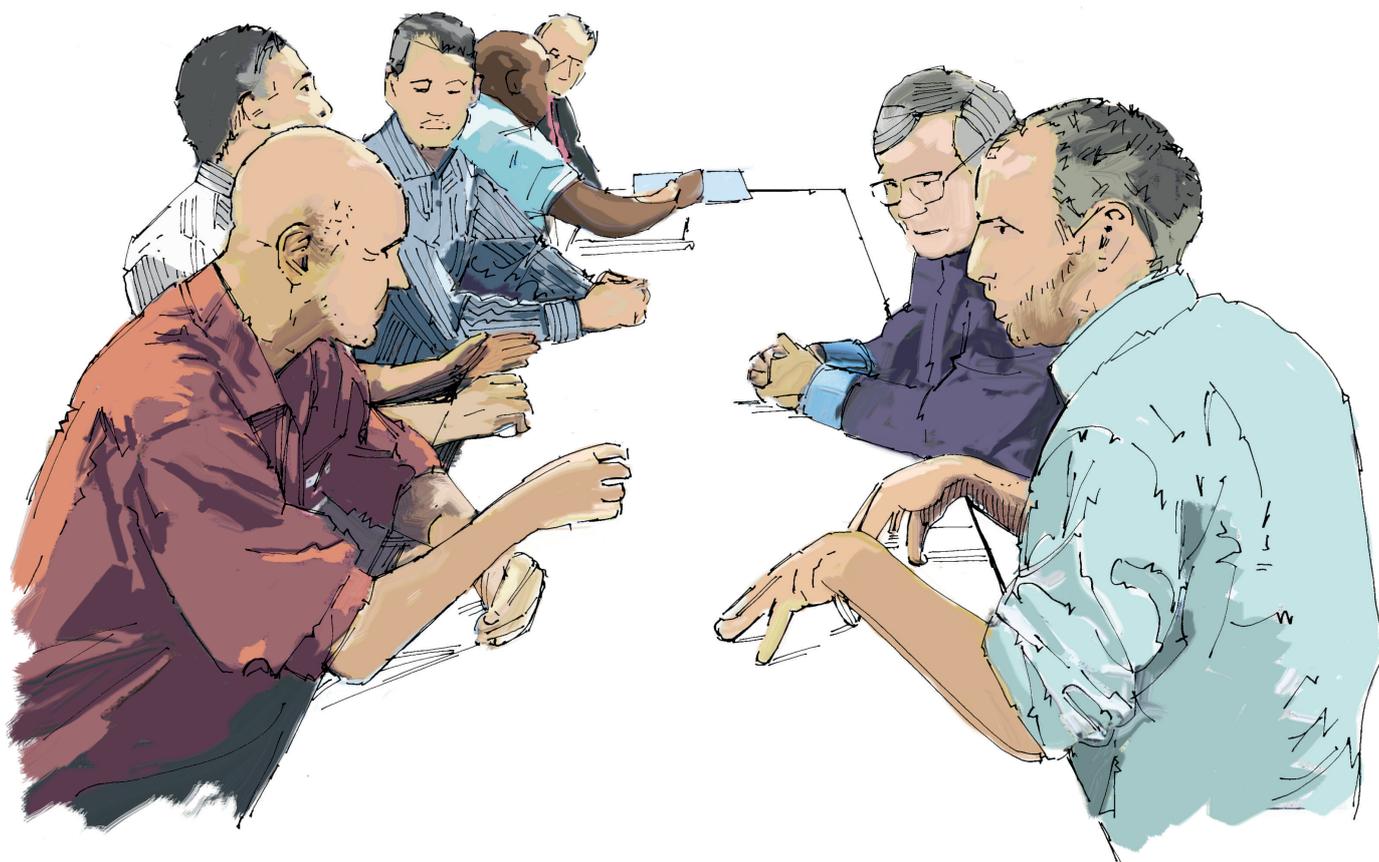
**Coordinating European water research
for poverty reduction**



RESEARCH MANAGEMENT

**A training course on research
management activities and processes**

An output of the SPLASH Era-Net



**Frank Odhiambo
Peter Furu**

*SPLASH is funded under the
EC 6th Framework Programme*

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- **use the contents menus at the start of each unit**
- **use the diagrams at the start of each unit to jump to the start of other units**
- **use the header of each page to return to the main contents menu**

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An output of the **SPLASH Era-Net**

Frank Odhiambo – WEDC, Loughborough University
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NOVEMBER 2011



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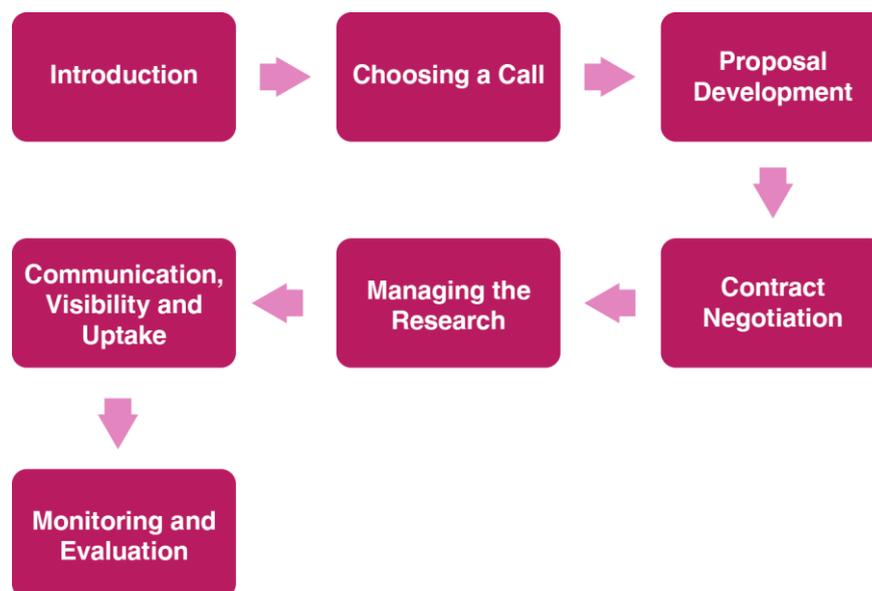
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Designed and illustrated by Rod Shaw

Course units

- Unit 1 Introduction
- Unit 2 Choosing a Call
- Unit 3 Proposal Development
- Unit 4 Contract Negotiation
- Unit 5 Managing the Research
- Unit 6 Communication, Visibility and Uptake
- Unit 7 Monitoring and Evaluation



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UNIT 1

INTRODUCTION

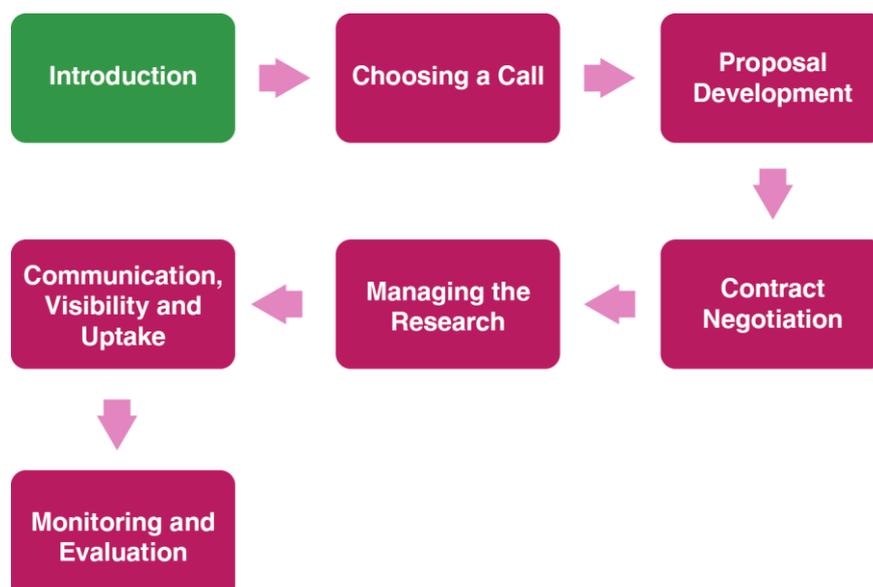
What this unit is about

This unit introduces the course and gives a description of the course content.

What you will learn

By the time you have completed this unit you will:

- understand what is meant by research management;
- know the course target audience; and
- be aware of the course content, structure, and will know how to assess your progress on the course.



Contents of this unit

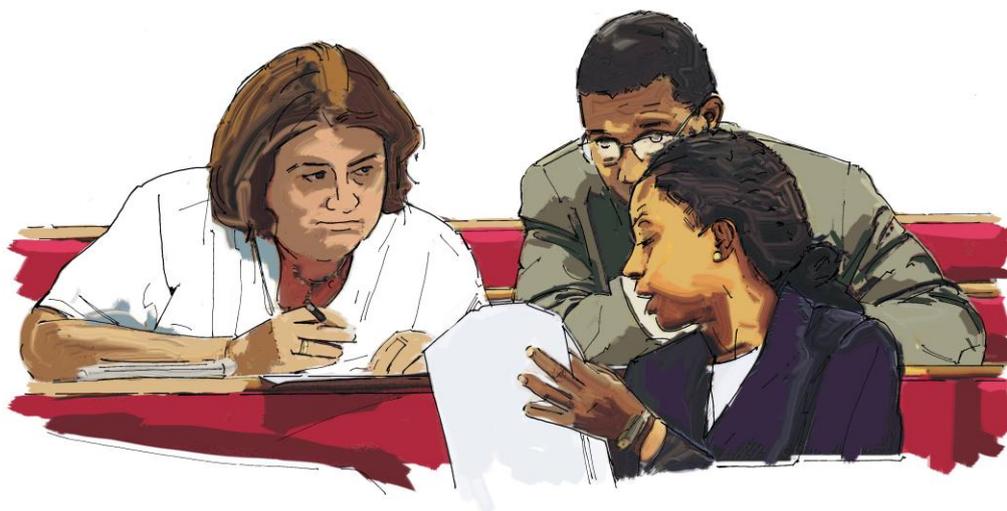
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1.1 Introduction

Welcome to this course on research management. We hope that you find the course interesting and rewarding to pursue. You can interpret research management very broadly. In fact, ask three people what they understand by research management and you will probably get three very different answers.



Ask three people what they understand by research management and you will probably get three very different answers

It is useful therefore to define research management at this early stage.

Box 1.1. Research management

Research management is the knowledge and principles that are essential for the head of a research project and the researchers on the project to effectively manage a research project. This course assumes that research projects are made up of consortia of partners implementing the projects.

The course highlights good research management practice especially that which is necessary to manage effectively EU-funded development research. Funding applications for EU development research have to conform to certain criteria. Further, the calls for research published by the EC often take a view about the type of research that is likely to deliver answers to the call's broad question. The effect of these is that the implementation of EU-funded development research is complex.

Generally:

- the research project will be required to be undertaken by a consortium of research partners;
- this research consortium will almost certainly consist of partners drawn from the global north and south;

- the research project is increasingly likely to be multi-disciplinary; and
- project beneficiaries and other stakeholders are likely to be involved in the research in some capacity.

You should be able to appreciate now why good research management practice becomes necessary when managing such projects. Do not forget that in addition to the above, the research consortium and project coordinator also have to ensure implementation of the research project in accordance with good scientific practice. Most project coordinators will have an excellent understanding of the science necessary to deliver the project. It is not so true that most project coordinators will have a good understanding of management practices to enable them to manage complex research consortia effectively. This course therefore should equip budding project coordinators with the baseline knowledge to enable them to manage research projects confidently and effectively.

1.2 Target groups

Who will benefit from this course? Early career development researchers are most likely to benefit from this course. Early career researchers are people doing their doctoral studies, post-doc researchers and research workers newly in post. People in this group who have been involved in development research projects will be able to identify with many of the issues raised in the course.

Think about your experiences of consortium-led research as you work through the course drawing on experiences of such research. If you have not been involved in such research, the course will give you a firm foundation to launch your research career. You will be able to identify good practice when you see it and know what not to do and why.



Early career development researchers are most likely to benefit from this course

You should also be able to understand better the drivers and motives behind your coordinator's (research leader's) decisions. However, this course will also be useful for all research members whether they be researchers, work package leaders or even the project coordinator.

1.3 About this course

1.3.1 Course purpose and learning objectives

The purpose of this course is to improve the effectiveness, efficiency and impact of research projects and therefore of research programmes. In support of achieving this purpose, the course has the following learning objectives:

- to equip early career researchers with the knowledge to effectively manage research programmes or projects;
- understand what is meant by research management;
- know the course target audience; and
- be aware of the course content, structure, and will know how to assess your progress on the course.

The course outcomes should be:

- to increase the successful participation of young researchers in national and international research projects; and
- to increase the capacity of developing country early career researchers to participate in international projects and apply for funds to undertake new research.

1.3.2 Course content

The course covers the core and important topics in research management. However, given the limits of space in the module, there are topics that are not covered. I hope it will be possible to release a companion volume in the future to address these topics.

This course consists of six units:

- Unit 1 – Introduction
- Unit 2 – Choosing a Call
- Unit 3 – Proposal Development
- Unit 4 – Contract Negotiation
- Unit 5 – Managing the Research
- Unit 6 – Communication and Uptake
- Unit 7 – Monitoring and Evaluation

1.4 Glossary

The course units introduce a number of terms that need defining. The definitions given here apply to all units. You may find additional terms under each unit.

- A participant is a legal entity taking part in a research project. A research project may have several participants. For example, a project could have five participants of which four are universities and the fifth is an NGO. Keep in mind that each participant may have several researchers working on the research project. When reading the course material, it should be clear from the context when the term participant refers to the legal entity and when it refers to individual researchers.
- A consortium is the term used to describe all of the participants in a research project.
- A coordinator is the participant who holds the contract with the funding agency and represents the consortium. You can think of the coordinator as the applicant but this course prefers the term coordinator.

1.4.1 Additional resources

The course should provide sufficient depth and coverage of the topics highlighted above. However, you may want to refer to additional texts for supporting information on given topics.



Refer to additional texts for supporting information on given topics

UNIT 2

CHOOSING A CALL

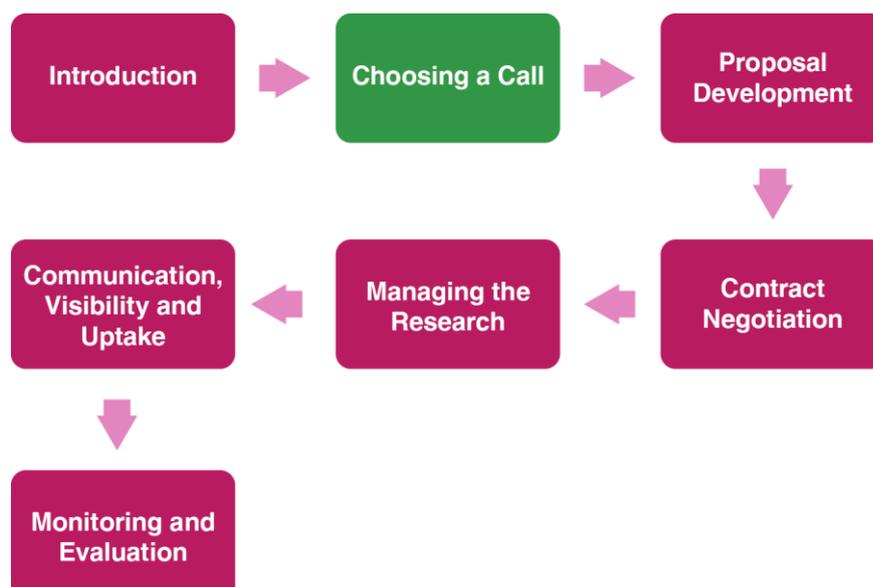
What this unit is about

This unit discusses the issues to take into account when choosing a call to respond to.

What you will learn

When you have completed this unit, you will:

- know about where to look to identify calls;
- know about things to consider around eligibility for research funds;
- know about things to take into account while considering whether or not to bid; and
- know about things to consider when forming a consortium.



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2.1 Introduction

This unit tells you about the things to keep in mind when choosing to respond to a call for research proposals. Bear in mind that not all calls will be suitable to your needs, or you may not satisfy the required eligibility criteria, even if the topic of the call is relevant to you or is in the area of your specialty. We use the EC Framework 7 Programme (FP7) to give examples in this unit. As stated before, many of the regulations applied by the EC will be common in spirit to other funding agencies. The lessons you learn here therefore should be applicable across a wide range of funding schemes guidance.

This course should make you aware of some of the intentions and expectations of funding agencies. We use the commission's rules and procedures for letting research as examples. Most funding agencies will have rules and procedures that will be very similar in intent. As a rule, be sure to familiarise yourself with the funding rules and procedures of the agency you are applying to.

What documents are important if you are thinking of doing FP7 research? You should be aware of the contents of the *Work Programme*, the *Call Fiche*, and the *Guide for Applicants*. A description of these will follow below.

In summary, it is a good idea to develop a sound understanding of the programme to which you are applying. For example, if applying to FP7, be sure to consult the relevant work programme and gain a good understanding of its contents. The work programme updates annually and sets out the following:

- The policy context
- The key aims of the programme
- The content of calls
 - The topic
 - Funding schemes
 - EC grant contribution limits
 - Expected impact
- A timetable for future calls

We will review the *Call Fiche* and *Guide for Applicants* in later sections.

2.2 Identifying a call

What is a call for research proposals? It is an announcement by a funding agency of its intention to provide funding to do research on a specific topic, or a range of topics within a broad research theme. The FP7 publishes its call information in a *Call Fiche*. The *Call Fiche* has details of:

- the submission deadline;
- the indicative budget;
- the topics that have been identified;
- the call evaluation procedure (this will also usually specify whether it will be a one or two step submission);
- the funding thresholds(in terms of minimum and maximum) if applicable;
- the funding schemes that apply;
- an indicative timetable for evaluation and contract negotiation;
- whether there are any stipulations regarding the nature of consortia that can bid; and
- information regarding limits to the number and make up of participants.

Where do you go to find call information? Most funding agencies will have details of their current calls published on their websites.



Looking for calls on the Internet

Speak to colleagues and peers to find out where they look for information about calls. Are they members of networks which alert them to research opportunities? Try to adopt their strategies for keeping informed about research opportunities. In addition, the organisations below (Box 2.1) fund development research and it is worth keeping an eye out for their calls.

Box 2.1. Research funding agencies

- Bill and Melinda Gates Foundation, US
- CIDA IDRC, Canada
- DFID (Department for International Development), UK
- European Commission
- Ford Foundation
- JICA (Japan International Cooperation Agency)
- Leverhulme Trust
- MAEE, France
- NORAD, Norway
- Rockefeller Foundation, US
- SDC (Swiss Development Cooperation)
- SIDA, Sweden
- UK Research Councils (AHRC, BBSRC, ESRC, EPSRC, MRC, NERC, STFC)
- Wellcome Trust

The above are just a few of many. Some agencies may put out calls restricted to nationals of certain countries while others may be open. For example, the Bill and Melinda Gates Foundation will separate their calls into US only and non-US calls. It is a good idea to familiarise yourself with those funding agencies that regularly publish calls you are eligible to apply to.

Furthermore, most countries will have national research funding agencies or in some cases, national offices of international funding agencies. Familiarise yourself with agencies who fund research in your country and keep an eye out for calls for proposals.

Finally, keep bookmarks of all research funding agencies you are aware of in your browser bookmark folder and set up a timetable to do a regular trawl of opportunities.

2.3 Responsive calls

Funding agencies do not always publish calls for proposals on specific topics. In some cases, they put in place responsive calls. In a responsive call, a funding agency defines an area or topic of interest and accepts proposals for funding at anytime. Such calls will typically have a long shelf life. It is worth visiting funding agency websites to check whether there are any responsive calls that you could bid for. The information provided in Unit 3 – Proposal Development is equally applicable to responsive calls.

2.4 The Framework7 Programme

The EU Framework Programme is an important source of research funding and is the main instrument of research funding within the EU. The Framework Programme usually takes the acronym FP followed by the edition number. So for example, FP5 refers to the fifth Framework Programme and the current programme in 2010 is FP7, the seventh. The Framework Programme runs from 2007 to 2013.

FP7 is broken down into a number of specific programmes as shown below:

Table 2.1. FP7 Specific programmes

Specific programme	Themes
Cooperation – focuses on transnational (i.e. involving more than one country) research activities within ten thematic areas	Health; energy; environment; transport; security; space; socio-economic sciences and humanities; Information and communication technologies; nanosciences, nanotechnologies and materials; food, agriculture, fisheries and biotechnology
Ideas – finances research but not linked to the themes under cooperation, the European Commission does not manage it, and the focus is on fundamental (basic) research, which carries a higher risk.	Broadly engineering, social sciences and humanities.
People – focuses on training, mobility and career development of European researchers	
Capacities – focuses on enhancing research infrastructures and improving its usage	

The type of research considered in this course falls under the cooperation and ideas specific programmes above. The cooperation programme alone accounts for slightly above 60% of the overall FP7 budget. The EC will publish an annual work programme for each theme within a specific programme. The work programme provides details of the topics that will be included in calls in the coming year as well as an indicative budget for each call and a timetable for the calls. Thus, researchers will have advance information about the topics that will be coming up in calls for proposals. The work programme is very important as it provides not just the call topics but also the rationale and context for those topics. It is clear that your proposal will need to fit this context if it is to be successful therefore know your work programme!

2.5 Eligibility to apply

When the EC publishes a call, it will describe the funding schemes that are applicable to that call. A *funding scheme* refers to the type of project, in this case, a research project. For example, the FP7 has the following funding schemes:

1. Collaborative projects
 - Small/focused projects
 - Large-scale/integrating projects
 - For a specific target group (e.g. SME, CSO)
 - For specific international co-operation actions (SICA)
2. Networks of excellence
3. Co-ordination and Support Actions
 - Co-ordinating
 - Supporting

To illustrate how a funding scheme constrains what you can apply for, let us take the example of the first funding scheme - small focused collaborative projects. These will normally:

- Target a specific objective in a clearly defined overall approach;
- Have a fixed overall work plan;
- Include a research/technological development activity and /or a demonstration activity;
- Last between 18-36 months;
- Have between 6-15 participants; and
- Have an EC grant value of between €0.8 to €4 million

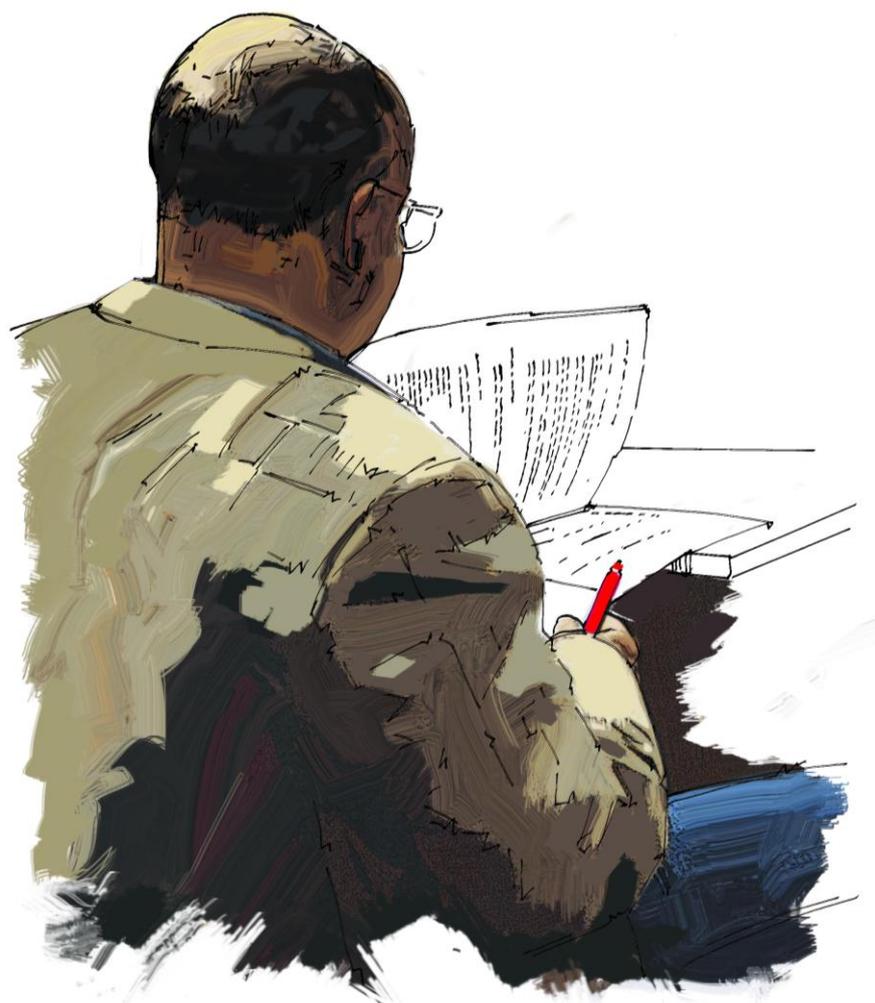
Therefore, the first thing you need to decide once you have identified a call is whether you are eligible to apply under the call's funding scheme. In terms of eligibility to apply, you can see that all bids in a *small focused collaborative project* must have a research or demonstration element. It should also have between 6 and 15 participants. Questions to ask yourself are:

- Is your interest in doing research? If not, then clearly this call will not be suitable for you.
- Can you put together a consortium of a minimum of six participants that you are comfortable working with? If not, then again, you should not apply.

- Finally, can your organisation manage a fund of at minimum, €800,000.00 and effectively account for it? If not, then again, this will not be the right funding scheme for you to apply under even though the general topic area fits your thematic work stream nicely.

It is important therefore that you review the Call Fiche (Call text) carefully for eligibility. Your eligibility could be in jeopardy for a whole number of reasons as demonstrated by the contents of the typical Call Fiche.

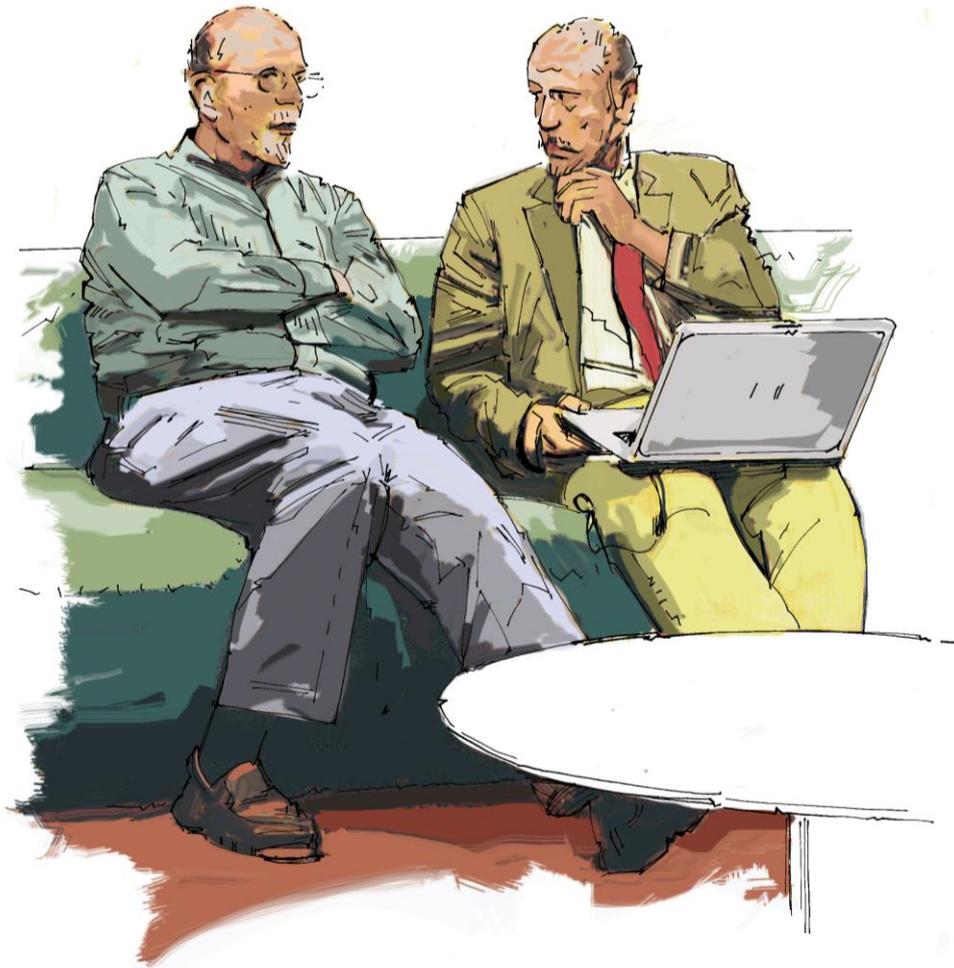
The above illustrates that funding agencies may impose restrictions around calls that they put out either in terms of who may apply or in terms of what you may apply for. This could also include restrictions on the proposed duration of the project, countries of implementation and a myriad of other factors. It is important therefore that regardless of the funding agency, you take the time to read carefully the call announcement. Make sure that you understand clearly any restrictions the funding agency has placed on the call.



Take time to read the call announcement carefully

2.6 Internal considerations – your organisation

Before deciding to respond to a call, it is a good idea to check that the proposed research strategically aligns with your organisational needs. Many organisations will already have in-house guidelines to assist staff in making a decision about whether or not to pursue a particular opportunity. Organisations may also have a research committee that vets all applications. In this section, we outline some questions that we think might be useful to you at the every early stages of evaluating whether to pursue a call or not.



Deciding whether or not to pursue a call

The first thing you should consider is whether the call topic will lead to work that contributes to answering key questions in your personal area of interest. That is, your organisation's area of interest. Does the research topic fit your interests exactly or does it overlap? If it is an overlap, in what degree does it overlap? We would suggest that you would only pursue a call that has a significant overlap with your interests. Consider your colleagues too. It may be that you can see an overlap with your work and organisation's work but that overlap may increase if viewed from the perspective of one of your colleagues. In such a case, the sensible thing would be to hand over the call announcement to your colleagues to evaluate.

You may also want to ask yourself whether this call would link to other research, teaching or consultancy that you are doing or if it might interest another of your clients. How will doing this research further your organisation's own goals?

Do you have any contacts with the client? If so, are you privy to the client's understanding and logic? What is driving this call from the client's perspective? What is the client's underlying interest? If you have no personal former contact with the client, ask around within your organisation as your colleagues may have this knowledge.

You should also evaluate your history with the client. Has your organisation bid for similar calls with this client before? If so, what has been your success rate? Are there any lessons to learn from previous bids? If so, it may be worth gathering previous applicants to learn from their experience. Evaluation reports of previous bids (even though not very detailed), are often a useful indicator of where evaluators identified flaws in past bids. Do these flaws resonate with you? Are they things that you can remedy? Perhaps your organisation has grown since you put in those bids and the flaws identified are no longer relevant and therefore should not influence your decision to bid or not. The opposite too might be true and maybe you should not bid because those flaws are still relevant and insurmountable today.

If you do bid, do you already have the resources to undertake the research in-house? Will you need to hire new staff? In essence, the fundamental question you need to answer is does your organisation have the capacity to deliver the research on time, on budget and to the right quality?

Think of the commercial proposition. Can you deliver the research as described above within the financial resources that the client is prepared to commit?

More strategically, you might want to think about whether the proposed research might offer potential for growth or open up a new market. Is the topic area one that might become important in the future? Is it an area in which you could become strong? Therefore, it may be that your organisation should prioritise this area given your potential and the likelihood of the topic area's future importance. In such a situation, bidding for a modest piece of research therefore could be a sensible thing to do and if the investment in time to prepare this is reasonable.

Finally, you should consider the cost of preparing a bid and weigh this against your chances of winning. Is it a one-stage or two-stage process? A two-stage process usually entails submitting a concept note, which if it makes a shortlist, requires you to prepare a full proposal. The larger the bid, the more it will cost the organisation to prepare and these costs can quickly mount up and be quite significant. It is quite possible for say two staff to spend two months preparing a bid. This amounts to four person months. It is important to weigh this against the rule of thumb that says that an organisation wins one in every three or four proposals that it submits.

You can see there is a whole range of issues to think about in this respect. Take the time to consider these carefully as preparing a bid is both time-consuming and intellectually demanding. There is no point bidding if there are clear indicators at the outset against putting in a bid.

2.7 Forming a consortium

Once you have taken the decision to bid, you should carefully review the Guide for Applicants again. All calls will have some sort of guide for applicants though the title may differ. The FP7 Guide for Applicants will include information on the following:

- detailed guidance on funding scheme;
- information about how to apply including how to submit your proposal
- a submission checklist to help applicants identify items they might have forgotten in the proposal content or process;
- information about the next steps;
- a glossary of key terms used;
- information on help and clarification regarding the call;
- information on the evaluation criteria the commission applies in judging bids; and
- the proposal preparation forms, templates and instructions.

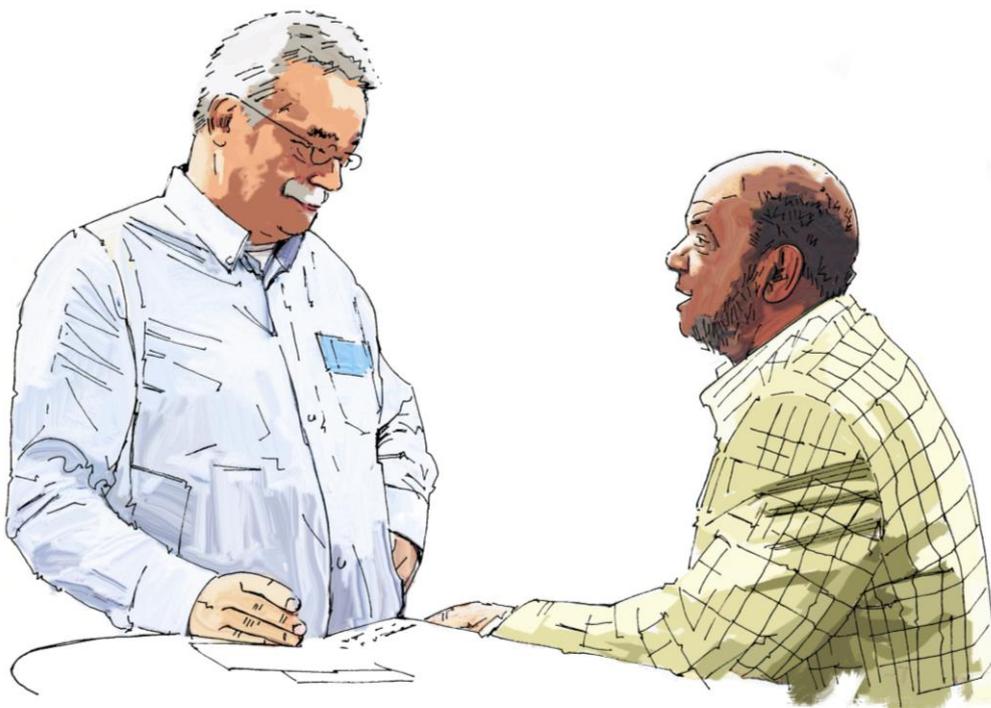
Once you have familiarised yourself with the Guide to Applicants you should think about forming a consortium. There are two possible routes to take. You may decide to lead the bid in which case you will be seeking to build a consortium. On the other hand, an organisation seeking to lead a bid might approach you to join their bid as a participant. We will first discuss this latter scenario where you are joining a bid.

2.7.1 Invitation to join a bid

This is probably the easier of the two ways to participate in a research project. If you have answered yes to some of the questions above under the section Internal Considerations, you may decide to join a bid to lessen the impact of weaknesses you have identified. For example, you may not have the right profile to lead a bid but may be very strong in one aspect of the proposed research. Similarly, it might be that you do not have sufficient administrative back up to adequately manage the research project - if won - to the level required by the EC and so decide only to participate in a bid to minimise the administrative requirements on yourself.

Having said this, you should satisfy yourself that you would be joining a suitable consortium. Are you familiar with all the consortium members? Previous research has shown that certainly in the water for development field, people tend to join consortia or more correctly, people build consortia of those they know. If you think about it, this is a natural thing to do. When you join a consortium, you will be working with other people from different organisations over a period – say one to three years. It is

important therefore that you are able to get on well with these people and them with you! We do not suggest that you should never join a consortium of people you do not know. Rather, think carefully about it. Affiliation might be something to consider. If for example, you are from a university and all other proposed research participants in the consortium are similarly from universities, you might argue that the ethos within the consortium is going to be very similar and therefore it may not be taking too great a risk if you joined the consortium even without knowing them.



It is important to be able to get on well with consortium members

However, you should do your background research to find out enough about the consortium members to reassure yourself that they are the right people for the research. Can you dig out their record of accomplishment in doing research for the proposed client? Perhaps more important is your relationship with the proposed coordinator. That is, the lead participant in the proposed research. Do you personally know the coordinator? If not, how did he/she come to invite you to join the consortium? Was it through a mutual acquaintance? It is very important that you should have a good relationship with the research coordinator.

So far, we have talked about interpersonal aspects of forming a consortium. However, an equally important question to ask yourself is whether the proposed research is appropriate to you. You know your capabilities better than the coordinator inviting you to join the consortium. You need therefore to feel comfortable that you can deliver everything the coordinator will expect of you should you join the consortium. This relates not just your scientific capacity to do the research, but also to your administrative capacity, access to fieldwork sites and so on. If the research is appropriate, a subsidiary factor to consider is whether you are happy with your role within the consortium. For example, EC research is generally conceptualised as a

series of work packages. Each work package is a discreet research effort that contributes to answering part of the overall research question. Work packages typically will comprise more than one participant and therefore need a leader. You may be down to be a leader of a work package. Are you happy in this role? Leading a work package carries some responsibility with it. You do not need to be a work package leader if you do not want to. However, doing so does provide you with a good record of your experience in doing research.

Similarly, it is important to consider your proposed role in relation to the amount of funding you will get. Is the proposed funding sufficient to support your inputs to the level required to deliver high quality outputs as stated in the proposal? If you are satisfied about the level of funding, you should crosscheck this with your organisation. Within the EC for example, different types of organisation receive funds under different rules. It is therefore a good idea to run this by your organisation to do a check of funding that you are eligible for. Do remember that your organisation will be the participant and not yourself. Also, be aware that the consortium could change at any time until the client signs the contract.

2.7.2 Forming a consortium yourself

One thing to be aware of from the start is that being a coordinator – regardless of the funding agency – is a big responsibility in terms of both the administrative burden and management of the consortium. For this reason, we would not recommend it for people who are new to the doing research for the funding agency. It is best to get some experience of participating in a consortium before taking the plunge to lead a bid and forming a consortium oneself.

Most EU projects – FP 7 or otherwise – have a European participant as coordinator. This is not a hard and fast rule but overall, coordinators tend to be European. If your organisation is non-European, check the Guide to Applicants to be sure that your organisation is eligible to coordinate.

Once you have decided that you have a good research idea that is appropriate to a particular call, you need to think about your consortium.

There are no hard and fast rules about who should participate in your consortium. The research topic should dictate who the participants are. Bear in mind that different topics will require different participants. Whomever you choose to be in your consortium, it should be obvious without too much scrutiny, why they are in the consortium. That is how they contribute to and match the activities in the research proposal. It is also important that at least one member of the consortium should have excellent skills in the communication of research and facilitating uptake of findings. This is an increasing concern of funding agencies and many today will expect a separate budget line dedicated to dissemination and communication. A rule of thumb is to spend up to 10% of project funds on this activity and therefore activities proposed in this area need to be sophisticated and multi-faceted.



Think carefully about who should participate in your consortium

The consortium should be diverse, especially if undertaking development research. Current thinking suggests that development research has greater relevance if it is conducted using multi- and trans-disciplinary approaches. This in turn implies a diverse consortium that gathers all the relevant multi- and trans-disciplinary skills. This would normally include stakeholders as both participants and active observers. We should reiterate however that all participants should be justifiable in terms of the project's activities and have an active role in the proposed project.

All EC calls will have a helpdesk for which there will be an email address. If you are in doubt about any aspect of the application – including the eligibility of proposed consortium members for example, - write to this address to seek clarification. Helpdesks are usually accommodating and provide timely answers. Most funding agencies will have similar arrangements. Read the call information pack carefully to identify the help mechanism.

2.7.3 Seeking research partners

What should you do if you do not have any personal contacts you could call on to form a consortium? For EC calls, there is the CORDIS database found at http://cordis.europa.eu/home_en.html . Within the CORDIS pages you will find an extensive database of potential partners categorised by discipline. The database has organisation and individual entries allowing you to do a more effective partner search. For each listing, full contact information is available. A second thing you can do is to ask your own personal contacts whether they are familiar with an organisation or individual who they would recommend to join your consortium. This is quite a useful way to identify potential consortium members.

In the long term, you can also adopt a strategic approach by networking at conferences and other events in your sector. Seek out presentations on topics of interest to you and speak to the presenters and others attending that session. You may find a person or organisation that perfectly matches your skills gap. Get business cards from people whom you meet and make notes on the reverse about their interests. You can also index authors by discipline, organisation, sector, job and a whole lot of other ways. This will help you to identify the right person or organisation in the future. It will not always be obvious to you when you meet someone what are the opportunities for collaboration in the future.



Adopt a strategic approach by networking at conferences

2.7.4

Conclusion

Bear in mind that though the above refers directly to EC research funding, the issues discussed above will be relevant regardless of the funding agency. You should make yourself familiar with all the issues discussed so that you can spot their relevance to the particular call that you may be thinking of responding to.

Activity

Working either as an individual or in groups of no more than five:

1. Choose a research topic. At this stage, choose a broad topic.
2. Do an internet search to see if you can identify any calls that you could respond to in your topic area. Explain the search strategy you adopted to perform your search including key search terms you have used.
3. Once you have identified a call, describe your reasoning in choosing that particular call.
4. Check to see that your organisation would be eligible to apply. Note down the eligibility criteria and show how your organisation fits the criteria.
5. Decide which other organisations would be included in your consortium. Give a justification for your choice.
6. Choose who the coordinator (main applicant) will be and give a justification for your choice.

UNIT 3

PROPOSAL DEVELOPMENT

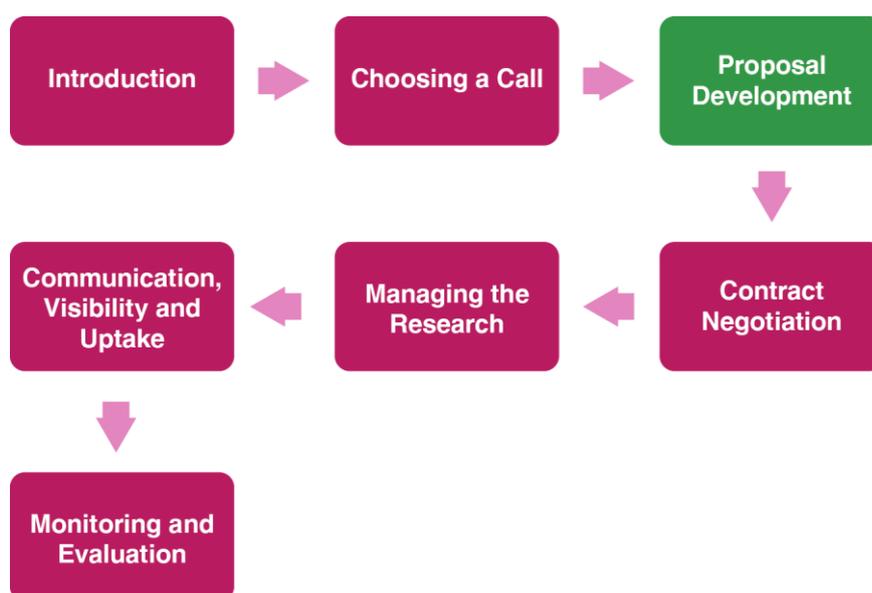
What this unit is about

This unit discusses information that you need to know to develop an effective proposal. The information contained in this unit should increase your chances of putting together a credible proposal that will earn enough points to be above the funding threshold. We shall talk a little bit more below about the mechanisms funding agencies use to decide what proposals to fund.

What you will learn

By the time you have completed this unit you will:

- know what the key components of a proposal are;
- know what to keep in mind when preparing a proposal; and
- know the factors that influence and distinguish a good proposal from a poor one.



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3.1 Introduction

Proposal development is clearly very important because without a successful proposal, you will have no research to manage. It is for this reason that this unit discusses the things to bear in mind when putting together a proposal. The guide for applicants is a very important document in respect of proposal development. It is in this guide that you will find all information about:

- which forms to complete;
- how to complete the forms;
- information about eligibility;
- information about budgets; and
- how to submit your proposal.

It is advisable to take time to read this information very carefully before beginning to prepare the proposal. Many guidelines will have a checklist which helps you to ensure that you have provided all relevant information in the proposal and also that you have done so in the required way including completing all relevant forms and sections of forms. It may be worth getting someone else to read the guide for applicants and sharing your thoughts on your interpretation of its contents just to reassure yourself that others understand the guide in the same way. Once you have satisfied yourself of this, you can then start preparing the proposal.



Starting to prepare the proposal

3.1.1 Proposal forms

If preparing an FP7 proposal, there are two forms to be completed. A Part A form and Part B form. Part A forms give the applicants' *Participant Identity Code*, and general basic information such as the call title, details, partners and budget. Part B forms provide the core of the proposal and it is in this section that you provide information on the scientific underpinnings of the research including details of the project's implementation, and likely impact. This section will normally also include analytical information about the possible ethical and gender issues raised by the research.

Box 3.1. The Forms in an FP7 Proposal

- **Part A – forms**
 - Participant Identity Code (PIC)
 - Basic information – call details, title, summary, partners, budget
- **Part B – text with some forms**
 - Cover Page, Table of Contents
 - 1) S&T Quality (plus templates for work packages, deliverables and milestones)
 - 2) Implementation
 - 3) Impact
 - 4) Ethical Issues
 - 5) Consideration of gender issues

See Appendix I for a generic proposal template.

3.2 Proposal submission

It is important that you follow the instructions for submission exactly. In many evaluations of proposals, evaluators reject proposals because the bidder did not follow all the administrative requirements as stipulated in the guide to applicants. For an FP7 call for example, the coordinator must register with CORDIS. There will normally be a link provided that takes you to the right web page for registrations. Once registered, it is for the coordinator to give access to the other members of the consortium to the consortium's online space. If doing an FP7 proposal, it is advisable to complete Form A first and submit this. Remember that Form A (or its equivalent), gives general basic information. Upload Part B forms as a pdf file. You can make changes to the Part B form at any time up to just before the close of the call. However, because you upload a pdf file, you will need to create a new pdf each time you make changes to the Part B form. This does not count against you as the form is only 'submitted' after the deadline date. A good reason for submitting the file every time changes are made is so that you will at least have something ready to submit (even if not complete) on the deadline date. Also, note that it is becoming rarer for funding agencies to accept paper submissions so a reliable internet connection is

almost mandatory just to manage the bid process. It is a tradition that EC calls will close at 17.00 CET (Central European Time) on the deadline date

Once again it is important to take the time to fully understand what the bidding process will entail. What are the relevant deadlines? Who needs to complete forms? What forms exactly do they need to complete? It is useful to prepare a flow chart of activities that map the milestones in the bidding process. For each activity, assign responsibility and dates for completion of the activities. Do not be lulled into complacency by a long lead-time allowed between the call announcement and submission deadline. Where there is a long lead-time, it is usually because preparing a credible bid needs that amount of time. In such a situation, begin work on the bidding process straight away to give you ample time for reflection during the bidding process and to eliminate the need for a mad rush during the last few days. The more you rush, the greater the chances that you will make silly mistakes and overlook relevant instructions. For example, there may be a limit on the number of verifiable indicators allowed in a logical framework, which if exceeded, could disrupt the logic of your bid. Detail such as this is easy to overlook when pressed for time. This example might seem implausible but it makes the point that you should always follow the instructions in the guide to applicants and particularly those instructions that set limits on things. Further, evaluators disregard and do not evaluate anything above set limits, so do not disqualify yourself in this way.

3.3 Before writing the proposal

You should be ready to start preparing your proposal once your consortium is in place and you are clear about the different forms that you should submit. However, before starting the actual writing, you should prepare adequately for the task ahead.

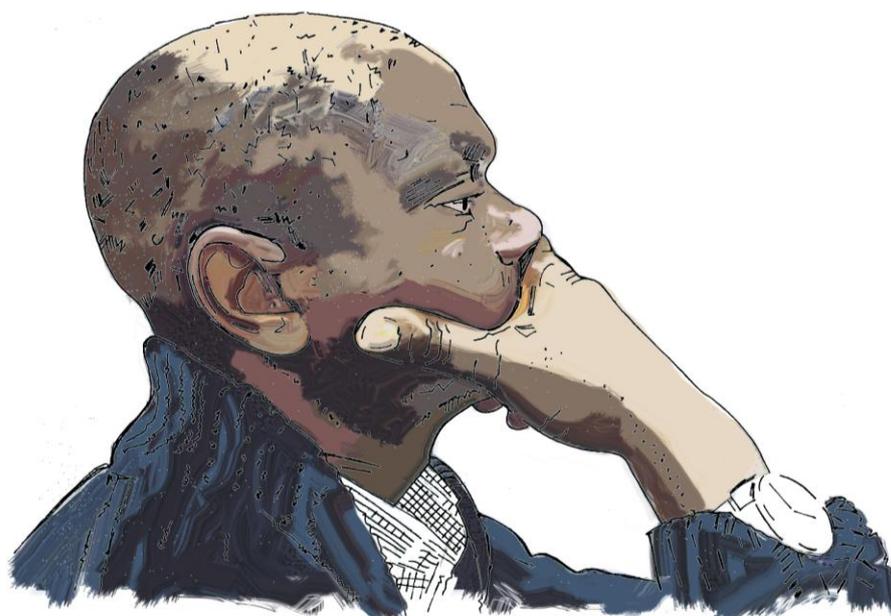
You should prepare the proposal in consultation with all consortium members. In fact, it should be a joint effort. It is surprisingly common to find some members of a consortium presented with a fait accompli whereby they find that that the proposal has been written and submitted without their consultation. The coordinator should not monopolise ownership of the idea or take the view that consortium members are only useful for implementing the research but not for defining the research agenda, objectives and activities. This approach is bound to set the research off on an unsure footing. It does not promote a collegiate atmosphere and defines the consortium in terms of an inner core against everyone else, which is not helpful. It also prevents the potential benefits that the experience and knowledge of consortium members can offer to the proposal.

This warning aside, think back to how you would prepare to write an essay. You need to be clear about the objective of your essay even before you start writing. It is the same when preparing a proposal. It is one thing to have a research idea; it is another to convert that idea into an objective. Your objective should be simple and clear to anyone reading it. A way to achieve this is to use the SMART test to evaluate your objective. Is your objective **S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**imely? If it is all of these things, then you should be on the right track.

You should also be clear what makes your proposal different. How is the research that you aim to undertake unique? You should not propose research for which there are already answers. Therefore, write your proposal in such a way that describes how it addresses a real problem that either no one has researched or has not addressed in this particular way.. It is also important that development research should address a problem that communities experience. Whereas there is a place for theoretical research, development research should aim to provide answers to real problems experienced by people in their daily lives.

What qualifies you and the consortium you have put together to tackle this problem? What is special about your grouping that suggests your consortium is the best to address the research question. To answer this question, you should be able to spell out the different skills brought together by the consortium and show how you will use these skills synergistically to address the research question. Do not assume that this will be obvious to everyone. More often than not, the fit of the consortium will need explaining. This explanation needs to be convincing and stakeholders (whether they be evaluators or project grassroots stakeholders), should have no doubt that the consortium is appropriate to the task.

A useful question to ask oneself as you prepare to write your proposal is how you will know when you have succeeded in terms of outcomes and impacts? What will be the measure of this? More important, can your success (we presume you will be successful) be easily measured? This is very important when applying for funding as agencies become more interested in demonstrating value for money. This implies being able to easily measure project outcomes. Associated with this, is the idea of monitoring. You should think about how you will monitor the project's progress to facilitate corrective actions where needed thereby promoting the attainment of project outcomes.



Think about how you will monitor the project's progress

Finally, think about what else you will need to deliver your project successfully. Will you require equipment? If so, is the cost of purchasing the equipment an eligible cost under the terms of the call? That is, can you use the research grant to purchase the equipment? If not, do you have other means of obtaining the additional equipment or materials that you require?

3.4 Writing the proposal

As stated already, involve all members of the consortium as much as possible in writing the proposal. Doing this is an excellent way of bringing about inclusion and creating ownership of the project. It is also a good thing to do because consortium members will bring their differing perspectives and experience to the discussion and this can only enrich the proposal. Consider all relevant aspects of the proposed research and spell these out. Explain the scientific and technological aspects of the proposal in detail. Evaluators will want to be reassured that you have the relevant scientific and technological expertise and understanding to undertake the research and that you are familiar with the subject area. You can demonstrate this by referencing recent debate in relevant literature and the state of the art in the topic. Think about the integrative aspects of your research. How will your research interface with what has gone before to add to the stock of new knowledge in a helpful way? This has a lot to do with the way the research question is structured.

Manage the flow of information between consortium participants in the most efficient way. If all participants know who is doing what and when, it will make the preparation of the proposal much easier.



Involve all members of the consortium as much as possible in writing the proposal

3.4.1 Stakeholders

Before you embark on writing the proposal, it is a good idea to undertake a stakeholder analysis in which you identify all stakeholders who may participate in the research or the research outcomes may affect. You should bring on board all such stakeholders during the proposal preparation stage to explain the aims of the proposed research thereby winning their support. A useful tactic is to make it clear to each stakeholder how the research will benefit them.

3.4.2 Capacity development

Most funding agencies will consider capacity development an important aspect of development research. It is a good idea to weave into your proposal an element of capacity development. This can involve traditional education and learning activities such as making available a number of study fellowships. These could be either masters or doctorate fellowships in areas relevant to the research and which will progress aspects of the research. Alternatively, you could do capacity development at the institutional level, (the development of organisational capacity rather than individual capacity), which may involve twinning arrangements, mentorship arrangements and a whole host of other options. Alongside capacity development, think whether there is a need for technology transfer within the project. This is not always a requirement but is something worth considering if applicable. Technology here broadly refers to the transfer of any skill or knowledge outside of a learning framework.

3.4.3 Management

Management arrangements are very important as the title of this course suggests. We will talk more about the specific aspects of management in a later unit. We only want to highlight here that funding agencies expect proposers to put in place credible management arrangements for all aspects of the project's management. It is of key importance that your proposal shows that you have thought through the proposed management arrangements and that in doing so you have taken account of all aspects of the project.

Other key things to think about are socio-economic factors. The SHTEFIE acronym is useful while doing this: have you considered all the **S**ocio-cultural, **H**ealth/ hygiene, **T**echnical, **E**conomic, **F**inancial, **I**nstitutional and **E**nvironmental aspects of the proposed research? It should be clear from your write up how you will fully address all these aspects within the research.

3.4.4 Communication and uptake

Communication and uptake is growing in importance for funding agencies and many agencies will now require a separate budget line for this activity. Most will expect a section devoted solely to this issue. How do you plan to ensure that the findings of your research have maximum communication and uptake among stakeholders? The plan needs to be exactly that; a plan. We will talk more about things to consider when developing your communication and uptake plan in Unit 6 on communication and uptake.

3.4.5 Lack of clarity

A common flaw with proposals and other written communication is a lack of clarity. This usually stems from authors not spelling out for the reader, the assumptions that they are making. Do not assume that your readers – evaluators in this case – will have sufficient background knowledge to tune in to your assumptions and will therefore understand the text as you intend. Unless something is obvious, spell it out. Granted, this is not always easy to do within the page and word restrictions placed on authors. However, try to draw a balance in keeping only essential information in while ensuring that you explain underlying assumptions.

3.4.6 Incomplete proposals

Yet another common flaw is the incomplete proposal. If the proposal template forms ask a question, be sure to give an answer. Think of writing the proposal in the same way as writing an exam. If the instructions in an exam paper were that you should answer 10 questions, you would not leave three questions unanswered! Rather, you would make sure that you attempted all questions to the best of your ability. Approach your proposal writing in the same way. Do not think to yourself, “Oh I have already referred to this in a previous section so no need repeating it here.” If the instructions were to use size 10 fonts in Calibri, then use size 10 font in Calibri. You do not decide to use Times New Roman in an 11 font. Evaluators can disqualify a proposal simply for not following the instructions even if the scientific and technical write up is brilliant. It would be a shame to lose marks or have your proposal rejected because of errors you could easily avoid.

Equally, you should avoid the temptation to provide more information than is requested. A good rule of thumb is to adopt a strategy that you would in an examination whereby you only answer the questions you have been asked and do not provide unnecessary information. Quite often, superfluous information can get you in trouble by drawing the attention of the evaluators to issues that they might disagree with and which you were not even asked to address in the first place.

3.4.7 Language

Related to this is the question of language. Try as much as possible to use simple language that is clear and easy to understand. Long words have their place but can often obscure the meaning of a phrase or paragraph if not used correctly. The chances of misusing words are much greater if they are long words that are not commonly used. Refer to a book on English language usage. Most will have a section on common mistakes that people make often. Many will also have a section on words that are misused and will suggest to you the right word for the use you intend.

3.4.8 Consortium participation

As a participant in the research (member of the consortium), do not feel that you are in some way beholden unto the coordinator and cannot question process. It is vitally important that you should at the very least have a chance to read the proposal before its submission. This is your entitlement and frankly, you should think twice about continuing the relationship if the coordinator does not at the least have the courtesy of sharing the proposal with you for comment. The ideal situation of course is that you, (the consortium), have inputs into the preparation of the proposal.

3.4.9 Evaluation criteria

The evaluation criteria will be included in the call documents. This is useful information as it tells you how the evaluators will assess your proposal. Use this information to your advantage. One trick is to play devil's advocate. If you can, adopt an objective stance and evaluate your proposal using the criteria that the evaluators will apply. This may throw up some interesting questions that you can then use to amend your proposal for the better. This is not easy to do but the results are generally worth the attempt. It is also worth giving your proposal and the call documents to a disinterested third party to review for you. Again, they are likely to spot the sorts of questions that evaluators might ask and help you to address these before you submit your proposal.

3.4.10 Proposal layout

Prepare the proposal in accordance with instructions given in the call. This may seem an obvious thing to state but many people ignore what they may perceive to be minor issues of detail. An example is a stipulation that you must use a certain font size or not go below a certain size as described above. It is important that you adhere to all instructions regarding layout. Do not forget of course that the templates will often give you guidance on the style of the proposal write up. However, if the guide to applicants and the proposal are silent on matters of style, set out your proposal in the best possible way you know how. Text that is laid out in an attractive way is easy to read, and quite often easier to understand. Of particular importance is information regarding page lengths and/or word length. Ignore these at your peril.

A related issue is the balance that you give to different sections of the proposal. You will have seen in the section above that the evaluation criteria will normally tell you how many points the evaluators will award to each section. Your proposal sections should mirror the allocation of points in that sections with a greater number of points should be longer and have more detail and vice-versa.

3.4.11 Risk analysis

It is a good idea to present a risk analysis of the activities you propose even if this is not a stated requirement. This demonstrates an analytical approach to developing activities showing that you have clearly thought through all the ramifications of your proposed activities. In a sense, develop the sort of things that you would put into the risks and assumptions column in a logical framework. You may have developed a logical framework anyway and so will already have done this analysis. It is also a good idea to have in place a well thought out plan B that you can present as a contingency if the potential risks come about. Do a risk analysis for your Plan B too.

3.4.12 Work packages

An important aspect of proposal writing is getting the balance between activities and the budget right. In an FP7 proposal, you outline the research activities in terms of work packages. You will probably have work packages devoted to communication and to project management. However, most of the work packages will be aspects of implementing the research. Aim to give similar weight to the research work packages so that you do not have one very large work package or a very small one. Similarly, there will be the expectation that each participant in the research will lead a work

package that aligns best with their expertise. This is a good way to demonstrate the relevance and fit of your consortium. If this does not happen, it may be that your consortium does not fully align with your research problem. You should also aim to get the balance between activities and resources right. You should not end up with say one work package that consumes a disproportionate amount of the overall budget unless it is clear that this work package is a) a pivotal one that is central to the research problem; and b) that you could not restructure the work packages to remove the bias and still deliver the same results. In conclusion, you should aim to make your proposal readable. If your proposal is dull to read, you are in effect making the work of the evaluators more difficult and you run the risk that they will not fully understand the gist of your proposal and will mark you down.

3.4.13 Tables

Use tables to save space and aid clarity and diagrams to depict conceptual ideas. For example, you can present the proposal conceptual framework diagrammatically either as a flow chart, a model, or in some other way.

3.4.14 Summary

Keep in mind the following as you prepare your proposal:

- be clear about what you want to get out of the proposed research;
- discuss the proposal with your institution and get any approvals you require;
- ensure your research question is relevant to the call topic and objectives;
- register in the electronic submission system if there is one;
- research previous and current projects in the area especially those funded by the call agency;
- try and get to know consortium partners who are new to you;
- make sure all forms are completed correctly and instructions followed exactly; and
- get someone to read through the proposal

So far, we have discussed the process that you undergo in preparing a proposal. That is, the forms you need to complete for an FP7 proposal, the information found in the *Guide to Applicants* that helps you prepare the proposal, and factors to keep in mind before and during proposal writing. However, this is only half the story. The content of your proposal needs to be credible too, if you are to win funding. We turn now to a discussion of the content of the proposal within the framework of proposal evaluations.



Get someone to read through the proposal

3.5 Evaluation

For each call, there will be detailed evaluation criteria given in the Guide for Applicants. This will also give you information about weightings and thresholds for different sections. It is worth spending some time familiarizing yourself with the evaluation procedure for a typical research project. Bear in mind that the procedure outlined here refers to the FP7 programme. Most research funding agencies will adopt an independent peer review system. They will normally have a panel of experts - in each scientific area that they fund – who they use to do a peer review of proposals.

At the beginning of the evaluation, Commission staff brief panel experts on the evaluation procedure, the panel experts' responsibilities, and crucially, the issues involved in the particular call and its objectives. They will normally also be given any other material that is relevant to the particular call. For example, where there are page limits indicated for different sections, the panel's instructions are to disregard any text that goes beyond the stipulated limit. At least three experts will independently evaluate each proposal against pre-determined evaluation criteria. The EC keeps an evaluator database where the details of various experts are stored. If you would like to register as an expert, go to:

<https://cordis.europa.eu/emmp7/index.cfm> and follow the registration process. There is no guarantee that the EC will automatically accept you as an expert as the EC has criteria in place for selecting experts. If you are unhappy with the outcome of the evaluation, you can instigate the new redress procedure in place for FP7 projects.

Evaluators of development-centred proposals will usually be looking for evidence of a multi-disciplinary and integrated approach that takes into account broader socio-economic factors. They will also be looking for evidence of appropriate stakeholders. That is, local or regional stakeholders that are considered essential to achieving impact as stated in the Work Programme. The idea is to ensure effective southern collaboration with European partners. They will also expect evidence to show that you have considered the geographical, cultural and sectoral differences that exist in the south. They will also usually look out for a budget dedicated to coordination activities.

More specifically, the EC has defined three central criteria for an FP7 proposal. They are:

- The scientific and/or technological excellence;
- The implementation and management; and
- The potential impact of the research through the development, dissemination and use of the project.

Before we consider these criteria, we introduce the notion of relevance, which is important in all proposals.

3.5.1 Relevance

Overarching the criteria above is the need for relevance. Your proposal needs to be relevant to the call objectives if it is to win funding. What do we mean by relevance? Funding agencies will adopt differing criteria to judge relevance. However, they are going to be very similar and more important, the guide to applicants of each call will make clear the criteria. In an FP7 call, relevance relates to the topic(s) in the Work Programme and the call objectives. Everything you write in part B forms should relate back to the Work Programme topics and call objectives and be clear how you embed these in the criteria outlined above. This should be the guiding principle of how you structure your argument. If your proposal is only partially relevant, this will reflect in your scoring. If it is not relevant, it will be out of the scope of the programme and rejected on eligibility grounds. This means it will not reach evaluation.

This should emphasise how important it is to keep the need for relevance at the back of your mind as you prepare the proposal. Remember, you may have a very interesting idea that is of superior scientific quality and is likely to have great impact BUT, if it is out of scope it cannot be funded. The key lesson here is that the call should lead your proposal and not your own interest. We now turn to a discussion of the evaluation criteria above in more detail.

3.5.2 Scientific and /or technological quality

It is under this heading more than any other that evaluators are looking for relevance to the topics addressed by the call. You should be able to demonstrate relevance through the soundness of your concept. Remember that your peers will evaluate your proposal. Therefore, your concept should be self-evident to anyone schooled in your particular field of study. This also means that you should not include information that an expert in your field is going to know. This will only distract evaluators and use up valuable space you could use for more detail about your approach. Do not merely present your concept; explain it. It is important that you clearly and succinctly explain the context within which you will apply the concept.

The quality of your objectives is important. Remember that there should be a clear link between your objectives and the topics of addressed by the call and the call's own objectives. We have mentioned before the need to make your objectives SMART. Evaluators will assess achievability. Can you realistically achieve your objectives given the various constraints facing you: funding, time, experience, scientific capacity and so on? The research concept and objectives must be clear.

It is also important that you give a solid account of the state-of-the-art. What does this mean? Essentially, you should provide a tight and succinct review of the literature highlighting relevant progress so far in the field of your concept. You should be able to show that you have a thorough knowledge of the subject and are aware of all the key relevant writings and research that has gone before. It is only by doing this that you can illustrate the contribution your concept will make to the discourse on the research topic. You should also go a step further and clearly indicate whether your concept is developmental or innovative. If it is developmental, your concept should be extending and building upon the state-of-the-art. This might mean filling in gaps or taking previous work a step further. If your concept is innovative, you will be charting a radically new direction. In such a scenario, your research will carry significant risks and you should be able to demonstrate clearly how if successful, your research findings will act as a vector for advancement.

You should also explain your methodology in this section. You should start by giving an overview of the overall strategy you will employ to achieve your objectives. You should give detail about the philosophical assumptions and underpinnings guiding your proposed research and information about the individual methods you will apply. You also need to explain your workplan here. In doing this, it is useful to use Gantt charts, for example. You should articulate your work packages and explain the logic behind them. Each work package should have a distinct purpose and will often progress from the previous one. You should have a work package or more to integrate the findings of other work packages. The division of labour between the work packages in terms of both leadership and activities should reflect the make-up of your consortium and the skills and strengths of participants. In a word, the work packages should offer a clear justification of the shape of your consortium. You should spell out clearly all planned coordination activities, which will ensure the research progresses smoothly.

3.5.3 Implementation and management

Under this heading, the evaluators will be interested in the quality and efficiency of the implementation and the management of the proposed research project. To demonstrate quality and efficiency there are a number of issues you should spell out. The first of these is the management structure of the project. This can vary in complexity depending on the size of the project, number of work packages and activities proposed as well as the size of the consortium. Keep in mind that one project might have a consortium of five participants, five work packages and a duration of 3 years. The management structure for such a project would look very different to a project of five years, covering 23 work packages and a consortium size of 34 participants. In short, there is no template for your management structure. Just be sensible and show that the needs of the research drive the consortium's size. Unit 5 of this course is about management practice. You should consider all the items in that unit when deciding what to include in your management structure.

When thinking about management procedures, think in terms of process. Again, the degree to which you need spell out procedure is a function of the scale of the project, consortium and activities. In a smaller project, it may not be necessary to have a whole suite of procedures. It is also important to have procedures for quality assurance. Evaluators will be looking for evidence of procedures to assure the quality of not just outputs, but also of inputs and scientific rigour. Procedures for effective communication are also important to include especially where the consortium is geographically co-located. For example, it may be that some participants are in Europe and others are in Asia or some other continent. In such a scenario, you should have in place workable procedures to ensure effective communication within the project. The same should apply so that all participants take ownership of the project. As a rule, the scale and complexity of the project should suggest appropriate management structures.

Information management is an important aspect of management. You should describe how you would ensure that you manage all project information in a way that supports the research activity. These days it is possible to get off-the-shelf information management solutions at modest prices. These include intranets and website hosting. You should also describe the knowledge management arrangements you would put in place.

It is important too that you clearly articulate how the quality of your consortium will assist to meet your research objectives. Things to highlight here are the quality and complementarity of the consortium. Do not assume that this will be obvious. Offer an explanation from your perspective. You should also address how the consortium matches your research objectives. It is very important to do this. You should also describe the role of the coordinator in your proposed project and describe the individual participants too in some depth. Finally, if you can demonstrate relevant management experience, this is the place to do so.

3.5.4 Impact

The EC explains the scope of impact as “the potential impact through the development, dissemination and use of project results”. Evaluators will be assessing

the contribution at the European and /or international level, to the expected impacts listed in the relevant work programme and under the relevant topic or activity. In other words, impact is a demonstration of how your research will lead to the attainment of the Work Programme objectives. You should explain this in some detail and not leave it the evaluators to work out. Impact relates to your research objectives too. Are they ambitious and relevant? Equally important is the impact that your research will have on peoples' quality of life. This is especially so if you are doing development research where the immediate beneficiaries of the project will more often than not be people.

The second part of impact relates to dissemination. Under this heading fall a number of things. To begin with, you will clearly need to have a well thought out dissemination plan that facilitates widespread communication of the project's findings to appropriate audiences. We will discuss this in more detail in the unit on communication and dissemination.

Exploitation of project results is similarly an important area to cover. If your project is likely to produce results that you can exploit in some way, you should include a plan for this in your proposal. For example, it may be that you can develop a commercial application from your research. How will you do this? Related to this is the whole area of intellectual property rights. How will you manage this in your research? There are four main types of intellectual property rights: copyright, patents, trademarks and designs for product appearance. With the exception of copyright, you should have a plan for how you will protect any intellectual property resulting from the research project.

These three criteria, scientific and technological quality, implementation and management, and impact, are those used to award marks for the proposal in an FP7 bid. However, there are other issues that you should address and embed in your discussion. A review of these follows.

3.6 Other issues

3.6.1 Gender and vulnerable groups

A consideration of issues relating to gender and vulnerable groups (the young, the elderly, those with disabilities, and the very poor) of course is very important and you should make clear that you have considered these issues carefully.

Using the example of gender, what sorts of issues are relevant to your project? What actions do you propose to address these and to promote gender equality in your project? Note that these can be actions in a number of areas. There may be actions that are appropriate at consortium level. It may be that you have deliberately set out to balance gender in your consortium. However, if you cite this, there should be a good reason for doing so. Tokenism is not likely to win you points. Alternatively, there may be actions that are appropriate at stakeholder level. You may for instance decide to incorporate public events into your research. You could for example organise events in schools or universities that raise gender awareness in specific issues. Bear in mind three things:



Demonstrate that you have considered issues affecting vulnerable groups

- Gender is not evaluated directly (unless specifically stated), but you should mention how it is to be addressed if gender is relevant in the project;
- Following from the above, a consideration of any relevant gender aspects should always be demonstrated, but there may be cases where there's not much to say about this; and
- Gender is not about women only. Rather it is about those characteristics that distinguish between men and women. In this regard, it is possible to take a gendered approach to a project by focusing on social roles applying to men in a given context.

3.6.2 Ethical review

The second issue that you need to think about is the ethical implications of your research. If there are any ethical aspects to your research, (things that evaluators might consider raise ethical questions), you should describe these in full. You should also go on to justify the design of the project to explain why you could not choose a different approach that would eliminate the ethical issues your chosen approach raises. You then need to explain how you intend to mitigate the ethical aspects you have raised.

More important, you should explain the measures that you will put in place to meet the national legal and ethical requirements of the country where you will perform the research and of the sponsoring organisation – this is usually the coordinator's organisation. Note too that other participants in the consortium may find that their own organisations' rules for ethical review may trigger a review procedure internally.

You should indicate in your work plan the time set aside for the approval process whether it is within your organisation, nationally or both. This needs to be realistic bearing in mind that such approval processes can be inordinately long. Ideally, you will allocate time based on real knowledge of the approval process. Keep in mind that if your project raises serious ethical issues, the EC or particular funding agency may put your project through its own ethical review process. If this does happen, the outcome of the review could affect the funding decision. Finally, the funding agency may request an ethical review at some point in the project cycle.

As a rule, any research that involves humans is liable to trigger an ethical review if certain conditions are present. These usually involve informed consent, working with vulnerable people (i.e. children, people over 65, pregnant women, people with mental illness etc), chaperoning when working with the vulnerable or taking measures from them, taking body samples, research involving deception and other similar conditions.

Following is a table showing an example FP7 ethical table. Those activities marked with an asterisk * in the left column will lead to an automatic ethical review.



Research involving vulnerable groups such as the mentally ill will trigger an ethical review

Table 3.1. Example ethical issues table – FP 7

Research on human embryo /foetus		Yes	Page
*	Does the proposed research involve human embryos?		
*	Does the proposed research involve human foetal tissues /cells		
*	Does the proposed research involve human embryonic stem cells (hESCs)?		
*	Does the proposed research on human embryonic stem cells involve cells in culture?		
*	Does the proposed research on human embryonic stem cells involve the derivation of cells from embryos?		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			
Research on humans		Yes	Page
*	Does the proposed research involve children?		
*	Does the proposed research involve patients?		
*	Does the proposed research involve persons not able to give consent?		
*	Does the proposed research involve healthy volunteers		
*	Does the proposed research involve genetic material?		
*	Does the proposed research involve human biological samples?		
*	Does the proposed research involve human data collection?		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			
Privacy		Yes	Page
*	Does the proposed research involve processing e.g. genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?		
*	Does the proposed research involve tracking the location or observation of people?		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			
Research on animals		Yes	Page
*	Does the proposed research involve research on animals?		
*	Are those animals transgenic small laboratory animals?		
*	Are those animals transgenic farm animals?		
*	Are those animal non-human primates?		
*	Are those animals cloned farm animals?		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			
Research Involving developing countries		Yes	Page
*	Does the proposed research involve the use of local resources (genetic, animal, plant, etc)?		
*	Is the proposed research of benefit to local communities (e.g. capacity building, access to healthcare, education, etc)?		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			
Dual use		Yes	Page
*	Research having direct military use		
*	Research having the potential for terrorist abuse		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL			

Source: Guide for applicants: collaborative projects [FP7 – AFRICA – 2010]

3.7 Logical Framework Analysis

Many proposal templates will require you to prepare a logical framework (log frame) analysis to guide your project. A log frame is a tool that assists in ensuring that you ask the right questions when developing your proposal to ensure that the main project components are coherent and follow on logically from each other. It also forces you to consider the means to achieve your project outputs and outcomes as well as establish the underlying assumptions you make which external factors could derail. More detail about log frames is given in Appendix II.

3.8 The financial proposal

The financial proposal is a critical part of the proposal as it details the amount of financial support that you are requesting from the funding agency. For this reason, you should take the time to prepare your financial proposal very carefully making sure that all details that you submit are correct. People often miscalculate the time they will need to prepare a credible financial proposal. Though the financial proposal is not the pivotal document in the proposal, it is a very important part of the proposal and you should recognise this by devoting sufficient time to its preparation.



Take the time to prepare your financial proposal very carefully making sure that all details that you submit are correct

Funding agencies will have specific rules about how you should prepare the financial proposal. Most will also have templates that they will expect you to use to itemise different aspects of the proposal. For this reason, it is impossible to give detailed guidelines on how to prepare the financial proposal. This section will highlight issues that are likely to be common to most funding agencies. However, you should read the instructions relating to your particular call carefully and fully understand what the particular funding agency expects from you.

Note that the financial proposal is in essence an expression of the budget that you require to deliver the research. It should therefore include all expenses that you will incur for the duration of the research. It should also indicate if you expect to earn income from the research activities during this period.

It is common for funding agencies to provide only a proportion of the full amount requested or required to perform the research. Your financial proposal should give details of the full amount you will spend and highlight what proportion of this amount you request from the agency. Funding agencies will normally expect information about how you will raise the balance of financial resources.

3.8.1 Costs

You should at minimum, include the costs of the following:

- Staff and personnel costs - this includes research staff as well as administrative and support staff. Note that personnel costs are usually only the costs of actual hours worked by the persons performing the research.
- Consumables – this includes items such as equipment; photocopying; postage; room hire for workshops etc; stationery; telephone charges; website development, etc. Some agencies will expect you to distinguish between expendable items (which will be used up), and non-expendable items (items such as equipment that can still be used following the close of the project). Agencies may have special rules governing the purchase of equipment and /or what happens to equipment following the closing of the project.
- Travel and subsistence – this includes costs of local travel, international flights, accommodation, meals etc.

Many funding agencies will distinguish between direct and indirect costs. Where this is the case, only give the costs of research staff actually working on the project under personnel above. Direct costs are those costs that relate directly to performing the research and which you can identify and justify. As such, you would not incur direct costs if you did not have the project. Indirect costs are those costs that do not directly relate to performing the research. These are costs such as administration and management; communication costs; electricity; insurance; office space; training costs etc. Indirect costs therefore are costs that your organisation would incur even without having the project. The general rule is to calculate indirect costs according to the accounting principles of the participant unless otherwise stated. Most agencies will expect you to express the indirect costs of the project as a percentage of the direct costs. Agencies will usually specify a maximum percentage of direct costs that you can claim as indirect costs.

Where possible, rely upon support departments in your organisation (for example, the central research office) to check over your financial proposal to make sure that the detail is correct and that you have covered all costs that you will incur and that are eligible. Again, it is important that you look at the detail of what the agency will accept as eligible costs under your particular call and funding scheme.

3.9 Good proposals

If you follow the guidelines in the funding agency guide for applicants, you will have a head start in preparing a good proposal. If you carefully address the issues discussed in this unit, they will contribute towards preparing a good proposal. In very general terms, the following rules apply regardless of the funding agency. Your proposal should:

- clearly address the topic of the call and meet its objectives;
- highlight the impact of the project;
- push back the frontiers of science and technology;
- communicate enthusiasm, passion and commitment to the topic by the research team;
- consist of the right consortium for the project;
- be well budgeted;
- add value from the perspective of the funding agency; and
- be easy to read and succinct.

Activity

Review the proposal templates in the appendix to this unit.

1. Choose a template that you think would be most suitable for the topic call you identified in Unit 2. If you prefer to use the template provided for that particular call you may do so.
2. Identify the three most important sections in the proposal template. Give reasons for your choice.
3. Do a stakeholder analysis and identify the top three key stakeholders who you would need to bring on board and state why you have chosen those three.
4. Prepare an outline approach to writing the proposal and assign responsibilities to each of the consortium members.
5. Prepare a statement outlining the expected impact of your proposed research.

APPENDIX I

GENERIC PROPOSAL TEMPLATE

Generic Project Proposal Format

1. **Cover page**
2. **Table of content**
3. **Summary**
4. **Introduction**
 - a. Current state of knowledge incl. key references
 - b. Problem statement and justification (with research questions and hypothesis where applicable)
 - c. Conceptual/theoretical framework (where applicable)
 - d. Innovation
5. **Objectives**
 - a. General objective
 - b. Specific objectives
6. **Methodology**
 - a. Study area and population
 - b. Study design/ research design
 - c. Data collection methods
 - d. Data management/analyses
7. **Ethical considerations**
8. **Dissemination of results**
9. **Additional considerations**
 - a. Study limitations
 - b. Links to other projects
 - c. Relevant experience of proponents
 - d. Potential applied aspects
10. **Budget**
 - a. Time table/ work schedule
 - b. Budget
 - c. Budget justification
11. **References**
12. **Appendices**

Commentary to Project Proposal Format

- ad 1)** Full title of project and names/coordinates of project proponent and project supervisor and their respective institutions, date.
- ad 2)** TOC with headings of chapters (and paragraphs).
- ad 3)** A short description of the project proposal content including hypothesis and research objectives, brief outline of design and methods, starting date, anticipated duration and estimate of total cost of project (maximum one page).
- ad 4)** Present current state of knowledge and literature background (scientific justification) with key references. Include problem identification, research question(s) and aims of the proposed project. The study hypothesis (if applicable) may be indicated. A conceptual/theoretical framework may be presented. Innovative aspects should be described.
- ad 5)** Identify both general and specific objectives. The general objective should describe what the planned research project is intended to accomplish. The specific objectives should describe chronologically what each of the specifically planned experiments/studies is intended to accomplish. The “sum” of the specific objectives should be equivalent to the general objective.
- ad 6)** This paragraph should include a description of the study setting and design, and sampling methods and sample size calculations where appropriate. State inclusion/exclusion criteria if applicable. All variables should be listed and justified and methods for collecting information and description of data management/analytical procedures (e.g. statistical analysis) should be included. Describe measures for quality control (if applicable).
- ad 7)** Where applicable state ethical considerations such as status of study population, risks, benefits, rights, confidentiality, informed consent and ethical clearance.
- ad 8)** Indicate type of output (thesis, report, scientific paper, and/or other scientific presentations). Consider necessary feedback to study population(s), appropriate institutions and scientific community (strategy for disseminating and implementing the research); applied aspects.
- ad 9)**
- a.** Indicate possible constraints and critical assumptions which may prevent the work being done according to plan.
 - b.** How does the project relate to other ongoing or planned research activities (sharing of facilities with other projects may be considered)?
 - c.** Indicate relevant experience of the involved research staff in terms of e.g. adequate training/published papers on the topic or related topics.
 - d.** Indicate possibilities for practical use of the expected research results.
- ad 10)** A work schedule (graphical time schedule) should be included. Prepare a tentative budget for the full project period including proper justifications for the proposed expenditures. All items used in the project should be listed.

- ad 11)** List of key references. The references should be listed according to the instructions used for *Transaction of the Royal Society for Tropical Medicine and Hygiene* (Harvard system).
- ad 12)** If applicable attach e.g. outlines of questionnaire forms and LFA matrix.

General comment:

As to social science proposals, it may be necessary to deviate from the above outline, e.g. by expanding on theoretical (conceptual) framework and research questions as well as indicating operational definition of terms.

Style:

Font: Your own choice - but should be easy readable (e.g. Times New Roman or Ariel)

Font size: Pitch 11 or 12

Line spacing: single

Margins: top: 2 cm, bottom: 2cm, left: 3 cm, right: 2 cm

Page numbering: centred at bottom

Max length of proposal document: 12 pages (excluding cover page, TOC and appendices)

Max length of summary: 1 page

APPENDIX II

LOGICAL FRAMEWORK ANALYSIS

These notes are contributed by Kevin Sansom of WEDC, Loughborough University

Developing a Log frame

Many people initially have trouble in fully understanding how to use log frames. The best way to learn is through practice. The basic principle is to go from the more general to the specific. That is, begin with the objective summary and the key assumptions, then try to put indicators and targets on the general statement of objectives. A log frame is best developed in the early stages of a project, together with key project partners, so that there is shared ownership of its content. While the log frame is a useful tool for communicating the key aspects of a project to interested parties, it has most relevance to those involved with developing and updating it. The process of making a log frame, though laborious, ensures that partners actually 'do planning' and take into account important issues that are likely to affect the success of the project.

The overall goal

The goal is the higher-order objective that this project, combined with others, will achieve. Usually this is a programme or sector objective. Very often, a portfolio of projects will share a common goal statement.

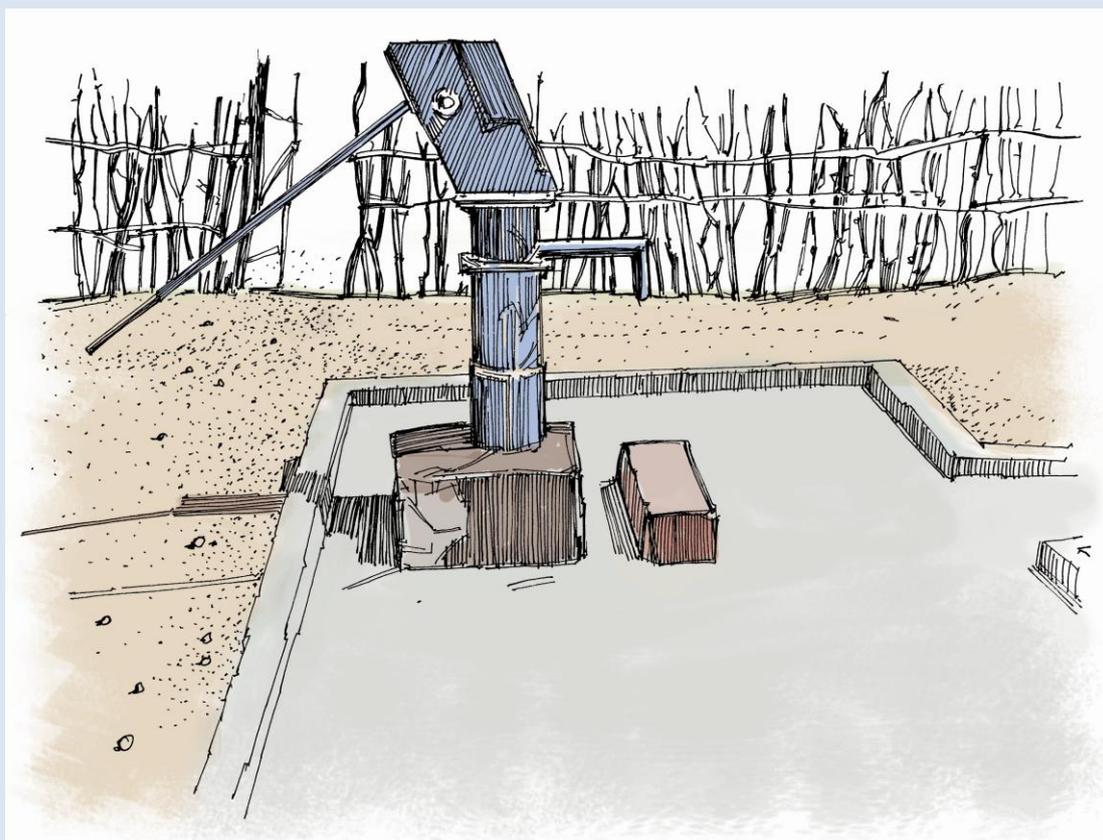
The project purpose

The Project Purpose is *why* the project is being done. It describes the desired impact. Ideally, a project should have only one purpose, so that activities and outputs have a clear focus. Projects with multiple purposes and a diverse range of outputs can be undermined by a lack of direction.

For example, if '*water and sanitation services and hygiene behaviour is improved*' (Purpose) then '*the community's health will be improved*' (Goal), provided the assumptions hold true. Improvements in health and/or well being, is often at the goal level for water, sanitation and hygiene promotion projects, because so many factors effect people's health, such as the economic environment, nutrition etc., which are usually outside the 'manageable interest' of a project team.

Box 3.2. Project purpose – development examples

The purpose-level objective often entails changes in behaviour of the project beneficiaries. For example, a Purpose typically describes the *use* of project outputs such as '*hand pumps used and maintained with minimal non-operating time*'. The project team can try to support the communities and local private sector to maintain the hand pumps as it is what the project is seeking to achieve, but it is not necessarily within their 'control'. Project outputs may need to be changed during the course of the project cycle in order to reduce the risk that the original project purpose will not be achieved.



A related 'Important Assumption' may be that '*local government leaders will permit funds to be spent on hand pump spare parts*'. This may not be within the control of the project team, but in order to achieve their project purpose, they could seek to persuade opinion leaders that by paying for repairs, people will not spend so much time going to distance water sources, so they can use that time to generate more income for the area.

A project purpose statement can also be drafted to encapsulate key concerns or problems experienced previously. For example, it may have been common in the project area that low water flows are experienced over time from stand posts (inadequate), with poorer groups suffering most (inequitable) and schemes falling into disuse (non-sustainable). These concerns can be covered in a Purpose statement like this: '*Adequate, equitable and sustainable water services provided*'. By putting such words in the purpose statement, it concentrates minds on these issues and indicators can be set to measure the degree of success in achieving these objectives. For example, '*more than 90% of design flow achieved at all times*' could be an indicator for adequacy.

Box 3.3. Project purpose – emergency relief examples

In emergency situations, where new water supplies need to be constructed in a very short time, it may only be feasible to think in terms of “adequate” supplies. The purpose statement for such a short-term intervention could be “*adequate quantity and quality of water services used by the target population*”. Indicators could then be the agreed levels of quantity and quality set out in the Sphere Standards, which can be used to monitor the levels of service to users.

In agreeing purpose statements, the project benefits should be maximised, so if refugee camps are to be maintained for many years, then *sustainable services* should also involve local communities and local host governments. However, if a relief organization is only providing services for a few months it may not be practical to aim for “sustainable” services if they are going to be *handed over* or no longer required. An agreed purpose statement may be “**Adequate water and sanitation services that being used are effectively handed over to the responsible organizations at the appropriate time**”, with indicators and milestones to define adequacy, functionality and handover.

Outputs

Outputs are *what* the project is to accomplish. These are the deliverables and can form the key objectives of the project terms of reference. Outputs are the results for which the project team can be held directly accountable and for which it is given resources.

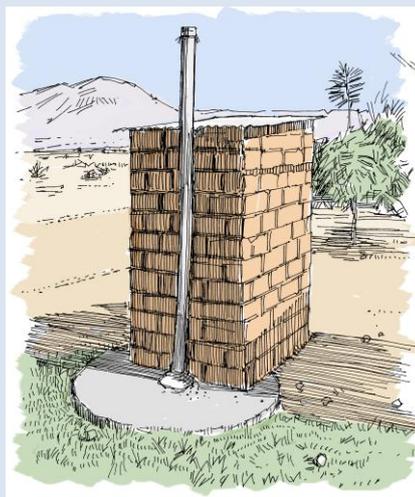
A common problem is that the project outputs are not sufficiently comprehensive. For example, a stated output may be ‘*piped water systems designed and constructed*’. This makes no reference to related institutional or management factors important for success.

Box 3.4. Composing an objective statement

Objective statements (e.g. Goals, Purposes and Outputs) should be phrased as if the task has been completed, e.g. ‘*Pit latrine emptying system developed, agreed and implemented*’. They should be strong action statements. A suitable indicator of the example objective may then be ‘*60% of pit latrines that need emptying de-sludged by the second month of operation*’, which will indicate how successfully the system has been implemented.

The use of phrases or words such as ‘in order to’ or ‘through’ or ‘by’, should be avoided, because there will in effect be two levels of objectives in the one statement e.g. ‘Developing sustainable water sources through community mobilisation’.

The use of phrases or words such as ‘in order to’ or ‘through’ or ‘by’, should be avoided, because there will in effect be two levels of objectives in the one statement e.g. ‘Developing sustainable water sources through community mobilisation’. If developing sustainable water sources is a project purpose, then community mobilisation is an output or activity along with many other outputs and activities that are necessary to achieve the project purpose.



Activities

Activities define *how* you will do the project - the action that will be implemented to accomplish the outputs. Typically, three to seven actions or components are described in relation to each output, in just enough detail to outline a strategy and provide the basis for detailed planning at a later stage.

Activities should also include the basic actions of the project management team: the summary schedule of periodic meetings, monitoring events and evaluations. Some project teams highlight these activities by including statements such as “project management system installed and operational” in the outputs.

Verifiable indicators

These should be targeted in terms of quality, quantity and time. These indicators and the means of verification must be practical and provide a cost effective basis for project monitoring and evaluation.

Assumptions

The assumptions made at each level of a log frame are necessary conditions or events over which the project has little or no control, for example, *‘sufficient water can be extracted from the river throughout each dry season’*, or *‘the timely release of budget allocations’*, or *‘security conditions remain stable’*. Some assumptions relate to activities in other projects, for example *‘UNHCR registration project remains on schedule’*, or *‘MSF clinic completed by start of 2002’*.

While assumptions concern external conditions, the project may in many cases be able to influence them, for example the contents of new water quality policy. If this is agreed in particular cases, then assumptions can be converted into objective statements (activities and outputs) e.g. *‘draft sector water quality policy agreed’*, and thus become part of the scope of the project. In this way, the risks of project failure can be reduced.

The lower the degree of risk or uncertainty, the stronger the design of the project. ‘Killer assumptions’, i.e. those on which much depends, can have a huge impact on projects if they fail to hold true.

Verifying the logic: the “if-then” test

The log frame is based on the principles of cause and effect; the better the causal links between items in the log frame, the better the project design. For example, ***If** we promote a range of water supply options and develop local capacity to select and manage their preferred options, **then** appropriate facilities will be installed.*

The log frame requires this logic to be made explicit, but the extent to which cause and effect linkages are realistic depends on the quality and experience of the design team. Production of a log frame cannot guarantee good project design.

The logical flow from one level of the log frame to the next can be verified using the ‘if-then’ test. The test works upwards from activities to outputs, then to the project purpose and goals. **If** all the stated activities are carried out, assuming the assumptions are correct, **then** the outputs should be achieved. **If** all the outputs are completed, assuming the assumptions are correct, **then** the project purpose should be achieved.

Table 3.2. The If – then relationship in the logical framework

Objective Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions and Risks
Having achieved this goal →	Confirmed using this (these) parameter indicators →	Which are collected by this means →	Then as long as these assumptions are true I should achieve the super goal
Having achieved this purpose →	Confirmed using this (these) indicators →	Which are collected by this means →	Then as long as these assumptions are true I should achieve the super goal
Having achieved these outputs →	Confirmed using this (these) indicators →	Which are collected by this means →	Then as long as these assumptions are true I should achieve the purpose
These activities are done →	And I will know they are done because I can measure using these indicators →	And find the parameters using this means →	Then as long as these assumptions are true I should achieve the relevant output

Assumptions add to the if/then test. For example, if all the activities in a log frame are satisfactorily completed and all the assumptions hold true then the outputs at the next level should be achieved. If the project team doubt whether the stated outputs will be achieved, then it is worth reviewing outputs, activities and the assumptions to see whether they are necessary and sufficient.

Having reviewed a log frame using the if-then test, the planning team may need to revise some sections.

Necessary and sufficient conditions

When finalising the log frame, a useful test is to ask the question at each objective level is ‘Are these objective statements all **necessary** and are they collectively **sufficient** to achieve the objectives at the next level?’

The cause and effect relationship between the Activity-to-Output, Output-to-Purpose and the Purpose-to-Goal objectives describes the necessary and sufficient conditions for accomplishing project objectives, in a well-designed project log frame.

Agreeing the Objectively Verifiable Indicators (OVIs)

The basic principle of the OVI column is '*if you can measure it, you can manage it*'. Indicators reveal the successful accomplishment of objectives. They are not the conditions necessary to achieve a result but define in measurable terms the performance levels required. It is advisable to use the minimum number of indicators necessary to clarify what must be accomplished to satisfy the stated objective.

Box 3.5. Example: Project Purpose OVI

If the purpose is, '*improved water services*', the OVI could be '*90% of water points functioning and in use, with minimum discharges of 30 litres per person day, 3 months after project completion*'.

It would be inappropriate, however, to use a reduction in water related disease as an indicator, since this relates more closely to a goal statement.

OVIs define not only the accomplishment necessary but also the level of performance necessary to reach the next objective level. It is therefore best to develop OVIs for the higher order objective first and work backwards through the causal chain: from goal to purpose then outputs and finally activities.

Developing OVIs

Normally, indicators are stated in terms of quantity, quality and time (and sometimes place and cost). The act of putting numbers and dates on indicators is called targeting. Goals, Purposes and Outputs can all be given indicators and targets.

Begin with the basic indicator, ensure that it is quantifiable and then add a quality and time dimension. (Quantity + Quality + Time = QQT). Indicators should also be SMART (Specific, Measurable, Achievable, Relevant and Timebound).

Box 3.6. Example: Objective OVI

For an objective such as '*Improved water quality provided*', an OVI could be:

Step 1: Basic Indicator: '*Water samples meet standards*'

Step 2: Add factors for Quantity, Quality and Time: '*Five Water quality samples are analysed each month, and 95% meet WHO standards*'.

Goal and purpose level indicators

Goal level indicators often describe programme or sector objectives towards which this and other projects are directed. As such, they may include targets beyond the 'manageable interest' of the project, such as '*child mortality rate reduced*', which depends on other factors as well.

The project purpose is the primary reason for undertaking the project and may be expressed in terms of behavioural or institutional change. This can make OVIs difficult to set, though they become the key indicators of overall project success.

Output and activity level indicators

Output indicators often feature in the terms of reference for the project. If, for example, one of the outputs is '*Road maintenance management system designed, agreed and implemented*' then an appropriate indicator could be '*95% of potholes filled, commencing April 2008*'.

OVI's at the output and activity level are useful for monitoring implementation.

Means of Verification (MOV)

The Means of Verification (MOV) describe the sources of information that will demonstrate what has been accomplished. Verification is sometimes difficult and may require special funding, for example when a survey is needed in order to verify that '*85% of installed water points are in full working order*'. Indicators must be verifiable by some means; if they are not, find another indicator. Survey costs for verification need to be planned in good time with adequate budgets. Health impact is particularly difficult to assess and indicators based on morbidity changes should be avoided.

Uses and limitations of the log frame

On completion of a project log frame, review each step in its development with key stakeholders, apply the tests described above and make sure that it is clear and understandable to people who have not been involved. Once the log frame is complete and agreed, work can begin on strategies for implementation.

The log frame is an aid to logical thinking in all types of projects, but particularly in multi-disciplinary, innovative projects where there is a degree of experimentation. To be used effectively it does require a clear understanding of subtle differences in language, so care needs to be taken in its use when language translation is a problem.

LFA is a very useful aid to monitoring and evaluation because of the systematic links between objectives, indicators and assumptions. However, care needs to be taken in recognising changes in the external environment (physical, economic, social etc.) over the course of time. Much of the value in completing a log frame occurs from the shared understanding that emerges amongst those people who were involved in its design. It is therefore worth devoting sufficient time for the project team and key stakeholders to develop and agree the project log frame through workshops and meetings.

Box 3.7. Log frame design checklist

1. The Project has one purpose.
2. The purpose is not a reformulation of the outputs.
3. The purpose is within the manageable interest of the project team, although not necessarily within its control
4. The purpose is clearly stated.
5. All the outputs are necessary for accomplishing the purpose.
6. The outputs are clearly stated.
7. The outputs are stated as results.
8. The activities define the action strategy for accomplishing each output.
9. The goal is clearly stated.
10. The if/then relationship between the purpose and goal is logical and does not miss important steps.
11. The assumptions at the activity level do not include any pre-existing conditions. (These are listed separately).
12. The outputs plus the assumptions at that level produce the necessary and sufficient conditions for achieving the purpose.
13. The purpose plus assumptions at that level describe the critical conditions for achieving the goal.
14. The relationship between the inputs/resources and the activities is realistic.
15. The relationship between the activities and outputs is realistic.
16. The relationship between the outputs and the purpose is realistic.
17. The vertical logic among activities, outputs, purpose and goal is realistic as a whole.
18. The indicators at the purpose level are independent from the outputs. They are not a summary of outputs but a measure of the purpose.
19. The purpose indicators measure what is important.
20. The purpose indicators have quantity, quality and time measures.
21. The output indicators are objectively verifiable in terms of quantity, quality and time.
22. The goal-level indicators are objectively verifiable in terms of quantity, quality and time.
23. The inputs described at the activity level define the resources and costs required for accomplishing the purpose.
24. The Means of Verification column identifies where the information for verifying each indicator will be found.
25. The activities identify any actions required for gathering Means of Verification.
26. The outputs define the management responsibility of the project.
27. When reviewing the Logical Framework, you can define the evaluation plan for the project.
28. The purpose indicators measure the project impact to be sustained.
29. The output strategy includes a description of the project management systems.
30. The team designing the project are completely exhausted!

UNIT 4

CONTRACT NEGOTIATION

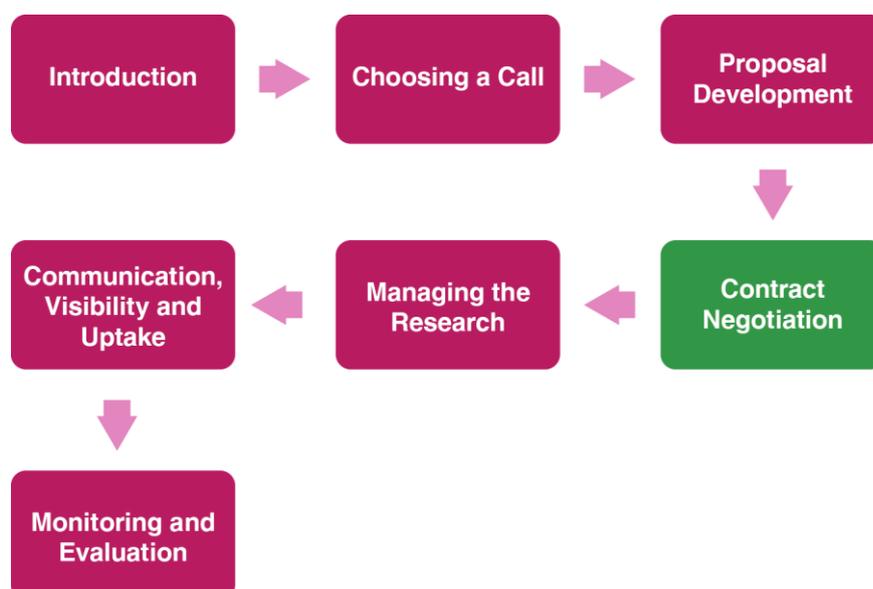
What this unit is about

This unit discusses information that you need to know to undertake a useful contract negotiation.

What you will learn

By the time you have completed this unit you will:

- know why it is important to carry out contract negotiations;
- understand the main issues in contract negotiation; and
- know the factors that influence a successful contract negotiation.



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4.1 Introduction

Most sorts of collaboration assume that the collaborating parties will put in place a contract to give effect to the collaboration. Contract negotiation is an important aspect of this contracting process. During contract negotiation, you agree with the research-funding agency the activities that you will undertake within the research contract. As such, this unit on contract negotiation highlights the things that you need to bear in mind when finalising the contract between yourself and the funding agency. It is very important to read and understand the terms and conditions contained in the contract document you will be signing up to. This is to identify those issues that are difficult to understand or hard for your organisation to sign up to. You will then take up those issues as the subject of the contract negotiations. The objectives of contract negotiation are to:

- To unambiguously explain all terms and conditions;
- To agree terms and conditions of a contract that allows the research contractor to perform the research with a minimum of hindrance;
- To agree what the contracted outputs will be. In this case, research outputs;
- To agree the effective contract dates. These include the start and completion dates and information regarding how a termination date would be reached if invoked;
- To agree budget amount and financial reporting schedules;
- To identify any potential risks and liabilities and how to address them;
- To negotiate a contract that is consistent with the bidding institution's policies and procedures; and
- To develop a positive working relationship between research contractor and funding agency.

It is quite easy to fall into the trap of thinking that everything will be fine with the contract and that you will never need to refer to it again. In fact, situations often develop where you need to refer to the terms of the contract. It is worth taking the time therefore to ensure that you have a solid and well thought out contract in place.

The above raises the issue of legal personality. Most calls for proposals will have a clause under the eligibility rules, which describe whether organisations that are not legal persons can apply for funding under the call. The preferred situation is that all participants should be legal persons in their own rights with the right to sue or be sued.

4.2 Assumptions / Exceptions to terms and conditions

Most calls for research will have some sort of guidance for applicants including a terms of reference. If during proposal development, certain aspects of the terms of

reference are ambiguous to you and you are unable to seek clarification, it is good practice to identify those aspects in the proposal and explain your interpretation of them. These are those issues mentioned above that are difficult to understand or hard for your organisation to sign up to. Headings commonly used for this section are *Assumptions* or *Exceptions*. It is even more important that you highlight your assumptions if they will affect the price of your bid. These assumptions will assist the bid evaluators in correctly understanding the bid you have submitted and will also be subject to negotiation during contract negotiation – for example around the contract price – if they have significant bearing on how you will perform the research.

4.3 The contract

Technically, there are a number of options available regarding the terms and conditions that would apply when you enter into research funding contract with the funding agency. First, you might try to impose your own standard contract on the funding agency. The funding agency will almost certainly reject this outright! The second option is using terms and conditions that you jointly (bidder and funding agency) negotiate. Again, this is very unlikely to be the preferred choice of the funding agency. The third option is using the funding agency's own standard research contract template. This will be the most likely outcome. You should remember here that the funding agency will be investing their funds in you and therefore it is only right that they get to determine terms and conditions of the funding contract. Most agencies will adopt this approach and certainly DFID and the EC do. It is not often possible for the funding agency to be flexible in its interpretation of their standard contracts especially where the agency is a government body. This is because there will normally be clear rules about the disbursement and expenditure of national and international funds. Therefore, funding agencies are likely to reject any suggestion that would significantly alter the terms and conditions of their standard contracts.

4.4 Potential areas for negotiation

There are a number of areas, which are important to pay attention to and be happy with particularly in respect of contracts for international research projects. A discussion of these follows below.

4.4.1 Confidentiality

Beware confidentiality clauses, particularly so if your organisation is a university. Traditionally, universities will not hold research results confidential apart from for reasons of preserving the anonymity of participants and in some cases where the research is proprietary.

4.4.2 Budget

You should agree all aspects relating to the research budget including what expenses are allowable under each budget line. This is particularly important as different funding agencies will only cover certain expenses and not others or provide only a

fraction of the cost of some. For example, in FP7, some funding schemes will only reimburse 75% of staff costs. Overheads can be another tricky area and one should be clear about how much you can claim in overheads.

You should also be clear as to the reporting schedule for financial reports. Equally, make sure that you agree and are familiar with the format for the financial reports. You should also discuss issues such as whether you need to supply an audit report. Again, some funding agencies will expect an audit regardless while others will have a funding threshold beyond which amount an audit becomes mandatory.

4.4.3 Contingencies

Very few if any funding agency will accept a budget line entitled contingencies though some did so in the past. The main reason for this is quite simple – funding agencies need to have a clear idea of what funds are committed already and likely to be spent. Thus by disallowing contingencies, they agencies are trying to remove any uncertainty.

4.4.4 Exchange rate risks

Economists describe world currencies as either hard or soft. A hard currency is one that has minimal risk of progressive depreciation over the course of time. A soft currency on the other hand exhibits a trend to lose value against hard currencies over a period. That is, the exchange rate fluctuates with the usual direction of change being that the soft currency depreciates. Most international contracts are in a hard currency. The risk of adverse changes to the exchange rate leading to a loss is borne by the research contractor. That is, the person (organisation), contracted to do the research. Here is an example of how this occurs. We are going to use the example of the Euro as a hard currency and use Shilling to denote a soft currency. You bid for a research contract in Euros, and your local currency is the Shilling. Assume that you did your costs in shillings, and worked out that you needed €500,000 to perform the research. If in a year's time, the Shilling appreciates slightly, you will find that your grant now only amounts to slightly over 45,000,000 representing a loss of about 10,000,000 when compared to the budget figures.

Table 4.1. Exchange rate losses

Exchange rate	Foreign currency	Local currency	Loss
1 Euro = 112 SH	€500,000	SH 56,000,000	SH 0
1 Euro = 90 SH	€500,000	SH 45,360,000	SH 10,640,000

As a project, you would have to find the shortfall of 10,640,000 or alternatively, identify project savings worth that amount. The currency appreciation given in this example exaggerates the appreciation to make a point. However, the reality is that exchange losses can amount to a significant number even within the bounds of normal fluctuations especially if the contract amount is large. Note that there is an equal chance that the local currency will depreciate against the Euro, leading to exchange gains.

If your local currency is particularly susceptible to exchange rate changes the best way to guard against possible exchange losses described above is to open a foreign currency account for your research project. In this way, you guard against the risk of exchange losses, as you will only exchange the hard currency into your local currency at the time you are making a payment thereby guarding against frequent changes to the exchange rate.

4.4.5 Extensions, termination or amendments

Pay attention to the specific arrangements for making changes to the contract. Also, try to develop good understanding of the types of changes foreseen within the contract and by whom. It is useful too to bear in mind that contracts are never forever and that the funding agency can terminate your contract. Again, it is useful to familiarise yourself with the circumstances where termination can be foreseen. This may help you in avoiding the situations that could lead to a termination. You should ensure at minimum that the termination notification period is sufficient. Equally, you should check that your organisation's costs will be adequately covered should the funding agency terminate the contract. Finally, it should be clear what the dispute resolution pathway will be in instances where the termination is for cause.

4.4.6 Import costs – equipment, duty, taxes etc.

Bear in mind that the laws governing import and export are the existing sovereign laws in the country where you will be performing the research. You will have no choice but to abide by them. As such, you should familiarise yourself with the relevant laws especially if you will be importing equipment, vehicles and so on, as they may attract duties and /or taxes or equally, could be tax exempt.

4.4.7 Insurance

It is best to get a qualified person to review and understand any clauses relating to insurance and indemnification. Ideally, these clauses should be in agreement with your organisation's own standard terms and conditions. You should also pay attention to any clause on warranties or guarantees.

4.4.8 Intellectual Property Rights

Intellectual property rights (IPR) usually rests with the research contractor. However, funding agencies consider the result of publicly funded research as a public good. Thus, agencies funding research will usually expect wide dissemination of the research results and would normally claim the right to use the outputs of the research as they see fit.

If the research is going to involve the exploitation of indigenous knowledge, you should negotiate adequate protection rights for this knowledge. Equally, you should negotiate a clear framework for giving back to the communities from which the research project obtains the indigenous knowledge.

4.4.9 Personnel

Most research funding agencies will expect names and CVs of the key personnel who will work on the research project. As a rule, try to keep to the limit suggested in the call or guide to applicants. If the text calls for the names of three key personnel, do

not feel obliged to provide any more than that. The contract should not give the funding agency any powers to approve or refuse permission for other staff nominated to work on the project.

Also related to personnel is the fee you indicate you will charge for each named person or category of person in the bid. Some procurement departments of funding agencies will establish bands of rates related to levels of expertise and experience, which they deem reasonable to pay. If the rates you quote in your bid seem high, then the funding agency may raise this issue during contract negotiation.

Gender issues and equity in some countries could be a contractual issue. There are many reasons why this may occur. However, where gender is an issue, locals will be familiar with the issues and any contractual implications. There may possibly be legal frameworks to abide by too.

Many proposals will name key personnel considered essential for the performance of the research. You should be sure that you understand and negotiate the conditions that apply when key personnel change midstream for whatever reason.



*If the text calls for the names of three key personnel,
do not feel obliged to provide any more than that*

4.4.10 Publication

It is important to agree the rules of publication. These should align with your institution's policies. This is particularly relevant because the right to publish is a legal and philosophical tenet of academics' roles. You should therefore understand what is

acceptable to your organisation and what limitations your organisation might accept. The right to publish is particularly important when:

- the research consortium involves private sector organisations; or
- a private sector organisation is sponsoring the research.

4.4.11 Procurement

Procurement is an important area to have agreed rules about for obvious reasons. It is worth taking time to clarify with the funding agency all rules relating to how to procure properly goods services or works under the contract. Issues to understand will include regulations relating to indemnity, quotes, approval for purchase, quality, suppliers, and so on. There are a myriad of issues involved so it is best to get a copy of the funding agencies regulations on procurement as applicable to research contractors and then negotiate based on that document. Further, many countries have public financial management Acts which public universities and research institutes would need to adhere to. If this is the case in your country, make sure that the contract you sign is compatible with your national laws otherwise you may run into difficulties when your organisation is audited.

4.4.12 Sub-contracting

Sometime, research projects will sub-contract other researchers to do specific items of research, which the main contractor does not have the skills to deliver. The rules for subcontracting are likely to be included in the procurement rules but if not, negotiate how you can sub-contract within the rules of the funding agency. When subcontracting, there are issues around quality and liability to the funding agency, which you should understand. As the main contractor, you are ultimately responsible to the funding agency for the performance of the contract and cannot plead non-performance by a sub-contractor as a legitimate reason for non-performance of the main contract.

4.5 Tips for implementing contract negotiations

You should understand that contract negotiation is a game of give and take. In recognition of this, you should know the difference between what you absolutely need in terms of satisfying your organisation's requirements, and what you would like.

You should also be clear about what your red lines are in terms of walking away from the negotiation. It very rarely happens that parties cannot reach an agreement on the terms and conditions of your research contract. However, where negotiations seem to be developing in this way, you should be able to identify when the funding agency has crossed your red lines to be able to say that you are terminating negotiation.

Where you suspect that there may be disagreement, it is not just enough to prepare your arguments. Wear the funding agency's shoes. That is, put yourself in their situation and try to second-guess their moves. This way you can identify what some of their arguments might be and prepare to counter them.

Make sure that the people representing both sides in the negotiation have the authority to take any decisions that might need taking. It does not reflect well on an organisation if people in the negotiating team constantly postpone giving an answer as they refer back to the office. If need be, draw upon expertise from your procurement office and your organisation's legal officer to assist with negotiation if appropriate. Try not to personalise the negotiations even in your own mind. This can be counterproductive. Rather, stick to the facts of the case and block out any other thoughts you might have about people on the other team for example.



Make sure that the people representing both sides in the negotiation have the authority to take any decisions that might need taking

Make sure that the contract document has a pagination system that would easily reveal any pages added after its signing.

4.6 Conclusion

It is tempting to believe that contract negotiation and the terms of contracts are not important. You may never have been in a situation where you were in breach of contract or needed to refer to the terms of a contract. Just because it has never happened does not mean that this will always be the case. It is far safer to have a properly negotiated contract in place should you need to refer to any of its terms. This way, you will not find yourself in a situation of confronting nasty surprises.

4.7 Reference

MARSH, P., 2001. *Contract negotiation handbook*. London: Gower

Activity

Review the headings under section 4.4 of this unit – *Potential areas for negotiation*.

1. Identify four areas of negotiation that are likely to be relevant to your particular proposed research and consortium.
2. State and explain why you have identified these four areas and why you think they would be relevant.
3. Describe how you would approach the negotiation with the funding agency in these areas.

UNIT 5

MANAGING A RESEARCH PROJECT

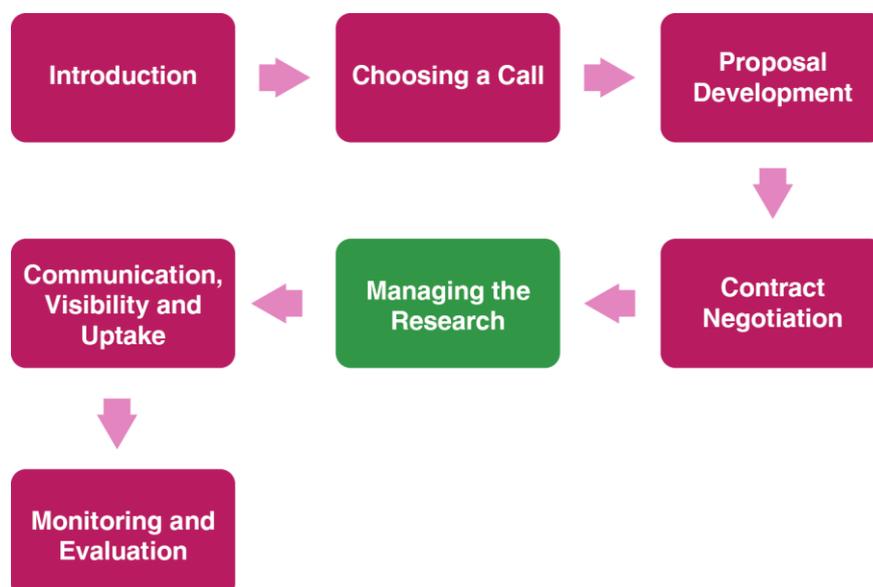
What this unit is about

This unit discusses the many aspects of research management that anyone managing research should be aware of. The topics covered are important to know about for the smooth efficient and timely running of a research project. The topics discussed in this unit while relevant to early career researchers could be equally useful to people who manage research either as a coordinator or as work package leader in FP7 terms.

What you will learn

By the time you have completed this unit you will:

- know the key responsibilities of the coordinator of a research project;
- know some of the key ideas about how to manage people in a research context;
- be aware of how good practice in time management and human resource management can lead to positive outcomes for a research project.



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5.1 Introduction

An important reason for developing this course is that there has been a gradual change in development research away from individual researchers working on their own towards more collaborative research modes. Typically, development research today is performed by a consortium of organisations all working towards answering a single research question. There is no doubt that such consortia have the requisite scientific skills to perform their respective research. However, the growth in the number of participants and organisations in a single research project poses challenges that are of a management and administrative nature. Not many researchers are adequately prepared to manage consortia effectively. They do their best, quite often learning on the job. This means that mistakes are often made some of which can be quite serious. This notwithstanding, it is not only coordinators who should know the principles of good research management. Participants too need to be aware of the management challenges to get a better understanding of the drivers and motives of coordinators' decisions. This section therefore is relevant to both participants and aspiring coordinators.



There has been a gradual change in development research away from individual researchers working on their own towards more collaborative research modes

5.2 Managing the research

As coordinator, your role is to motivate and inspire the research team to deliver. It is also your role to organise resources and to complete the research project on schedule and within budget. This means not exceeding your research grant but also, you should not under-spend by any great amount as under spending implies that you did not think through your budget thoroughly during proposal development. You provide coordination and integration for the project team and are ultimately

responsible for the performance of the project. Thus, the coordinator has a number of roles to execute. We will discuss each of these in turn.



As coordinator, your role is to motivate and inspire the research team to deliver

5.2.1 Project manager

An important driver for this course was the recognition that funding agencies have a growing preference to let out development research as large research projects involving consortia of participants drawn from both the north and south, and that the management of these projects is both challenging and time intensive. For this reason, it is worth considering at the proposal development stage whether it would be beneficial to recruit a full-time (or part-time) project manager to take on management aspects of the research. There are benefits to such an arrangement. First, this would free the coordinator's time to concentrate on directing the scientific aspects of the research. He or she will only keep a watching brief over management aspects. Second, beyond a certain size of consortium, it becomes near impossible for the coordinator to manage the project effectively (unless doing so full-time) and therefore having recourse to a professional project manager may be the only sensible option.

5.2.2 Responsibility for the research

The first role is to implement the research according to the proposal and the contract negotiated with the funding agency. This is the most important role of the coordinator and it means that he or she takes responsibility for the performance of the research. Whether the research is a success or a failure, the coordinator takes responsibility for it. This overall responsibility implies that a coordinator needs to know a lot more than

5.2.3 Financial management

The second role of the research manager is responsibility for the financial management of the research. This means that the research manager has to ensure proper expenditure of the research grant in accordance with the contract signed with the funding agency. The coordinator also has to ensure budgetary discipline in terms of adhering to the detail of the financial proposal. Note that there are different rules in place for different funding agencies. Some agencies will stipulate that the responsibility for project finances rest with the coordinator. Others might stipulate that overall responsibility rests with the coordinator, but, once disbursed, each participant is responsible for their portion of the grant. In such a scenario, reporting is through the coordinator, but each participant is responsible for his or her grant. Some funding agencies have in place audit thresholds so that funding received above a stipulated amount automatically leads to a requirement for an audit of the research expenditure. Again, the audit may be a global audit of the overall research grant or could apply to those participants whose portion of the grant is above the audit threshold set. This is certainly the case with FP7.



It is worth considering whether it would be beneficial to recruit a project manager to take on management aspects of the research

Apart from accounting and reporting on expenditure, the coordinator or participant is also responsible for authorising expenditure. This means that the coordinator will need to have systems in place to verify the accuracy of expenditure. Where the bulk of the grant is going towards personnel, this verification function is less onerous and does not place too great a demand. However, some projects may entail much procurement of inputs increasing the amount of verification that you need to do.

It is useful to create a financial plan related to the project timeline (see section 5.4). The coordinator or project manager should monitor partners spending to confirm they are on budget. If a partner spends more or less than their allocation, the coordinator should find out the reasons for this. If the partner is likely to spend less than allocated in the budget, the coordinator can transfer the surplus funds to a partner who is short of funding in their budget.

An important aspect of financial management is to manage the cash flow so that participants have sufficient funding available to perform the research. You can almost guarantee that the funding agency will only make an initial part payment of the grant amount upfront sometimes referred to as pre-financing. Funding agencies will usually only release subsequent grant instalments once the coordinator has met all financial reporting requirements for the first period. This of course has implications for cash flow because unless the coordinator can account for the first instalment expeditiously, there is the danger that participants will run out of funding and stop work. This possibility is amplified where individual participants are not only responsible for their portion of the grant but also for reporting on it through the coordinator because you only need one participant to fail to comply for subsequent funding to be held up until that participant complies. The coordinator is also responsible for notifying the funding agency of any changes made in the financial arrangements according to laid down procedure. For all these reasons, it is useful for the coordinator to familiarise themselves with the funding agencies rules and one's own organisation's rules. The need to keep timesheets is but one example. Finally, misappropriation of funds is serious and can lead to strict consequences including being on a blacklist and barred from participating in future research.

5.2.3 Managing the funding agency

A third role of the coordinator is keeping the client informed of progress. Most clients (funding agencies) will have reporting procedures in place that you will need to adhere to. It is a good idea to map these out so that you are clear about what your obligations are to the client and when they fall due. If you need to do periodic reporting get hold of the templates or guidelines early so that you can familiarise yourself with the scope of work that you need to do and leave enough time for you to do it before the deadlines that have been set. It is also a good idea to check that everything is clear to you and you understand your obligations. Keeping the client informed can be an onerous task if not properly planned. It is also a good idea to be proactive on this front and build a relationship with the client where possible so that your engagement is not only formal but that you also seek opportunities for informal contact. Informal situations can present good opportunities for flagging up issues, sounding out the agency's position on issues as well as keeping officials informed of progress on the research.

5.2.4 Project equipment

A fourth role of the coordinator is to take responsibility for safeguarding equipment acquired to perform the research. Again, funding agencies' rules will vary with regard to the position of equipment purchased through research grants post-research. Some agencies may take the equipment back following the research and yet others will allow the participant who did the work to keep such equipment in their organisation. You should find out what the rules are for such equipment. Apart from the rules regarding ownership, the coordinator is also responsible for the proper use and maintenance of this equipment. See Unit 4 for aspects of procurement that are relevant to this section.

5.2.5 Intellectual Property Rights

A fifth role of the coordinator is to ensure that there is a plan to protect intellectual property rights arising from the research project. There are four types of IP. These are copyright, patents, trademarks and designs. Copyright protects people who produce creative material such as literature, music, art, sound recordings, films and broadcasts from economic loss through misuse of their creations. This misuse can include unauthorised copying, performing in public and so on. An important aspect of copyright is that it does not need to be registered. It comes into force immediately you create the work in a recorded format. However, it is good practice to indicate that you are protecting your copyright by adding in the copyright symbol and date of creation as follows:

© A. N. Other, 2010.

Also, note that copyright does not protect ideas. It only protects the particular work in which the ideas are presented.

Coordinators need to register the remaining three intellectual property rights for protection to take effect. It is a good idea therefore for coordinators to be aware of the different types of things that can be protected, (inventions, trademarks etc), and to be aware of the requirements for registration and the agency that performs this task nationally. Note too, that the general principle is that participants own the foreground that they generate. Foreground is that results including information, materials and knowledge generated in a research project.

A second related issue is that of exploitation of research results. You should be aware of the issues in this area. For example, where there is scope for exploitation of results, participants should negotiate and reach agreement with their employers who might have regulations regarding ownership of foreground and access rights.

This section should have made you aware of the sorts of issue that might arise over intellectual property rights. It is a good idea to discuss these issues during proposal development with the consortium as appropriate. You should also carefully read the guidance from the funding agency in relation to IPR so you are aware of the provisions within your particular funding scheme. You should also be aware of any provisions written into the contract agreement if you are successful in your bid.

5.2.6 Data protection

It is a basic principle of research data collection that you keep confidential all the data you collect. This principle should inform all research activity. There is quite often a requirement by the funding agency or a participant to have a signed confidentiality agreement. All confidential information should be clearly marked as such. Good practice dictates that you keep confidential data in special folders that you can protect and have a different folder for each source. If you hold the data in hard copy, keep it locked away in a filing cabinet or other secure place. Carefully consider how long you need to hold the data for before destroying it and try to keep this period to the absolute minimum needed to meet the research objectives. You should as a rule, only discuss confidential information with people who need to know it and no one else. The coordinator is also responsible for making sure that everyone in the project who will use confidential information know how to treat it and is aware of the confidentiality agreement if one exists.

More generally, the coordinator and all participants should be familiar with the provision of the data protection regulations governing the project. The same goes for the regulations that govern intellectual property rights (IPR). It is important too that respondents in a research project are aware of their rights and particularly that they are free to withdraw their participation whenever they like and do not need to provide a reason for doing so. The right to withdraw is unconditional.

5.2.7 Ethics

The coordinator has the responsibility to ensure the ethical conduct of the research. You should always consider ethics when doing research and the coordinator and research participants should constantly question whether their research activities raise any ethical questions. This is especially important where the research subjects are human or animals. Refer to Unit 3 on [Proposal Development](#) to see the types of issues that would lead to an automatic ethical review of a FP7 proposal. Thus, your concern with ethics should not end once you have submitted the proposal. Rather, you should review on an ongoing basis any developments in your research that may have implications on the ethics of the research.

5.2.8 Quality assurance

There is no point making sure that you deliver the research project on time and within budget if your research results and outputs are poor. For this reason alone, every research project should monitor quality standards. You should also have a strategy in place to remove any causes of poor performance against standards. Quality as a concept has no simple universally agreed definition. However, there are certain elements that are common to products that we perceive to be of high quality in our own daily lives. In this regard, managing quality is as much about understanding and managing stakeholder expectations as it is about your research results. Thus, there is an element of treating your research and stakeholders as you would if delivering a service. We will say more about stakeholders later on. An important aspect of quality is to do with the standards that are set for the product or in the case of research that you set for your results. The important thing is that your results should be fit for purpose. The standard you set to monitor this should not be too high. "Good enough" is often exactly that, good enough. Bear in mind that people do not judge 'good

enough' in isolation. There will always be a trade off between results that are good enough, and the time taken to produce and deliver those results. As such, set in place standards for your results, communicate these within the consortium and ensure adequate face-to-face and social contact among participants especially in the early stages of the project. This helps to cement commitment to the project and thereby, adherence to laid down procedures. Other things that are important in maintaining and assuring quality are:

- A clear implementation schedule.
- Good information management.
- Published contact points for all participants especially when geographically dispersed.

5.2.9 Risks

Risks are present in any project. It is for this reason that the logical framework approach anticipates risks and attempts to map out possible responses to those risks. The research manager should be alert to and anticipate any risks that could arise while performing the research. It is also the role of the research manager to have in place a strategy to manage those risks and ensure that they do not derail the project. Risk identification is something that should be ongoing. It is useful to think of risks in terms of both internal and external risks. Internal risks are those that the project research team can control or influence in one way or another. External risks are those that the team has no control over. An example would be adverse and significant movement in exchange rates. If you receive your grant in Euros for example, and the exchange rate changes you could lose a proportion of your budget. What controls would you have in place to manage such a risk? For each risk you should have an action to prevent the risk occurring and /or an action to reduce or mitigate the effects of the risk should it materialise.

5.3 Managing people

5.3.1 Managing research staff

It is important that we manage research staff to the highest possible standards, as this will contribute towards attracting good people into research. What do we mean by managing research staff? As coordinator, you will have responsibility for managing research staffs' careers. Quite often, it is possible to rely on organisational structures to support this function. In some organisations, for example universities, all research staff even those on fixed-term contracts are employees of the university and the human resources (HR) department would be responsible for all aspects of the researchers' employment from an HR perspective. However, this does not let the coordinator off the hook entirely. You as coordinator would still be responsible for the line management of the researcher and therefore would have some responsibilities towards them.

It is a good idea to contact your human resources department, as there may be organisational responsibilities that you need to discharge. For example, you would have direct responsibility for training, appraisals and the professional development of the staff member in general. You need to be aware of ways to support them in this area. Note too that your client - the funding agency - may have its own policies and regulations regarding your obligations to research staff employed through the project.

Regarding recruitment of research staff, the coordinator is responsible for ensuring that the recruitment process is both fair and rigorous especially where you do not use your organisation's HR department to do the recruitment. Once recruited, you should encourage research staff to undertake various continuing professional development (CPD) activities. This is particularly important because not all research staff may end up following a career in research, especially early career researchers. For such staff, the opportunity to develop transferable skills is very valuable.

Where possible, coordinators and other senior researchers in a consortium should consider acting as mentors to early career researchers in the consortium. Mentorship is a powerful and inexpensive way of providing guidance and professional development to staff. Mentorship includes providing advice on a wide range of topics usually at the mentee's instigation. This could be advice on writing scientific papers in the discipline, advice on conferences to attend, providing feedback on a range of issues etc. Mentors too can initiate advice where they notice that it could be beneficial. Mentoring can be informal or formal. Informal mentoring is of the type already discussed in which the mentor acts as a sounding board and provides advice. Formal mentoring is more directive and will usually follow a programme on some specific aspect of working as a researcher. It could be winning new work for example. In such a scenario, the mentor would aim to initiate the mentee in all aspects of winning new work in a loosely structured way.

It is a good idea to put in place a system of review meetings for research staff. These are very useful in providing feedback to researchers. They are also useful for the coordinator in becoming aware of possible hiccups on the horizon, which you can then nip in the bud.

As coordinator, you also have a responsibility to manage resources wisely in order to secure the employment of research staff on fixed term contracts. You should try as much as possible to keep researchers on in employment and not take the view that they will leave when the time comes as their employment is fixed term. Where staff are aware that their welfare is cared for, they perform better. The assumption here of course is that the consortium will be looking out for opportunities for successor projects. However, not all successor projects will come on stream as current projects end hence the advice to manage resources wisely, as you could use the resources to provide bridge funding to retain the researchers between the two projects

Finally, it is important too that you ensure proper supervision of PhD scholars working on the project. This can easily be overlooked and the scholar seen as just another researcher. PhD supervision implies regular meetings and reflection on a level that

would not be the case for other research staff. It is vital that you develop and fully implement a process for supervision.

5.3.2 Teamwork

As stated above, this course is not about how to manage research from a scientific perspective. Rather, it is about the management and administrative aspects of research. These two aspects of research can be daunting enough on their own but are further complicated when doing development research by the inevitable differences in cultures that occur in north-south research consortia, bearing in mind that north-south partnerships form a significant proportion of development research consortia). Given this, development research consortia need to work together as a team. Ideally, participants should subscribe to the greater good of achieving the research objectives and set their differences aside.



Researchers need to work together as a team

Bruce Tuckman (1965) developed a theory of group development which he described as involving four stages, 'forming, storming, norming, performing'. He later added 'adjourning' in the 70s. Group development researchers have found his theory to be very relevant in various settings and most other group development theories are based on Tuckman's framework.

Following is a description of the four stages:

Forming

In this stage, group members' concern is with orientating themselves with the new project and the tasks involved. What are the groups' responsibilities and what are the project boundaries? During this stage, group members establish a dependency for direction on the leader, other group members or standards. This dependency is borne out of an unclear understanding of the project and its purpose.

Storming

During this stage, there is conflict and polarisation, often around interpersonal issues. Group members will often display emotional responses to the conflict and there is a tendency towards a questioning of project aims coupled with an opposition to things that foster group dynamics.



Conflict and polarisation often arise around interpersonal issues

Norming

During this stage, the opposition to the group recedes and is replaced by a feeling of cohesiveness. Group members are likely to reinterpret the project and they will have a shared understanding of the project's aims and objectives. Roles within the group may change from the initial roles written into the proposal. Group members are much

more relaxed with each other and have frank dialogue with each other in which they are happy to express personal opinion.

Performing

In this stage, the group works well together. The interpersonal dynamics become the strength of the group. Roles are more flexible and function and the group focuses its energy on project activities. The group will have resolved most structural issues and will be far less dependent on the leader or others for direction.

Adjourning

This stage is characterised by anxiety and sadness as the reality of the impending dissolution of the project dawns. It can be a very stressful period for group members. Smith, M. K. (2005). Tuckman's theory provides a useful generic framework for analysing and understanding the dynamics of group development. Other factors too will influence the degree of teamwork that a group displays.



The adjourning stage is characterised by anxiety and sadness

The dynamics of power within a group and its participants' perceptions of how power operates in the team is an important factor in fostering teamwork. The coordinator in particular should try to avoid cliques forming especially around him or her. If some participants believe that the coordinator has an inner group that has closer access and is privy to management decisions and perhaps even participates in decision-making, it will be very difficult to get the consortium working as a team. The most obvious fracture in the team that occurs is where northern partners exercise disproportionate power and do not consult southern partners on important issues. This can happen because the northern partners are in closer contact and enjoy good communication facilities that enable swift contact and therefore consultation. Northern

partners will also be more likely to have similar resourcing levels and ascribe to conceptual and theoretical frameworks that serve to draw them together. In a word, northern partners are going to share a worldview. Given this reality, the coordinator should avoid the perception of a clique of northern partners forming to hijack the project. The term *perception* is used judiciously here because perceptions (even if misplaced), represent reality to the perceiver and are a powerful force because they influence behaviour. It is not enough for a coordinator to shrug off concerns based on misplaced perceptions. Rather, the coordinator should address the concerns and the underlying perceptions that led to the concerns forming.

The above does not rule out having a management group or any other grouping within the consortium. It only means that where such groups exist, their establishment and composition should follow agreed procedures and should be transparent. Transparency is perhaps the most important attribute in fostering teamwork. People need to feel that all decisions unfold in accordance with procedures and in a transparent way. In other words, process is important and the process guiding decision-making should be transparent.

The same applies to the scientific direction of the project. There should be clear and transparent reasons why a given scientific direction has been adopted which should emerge from the science and follow a process for determining the best way forward. A common perception is that southern participants act as data collectors and provide the field sites, while northern partners do and shape the analytical work.

5.3.3 Cultures

North-south partnerships are the default for many development research projects. In this respect, cultural diversity is an issue that the coordinator and all participants should be aware of.



Cultural diversity is an issue that the coordinator and all participants should be aware of

Given the potential for diversity, all participants should respect each other's cultures and norms. Issues arising from cultural misunderstandings are bound to reduce over time as the participants get to understand other's way of doing research, interacting and working. In face-to-face meetings, be aware that certain participants could easily feel marginalised for a variety of reasons. These could be that they are in an unfamiliar environment and culture. It may be that they speak English (which is generally the default language of EU-funded research) as a second language and are therefore unable to express themselves clearly or even counter a view expressed by a native speaker. It may be that in a participant's culture, people defer to those older than them and find it difficult to challenge an older person for example. There may also be similar impacts related to race or gender. Therefore, the effects of culture can manifest in a range of ways. The main thing to be aware of in this area as a researcher is to tune in to cultural dynamics to avert easily avoided problems.

5.3.4 Project language

Related to culture is the need to agree on a language for the project. In EU-funded research, English is generally the language of communication unless the consortium requests otherwise in which case the contract agreement will include a clause highlighting the language chosen. Be aware too that different cultures will have diverse rules of usage. If you are a native speaker of the project language, you need to be particularly aware of the implicit nuances in language in your communication that other participants may not pick up and even lose in translation. Remember that all participants in the research should be able to understand all email communication even the informal.

There may also be instances where researchers for whom English is not a first language, produce project outputs. Part of the quality assurance process will be to edit these for language. Clear procedures should be set out for this so that it is accepted practice, carried out in a respectful and sensitive way.

Similarly, where the project language is different to that of the research location, consider translating key documents into the local language. Translation is expensive so consider carefully what you translate. For example, it is likely to be more beneficial to produce a document that highlights key findings of the research or an aspect of the research relevant to your stakeholders and translate this instead of translating the main research deliverable, which will have a different audience.

5.3.5 Stakeholder management

The coordinator has the role to manage the relationship with stakeholders recognising that they can be very important for the success of the project. A stakeholder is anyone with an interest in the project. You should be able to see immediately that stakeholders can be both internal and external. In the development context, the World Bank advises asking the following questions to identify stakeholders:

- Who might be affected (positively or negatively) by the development concern to be addressed?
- Who are 'voiceless' for whom special efforts may have to be made?

- Who are the representatives of those likely to be affected?
- Who is responsible for what is intended?
- Who is likely to mobilise for or against what is intended?
- Who can make what is intended more effective through their participation or less effective through non-participation or outright opposition?
- Who can contribute financial and technical resources?
- Whose behaviour has to change for the effort to succeed?

Source: World Bank, 1996 (<http://web.worldbank.org>)

Some of the stakeholders identified using the above questions will be internal to the project and others will be external. For external stakeholders, you should really only concern yourself with those that you can describe as *core stakeholders*.

The stakeholders' interest could be either in the project process, project outcome or both.

In this respect, the stakeholders will have information needs. Knowing what their needs are and being able to respond to them is critical for project success. It is not enough though to identify their needs and expectations. You should also seek to manage and influence those expectations.

A special category of stakeholder is the funding agency. Agencies' involvement with the project will vary. As a rule, the clearer the research project's objectives and implementation plan, the less involvement there will be from the funding agency in the day-to-day running of the project. The opposite can also be true. You may have a client, (funding agency), who expects significant engagement during the implementation of the project taking a hands-on approach almost to the point where it could be judged interference in the project. Such a situation obviously would need careful managing. The key is to agree an accountability framework that is not too demanding and that satisfies the client's need for accountability.

5.3.6 Project meetings

Project meetings are an important aspect of the overall management of the project team. Face-to-face meetings are very important at all stages of a research project but especially so:

- when the consortium is large;
- when there are several activities (work packages) to undertake;
- when there are key discussions to be had, or collective strategic decisions to be made; and
- if the participants do not know each other well.

In such cases, it is particularly important that you hold frequent meetings in the early stages of the project. This provides the research team with opportunities to get to

know each other in a way that you cannot really do by other means. For example, in between meetings, you will have coffee and meal breaks during which people will hold conversations on a wide range of subjects. These conversations will often reveal information that anchors people in a context, providing the listener with a better sense of who the speaker is, his or her personal priorities, the institutional drivers and constraints he or she is subject to and a whole range of other information that helps the listener get to know the other and vice-versa. This also happens in a different and more formal way during the meetings.

The above relates to relationship forming which is important. Equally important is the need for the entire consortium to reach shared understanding of the research objectives and of what it is you are trying to do. This is especially so where the research is multi-disciplinary or even trans-disciplinary as is so often the case in development research including water for development research. In such cases, you also need to develop shared understanding of the language used to describe various aspects of the research. This reduces the possibility of the consortium talking at cross-purposes during the course of the research. It is surprising how easily you can fall into this trap of assuming you all understand each other's terminology in the same way. Talking through the research objectives and activities in some detail at a meeting should help ensure that this does not happen. Finally, without regular face-to-face meetings, it is much more difficult to form a team working as a coherent unit and you run the risk of cliques forming with effectively, sub projects implemented more or less in isolation.

The above notwithstanding, project meetings should only be held when justified as travel costs are expensive and we should be sensitive to the carbon-footprint of our research activities. A useful way to arrange project meetings is to try and hold them back to back with a larger sector meeting or conference. This way, you kill two birds with one stone as you can attend the large meeting as well as have a project meeting. You could also have a stand at the large meeting /conference to disseminate your research findings. Further, it is possible that the costs of holding the project meeting will be lower if some of the research team already planned to attend the large meeting /conference anyway and would therefore not need to charge the research project for their flight for example.

5.3.7 Resolving problems

People problems within a consortium do not need to be inevitable. However, it is best to be prepared for them should they occur and have a strategy for minimising or eliminating their recurrence. There are three areas where the potential for conflict can loom large. They are around data ownership, publications and authorship. In an FP7 project, the EU has very clear rules about data ownership. Each participant owns the foreground originating from its work. Where participants jointly produce foreground, the rule is to presume joint ownership. However, not all funding agency contracts are clear about this. The responsibility for obtaining clarity on this issue lies with the coordinator. Research projects differ and the significance of foreground that is likely to be developed will vary. If the research is likely to lead to foreground that is important and which you can exploit commercially, or in some other way, then it is worth having a clause on data ownership and its management within your consortium

agreement. Funding agencies will usually have the right to use foreground generated in projects they fund.

Publication is the other area where conflict can occur. The best way to avoid conflict in this area is to have a very clear policy relating to publications that all participants understand and sign up to. Again, you can have a clause on this in the consortium agreement. The main issue to iron out is who has the right to publish what aspects of the research project. If a participant does some work in work package A (as leader), but does not publish it, can another participant who contributed marginally to work package A and whose primary work was in work package B publish results emanating from work package A? This is a fundamental question and if the rules governing publication are clear from the outset, there ought to be no problems.

The third area of potential conflict related to publication is authorship. This is simply about which individuals are included in a publication resulting from the research project and in what order should their names appear? Traditionally, the author with the greatest inputs into preparing the paper will have their name go first. The same principle decides the order of subsequent authors. Most people understand that the first named author in a journal article is the principal author. However, in some cultures, some other factors might prevail for choosing whose name goes first. A person might argue that he or she came up with the idea of the paper and therefore should go first. A member of the team producing the article might believe his or her name should have gone first but does not have the confidence to challenge the decision of the more senior member who put his own name first. A wide range of factors could overturn the normal convention. For this reason, a policy to guide publication and authorship is a good idea.

The three areas above are those that often generate problems within a consortium. However, there are many other issues that can arise between researchers or with and between administrative and support staff or indeed, with the coordinator. Often, the participants involved will sort out these difficulties themselves. Sometimes however, the coordinator will need to become involved to mediate. How does the coordinator become involved? Usually if asked to do so. However, this is not always the case. Sometimes the coordinator may notice an atmosphere between the two sides either in meetings or at other fora where the participants are present. This could manifest in body language or even things they say, prompting the coordinator to try to find out what the problem might be. In doing so, the coordinator should attempt to factor out the personalities behind the problem and focus only on the problem. This should help to strip out any emotion. The coordinator should also be an honest broker in this role and to do this effectively will need to understand the issues involved from the perspective of all parties concerned. It is not always easy putting oneself in another's shoes but it is useful to try to do so. Having done this, the coordinator should attempt to distil the problem down to its component parts by identifying the real issue or concerns at play. Note that this is different to identifying and understanding people's views on an issue. You will want to get their perspective on what is going on but at the end of the day, the coordinator will need to identify the real issues and concerns in an objective way.

Having identified the issues, you then need to decide the range of possible solutions and their benefits and drawbacks. The ideal in conflict resolution is a solution that presents all parties concerned with a win so that none feels vanquished. It is worth taking the time to devise a solution that delivers a win for all parties. Otherwise, there will always be a party that remains disgruntled, which is not good for teamwork or for the research.

5.3.8 Relationship building among organisations

Potential in the majority of partnerships is special but sadly seldom is it fully achieved. This is partly to do with poor processes relating to the establishment of inter-organisational relationships and maintenance thereafter. This is different to developing trust and mutual understanding between individuals in the research team(s). It is about organisational ethics, culture, communication and decision-making practices. It is also about knowing where the 'bottom line' tolerance level is for each party, where their ethics and culture will be held firm and true. Early investment in this area of partnership development will help to minimise disagreement, mistrust and breakdown in interpersonal relationships at team level.

Getting an inter-organisational relationship right is about reaching clarity about what each organisation wants from the collaboration. This takes time, energy and patience and requires diligent recording, and documentation of organisational positions and joint decisions. Ideally, the process should involve the same people throughout the life of the consortium – a representative from each organisation with the authority to articulate the needs and position of their respective organisation. These people do not need to be involved in the day-to-day work of the project though they should be sufficiently engaged to understand its aims and objectives. This last criterion helps to protect the informal relationships that develop at implementation level, removing what can become debilitating negotiations from the operational arena.

One approach to understanding what organisations want is to properly explore aspects of partnership that are cited in project proposals, for example 'committed leadership', 'shared purpose', 'accountability', 'governance' and 'integrated planning'. It is all too easy to assume a common understanding of these rather intangible concepts instead of spelling out their meaning. The development and use of project charters, memorandums of understanding and project agreements help to provide clear details of how such concepts will play out in practice. Using such tools partners can assign responsibility and agree open systems for accountability and monitoring.

Every organisation has its own culture; often unspoken understandings about how *things are done around here*. This may extend to management styles, communication norms, hierarchies, procedures and processes. Whilst there is acceptance of organisation specific bureaucracies, it is less easy to understand why one partner but not the next make something – for example a seemingly simple administrative task, possible. Therefore understanding how different organisations work – perhaps by physically spending time in that organisation can assist the smooth running of joint projects. The issue of organisational culture coupled with its management and administrative bureaucracy also affects timelines, budget approvals, travel authorisation protocols and overall ability – and flexibility to meet deadlines.

Organisations often claim to have a shared purpose but when put to the test this aspect can break the most outwardly robust relationship. Having a shared purpose involves reaching a complete and consistent vision about the direction of the partnership, its intended route and broad goals. Depending on the type and size of the organisations involved, this vision may be greater than any one specific project. Hence, projects often do not exist in isolation; there may be a strategic purposes linked to an organisation's business plan to rationalise as well as the purpose related to a piece of research. Creative and exploratory sessions facilitated between organisations will help to clarify what exactly 'shared purpose' means. If a truly shared purpose does not exist then organisations should at least be clear about this, know where their tolerance levels are and where there is room for compromise.

Where large organisations are involved – particularly ones that cover multiple sectors, brands or different areas of specialism it may be necessary to consider the inter-play between the different projects that run concurrently and which may overlap. Most problems occur when project level negotiations fail to take into account higher-level organisational agreements reached between senior managers and chief executives. Therefore, agreements at project level must reflect, rather than contradict those agreements that the organisation already has in place, including any legal requirements.



Even relationships that have clear agreements in place require maintenance

Even relationships that have clear agreements in place require maintenance. This task can be time consuming and often does not appear in the budget. It involves offline conversations between the organisations and an ability to read between the lines. Most importantly, it is about the degree of trust that exists. Acknowledgements that trust is possibly the most critical factor for success should be open. Trust is dependent on transparency and acceptance of knowledge and competence. However, it is also about individuals and their trustworthiness and professional credibility.

5.4 Managing time

The point of time management is to ensure that the project delivers outputs on time as stated in the proposal. Delivering outputs on time should also assist the project to keep to budget.

The fundamental principle underpinning time management is planning. This implies that one needs to spend time at the beginning of the project to plan all activities. After planning your activities, you implement them according to the timeline set out and monitor for compliance.

For the first bit, planning, start with the project as a whole. Divide the project into its constituent parts – say work packages. Examine each work package and break it up into its constituent parts. This is not difficult to do and in most cases, you will easily identify the constituent parts at any level. Once you have all your activities identified, decide what the milestones in your project are. Milestones are those ‘events’ in the project which will be significant because they represent turning points in the progress of the project. Similarly, if not achieved, they represent a big problem. Develop a timeline for your project (usually presented in months) and working your way backwards, assign the milestones to the timeline. You can then proceed to assign all over activities to the timeline working backwards. That is, from the milestone and last activity of the project all the way back to the first milestone and inception activity. The most commonly adopted framework for presenting the timeline is the Gantt chart.

When planning the activities that you need to undertake in a given period, you should take account not just of the time needed to implement the activities but also things such as the different holiday periods in participant countries. To give an example, it is common in many countries in Europe to have a significant shutdown for parts of July and all August when most people will plan summer holidays. You would not plan a workshop during this time. Other important factors are things such as the structure of the working day. In cultures where they take a siesta, much of the afternoon may not be working hours and this could have implications for the scheduling of some activities.

There may also be different attitudes to working late and this could influence how you schedule and plan activities. The obvious thing to remember of course is that the world is divided into different time zones and depending on where participating countries are in the world, you could conceivably have a situation where the overlap in working hours is just a couple of hours. This would have implications for running Skype meetings for example, as one group will be working while another is asleep! Finally, it is important that you allow adequate time in your plan for communication including time for face-to-face communication and travel.

5.5 Managing knowledge

It is vital that you manage information in your research project properly. You should do this right from the proposal development stage to when the project has formally

closed. Information management is a very wide topic and one could easily develop it into a course in its own right. For that reason, I would advise that you do some reading on the techniques of information management. The information provided here is only sufficient to provide you with a checklist of things to go into your information management strategy.

In planning an information management strategy, it is best to start at the beginning. The first thing you want to consider is the types of information that your project will generate. There are two levels to this. First, what outputs or results have you undertaken to produce? The second question is what information will you need to develop those results or outputs? Once you know this, you should think about how you will acquire the information that you need to perform the research. There are many dimensions to this. One dimension relates to general scientific information. This is information you would use to create awareness or understanding. What access to libraries do you have? Does the library take the relevant databases? Do all participants have access to a similar level of facilities? If not, what steps will you take to support participants whose access is less good? Yet another dimension is that relating to data collection. Obviously you cannot do research without collecting data. Do you anticipate any problems collecting data and what can you do to remove these problems? You may need to do interviews for example. Do you have access to the right people to interview? It is surprising how many people to take an example, will plan to interview people in private companies. What are the chances that you can ring up a private company introduce yourself as X from such and such university and get an interview? The chances are very slim indeed. Yet this data may be crucial to advancing a large proportion of your research. Therefore, information to do your research is important and you should have a sound strategy for collecting it.

Once you have your information, you need to be able to keep it somewhere. How will you do this? Your project may not be that large and so you decide to keep all information collected in your individual local hard drives. This can work in some projects. However, for a project of any size, the need to share information becomes a serious issue and you will need some strategy for how you will store information so that all participants can get access to it. One solution is to have an intranet. It is possible today to purchase off-the-shelf solutions that provide ready made intranets with bulk storage capacity. These intranets are usually customisable to suit your individual project needs in terms of setting up a folder structure. They will normally also have in-built email facilities that you can use to project 'corporate' accounts. It is a good idea to consider a solution like this for anything but the smallest projects as everybody gets access to all project information.

Communication is an important aspect of information management too. How will you exchange information within the project and with stakeholders? Are you going to be producing large documents? If so, will your email provider carry documents of this size? There is also an issue around what information you should communicate and whom to. The unit on communication and uptake will develop this further.

Issues around access are also important. There is no point having the right information properly stored if the people who need the information cannot get hold of

it. Your storage solutions will normally influence what you can or cannot do in providing access to your information store. If you set up a web-based intranet for example, you may find that participants in some parts of the world cannot easily access it because they have lower internet speeds. This particular problem is fast becoming irrelevant as the global fibre optic cable network extends further but even so, there are still issues to do with cost of access.

Use of information is something else to consider. What types of information will you be collecting and generating in the form of outputs and research results? How will this be communicated and to whom? How will these stakeholders use the information you give them and how else could they use this information? Are there any data protection issues that might arise from their use of this information? You should consider all of this and develop a policy to regulate what you communicate and what its users may do with it.

A real issue to consider is your retention and archiving policy. What should you do with the information that you collect after using it for the research? How long should you keep it? Is there any point in keeping some of it beyond the end of the research? Who becomes responsible for the information if you need to keep it beyond the end of the research? How do you ensure its integrity?

Project websites have become the norm today and you will undoubtedly want to consider whether you should have one, which is fine. The only caveat is to resist having a project website for its own sake. There are far too many research projects today with useless websites. These websites do not convey any useful information, their owners do not maintain them and they only serve to waste people's time who are drawn in by the lure of their project titles. There are a number of things to bear in mind if you are thinking of having a website. The obvious thing is the cost of designing and hosting them. It is possible that a project participant could host the website within its parent organisation – perhaps a university – but if not, you should think about where you would host it. Good websites need looking after and it does take effort and time to keep the content updated. Depending on your target audience, you may want to have a website designed for both low- and high-bandwidth access. You should also think about how long it will take images to upload. Do you need higher resolution images for the website to work well or could you do with lower resolution images?

5.6 References

SMITH, M. K., 2005. 'Bruce W. Tuckman - Forming, storming, norming and performing in groups'. *The encyclopaedia of informal education*. Available from: <http://www.infed.org/thinkers/tuckman.htm>

TUCKMAN, B. W., 1965. Developmental sequence in small groups. *Psychological Bulletin*, **63**(2), 384-399.

Activity

Imagine that you put in a bid for a research project and the funding agency have sent you an email to inform you have won the bid. You will be doing your research in a Sub-Saharan African country. The research is to do with groundwater exploitation in district X. Groundwater is the main source of water for the district population. The district is also characterised by fertile soils that could support large-scale commercial farming but the rainfall is less than adequate. Over the past 20 years, several large-scale farms have begun operations in the area but to meet their water needs, they all rely on groundwater for their irrigation. This has put a strain on water resources causing the local population to complain of declining levels. Environmental lobbies are also active in the district and the farming enterprises feel threatened though argue that their operations do not negatively affect the vast groundwater potential in the area.

Your consortium has two participants from the country in question: the first participant is from the Centre for Limnology at a local university in the nearby city. The second participant is the National Agricultural Research Institute. A third participant is from the department of Civil Engineering in a university in a neighbouring country, which has experience of the project issue having worked on a similar problem in the past. The fourth participant is from a European university and is the institute of Environmental Biotechnology. The fifth participant is from a different European country and is the Water Research Centre. Finally, the applicant is from a third European country and is the Centre for Conflict Resolution. Working in groups, attempt the following questions.

1. Go through the contents of this unit and identify eight areas that are likely to be relevant in managing this research project given the research topic and the consortium make-up.
2. For each area, describe why you think there may be a management issue and explain how you would go about managing the research for a successful outcome.

UNIT 6

COMMUNICATION, VISIBILITY AND UPTAKE OF RESEARCH

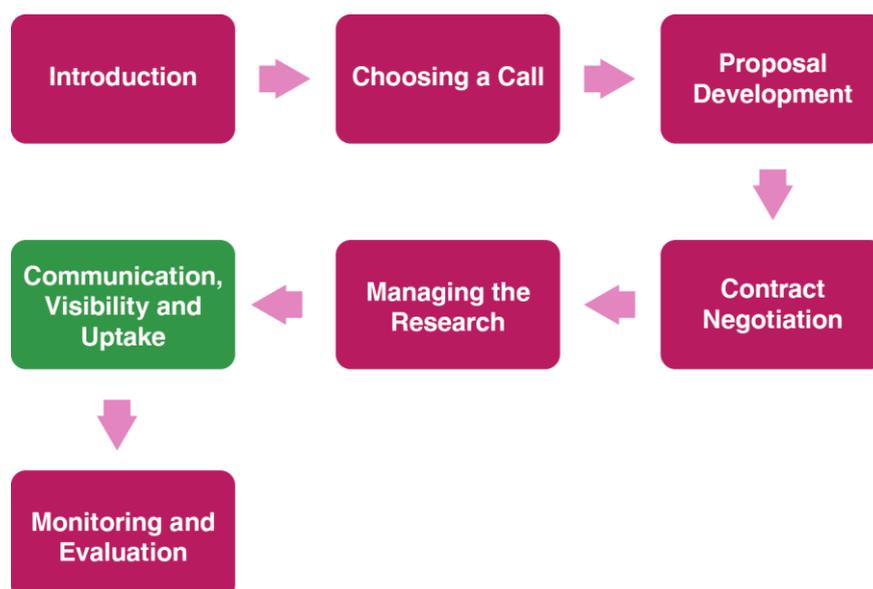
What this unit is about

This unit introduces the concepts of research communication and uptake.

What you will learn

By the time you have completed this unit you will:

- understand why communication of research is important;
- understand why uptake of research is important; and
- be aware of the options open to you when doing communication of your research results.



Contents of this unit

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6.4.2	Communication events.....	6.7
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6.7	Visibility actions.....	6.10

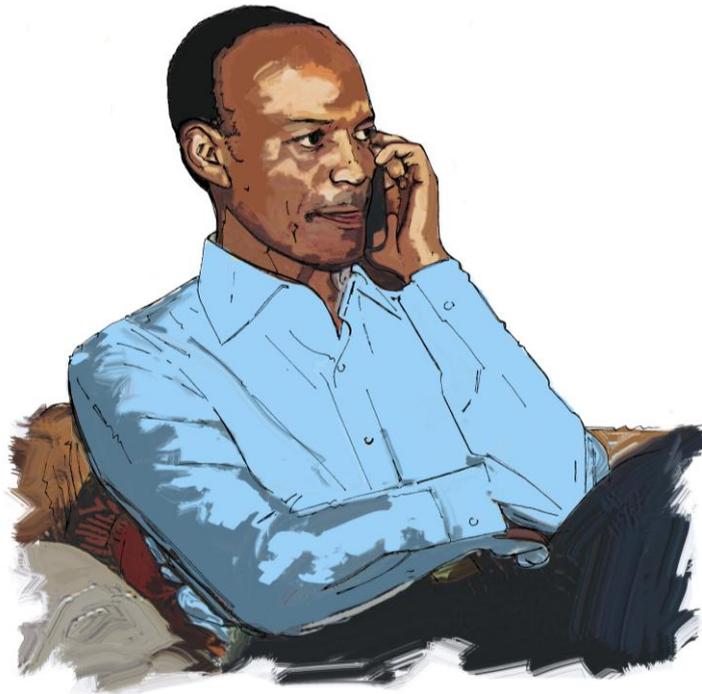
6.1 Introduction

This unit is about things you should think about doing to ensure that people know about your research and use it. You do research for a purpose. Usually, you will identify a problem that you believe needs solving and you then design and implement a research project to provide a solution to that problem. It is reasonable to assume that if the problem that you identified is a genuine problem, other people will want to know of your research results or use them. Therefore, it is reasonable to expect researchers to implement activities that promote effective communication and uptake of their results.

Funding agencies are increasingly concerned with the lack of effective communication and uptake of research results. Many now have a requirement that all funded proposals should include a section that highlights the steps the researcher will take to ensure effective communication, if not uptake. However, effective communication and uptake activities are not mere add-ons. You should integrate them into the project right from the outset. This unit highlights the key things that you should consider in both communication and uptake. We will first begin with a consideration of communication and then uptake. We will then consider ways to plan for communication and uptake. We will then turn to ways you can engage stakeholders in your campaign and end with a brief discussion of visibility actions.

6.2 Communication

Communication is any activity that you undertake to make audiences aware of your research results.



Communication takes various forms

A key characteristic of communication is that it is mostly passive. This means that it is not an interactive process but rather, information flows in one direction only, from the researcher to those he or she is in communication. You can replace the term communication with dissemination, which has the same meaning as communication in this context. Many scientists are unfamiliar with the principles of communication and some of those who appreciate the need for communication, communicate to non-scientists in language that they cannot understand. It may be worth considering at the outset whether your research team needs any training on communication and uptake. If you conclude that training may be necessary, consider including your key stakeholders in the training.



Communication is any activity that you undertake to make audiences aware of your research results

6.3 Uptake

A focus on the uptake of research is about doing more than communication activity. The goal will be to get the results of the research adopted. Adoption of research results does not only imply practical application of the research results. It could also mean using the research results to broaden one's decision-making landscape. That is, a research user could assimilate your research results into his /her armoury of evidence and deploy this knowledge when taking decisions.

Uptake also implies a focus on a narrow section of your communication audiences. Typically, you will direct uptake activities towards those organisations and individuals you identified as interested enough in your research results to want to take them on board and use these to change the way they do things.

Therefore, what are some of the things that you can do to encourage uptake of your research results. As we have seen, a good place to start is by doing problem-centred research. That is, finding out from stakeholders what their needs are and designing research to provide an answer. This is essentially action research. However, action research is not the only route towards promoting uptake. Most problem-centred research (whether action or not) will have potential application for people who face the problem being addressed and therefore will support uptake.

You can also promote uptake of research by involving potential stakeholders in your research from the very beginning. If possible, involve stakeholders during the proposal development stage so that they can feed into the research design. Further, design your research in a way that facilitates regular updating of these stakeholders. For example, you might keep them regularly informed of progress by inviting them to project workshops or even arranging special dissemination workshops to which you would invite them. This should be an ongoing activity during the life of the research. Involving stakeholders should where possible, apply across the board and not only when doing problem-centred research. An immediate and obvious obstacle in doing these things is the potential cost. Supporting stakeholders attendance to workshops, providing participants with attendance allowance, and providing lunches can have significant budgetary inflation, which may not be possible to bear within the budget envelope of the particular project.

Where it is not feasible to involve stakeholders right from proposal development, you should endeavour to identify the key stakeholders soon after confirmation of winning the research grant. If possible, get them to the project inception meeting and keep them involved thereafter as described above.

In the previous paragraph, stakeholders meant project beneficiaries and other stakeholders such as community based organisations (CBOs) and non-governmental organisations (NGOs). However, there are two categories of stakeholders you should give special attention – these are policy makers and practitioners. It is up to you as a researcher to decide which of these two groups are most appropriate to target for uptake of your research results. It could well be that your research will have useful results for both policy makers and practitioners. Whatever you decide, the activities outlined in the paragraph above will apply to these two.

Repackaging of information is an important aspect of ensuring uptake. This involves identifying key messages and presenting these in words that your audiences can relate to easily and that are easy to understand. This means that you may have to tailor the same information in different ways to meet the needs of different audiences. You should also highlight what the implications of the results are in terms of meeting their specific needs and assisting them in decision-making.

Transdisciplinary research, (research in which the research team including all stakeholders have varying perspectives of how the research problem manifests in reality), is considered to be much more likely to be taken up precisely because it will address varying perspectives and therefore speak to a wider audience.

A potential obstacle to research uptake is insufficient capacity to use and understand research among policy makers, practitioners and stakeholders at large. This lack of capacity is one reason why it is important to repackage the information in terms that are easy for these groups to understand and assimilate. Even so, repackaging does not always clarify for those receiving the information what the results mean in terms of contributing to understanding or suggesting action. It may be that you need to work with your audiences to build their capacity to use research results. This could mean writing specific capacity building activities into the research project.

6.4 Planning for communication

6.4.1 Communication strategy

As a first step in the communication journey, it is important that you develop a communication strategy to guide your communication activities during the life of the research project. Preferably, develop your communication strategy during project inception and map out all activities to project end. A typical strategy would include elements such as:

- A short summary of the overall research objective
- Your target audiences – these are both internal (everyone contributing to the research in some way), and external
- Your communication objectives
- Your key messages if you know them already. Alternatively, identify aspects of your research that people will need to know when they become available
- The pathways you will use to communicate – e.g. events; internal communications; media; print; website; workshops, conferences, seminars. You should also consider project identity
- Feedback channels that you will use
- Budget for each communication activity

There are a number of things to note about the above. First, the communication activity described above is passive. It also assumes that you are communicating research that is nearing completion or you have recently completed. Thus, this model is at the bottom end of engagement with communication activities. People who implement this model have usually only thought about communication towards the end of their project.

However, it is far more effective to think about communication activities (and how you would implement them), during the proposal development phase. What does this

entail? There are several things to consider here. The first thing you would want to do is to review your research problem and objectives from the perspective of potential audiences. Who do you think would want to learn more about how your research progresses? All the people in your consortium will have an interest so we can assume that this is a good place to identify interested audiences. It is safe to assume that organisations similar to those in your consortium might want to know your research results.

Therefore, start by making a list of these organisations. This list will constitute the communications baseline for your project. Then think about other organisations that might benefit through your work. A good way to do this is to think in terms of individuals as well as organisations. Some organisations will be obvious and suggest themselves the moment you begin drawing up a list of organisations. Others will be less so, particularly those organisations you have little interaction with. On the other hand, you will know people who would have an interest in your research. Their organisations could be interested too. However you approach it, develop a list of organisations and individuals that you should be communicating with.

Once you have done this, the next step is to think about the levels of interest that these different organisations and individuals will have. Some will simply want to receive information and nothing more. Others might want a bit more detail about the research in terms of improving their own understanding. Finally, a small core of organisations might want to take on board the results of your research and use these to change the way they do things.

You can then begin to tailor your communication activities to match the needs of your different audiences as identified above. It is important to keep in mind that some research results may not be easily used. The nature of the research and its purpose often governs its use. Blue Sky research for example is less likely to have immediate practical application than is action research.

If possible, a social scientist with expertise on communication should guide project activities in this area. It may be possible to draft in a colleague for example to take the lead for you. It may also be worth investigating expertise more widely within participant's universities in case there is some expertise you can tap into.

6.4.2 **Communication events**

What are the essential elements to include in a communication event? Effective communication about your research should include the following at minimum:

- The title of the research project
- The research duration
- The participants in the project
- The background to the research
- The key results from the project
- The implications of the research for policy and practice if appropriate
- Future plans for extending the research
- Where to find more information if it is not provided in the communication

The channels that you can use to do this are numerous. You can use a variety of channels the most usual being print media such as briefing notes, factsheets brochures, project notes, and synthesis notes. Produce print media in good quality paper and intersperse text with relevant graphics and pictures to illustrate the content. Keep your messages simple. Do not attempt to convey too much information. You will enhance the clarity of your message by concentrating on conveying just a few key messages. You should of course also rely on the more traditional channels of communication such as publication of journal articles (in both scholarly and professional journals) and conference papers. It is particularly important to make your findings accessible. It is only by publishing in the mainstream, that your work will become easily traceable even if not accessible. Mainstream publication is any publishing activity that results in either an ISBN or ISSN number. If your publication does not have either of these, the only way to make your work traceable is by 'publishing' it on the internet where it can be picked up through a search engine search; for example, a Google search.

Other communication channels include seminars, workshops and colloquia. These are appropriate to technical audiences. This might include for example, professionals, fellow researchers, academics, and senior practitioners.



Other communication channels include seminars, workshops and colloquia

Other channels are media briefings targeting the public. These briefings should be very concise and written in a pithy style to engage the public's imagination. Use a mix of media outlets including print, radio and television journalists where you have access to them.

6.5 Planning for research uptake

When planning for research uptake, you are planning activities that increase the possibility of people using your research. There are several things that you can do to increase this possibility.

- Make sure that you have a dissemination strategy;
- Make available to members of the research team easily understood notes on uptake Plan for uptake right from project inception;
- Nominate someone within the research team to take explicit responsibility for uptake issues;
- Build a good working relationship with influential media organisations;
- Make sure that you engage all the right stakeholders as has been mentioned;
- Identify those stakeholders that signal a real commitment to the research and prioritise working with them;
- Review the success or otherwise of uptake of previous research findings that are similar to yours;
- Undertake active learning of any lessons from these previous researches; and
- Where at all possible, make available a basket of solutions to end-users so that they have a choice. Explain the difference between the options.

6.6 Engaging stakeholders

Stakeholder engagement as we have already seen is important. It is important because it signals to stakeholders that the research team values their views and it acts as a reality check for the research team. That is, stakeholder engagement is a good way to check the relevance of the proposed research. For engagement to be meaningful, you should sustain it over a period. Staccato engagement whereby you make links with a stakeholder once a year or less is not sufficient. Why should you prefer sustained engagement? An important reason is that the purpose of engagement is to foster reciprocal trust between yourself and the stakeholders. You cannot win trust over a single 'conversation'. Rather people need time to learn the character of those they engage with before they can make judgements about whether to trust or not. Trust in this sense means getting an understanding and sense of what the other person or organisation is about. Stakeholders will be asking the following sorts of questions when they first interact with you: What do you represent? What

areas do you work in? Are you any good professionally? Are you sufficiently aware of the stakeholders' needs? Are you aware of the stakeholders' drivers? Are your drivers for engaging with them beneficial?

It should be clear from the above that productive engagement requires effort and planning. For this reason, you should identify only the key stakeholders for this level of engagement. Key stakeholders are those you most want to influence or need most to have on your side for successful implementation of your research. It is only those stakeholders that you should invest significant time engaging with.

Note: In the context of the water sector, if your research involves trans-boundary issues, stakeholder engagement takes on a new significance and you will need to manage this properly. As a rule, you should do a thorough stakeholder analysis and make sure that all key stakeholders are on board right from proposal development. This will be crucial to ensure success of the project.

6.7 Visibility actions

Visibility actions are activities that you undertake to increase awareness of your research project. They are different to communication in one important respect. The key purpose of visibility activities is to raise the profile of your research project. You do this in a number of ways.

The first way is by developing a project identity. This will involve developing a distinctive logo, which conveys the sense of your research topic. Similarly, you should choose a project name that conveys a sense of your research topic. When brought together, your logo and project name should evoke in peoples' minds your research topic. Alongside the logo, choose one or two primary colours that complement your logo and which you will use in all communications. Thus, when you are doing communication, you are also engaging in a visibility action through consistent use of your logo and colour scheme.

It is very important that you are consistent in the design elements of your project for visibility purposes. If you do this right, people should be able to recognise your material just by seeing your inset among your project colours.

A second way to do visibility is by attending important events in your discipline's calendar. Most disciplinary areas will have an annual conference and various other sector events that people working in the discipline will know about. Include an amount in your budget to attend these events and take an exhibition stand. This provides you with a good platform to communicate your project outputs. It also offers an opportunity to give people an overview of the entire project showing how the project fits in the greater scheme of things. These events are also good places for clarifying what your project is not. Make sure to identify some distance between yourself and rival projects to indicate that you are doing different work.

A third thing to do to ensure visibility is to put out a regular stream of content. The content you put out should go through a quality assurance process, as people will know quality information when they see it. If you can manage to do both, (publish good quality outputs on a regular basis), half your battle will be won because people will already begin to associate your project as a source of reliable information that is regularly refreshed.

6.8 Further reading

FISHER, J., ODHIAMBO, F.O. and COTTON, A.P., 2003. *Spreading the Word Further*. Loughborough: WEDC, Loughborough University.

Available from: <http://wedc.lboro.ac.uk/knowledge/know.html>

UNIT 7

MONITORING AND EVALUATION

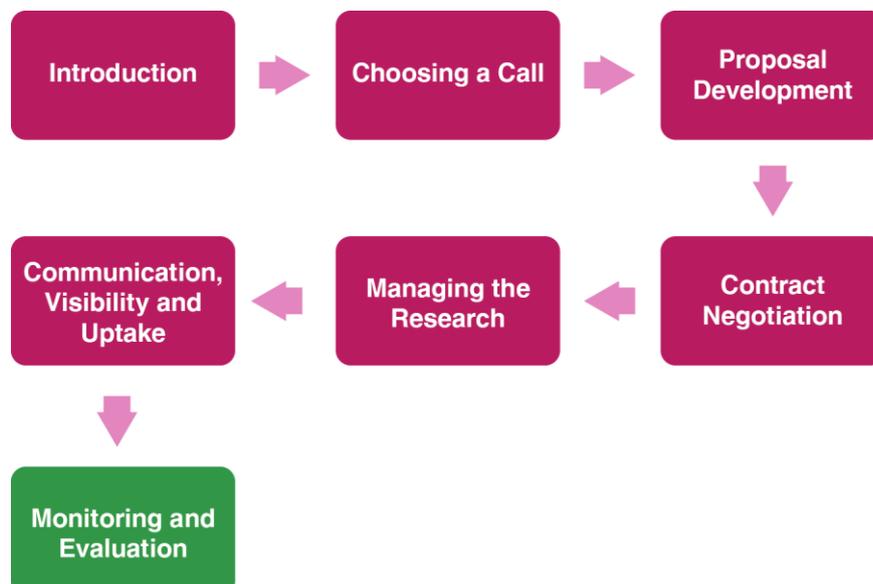
What this unit is about

This unit introduces the concepts of monitoring and evaluation in a research context.

What you will learn

By the time you have completed this unit you will:

- understand the difference between monitoring and evaluation;
- understand when to implement monitoring in a research project; and
- understand the main issues in conducting an evaluation.



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7.1 Introduction

In the previous units, we have looked at several areas of the research process. This unit addresses monitoring and evaluation of research. Monitoring and evaluation are so often presented together, that most people think they are one thing. They are in fact two separate things but closely related, which is why they tend to appear together.

Many people have written about monitoring and evaluation. There is little to gain in producing yet another guide about how to do effective monitoring and evaluation. Consequently, this unit simply introduces the concept with the expectation that the learner will obtain more information from any of the myriad resources on monitoring and evaluation. Civicus, (a civil society alliance that works to strengthen citizen action and build capacity of civil society organisations), has produced a particularly good toolkit on monitoring and evaluation, which is available to download from the internet.

7.2 Monitoring

What is monitoring? Monitoring is a project management activity concerned with ensuring that project activities are proceeding according to plan. This implies that monitoring is an ongoing activity. Ideally, monitoring should begin the moment a research project launches and continue until the project is closed. Most good proposals will have an inbuilt monitoring schedule, which outlines how the researchers propose to monitor individual activities against the research plan. If the proposal does not make this clear, the principal investigator should develop a monitoring framework as an urgent priority task.

There are several reasons why one should monitor. Monitoring as stated already, checks that activities are proceeding according to plan. Monitoring is also useful for checking on the use of project resources. If necessary, you can adjust your use of resources based on monitoring findings. Monitoring is also useful for providing background material to assist in reporting to your funding agency or donor. This is a particularly useful benefit because if you are monitoring effectively, it saves you rushing to collect data in order to meet reporting requirements. Finally, lessons learned from monitoring can lead to better and more effective design and implementation of future research projects.

People often mistrust the motives for monitoring. Some people think that monitoring schemes are to check up on them. It would be foolish to argue that this does not happen; of course it does. However, it is rare and checking up on staff is probably the most effective way to kill a monitoring scheme. To allay mistrust and ensure a monitoring programme's success, management should make the motives for programme clear to all who will be involved or affected by the monitoring. You should make the benefits of the programme explicit and give reassurances about the good intentions behind the scheme. In addition to staff support, monitoring also requires good discipline in order to deliver benefits. This is a key reason for explaining the

monitoring activity and ensuring that everyone understands its intentions. Finally, a monitoring scheme needs to be simple if it is to work. If you develop too elaborate a scheme that seeks to collect data on every aspect of project implementation, people will soon stop complying with the monitoring in favour of getting on with the job.



Monitoring checks that activities are proceeding according to plan

We have seen that monitoring is concerned with ensuring that project activities are proceeding according to plan. However, important as this is, many people argue that monitoring should be about more than this if it is to be beneficial. Such people argue that one should structure monitoring on a results-based management (RBM) framework to deliver effective results. An RBM monitoring framework would emphasise outcomes and impacts of the research project over an analysis of inputs and processes. Thus, in RB monitoring, you encourage active learning during the monitoring process and the application of those lessons to developing strategies for contiguous improvement.

Thus, monitoring is an activity that helps project managers track progress and identify problems before they become significant enough to derail activities. Monitoring also helps keep reporting data current thereby reducing effort during reporting periods.

7.3 Evaluation

Evaluation is the other side of the coin and complements monitoring. Evaluation is the collection of data on project implementation to ascertain whether the project has been relevant, effective, efficient, sustainable, and has had impact. There are two kinds of evaluation. Post-hoc evaluations, which come at the end or near the end of the research project; and mid-term reviews which as the name implies, are held during the research project – typically half-way through the research project. In some literature, the terms summative evaluation and formative evaluation are also used. Summative evaluations come at the end of the project. The intent is to take stock of the project outcomes while specifically focusing on project relevance, effectiveness, efficiency, sustainability and impact. It is also normal to assess whether the project produced all outputs promised, and assesses project outcomes.

Summative evaluations (like post-hoc evaluations), come at the end of the project. Funding agencies usually request these evaluations and the evaluations have since become more or less a standard funding requirement. These evaluations focus on project relevance, effectiveness, efficiency, sustainability and impact as mentioned already. Summative evaluations also check against agreed outputs. They also highlight what has worked during the project and the positive results achieved. Similarly, the evaluation will note what has not worked particularly well and attempt to identify relevant lessons from that process or processes. Finally, summative evaluations will usually make recommendations to address specific issues identified as not working very well during the evaluation.

Formative evaluations come during the life of the project. Their intent, (like mid-term reviews), is to provide learning for continuous improvement. They also offer an opportunity to review planned activities in terms of their appropriateness to meeting project objectives in light of the lessons learned from implementation so far. Mid-term reviews are formative evaluations.

Both types of evaluation are generally external. That is to say, the evaluators will normally be from outside the project. This helps to ensure impartiality in the evaluation process.

7.4 Qualitative and quantitative indicators

The difference between monitoring and evaluation should be clear now - monitoring is a project management activity concerned with ensuring that project activities are proceeding according to plan. Evaluation on the other hand is the collection of data on project implementation to ascertain whether the project has been relevant, effective, efficient, sustainable, and has had impact. You should also know a little

about what each means in practical terms, when we use them and why. There are two important factors in carrying out successful evaluations. These are the indicators that you use and the questions that you ask. Following is a short discussion of qualitative and quantitative indicators.

There is a range of terminology for the concept indicators. Performance targets and performance objectives are examples. The important thing to remember about indicators is that they should be specific if they are to achieve their purpose, which is to aid understanding, measure performance or hold people to account.

7.4.1 Types of indicators

Keep in mind that the point of indicators in a development context is to monitor whether we have achieved the results we expected from our work. They are also a specific tool for measurement and improvement. There are two major types of indicators. Indicators can be either quantitative or qualitative.

Quantitative indicators convey magnitude and are useful because as the name implies, you can express these measures as **quantities**. They are **quantifiable** and refer to facts that you can count.

An example of quantitative indicators would be:

Box 1.1. Examples of quantitative indicators

- Connections to the grid - 3 million households connected to the water grid
- Access to safe water - 2.4 billion globally lack access to safe water

Qualitative indicators represent our feelings and opinions about given situations. Many of the indicators we use in our daily lives are qualitative. Qualitative indicators highlight the **quality** of our results in a development context.

An example of qualitative indicators would be:

Box 1.2. Examples of qualitative indicators

- Pollution – Nairobi has serious ambient pollution
- Cleanliness - This is a particularly dirty street

7.4.2 Why choose quantitative indicators?

Quantitative indicators are better suited if your objective is to generalise about a population. You might want to convey the information that 85% of people in Luapula province in Zambia have access to an improved water source. Use quantitative indicators where you are concerned with the magnitude of your results, or with identifying relationships.

Quantitative indicators have the following characteristics. You measure quantitative indicators:

- through random sample surveys; and
- by doing structured interviews where every interviewee is asked the same question in exactly the same way.

If you use quantitative indicators, you can express the data that you collect in numbers. Your data will be quantifiable and amenable to statistical analyses. It is therefore possible to summarise results as they apply to several communities or even large populations using quantitative indicators. It is also possible to use descriptive statistics such as measures of central tendency (mean, mode and median), to describe your results. Quantitative indicators therefore are useful for giving an overview of a situation.

7.4.3 Why choose qualitative indicators?

Qualitative indicators are concerned with people's attitudes, perceptions, priorities, etc. Qualitative indicators are important because perceptions represent people's reality. Consequently, even if misplaced, perceptions will influence people's behaviour and it is important therefore to understand people's perspectives on things if you are seeking to change their behaviour.

Qualitative indicators are relevant for offering a closer representation of the reality of the stakeholders concerned than do quantitative indicators. What is the prevailing attitude towards child faeces? What is the subjective understanding of the mother in this regard?

People often use qualitative indicators to add more detail to quantitative indicators. You could have an indicator of water supply for example that shows that 85% of a given community has access to an improved water supply. However, qualitative indicators might reveal that the supply is intermittent necessitating reliance on sources of inferior quality. If your concern is with the wellbeing of communities, then this indicator might provide answers to why the incidence of diarrhoea among children in the community has not fallen with the installation of the water scheme.

The following are good predictors of the need for qualitative indicators:

- Context – If it is important to understand the context of a situation, then you are more than likely to rely on qualitative indicators;

- Process – where it is important to understand the processes at play, qualitative indicators will give information that is more useful than you would obtain from quantitative indicators; and
- People-centred – where your primary interest is to gain understanding of peoples' behaviour, then qualitative indicators are best.

In short, use qualitative indicators if you are interested in people's judgements, attitudes, preferences, priorities, and perceptions about a subject.

You collect data for qualitative indicators through semi-structured interviews where you define only the broad topics of interest to you and the interviewer and interviewee have a conversation around these topics. Alternatively, you might use focus groups.

A drawback of qualitative indicators is that collecting data is often time consuming, can be expensive, and the data collected is not necessarily easy to analyse and make sense of.

You can learn more about other methods of collecting qualitative and quantitative data by consulting books on data collection. The message to take from the sections above is that you need good indicators if you are to measure the right things.

7.4.4 Reliability

Reliability and validity are two important concepts when doing measurements.

Reliability refers to the degree in which repeated attempts at measurement will return the same measurement. Think about doing water quality testing. You would be testing for faecal coliform and BODs. It is safe to assume that ten samples of water drawn from a single source, and tested using similar methods would return similar water quality parameters. In this scenario we would describe the measurement of water quality (the indicator), as being reliable.

7.4.5 Validity

Validity refers to the degree in which your indicators measure or explain what you said you would be measuring or explaining. Let us take an example of television watching. Supposing we asked how many of you enjoy watching television. We are more than likely to receive a response that indicates that at least some of you will enjoy watching television. Now suppose we questioned you further about why you enjoyed watching television. Again, we are more than likely to get different answers. Some of you might say that you like to watch the news. Others might say that they find it a way to unwind. Others who live on their own might suggest that having the television on in the background provides comfort; they feel less isolated when it is on.

You can see from the above that 'watching television' means different things to different people. Imagine that you needed to develop indicators to test the relationship that people who watch a lot of television become desensitised to violence, or become detached from reality through watching too many soaps. You can already probably see how asking people, "do you like watching television?" is probably not a good indicator of what you really want to measure. Questions like how many hours of

television do you watch each day, what types of programme do you watch, and so on, would be better.

7.4.6 Gender aspects

Gender of course is very often an important consideration. If gender is important, you should collect data that you can disaggregate by gender characteristics such as sex, age, socio-economic status, ethnicity etc.

7.4.7 Mixed indicators

Quite often, you may want to use a mix of indicators. The rationale for mixed methods is often that you want to get a holistic picture of your results. You will achieve this because:

- You will use quantitative indicators to reveal the magnitude of your efforts; and
- Equally, you will use qualitative indicators to reveal your intervention's effects.

In this way, you end up with a holistic picture of your results.

7.4.8 Words of caution

- Too many indicators can be counterproductive. Monitor only those headline indicators that go to the core of your intervention.
- Do not necessarily go for indicators that are easy to measure. Choose indicators that tell you what you need to know for effective management.

7.5 Evaluation questions

The same principles apply to designing evaluation questions as do to questionnaires. Numerous research texts cover questionnaire design exhaustively. Consult one of these for more information.

Activity

Working either as an individual or in groups of no more than five:

1. Make a plan for how you would do ongoing monitoring of your proposed research project.
2. Present your plan both textually and in graphical format.
3. What difficulties do you think you might face in implementing your monitoring plan? Explain your reasoning.

SPLASH is the name of the European Union Water Initiative Research Area Network (EUWI ERA-net). It is a consortium of 16 ministries, funding agencies and national research and technological development authorities from 11 European countries.

